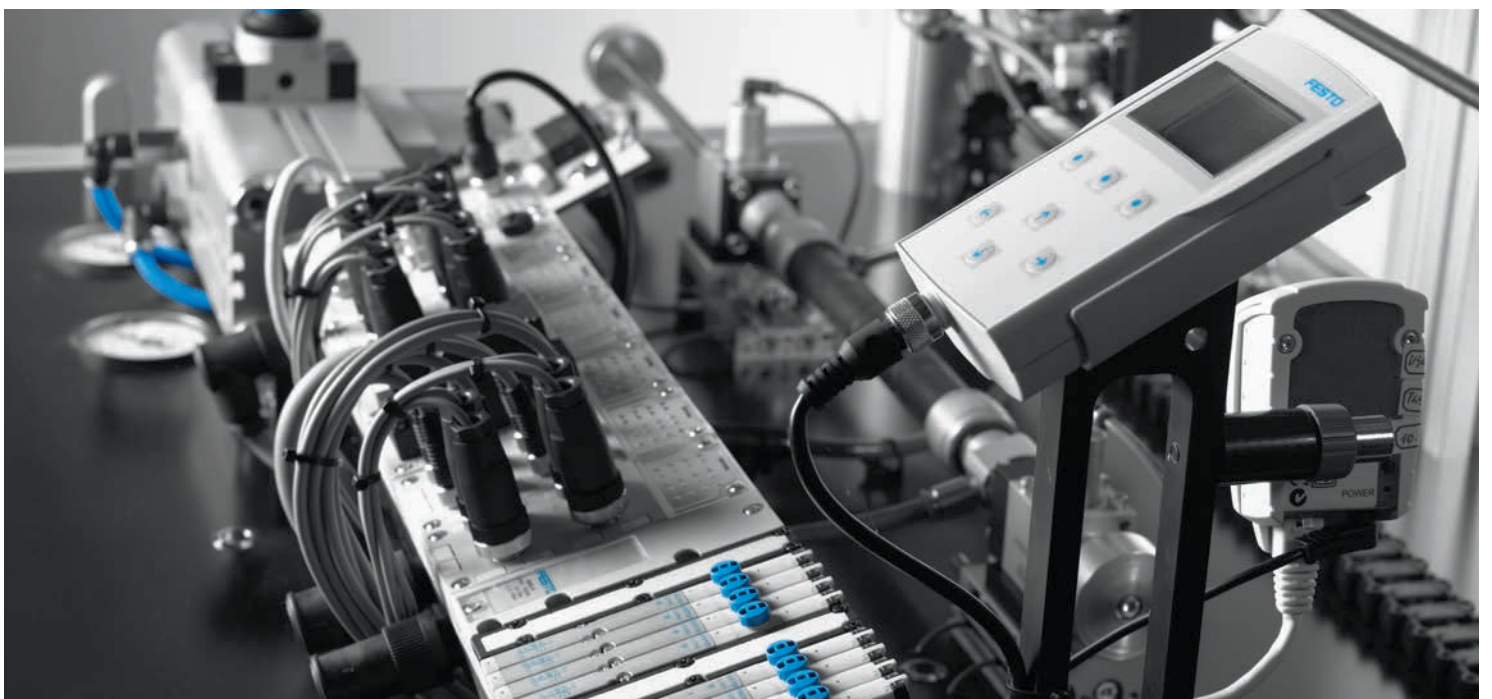


FESTO

Electrical connector technology



Electrical connection technology

2014/12 issue

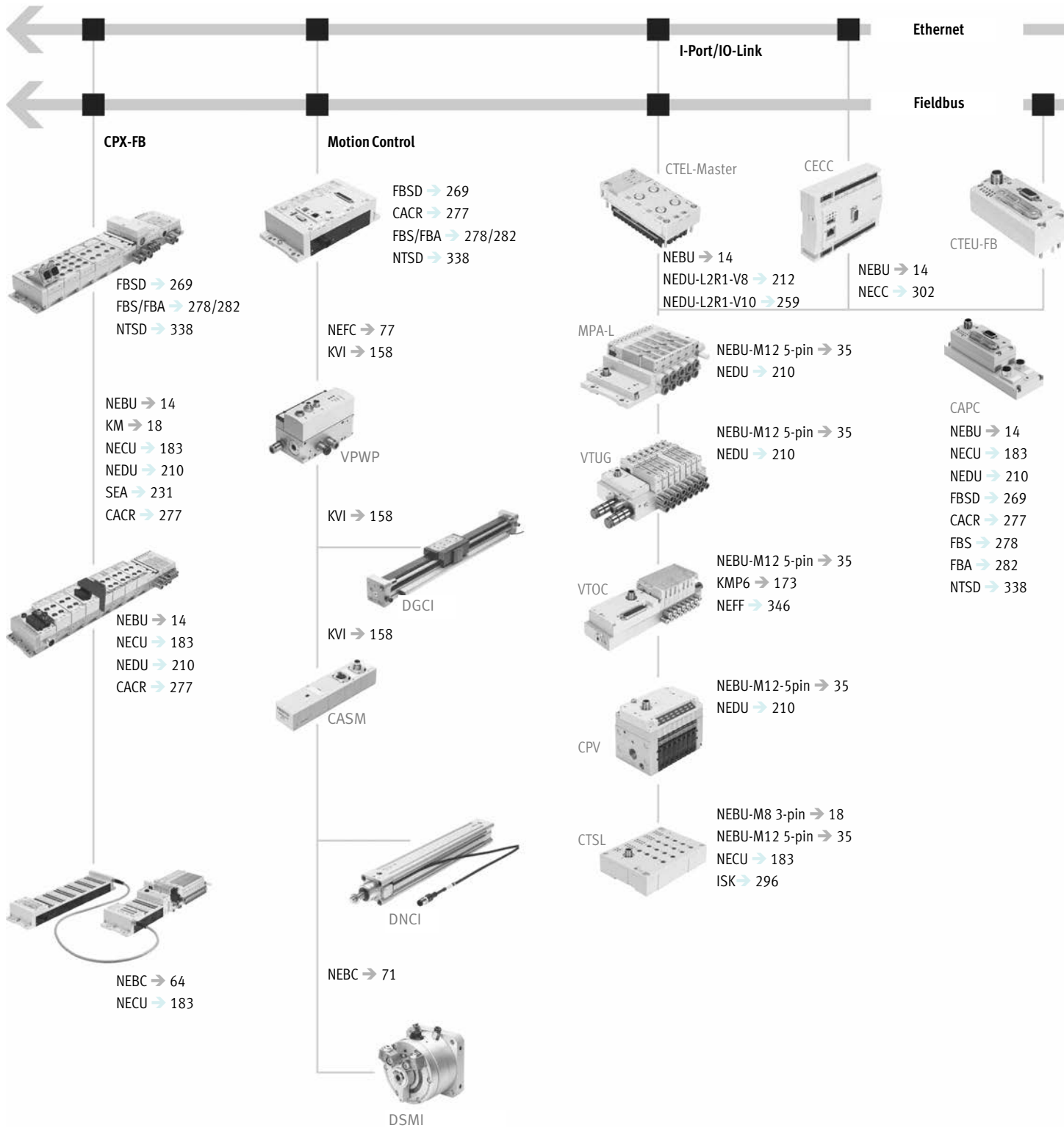
All technical data applies at the time of going to print.

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All technical data subject to change according to technical update.

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- Connecting cables
- Plug connectors for valve terminals and remote I/O modules

CPI installation system



KVI-CP-3-WS-WD → 54
KVI-CP-3-GS-GD → 54



CPV



CP-E32

NEBU → 14
KM → 18
SEA → 231



CPV



CP-E16

KM → 18
NEDU → 210
SEA → 231



CPV-SC



CP-E16

NEBU → 14
KM → 18



CTEU-CP



VTUG



VTOC

MPA-L

NEBU → 14
KVI → 158
NECU → 183

AS-interface



CESA-GW-AS-CO



CPV

KASI → 67



ASI-EVA



ASI-EVA

KASI → 67



VTSA

KASI → 67



MPA

KASI → 67



ASI-4DI



CTEU-ASI



VTUG



VTOC



MPA-L

NEBU → 14
KASI → 67
SEA → 231
ASI-SD-FK → 292

KM12 → 32
ASI-SD-FK → 292

NEBU → 14
KM12 → 32

SEA → 231
FBS-D-GD → 269
ASI-SD-FK → 292
ASI-SD-PG → 292

ASI-SD-PG → 292
FBS-GD → 269

NEBU → 14
KM8 → 18
KV-M12 → 89
NEBV → 136
ASI-SD-FK → 292
ASI-SD-PG → 292

NEBU → 14
NECU → 183

Multi-pin plug

VTSA



NEBV → 136
NECV → 345

VTUB



NEBV-G → 136
KMP6 → 173

VTUB-12



NEBV-G → 136
NEBV-S1 → 145

CPV



KMP → 169
SD-SUB → 340

MPA



VMPA-KMS1 → 163
VMPA-KMS2 → 163

MPA-L



NEBV-S1 → 145
VMPAL → 165
KMP6 → 173
NECU → 183

MPA-C



NEBV-S1 → 145
KMP6 → 173

VTUG



NEBC-C → 144

VTOC

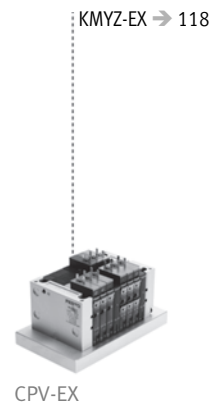
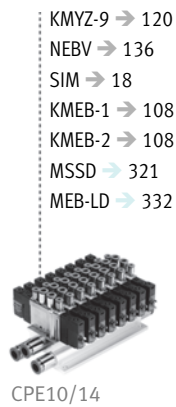
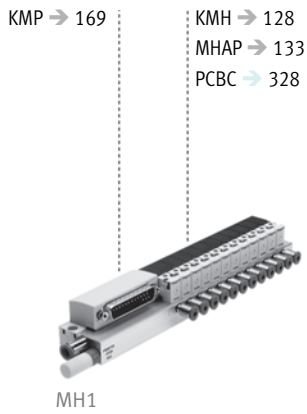


KMP6 → 173
NEBV → 136

→ Connecting cables

→ Plug connectors for valve terminals and remote I/O modules

Individual valves



→ Connecting cables

→ Plug connectors for valve terminals and remote I/O modules



Universal connecting cables

Key features

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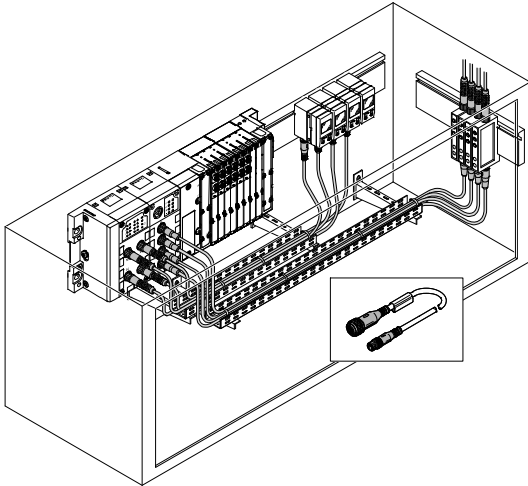
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Cable properties

The connecting cables NEBU can be configured using the modular system. You can choose from properties that

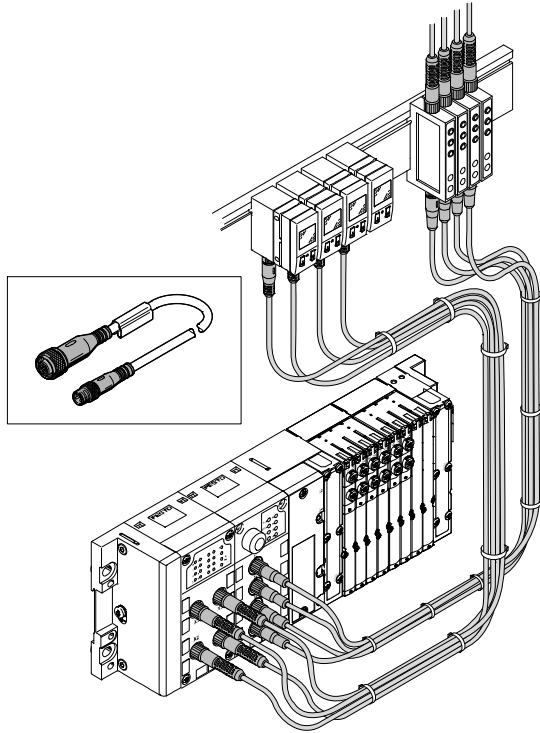
are suited to basic, standard, energy chain or robot applications.

Basic application



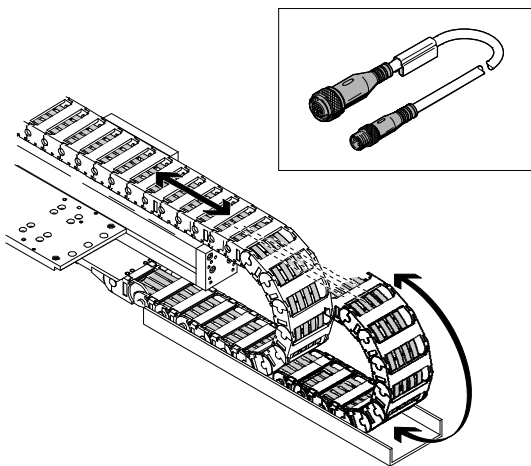
Basic applications are characterised by fixed cable installation with no mechanical loads.

Standard application



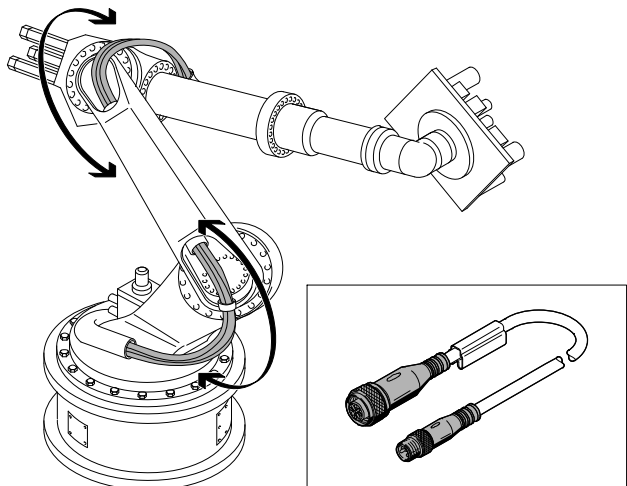
Standard applications are characterised by fixed cable installation or small to medium mechanical loads.

Energy chain application



Energy chain applications involve high mechanical loads, particularly if very small radii are required.

Robot application



Robot applications involve high mechanical loads that are primarily caused by torsion.

Connection technology types

Different types of plug connectors (e.g. angled or straight) can be chosen for the connecting cables.

A special type of connector is the rotatable type: this enables the cable outlet of an angled socket to be rotated by 360° in 15° increments.

Advantage:

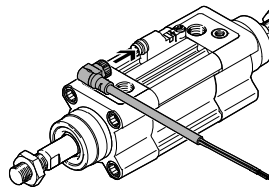
This enables optimum positioning of the cable outlet in tight installation spaces.

The connectors are not designed for repeatedly changing the outlet direction.

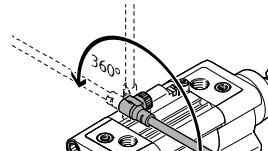
Mounting



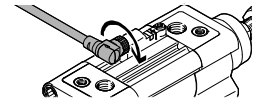
Note the orientation of the pins.



Place the socket on the plug.



Adjust the cable outlet.



Tighten the union nut.

















Function	Version	Type	Connection technology (right-hand end)	Cable characteristics	Length	→ Page/ Internet
Electrical connecting cable	Electrical connection (left-hand end), open cable end					
	5-pin	NEBU-LE	Socket, plug	Standard	0.1 ... 30 m	16
	Electrical connection (left-hand end), socket M8					
	3-pin	NEBU-M8 SIM-M8 KM8-M8	Plug, open cable end	Basic, standard, suitable for use with energy chains, suitable for robot applications	0.1 ... 30 m	18
	4-pin	NEBU-M8 SIM-M8	Plug, open cable end	Basic, standard, suitable for use with energy chains, suitable for robot applications	0.1 ... 30 m	24
	Electrical connection (left-hand end), socket M12					
	3-pin	SIM-M12-3 SIM-M12-RS-3	Plug, open cable end	Standard	0.6 m, 2.5 m, 3 m, 5 m	29
	4-pin	SIM-M12-4 KM12-M12	Plug, open cable end	Standard	0.6 m, 1 m, 2.5 m, 5 m	32
	5-pin	NEBU-LE5 NEBU-M12G5 NEBU-M12W5 SIM-M12-5	Plug, open cable end	Basic, standard, suitable for use with energy chains, suitable for robot applications	0.1 ... 30 m	35
	8-pin	NEBU-M12-W8 SIM-M12-8 KM12-8	Plug, open cable end	Standard	2 m, 5 m, 10 m	40
	Electrical connection (left-hand end), socket 7/8"					
	5-pin	NEBU-G78	Open cable end	Standard	2 m	43
	Electrical connection (left-hand end), clip					
	3-pin	SIM-K	Open cable end	Standard	2.5 m, 5 m, 10 m	45
	4-pin	SIM-K-4	Open cable end	Standard	2.5 m, 5 m	47


















Universal connecting cables

Selection aid

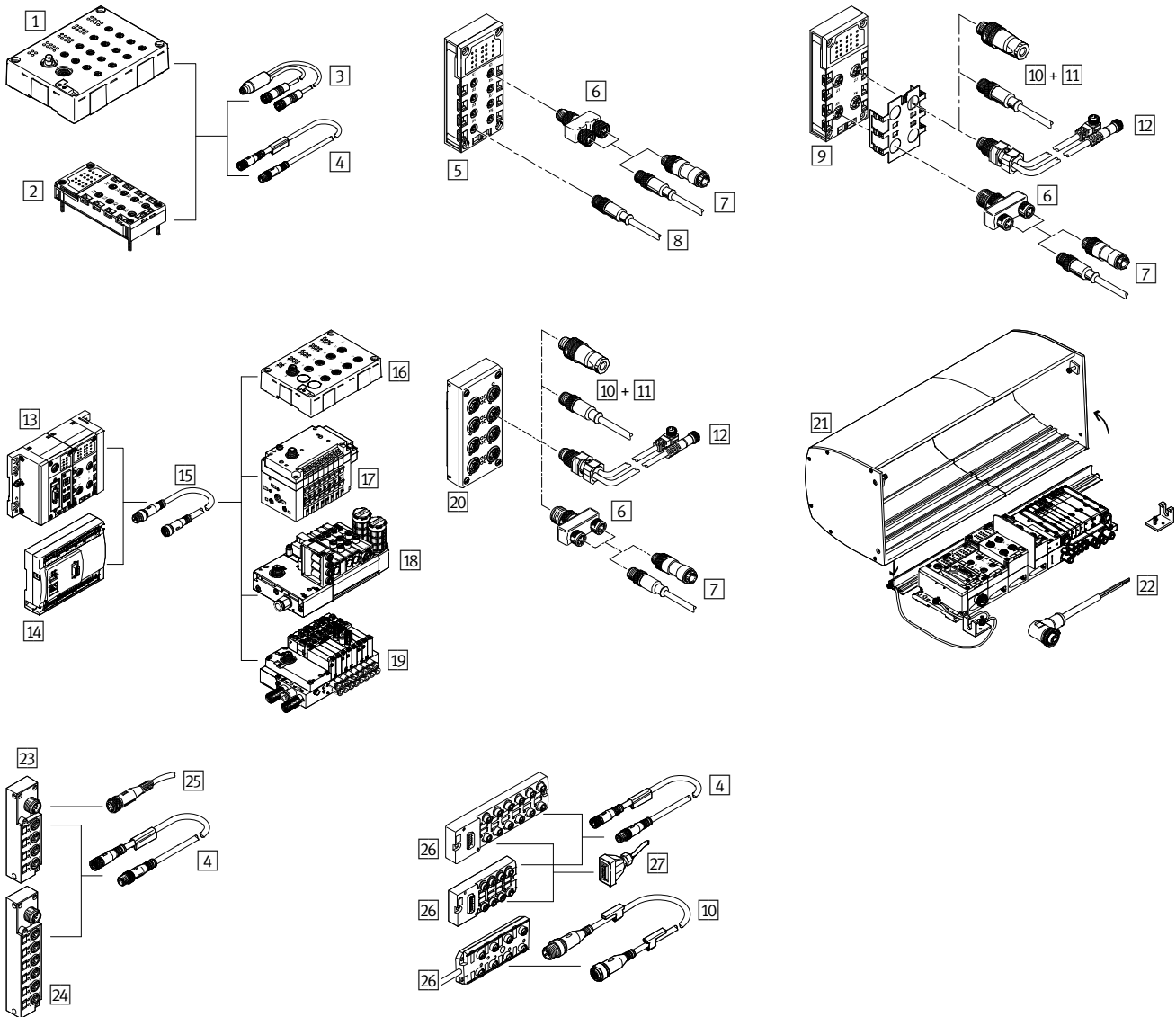
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Version	Type	Connection blocks CPX						Connection blocks CPX-P		Page/Internet ➔
										
		CPX-AB-8-M8-3POL	CPX-AB-8-M8X2-4POL	CPX-AB-4-M12x2-5POL	CPX-M-4-M12x2-5POL	CPX-M-8-M12x2-5POL	CPX-Verkettungen 7/8" 5-pin	CPX-P-AB-4XM12-4POL-8DE-N-IS	CPX-M-GE-EV-Z-7/8-5POL CPX-M-GE-EV-Z-7/8-5POL-VL	
	NEBU-LE5-K-1-M12G5				■					16
	NEBU-M8G3 SIM-M8-3 KM8-M8	■								18
	NEBU-M8G4 SIM-M8-4		■							24
	SIM-M12 NEBU-M12G5...			■	■	■				29 35
	KM12-M12-GSGD-2,5 KM12-M12-GSGD-5 KM12-M12-GSWD-1-4					■		■		32
	NEBU-G78W5-K-2-N-LE5						■		■	43
	NEDU-L2R1-M8G3-K-1L1-1L2-M8G4		■							50
	KM12-DUO-M8-GDGD KM12-DUO-M8-GDWD KM12-DUO-M8-WDWD					■				52

Version	Type	IO-Port/IO-Link/CP I/O modules					AS-interface components		Multi-pin plug distributor		Page/Internet
											
		CAPC-F1-E-M12	CP-E08-M8-CL 3-polig	CP-E16N-M12-EL, 5-polig CP-E08-M12-CL, 5-polig CP-E16N-M12x2, 5-polig	CP-E32-M8-EL 4-polig	CP-E16-KL-CL	ASI-4DI3DO-M12x2-5POL-Z	ASI-8DI-M8-3POL	MPV-E/A08-M8 MPV-/A0812M8 MPV-E/A08-M12	NEDU-L4R1-M8G3L-... NEDU-L6R1-M8G3L-...	→ Page/Internet
	NEBU-M8G3 SIM-M8-3 KM8-M8		■					■	■	■	18
	NEBU-M12G5-... SIM-M12-...-5			■			■				35
	NEBU-M12G5-E-5-Q8N-M12G5 NEBU-M12G5-E-7.5-Q8N-M12G5 NEBU-M12G5-E-10-Q8N-M12G5	■									35
	NEBU-M12W8-K-... SIM-M12-8GD-...									■	40
	NEDU-L2R1-M8G3-1L1-1L2-M8G4				■						50
	KM12-DUO-M8-GDGD KM12-DUO-M8-GDWD KM12-DUO-M8-WDWD			■			■				52
	KVI-CP-3-WS-WD-...		■		■	■	■	■			54
	KVI-CP-3-GS-GD-...		■		■	■	■	■			54

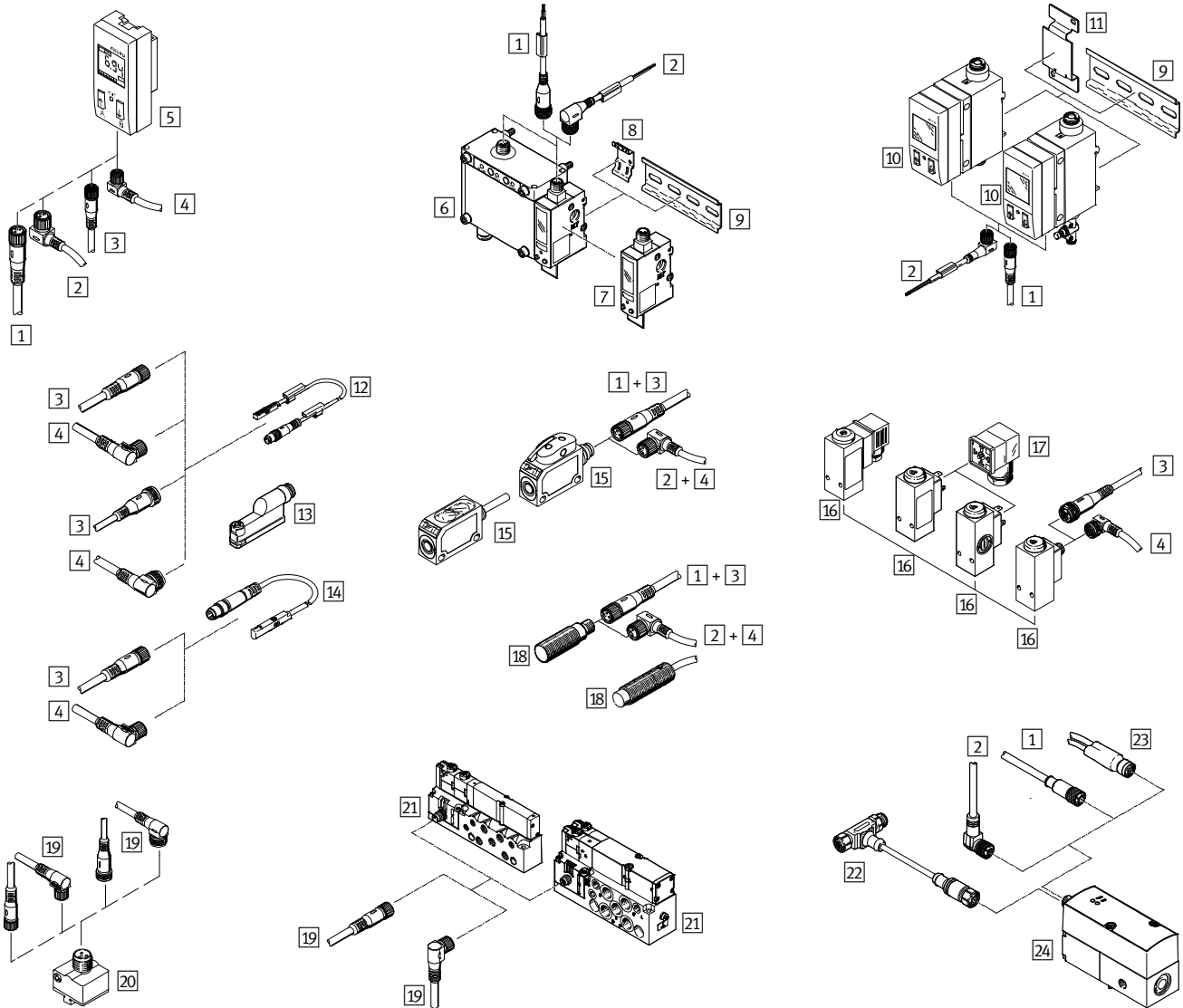
Connecting cables KM8, KM12 and NEBU for electrical modules



Designation	Type	→ Page/ Internet	
1	Input module	CP-E32-M...-EL	cpi
2	Connection block	CPX-AB-8-M...-...POL	cpx
3	DUO cable	NEDU-L2R1-M8G3-K-1L1...	50
4	Connecting cable	NEBU-M8G4-K-2.5-M8G4	24
5	Connection block	CPX-AB-8-M8-3POL	cpx
6	Push-in T connector	NEDU-M8D3-M...T4	210
7	Connecting cable	KM8-M8-GSGD	18
8	Connecting cable	NEBU-M8G...	18
9	Connection block	CPX-AB-4-M12x2-5POL-...	cpx
10	Connecting cable	NEBU-M12G...	35
11	Connecting cable	KM12-M12-...	32
12	Connecting cable	KM12-DUO-M8-...	52
13	Terminal	CPX	cpx
14	Control system	CECC-S, CECC-LK	cecc

Designation	Type	→ Page/ Internet	
15	Connecting cable	NEBU-M12G5-...	35
16	Input module	CTSL-D-16E-...	ctsl
17	Valve terminal	CPV10, CPV14	cpv
18	Valve terminal	VTUB	vtub
19	Valve terminal	VTUG	vtug
20	Connection block	CPX-M...-M12x2-5POL	cpx
21	Cover	CAFC-X1-GAL-...	cafc
22	Connecting cable	NEBU-G78W5-...	43
23	Multi-pin plug distributor	NEDU-L6R1-...	223
24	Multi-pin plug distributor	NEDU-L4R1-M8G3L-...	223
25	Connecting cable	KM12-8GD8GS-2-PU SIM-M12-8GD-2-PU	40
26	Multi-pin plug distributor	MPV-E/A...-M8	226
27	Connecting cable	KMPV-SUB-D-...	176

Connecting cables NEBU and SIM for sensors, valves and pressure and vacuum switches



Designation	Type	→ Page/ Internet
1 Connecting cable	NEBU-M12G...	35
2 Connecting cable	NEBU-M12W...	35
3 Connecting cable	NEBU-M8G...	18
4 Connecting cable	NEBU-M8W...	24
5 Pressure sensor Air gap sensor	SDE1-... SOPA, SFAB	sde1 sopa
6 Air gap sensor	SOPA-CM	sopa
7 Air gap sensor	SOPA-M1	sopa
8 Adapter plate	SXE3	sxe3
9 Mounting rail	NRH	nrh
10 Flow sensor	SFAB	sfab
11 Adapter plate	SDE1-...-W-...	sde1
12 Proximity sensor	SMT-8M-A	smt-8m
13 Proximity sensor	SMT-8-SL	smt-8

Designation	Type	→ Page/ Internet
14 Proximity sensor	SMT-10M	smt-10m
15 Opto-electronic sensor	SOEG	soeg
16 Pressure switch Vacuum switch	PEV-1/4-... VPEF-1/8-...	pev vpev
17 Plug socket	PEV-1/4-WD-LED MSSD-C-4P	239 239
18 Inductive sensor	SIEH	sieh
19 Connecting cable	SIM-M8/SIM-M12	18, 29
20 Proximity sensor	SMT-8M, SME-8M	sme
21 Solenoid valve	VMPA1, VMAPA2	vmpa
22 Programming cable	VAVE-P8-VP	56
23 DUO cable	NEDU-L1R2-V9-M12G8...	217
24 Proportional directional control valve	VPPM, VPPX	vppm vppx



--	--	--	--

Connection technology, right-hand end	
LE	Open cable end
M8	Plug with connecting thread M8
M12	Plug with connecting thread M12, A-coded

Connection technology type at right-hand end	
	Open cable end
G	Straight
W	Angled

Number of pins/wires (right-hand end)	
2	2-pin
3	3-pin
4	4-pin
5	5-pin
8	8-pin



Universal connecting cables

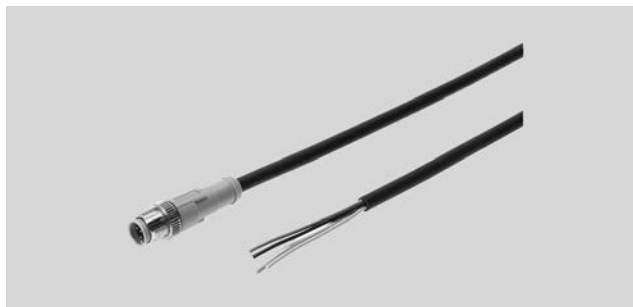
NEBU-LE5, open cable end, 5-pin – Technical data

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Connecting cable NEBU-LE5

- Plug socket with cable for connecting inputs/outputs
- Pre-assembled
- Cable length 1 m
- 5 wires
- Plug M12



General technical data

Conforms to standard	EN 61984
	EN 61076-2-101
Plug coding	A
Cable composition [mm ²]	5x 0.25
Cable diameter [mm]	4.5
Nominal conductor cross section [mm ²]	0.25
Cable characteristics	Standard
Cable test conditions	Resistance to bending: to Festo standard
	Test conditions on request
	Energy chain: 5 million cycles, bending radius 75 mm

Technical data

Operating voltage range [V]	0 ... 60 DC	0 ... 60 AC
Acceptable current load [A]	4	
Surge resistance [kV]	1.5	
Protection class to EN 60529	IP65, IP68, IP69K	

Materials

Wire colour	Blue, brown, grey, black, white
Housing colour	Black
Cable sheath colour	Grey
Housing	TPE-U(PU)
Insulating sheath	PP
Union nut	Nickel-plated brass
Cable sheath	TPE-U(PU)
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-25 ... +70
Ambient temperature with flexible cable installation [°C]	-5 ... +70
CE marking (see declaration of conformity)	In accordance with EU Low Voltage Directive
Degree of contamination	3

Circuitry (socket view)

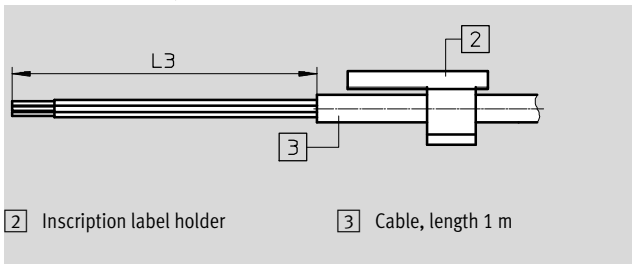
Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection: open cable end, 5-wire – plug, 5-pin, M12				
-	-	BN	1	
	-	WH	2	
	-	BU	3	
	-	BK	4	
	-	GY	5	

1) To IEC 757

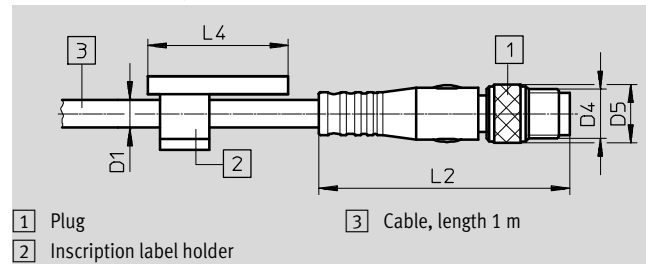
Dimensions

Download CAD data → www.festo.com

Connection technology, left-hand end



Connection technology, right-hand end



Connection technology, left-hand end	L3
NEBU	
Open end	50

Connection technology, right-hand end	D1	D4	D5	L2	L3	L4	H1
NEBU	∅		∅				
Straight plug	4.5	M12x1	15	54.5	-	23	-

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type
Open cable end, 5-wire – plug, 5-pin, M12						
	1	Standard	Straight – straight	-	569840	NEBU-LE5-K-1-M12G5

Universal connecting cables

NEBU-M8/SIM-M8/KM8-M8, M8 3-pin – Technical data

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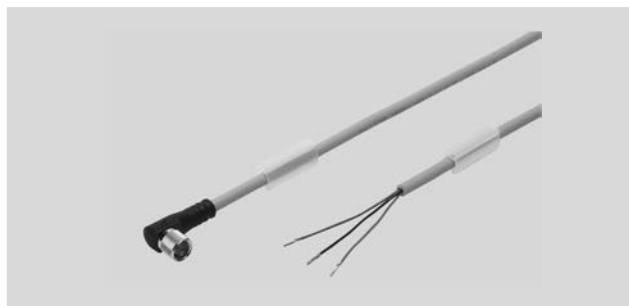
Connecting cable

NEBU-M8

SIM-M8

KM8-M8

- Plug socket with cable for connecting inputs/outputs
- Pre-assembled at both ends
- Cable lengths 0.1 ... 30 m
- 3 wires
- M8



General technical data

Conforms to standard	NEBU/SIM	EN 61076-2-104 EN 61984 EN 61076-2-101		
Cable composition		[mm ²] 3x 0.25		
Cable diameter	NEBU/SIM	[mm] 4.5		
Nominal conductor cross section	NEBU/SIM	[mm ²] 0.25		
Cable characteristics	NEBU	Code -P-	Basic	
		Code -K-	Standard	
		Code -E-	Suitable for use with energy chains	
		Code -R-	Suitable for robot applications	
	SIM		Standard	
	KM8-M8		–	
Cable test conditions	NEBU/SIM		Resistance to bending: to Festo standard	
			Test conditions on request	
		Cable characteristics	Basic	–
			Standard	Energy chain: 5 million cycles, bending radius 75 mm
		Suitable for use with energy chains	Energy chain: 5 million cycles, bending radius 28 mm	
		Suitable for robot applications	Torsional strength greater than 300,000 cycles, ±270°/0.1 m	

Technical data

Operating voltage range	NEBU/SIM	Without display	[V]	0 ... 60 DC	0 ... 60 AC
		With display	[V]	10 ... 30 DC	–
	KM8-M8	[V]	0 ... 75 DC	0 ... 60 AC	
Acceptable current load	NEBU/SIM	Non-rotatable connection technology	[A]	3	
		Rotatable connection technology	[A]	0.5	
	KM8-M8	[A]	4		
Surge resistance	NEBU/SIM	Non-rotatable connection technology, without switching status display	[kV]	1.5	
		Rotatable connection technology	[kV]	0.8	
		With switching status display	[kV]	0.8	
Protection class to EN 60529	SIM			IP65, IP68	
	NEBU			IP65, IP68, IP69K	
	KM8-M8			IP65	

Materials

Wire colour	NEBU/SIM		Blue, brown, black
Housing colour	NEBU/SIM		Black
Cable sheath colour			Grey
Housing	NEBU/SIM		TPE-U(PU)
Insulating sheath	NEBU/SIM	Cable characteristics: standard, suitable for energy chains and robot applications	PP
		Cable characteristics: basic, standard	PVC-P
Union nut	NEBU/SIM		Nickel-plated brass
Cable sheath	NEBU/SIM	Cable characteristics: standard, suitable for energy chains and robot applications	TPE-U(PU)
		Cable characteristics: basic	PVC-P
	KM8-M8		PUR
Note on materials	NEBU/SIM	All types	RoHS-compliant
		Cable characteristics: suitable for energy chains and robot applications	Halogen-free
Special features	NEBU	Cable characteristics: suitable for energy chains and robot applications	Oil-resistant

Operating and environmental conditions

Ambient temperature	NEBU/SIM	Cable characteristics: basic, standard	[°C]	-25 ... +70
		Cable characteristics: suitable for energy chains and robot applications	[°C]	-25 ... +80
	KM8-M8	[°C]	-25 ... +85	
Ambient temperature with flexible cable installation	NEBU/SIM	Cable characteristics: standard	[°C]	-5 ... +70
		Cable characteristics: basic, suitable for energy chains and robot applications	[°C]	-5 ... +80
CE marking (see declaration of conformity)	NEBU/SIM	With switching status display		-
		Without switching status display		In accordance with EU Low Voltage Directive
	KM8-M8			-
Degree of contamination				3

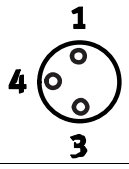
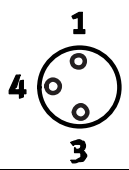
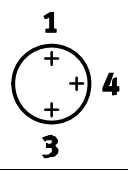
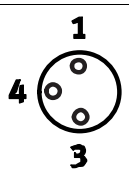
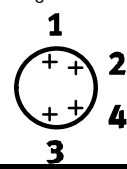
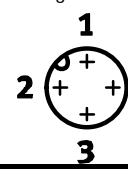
Universal connecting cables

NEBU-M8/SIM-M8/KM8-M8, M8 3-pin – Technical data

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Circuitry (socket view)

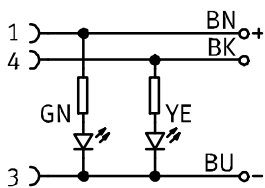
Socket	Pin	Wire colour ¹⁾	Pin	Plug	
Electrical connection: socket, 3-pin, M8 – open cable end					
	1	BN	-	-	
	3	BU	-		
	4	BK	-		
Electrical connection: socket, 3-pin, M8 – plug, 3-pin					
	1	BN	1		
	3	BU	3		
	4	BK	4		
Electrical connection: socket, 3-pin, M8 – plug, 4-pin					
	1	BN	1		
	-	-	2		
	3	BU	3		
	4	BK	4		

1) To IEC 757

Circuitry – Switching status display

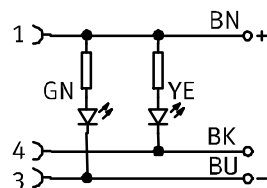
Display code P

For NPN N/O contact



Display code N

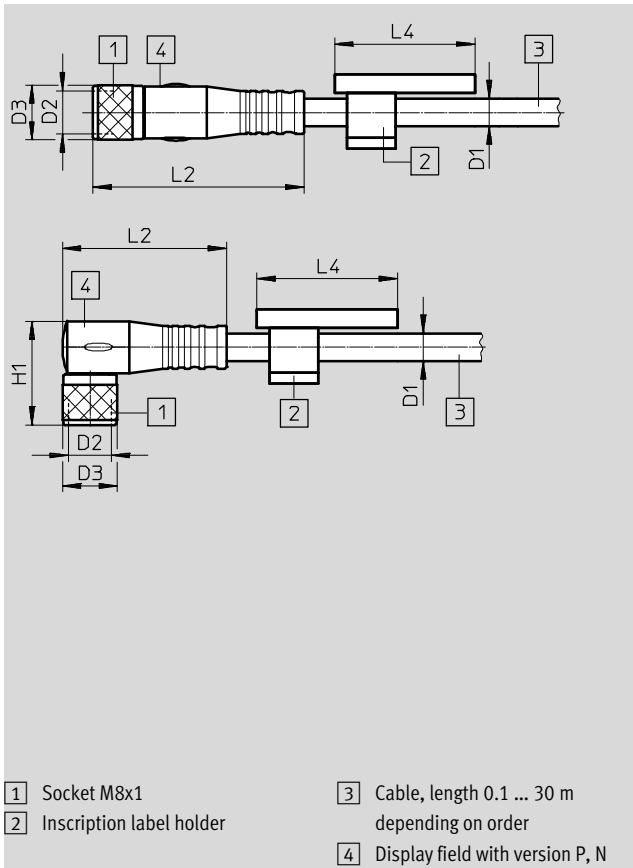
For PNP N/O contact



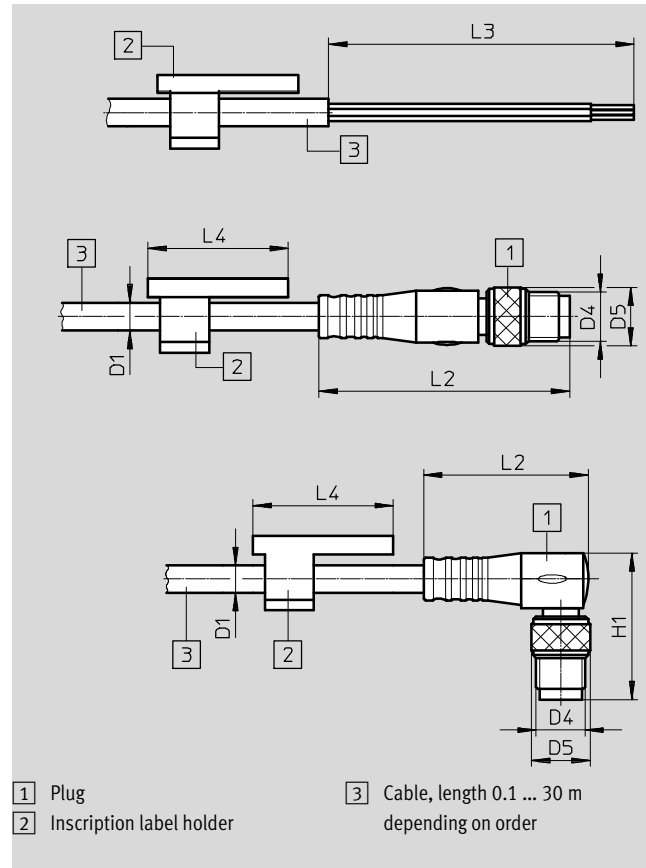
Dimensions

Download CAD data → www.festo.com

Connection technology, left-hand end



Connection technology, right-hand end



Connection technology, left-hand end	D1 Ø	D2	D3 Ø	L2	L4	H1
NEBU						
Straight socket	4.5	M8x1	9	34.6	23	–
Angled socket	4.5	M8x1	9	26.9	23	17
Rotatable socket	4.5	M8x1	10	20.9	23	16.3
NEBU with display						
Straight socket	3.4	M8x1	9	34.6	23	–
Angled socket	3.4	M8x1	9	26.9	23	17
SIM						
Straight socket	4.5	M8x1	9	34.4	–	–
Angled socket	4.5	M8x1	9	26.8	–	16.8
KM8-M8						
Straight socket	4.5	M8x1	9.7	32	–	–

Connection technology, right-hand end	D1 Ø	D4	D5 Ø	L2	L3	L4	H1
NEBU							
Open end	4.5	–	–	–	50	23	–
Straight plug	4.5	M8x1	9.6	41.1	–	23	–
	4.5	M12x1	15	54.5	–	23	–
Angled plug	4.5	M8x1	9.6	26.9	–	23	24
	4.5	M12x1	15	37.5	–	23	33.2
NEBU with display							
Straight plug	3.4	M8x1	9	41.1	–	23	–
	3.4	M12x1	15	54.5	–	23	–
Angled plug	3.4	M8x1	9	26.9	–	23	24
	3.4	M12x1	15	37.5	–	23	33.2
SIM							
Open end	4.5	–	–	–	50	–	–
KM8-M8							
Straight plug	4.5	M8x1	9.7	39	–	–	–

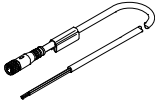
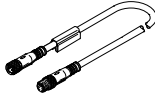
Universal connecting cables

NEBU-M8/SIM-M8/KM8-M8, M8 3-pin – Technical data

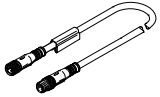
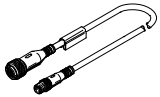
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Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type	
Socket, 3-pin, M8 – open cable end							
	2.5	Standard	Straight – straight	–	541333	NEBU-M8G3-K-2.5-LE3	
				–	159420	SIM-M8-3GD-2,5-PU	
			Angled – straight	–	541338	NEBU-M8W3-K-2.5-LE3	
				–	159422	SIM-M8-3WD-2,5-PU	
			Rotatable socket	8001660	NEBU-M8R3-K-2.5-LE3		
			For NPN N/O contact, yellow switching status display, green ready status display	541336	NEBU-M8W3N-K-2.5-LE3		
			–	159426	SIM-M8-3WD-2,5-NSL-PU		
			For PNP N/O contact, yellow switching status display, green ready status display	541337	NEBU-M8W3P-K-2.5-LE3		
			–	159424	SIM-M8-3WD-2,5-PSL-PU		
			Suitable for robot applications	Straight – straight	569845	NEBU-M8G3-R-2.5-LE3	
	Angled – straight	569847		NEBU-M8W3-R-2.5-LE3			
	5	Standard	Straight – straight	–	541334	NEBU-M8G3-K-5-LE3	
				–	159421	SIM-M8-3GD-5-PU	
			Angled – straight	–	541341	NEBU-M8W3-K-5-LE3	
				–	159423	SIM-M8-3WD-5-PU	
			Rotatable socket	8001661	NEBU-M8R3-K-5-LE3		
			For NPN N/O contact, yellow switching status display, green ready status display	541339	NEBU-M8W3N-K-5-LE3		
			–	159427	SIM-M8-3WD-5-NSL-PU		
			For PNP N/O contact, yellow switching status display, green ready status display	541340	NEBU-M8W3P-K-5-LE3		
			–	159425	SIM-M8-3WD-5-PSL-PU		
Suitable for use with energy chains			Straight – straight	569843	NEBU-M8G3-E-5-LE3		
Suitable for robot applications	Straight – straight	569846	NEBU-M8G3-R-5-LE3				
10	Standard	Straight – straight	–	541332	NEBU-M8G3-K-10-LE3		
			–	192964	SIM-M8-3GD-10-PU		
		Angled – straight	–	541335	NEBU-M8W3-K-10-LE3		
			–	192965	SIM-M8-3WD-10-PU		
	Suitable for use with energy chains	Straight – straight	569842	NEBU-M8G3-E-10-LE3			
	Suitable for robot applications	Straight – straight	8003129	NEBU-M8G3-R-10-LE3			
	Socket, 3-pin, M8 – plug, 3-pin, M8						
		0.5	Standard	Straight – straight	–	541346	NEBU-M8G3-K-0.5-M8G3
–					175488	KM8-M8-GSGD-0,5	
1		Standard	Straight – straight	–	541347	NEBU-M8G3-K-1-M8G3	
				–	175489	KM8-M8-GSGD-1	
1.5		Standard	Straight – straight	–	8003133	NEBU-M8G3-K-1.5-M8G3	
2		Standard	Straight – straight	–	8003131	NEBU-M8G3-K-2-M8G3	
2.5		Standard	Straight – straight	–	541348	NEBU-M8G3-K-2.5-M8G3	
				–	165610	KM8-M8-GSGD-2,5	
3		Standard	Straight – straight	–	8003132	NEBU-M8G3-K-3-M8G3	
				–	8003132	NEBU-M8G3-K-3-M8G3	
3.5		Suitable for use with energy chains	Straight – straight	Oil-resistant	559364	NEBU-M8G3-E-3.5-M8G3	
5		Standard	Straight – straight	–	541349	NEBU-M8G3-K-5-M8G3	
				–	165611	KM8-M8-GSGD-5	
10		Standard	Straight – straight	–	569844	NEBU-M8G3-K-10-M8G3	

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type
Socket, 3-pin, M8 – plug, 4-pin, M8						
	2.5	Standard	Straight – straight	–	554037	NEBU-M8G3-K-2.5-M8G4
Socket, 3-pin, M8 – plug, 3-pin, M12						
	0.5	Standard	Straight – straight	–	8000209	NEBU-M8G3-K-0.5-M12G3

Universal connecting cables

NEBU-M8/SIM-M8, M8 4-pin – Technical data

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1

Connecting cable

NEBU-M8

SIM-M8

- Plug socket with cable for connecting inputs/outputs
- Pre-assembled at both ends
- Cable lengths 0.1 ... 30 m
- 4 wires
- M8



General technical data

Conforms to standard		EN 61076-2-104	
		EN 61984	
		EN 61076-2-101	
Cable composition		[mm ²]	4x 0.25
Cable diameter	NEBU	With display	[mm] 3.4
		Without display	[mm] 4.5
	SIM	[mm]	4.5
Nominal conductor cross section		[mm ²]	0.25
Cable characteristics	NEBU	Code -P-	Basic
		Code -K-	Standard
		Code -E-	Suitable for use with energy chains
		Code -R-	Suitable for robot applications
	SIM		Standard
Cable test conditions		Resistance to bending: to Festo standard	
		Test conditions on request	
Cable characteristics	Cable characteristics	Basic	–
		Standard	Energy chain: 5 million cycles, bending radius 75 mm
		Suitable for use with energy chains	Energy chain: 5 million cycles, bending radius 28 mm
		Suitable for robot applications	Torsional strength greater than 300,000 cycles, ±270°/0.1 m

Technical data

Operating voltage range	NEBU	Without display	[V]	0 ... 30 DC	0 ... 30 AC
		With display	[V]	21.6 ... 30 DC	21.6 ... 30 AC
	SIM		[V]	0 ... 30 DC	0 ... 30 AC
Acceptable current load			[A]	3	
Surge resistance	NEBU		[kV]	0.8	
	SIM		[kV]	0.8	
Protection class to EN 60529	NEBU				IP65, IP68, IP69K
	SIM				IP65, IP68

Materials

Wire colour		Blue, brown, black, white
Housing colour		Black
Cable sheath colour		Grey
Housing		TPE-U(PU)
Insulating sheath	Cable characteristics: standard, suitable for energy chains and robot applications	PP
	Cable characteristics: basic, standard	PVC-P
Union nut		Nickel-plated brass
Cable sheath	Cable characteristics: standard, suitable for energy chains and robot applications	TPE-U(PU)
	Cable characteristics: basic	PVC-P
Note on materials		RoHS-compliant
	Cable characteristics: suitable for energy chains and robot applications	Halogen-free
Special features	Cable characteristics: suitable for energy chains and robot applications	Oil-resistant

Operating and environmental conditions

Ambient temperature	Cable characteristics: basic, standard	[°C]	-25 ... +70
	Cable characteristics: suitable for energy chains and robot applications	[°C]	-25 ... +80
Ambient temperature with flexible cable installation	Cable characteristics: standard	[°C]	-5 ... +70
	Cable characteristics: basic, suitable for energy chains and robot applications	[°C]	-5 ... +80
Degree of contamination			3

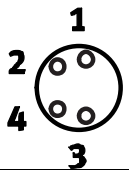
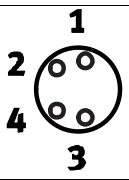
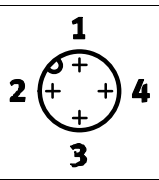
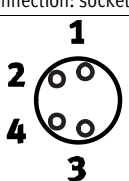
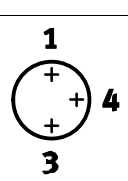
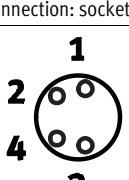
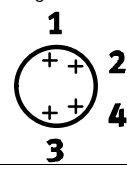
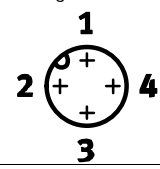
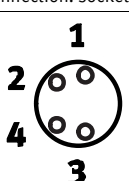
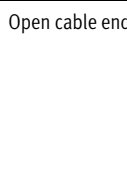
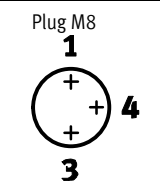
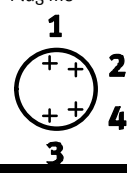
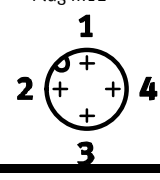
Universal connecting cables

NEBU-M8/SIM-M8, M8 4-pin – Technical data

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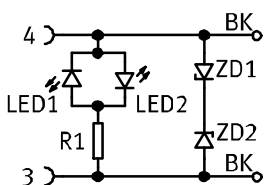
Circuitry (socket view)

Socket	Pin	Wire colour ¹⁾	Pin	Plug	
Electrical connection: socket, 4-pin, M8 – open cable end					
	1	BN	-	-	
	2	WH	-	-	
	3	BU	-	-	
	4	BK	-	-	
Electrical connection: socket, 4-pin, M8 – plug, 2-pin					
	1	BN	-		
	2	WH	-		
	3	BU	3		
	4	BK	4		
Electrical connection: socket, 4-pin, M8 – plug, 3-pin					
	1	BN	1		
	2	WH	-		
	3	BU	3		
	4	BK	4		
Electrical connection: socket, 4-pin, M8 – plug, 4-pin					
	1	BN	1		
	2	WH	2		
	3	BU	3		
	4	BK	4		
Electrical connection: socket, 4-pin, M8, with display code L					
	1	-	1		
	2	-	2		
	3	BK	3		
	4	BK	4		

1) – To IEC 757

Circuitry – Switching status display

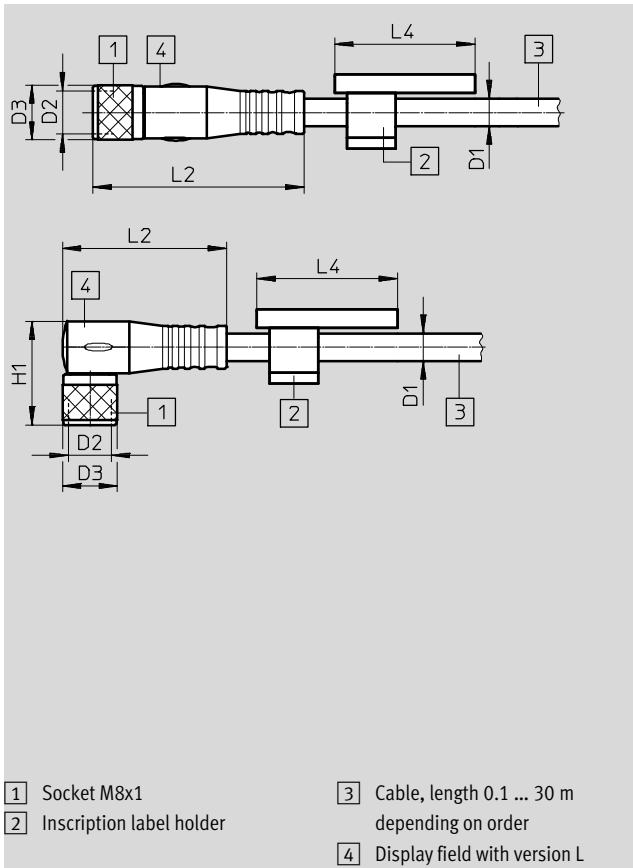
Display code L



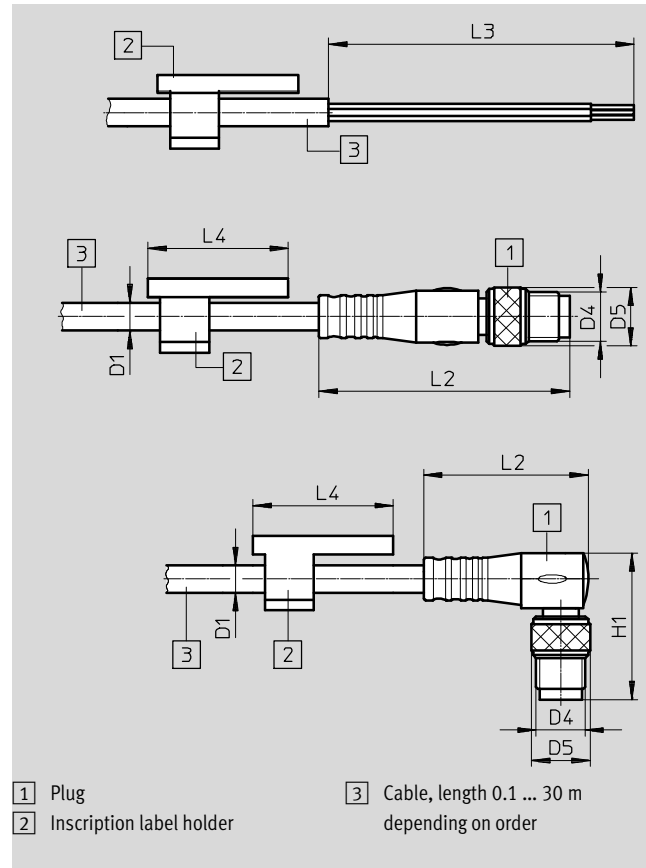
Dimensions

Download CAD data → www.festo.com

Connection technology, left-hand end



Connection technology, right-hand end



Connection technology, left-hand end	D1 Ø	D2	D3 Ø	L2	L4	H1
NEBU						
Straight socket	4.5	M8x1	9	34.6	23	–
Angled socket	4.5	M8x1	9	26.9	23	17
Rotatable socket	4.5	M8x1	10	20.9	23	16.3
NEBU with display						
Straight socket	3.4	M8x1	9	34.6	23	–
Angled socket	3.4	M8x1	9	26.9	23	17
SIM						
Straight socket	4.5	M8x1	9	34.4	–	16.8
Angled socket	4.5	M8x1	9	26.8	–	16.8

Connection technology, right-hand end	D1 Ø	D4	D5 Ø	L2	L3	L4	H1
NEBU							
Open end	4.5	–	–	–	50	23	–
Straight plug	4.5	M8x1	9.6	41.1	–	23	–
	4.5	M12x1	15	54.5	–	23	–
Angled plug	4.5	M8x1	9.6	26.9	–	23	24
	4.5	M12x1	15	37.5	–	23	33.2
NEBU with display							
Straight plug	3.4	M8x1	9	41.1	–	23	–
	3.4	M12x1	15	54.5	–	23	–
Angled plug	3.4	M8x1	9	26.9	–	23	24
	3.4	M12x1	15	37.5	–	23	33.2
SIM							
Open end	4.5	–	–	–	50	–	–

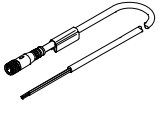
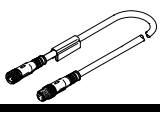
Universal connecting cables

NEBU-M8/SIM-M8, M8 4-pin – Technical data

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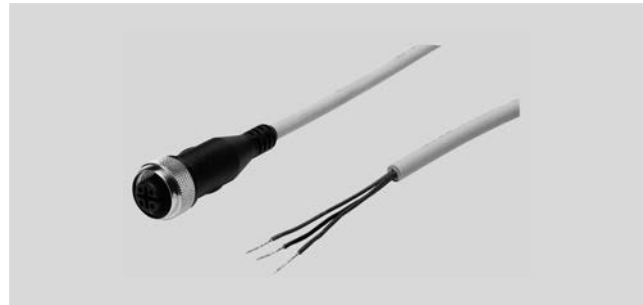
1

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type
Socket, 4-pin, M8 – open cable end						
	2.5	Standard	Straight – straight	–	541342	NEBU-M8G4-K-2.5-LE4
					158960	SIM-M8-4GD-2,5-PU
			Angled – straight	–	541344	NEBU-M8W4-K-2.5-LE4
				–	158962	SIM-M8-4WD-2,5-PU
	5	Standard	Straight – straight	–	541343	NEBU-M8G4-K-5-LE4
				–	158961	SIM-M8-4GD-5-PU
			Angled – straight	–	541345	NEBU-M8W4-K-5-LE4
				–	158963	SIM-M8-4WD-5-PU
9	Standard	Straight – straight	–	8003130	NEBU-M8G4-K-9-LE4	
10	Standard	Angled – straight	–	575833	NEBU-M8W4-K-10-LE4	
Socket, 4-pin, M8 – plug, 4-pin, M8						
	2	Suitable for robot applications	Straight – straight	Oil-resistant	556946	NEBU-M8G4-R-2-M8G4
	2.5	Standard	Straight – straight	–	554035	NEBU-M8G4-K-2.5-M8G4

**Connecting cable
SIM-M12**

- Plug socket with cable for connecting inputs/outputs
- Pre-assembled
- Cable lengths 2.5 m, 3 m, 5 m
- 3 wires
- M12



General technical data

Conforms to standard	EN 61984
	EN 61076-2-101
Plug coding	A
Cable composition	[mm ²] 3x 0.25
	SIM-...-RS [mm ²] 3x 0.5
Cable diameter	[mm] 4.5
	SIM-...-RS [mm] 5.2
Nominal conductor cross section	[mm ²] 0.25
Cable characteristics	Standard
Cable test conditions	Resistance to bending: to Festo standard
	Test conditions on request
	Energy chain: 5 million cycles, bending radius 75 mm

Technical data

Operating voltage range	Without switching status display	[V]	0 ... 250 DC	0 ... 250 AC
	With switching status display	[V]	10 ... 30 DC	–
	SIM-...-RS	[V]	0 ... 70 DC	0 ... 45 AC
Acceptable current load		[A]	4	
Surge resistance	Without switching status display	[kV]	2.5	
	With switching status display	[kV]	0.8	
	SIM-...-RS	[kV]	2.5	
Protection class to EN 60529			IP65, IP68	
	SIM-...-RS		IP65, IP67	

Materials

Wire colour	Blue, brown, black
Housing colour	Black
Cable sheath colour	Grey
	SIM-...-RS Orange
Housing	TPE-U(PU)
Insulating sheath	PVC
Union nut	Nickel-plated brass
Cable sheath	TPE-U(PU)
	SIM-...-RS PVC, radiation crosslinked
Note on materials	RoHS-compliant, free of copper and PTFE

Operating and environmental conditions

Ambient temperature		[°C]	-25 ... +70
	SIM-...-RS	[°C]	-25 ... +80
Ambient temperature with flexible cable installation		[°C]	-5 ... +70
	SIM-...-RS	[°C]	0 ... +80
CE marking (see declaration of conformity)	Without switching status display		In accordance with EU Low Voltage Directive
	SIM-...-RS		-
Degree of contamination			3

Circuitry (socket view)

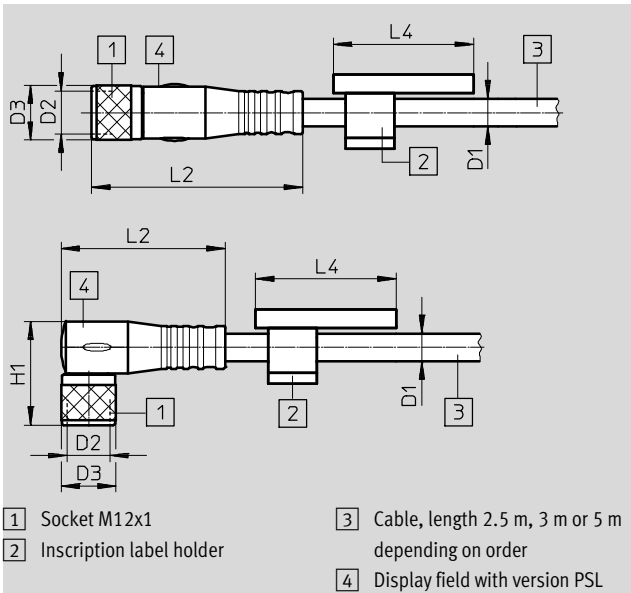
Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection: socket, 3-pin, M12 – open cable end				
	1	BN	-	-
	2	-	-	
	3	BU	-	
	4	BK	-	
	5	-	-	

1) To IEC 757

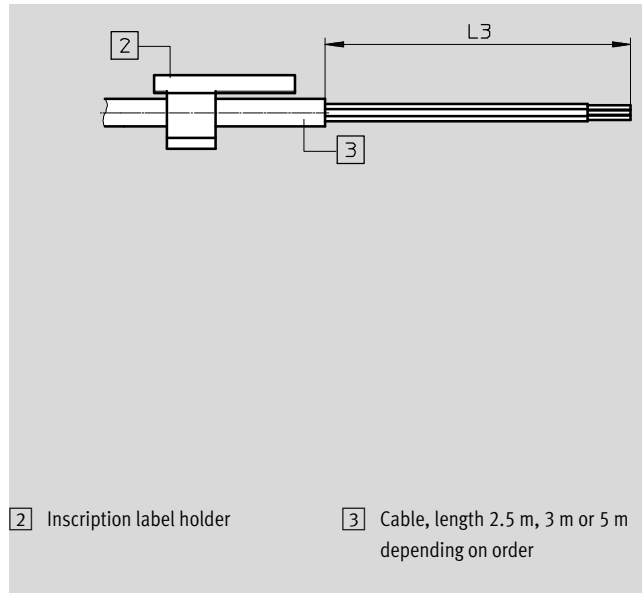
Dimensions

Download CAD data → www.festo.com

Connection technology, left-hand end



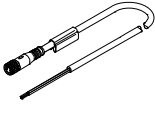
Connection technology, right-hand end



Connection technology, left-hand end	D1 Ø	D2	D3 Ø	L2	L4	H1
SIM						
Straight socket	4.5	M12x1	15	48.5	-	-
Angled socket	4.5	M12x1	-	37.5	-	26
SIM-...-RS						
Straight socket	5.2	M12x1	15	38	-	-
Angled socket	5.2	M12x1	13.5	31	-	25

Connection technology, right-hand end	D1 Ø	L3
SIM		
Open end	4.5	50
SIM-...-RS		
Open end	5.2	50

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type
Socket, 3-pin, M12 – open cable end						
	2.5	Standard	Straight – straight	–	159428	SIM-M12-3GD-2,5-PU
			Angled – straight	–	159430	SIM-M12-3WD-2,5-PU
				For NPN N/O contact, yellow switching status display, green ready status display	159434	SIM-M12-3WD-2,5-NSL-PU
	3	Standard	Straight – straight	Resistant to welding spatter	30450	SIM-M12-RS-3GD-3
			Angled – straight	Resistant to welding spatter	30451	SIM-M12-RS-3WD-3
	5	Standard	Straight – straight	–	159429	SIM-M12-3GD-5-PU
			Angled – straight	–	159431	SIM-M12-3WD-5-PU
				For NPN N/O contact, yellow switching status display, green ready status display	159435	SIM-M12-3WD-5-NSL-PU

Universal connecting cables

SIM-M12-4/KM12-M12 M12 4-pin – Technical data

FESTO

1

Connecting cable

SIM-M12-4

KM12-M12

- Plug socket with cable for connecting inputs/outputs
- Pre-assembled at both ends
- Cable lengths 1 m, 2.5 m, 5 m
- 4 wires
- M12



General technical data

Conforms to standard	EN 61076-2-101		
	EN 61984		
Plug coding	A		
Cable composition	KM12-M12-GSWD-1-4	[mm ²]	4x 0.34
	Other types	[mm ²]	4x 0.25
Cable diameter	SIM	[mm]	4.5
Nominal conductor cross section	SIM	[mm ²]	0.25
Cable characteristics	SIM Standard		
Cable test conditions	SIM Test conditions on request		
	Resistance to bending: to Festo standard		
	Energy chain: 5 million cycles, bending radius 75 mm		

Technical data

Operating voltage range	SIM	[V]	0 ... 250 DC	0 ... 250 AC
	KM12-M12	[V]	0 ... 75 DC	0 ... 60 AC
Acceptable current load	SIM	[A]	4	
	KM12-M12-GSGD-2,5	[A]	3.8	
	KM12-M12-GSGD-5	[A]	2.8	
	KM12-M12-GSWD-1-4	[A]	3.8	
Surge resistance	SIM	[kV]	2.5	
Protection class to EN 60529	SIM		IP65, IP68	
	KM12-M12		IP67	

Materials

Wire colour	SIM	Blue, brown, black, white
Housing colour	SIM	Black
Cable sheath colour		Grey
Housing	SIM	TPE-U(PU)
	KM12-M12-GSWD-1-4	TPE-U(PU)
Insulating sheath	SIM	PVC
Union nut	SIM	Nickel-plated brass
Cable sheath	SIM	TPE-U(PU)
	KM12-M12-GSGD-2,5	PUR
	KM12-M12-GSGD-5	PUR
	KM12-M12-GSWD-1-4	TPE-U(PU)
Note on materials	SIM	RoHS-compliant, free of copper and PTFE

Operating and environmental conditions

Ambient temperature	SIM	[°C]	-25 ... +70
	KM12-M12	[°C]	-30 ... +70
Ambient temperature with flexible cable installation		[°C]	-5 ... +70
CE marking (see declaration of conformity)	SIM		In accordance with EU Low Voltage Directive
Degree of contamination	SIM		3

Circuitry (socket view)

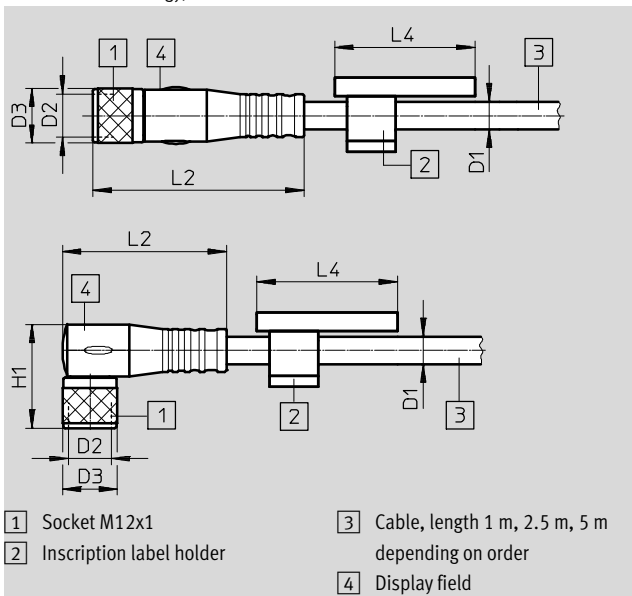
Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection: socket, 4-pin, M12 – open cable end				
	1	BN	-	-
	2	WH	-	
	3	BU	-	
	4	BK	-	
	5	-	-	
Electrical connection: socket, 4-pin, M12 – plug, 4-pin				
	1	BN	1	
	2	WH	2	
	3	BU	3	
	4	BK	4	

1) To IEC 757

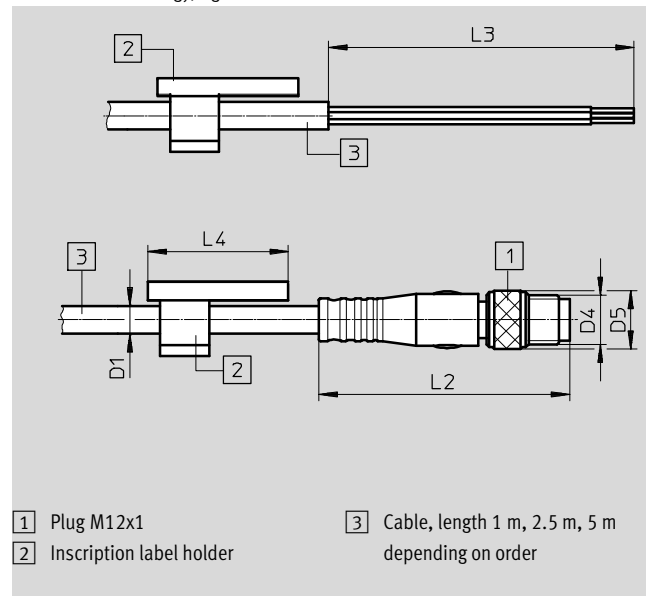
Dimensions

Download CAD data → www.festo.com

Connection technology, left-hand end



Connection technology, right-hand end



Connection technology, left-hand end	D1 ∅	D2	D3 ∅	L2	L4	H1
SIM						
Straight socket	4.5	M12x1	15	48.5	-	-
Angled socket	4.5	M12x1	-	37.5	-	26
KM12-M12						
Straight socket	-	M12x1	14	40.3	-	-
Angled socket	-	M12x1	14	38.5	-	-

Connection technology, right-hand end	D1 ∅	D4	D5 ∅	L2	L3	L4
SIM						
Open end	4.5	-	-	-	50	-
KM12-M12						
Straight plug	-	M12x1	14	46	-	-

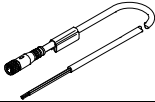
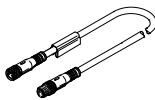
Universal connecting cables

SIM-M12-4/KM12-M12 M12 4-pin – Technical data

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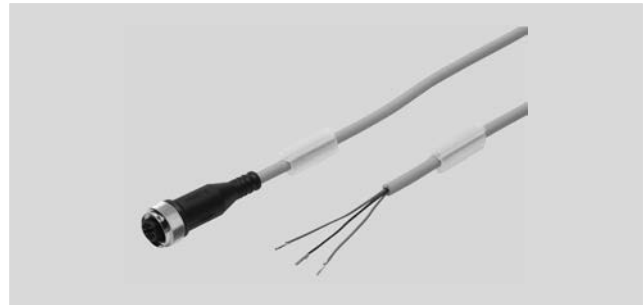
1

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type
Socket, 3-pin, M12 – open cable end						
	5	Standard	Straight – straight	–	164259	SIM-M12-4GD-5-PU
			Angled – straight	–	164258	SIM-M12-4WD-5-PU
Socket, 3-pin, M12 – plug, 4-pin, M12						
	1	–	Straight – straight	–	185499	KM12-M12-GSWD-1-4
	2.5	–	Straight – straight	–	18684	KM12-M12-GSGD-2,5
	5	–	Straight – straight	–	18686	KM12-M12-GSGD-5

Connecting cable
NEBU-M12
SIM-M12

- Plug socket with cable for connecting inputs/outputs
- Pre-assembled at both ends
- Cable lengths 0.1 ... 30 m
- 5 wires
- M12



General technical data

Conforms to standard		EN 61076-2-101		
		EN 61984		
		EN 61076-2-104		
Cable composition	2-wire	[mm ²]	2x 0.25	
	3-wire	[mm ²]	3x 0.25	
	4-wire	[mm ²]	4x 0.25	
	5-wire	[mm ²]	5x 0.25	
	NEBU-M12G5-F-0.2-M12G4	[mm ²]	4x 0.34	
	NEBU-M12G5-...-Q8N-M12G5	[mm ²]	5x 1	
Cable diameter	NEBU/SIM	With display code L	[mm]	3.4
		Without display	[mm]	4.5
	NEBU-M12G5-F-0.2-M12G4	[mm]	5.2	
	NEBU-M12G5-...-Q8N-M12G5	[mm]	7	
Nominal conductor cross section	NEBU/SIM	[mm ²]	0.25	
	NEBU-M12G5-F-0.2-M12G4	[mm ²]	0.34	
	NEBU-M12G5-...-Q8N-M12G5	[mm ²]	1	
Cable characteristics	NEBU	Code -P-		Basic
		Code -K-		Standard
		Code -E-		Suitable for use with energy chains
		Code -R-		Suitable for robot applications
	SIM		Standard	
Cable test conditions				Resistance to bending: to Festo standard
				Test conditions on request
	Cable characteristics	Basic		–
		Standard		Energy chain: 5 million cycles, bending radius 75 mm
		Suitable for use with energy chains		Energy chain: 5 million cycles, bending radius 28 mm
Suitable for robot applications			Torsional strength greater than 300,000 cycles, ±270°/0.1 m	

Technical data

Operating voltage range	NEBU/SIM	With plug M8	[V]	0 ... 30 DC	0 ... 30 AC
		3-wire, 4-wire	[V]	0 ... 250 DC	0 ... 250 AC
		5-wire	[V]	0 ... 60 DC	0 ... 60 AC
		With display code -P-, N or P2	[V]	10 ... 30 DC	–
Acceptable current load	NEBU/SIM	Other types	[A]	4	
		With plug M8	[A]	3	
Surge resistance			[kV]	1.5	
	With plug M8, 4-pin or with switching status display		[kV]	0.8	
	With open cable end, 3-pin or 4-pin		[kV]	2.5	
	NEBU-M12G5-F-0.2-M12G4		[kV]	–	
Protection class to EN 60529	SIM			IP65, IP68	
	NEBU			IP65, IP68, IP69K	
	NEBU-M12G5-F-0.2-M12G4			IP65, IP67	

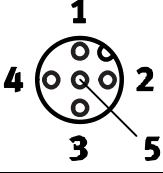
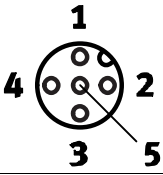
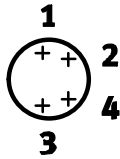
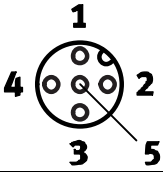
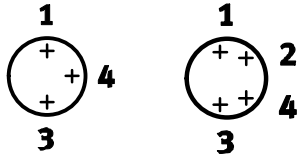
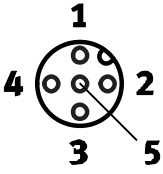
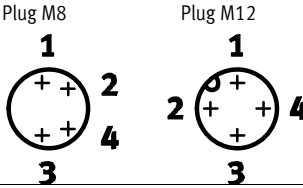
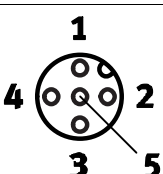
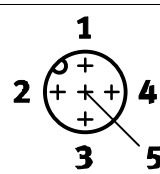
Materials

Wire colour		Blue, brown, black, white, grey
Housing colour		Black
Cable sheath colour		Grey
Housing		TPE-U(PU)
Insulating sheath	Cable characteristics: standard, suitable for energy chains and robot applications	PP
	Cable characteristics: basic, standard	PVC-P
	NEBU-M12G5-F-0.2-M12G4	–
Union nut	NEBU/SIM	Nickel-plated brass
	NEBU-M12G5-F-0.2-M12G4	Die-cast zinc
Cable sheath	Cable characteristics: standard, suitable for energy chains and robot applications	TPE-U(PU)
	Cable characteristics: basic	PVC
	NEBU-M12G5-F-0.2-M12G4	PVC
Note on materials	NEBU/SIM	RoHS-compliant
	Cable characteristics: suitable for energy chains and robot applications	Halogen-free
	NEBU-M12G5-F-0.2-M12G4	–
Special features	Cable characteristics: suitable for energy chains and robot applications	Oil-resistant

Operating and environmental conditions

Ambient temperature	Cable characteristics: basic, standard	[°C]	–25 ... +70
	Cable characteristics: suitable for energy chains and robot applications	[°C]	–25 ... +80
	NEBU-M12G5-F-0.2-M12G4	[°C]	–5 ... +70
Ambient temperature with flexible cable installation	Cable characteristics: standard	[°C]	–5 ... +70
	Cable characteristics: basic, suitable for energy chains and robot applications	[°C]	–5 ... +80
CE marking (see declaration of conformity)	NEBU	With switching status display	In accordance with EU Low Voltage Directive
		Without switching status display	–
		With plug M8, 4-pin	–
	NEBU-M12G5-F-0.2-M12G4		–
	NEBU-M12G5-...-Q8N-M12G5		In accordance with EU Low Voltage Directive
SIM		In accordance with EU Low Voltage Directive	
Degree of contamination	NEBU/SIM		3
	NEBU-M12G5-F-0.2-M12G4		–

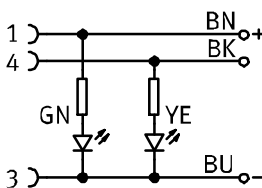
Circuitry (socket view)

Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection: socket, 5-pin, M12 – open cable end				
		3-wire	4-wire	5-wire
	1	BN	BN	BN
	2	-	WH	WH
	3	BU	BU	BU
	4	BK	BK	BK
5	-	-	GY	-
Electrical connection: socket, 5-pin, M12 – cable, 2-wire – plug, 4-pin				
	1		BN	1
	2		-	-
	3		BU	2
	4		-	-
	5		-	-
				
Electrical connection: socket, 5-pin, M12 – cable, 3-wire – plug, 3-pin/4-pin				
	1		BN	1
	2		-	-
	3		BU	3
	4		BK	4
	5		-	-
				
Electrical connection: socket, 5-pin, M12 – plug, 4-pin				
	1		BN	1
	2		WH	2
	3		BU	3
	4		BK	4
	5		-	-
				
Electrical connection: socket, 5-pin, M12 – plug, 5-pin				
	1		BN	1
	2		WH	2
	3		BU	3
	4		BK	4
	5		GY	5
				

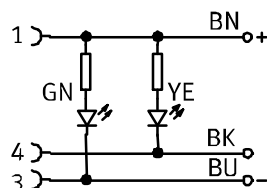
1) To IEC 757

Circuitry – Switching status display

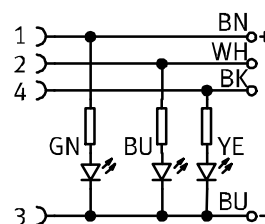
Display code -P-



Display code N



Display code -P-2



Universal connecting cables

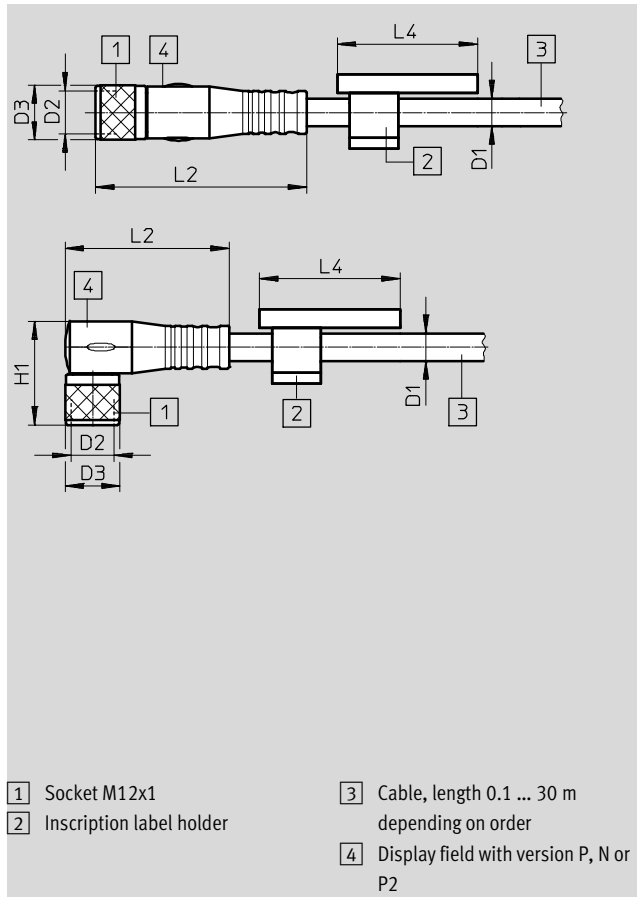
NEBU-M12/SIM-M12, M12 5-pin – Technical data

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Download CAD data → www.festo.com

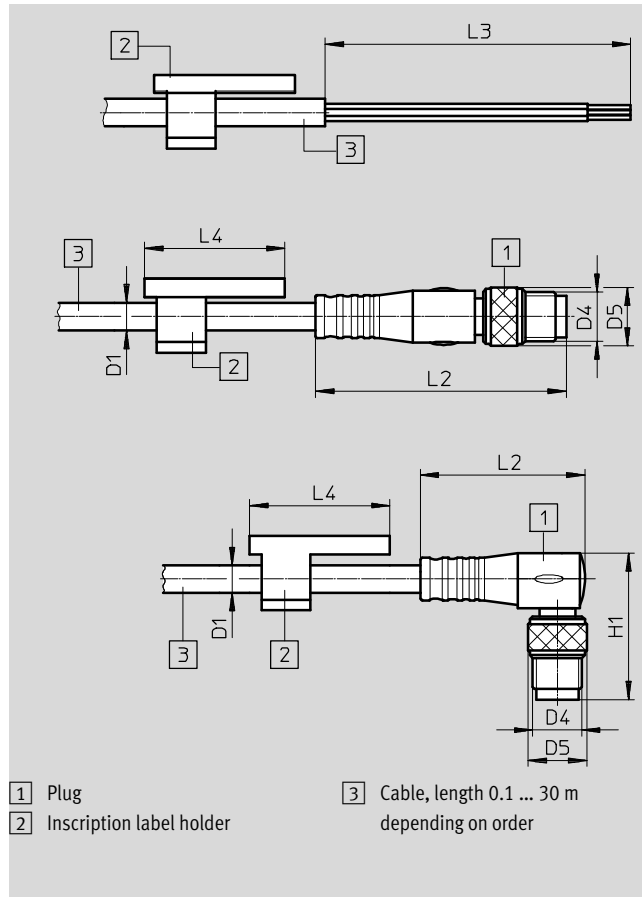
Dimensions

Connection technology, left-hand end



- 1 Socket M12x1
- 2 Inscription label holder
- 3 Cable, length 0.1 ... 30 m depending on order
- 4 Display field with version P, N or P2

Connection technology, right-hand end

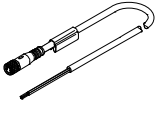
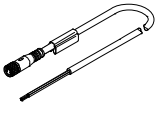
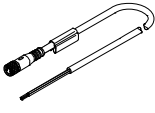
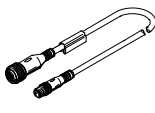
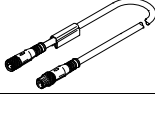
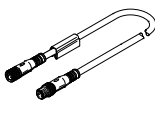


- 1 Plug
- 2 Inscription label holder
- 3 Cable, length 0.1 ... 30 m depending on order

Connection technology, left-hand end	D1 Ø	D2	D3 Ø	L2	L4	H1
NEBU						
Straight socket	4.5	M12x1	15	47.5	23	–
Angled socket	4.5	M12x1	15	37.5	23	26
NEBU with display						
Angled socket	4.5	M12x1	15	37.5	23	26
NEBU-M12G5-F-0.2-M12G4						
Straight socket	5.2	M12x1	15	47.5	–	–
NEBU-M12G5-...-Q8N-M12G5						
Straight socket	7	M12x1	15	47.5	–	–
SIM						
Straight socket	4.5	M12x1	15	48.5	–	–

Connection technology, right-hand end	D1 Ø	D4	D5 Ø	L2	L3	L4	H1
NEBU							
Open end	4.5	–	–	–	50	23	–
Straight plug	4.5	M8x1	9.6	41.1	–	23	–
	4.5	M12x1	15	54.5	–	23	–
Angled plug	4.5	M8x1	9.6	26.9	–	23	24
	4.5	M12x1	15	37.5	–	23	33.2
NEBU with display							
Open end	4.5	–	–	–	50	23	–
Straight plug	4.5	M8x1	9	41.1	–	23	–
	4.5	M12x1	15	54.5	–	23	–
Angled plug	4.5	M8x1	9	26.9	–	23	24
	4.5	M12x1	15	37.5	–	23	33.2
NEBU-M12G5-F-0.2-M12G4							
Straight plug	5.2	M12x1	15	54.5	–	–	–
NEBU-M12G5-...-Q8N-M12G5							
Straight plug	7	M12x1	15	54.5	–	–	–
SIM							
Open end	4.5	–	–	–	50	–	–

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type	
Socket, 5-pin, M12 – open cable end, 3-wire							
	2.5	Standard	Straight – straight	–	541363	NEBU-M12G5-K-2.5-LE3	
				Switching status display, for PNP N/O contact	541366	NEBU-M12W5P-K-2.5-LE3	
			Angled – straight	–	541367	NEBU-M12W5-K-2.5-LE3	
				Switching status display, for NPN N/O contact	541365	NEBU-M12W5N-K-2.5-LE3	
	5	Standard	Straight – straight	–	541364	NEBU-M12G5-K-5-LE3	
				–	541370	NEBU-M12W5-K-5-LE3	
Angled – straight			Switching status display, for NPN N/O contact	541368	NEBU-M12W5N-K-5-LE3		
			Switching status display, for PNP N/O contact	541369	NEBU-M12W5P-K-5-LE3		
Socket, 5-pin, M12 – open cable end, 4-wire							
	2.5	Standard	Straight – straight	–	550326	NEBU-M12G5-K-2.5-LE4	
			Angled – straight	–	550325	NEBU-M12W5-K-2.5-LE4	
	5	Standard	Straight – straight	–	541328	NEBU-M12G5-K-5-LE4	
			Angled – straight	–	541329	NEBU-M12W5-K-5-LE4	
	7	Standard	Straight – straight	–	8003134	NEBU-M12G5-K-7-LE4	
	10	Standard	Angled – straight	–	569841	NEBU-M12W5-K-10-LE4	
Socket, 5-pin, M12 – open cable end, 5-wire							
	2.5	Standard	Straight – straight	–	541330	NEBU-M12G5-K-2.5-LE5	
				–	175715	SIM-M12-5GD-2,5-PU	
	5	Standard	Angled – straight	–	567843	NEBU-M12W5-K-2.5-LE5	
				–	541331	NEBU-M12G5-K-5-LE5	
	10	Standard	Straight – straight	–	175716	SIM-M12-5GD-5-PU	
				–	567844	NEBU-M12W5-K-5-LE5	
–	–	–	–	554038	NEBU-M12G5-K-10-LE5		
Socket, 5-pin, M12 – plug, 4-pin, M8							
	2.5	Standard	Straight – straight	–	554036	NEBU-M12G5-K-2.5-M8G4	
			Suitable for use with energy chains	Straight – straight	Cable, 2-wire, halogen-free and oil-resistant	554034	NEBU-M12G5-E-2.5-W2-M8G4-V1
			Straight – straight	Cable, 3-wire, halogen-free and oil-resistant	554033	NEBU-M12G5-E-2.5-W3-M8G4-V2	
Socket, 5-pin, M12 – plug, 4-pin, M12							
	0.15	Standard	Straight – straight	–	542129	NEBU-M12G5-F-0.2-M12G4	
	0.5	Standard	Straight – straight	–	8000208	NEBU-M12G5-K-0.5-M12G4	
Socket, 5-pin, M12 – plug, 5-pin, M12							
	0.5	Standard	Straight – angled	–	8003617	NEBU-M12G5-K-0.5-M12W5	
			Angled – angled	–	570733	NEBU-M12W5-K-0.5-M12W5	
	2	Standard	Straight – angled	–	8003618	NEBU-M12G5-K-2-M12W5	
			Angled – angled	–	570734	NEBU-M12W5-K-2-M12W5	
	5	Suitable for use with energy chains	Straight – straight	Nominal conductor cross section 1 mm ² , oil-resistant	574321	NEBU-M12G5-E-5-Q8N-M12G5	
	7.5	Suitable for use with energy chains	Straight – straight	Nominal conductor cross section 1 mm ² , oil-resistant	574322	NEBU-M12G5-E-7.5-Q8N-M12G5	
	10	Suitable for use with energy chains	Straight – straight	Nominal conductor cross section 1 mm ² , oil-resistant	574323	NEBU-M12G5-E-10-Q8N-M12G5	

Universal connecting cables

NEBU-M12/SIM-M12-8/KM12-8, M12 8-pin – Technical data

FESTO

1

Connecting cable

NEBU-M12

SIM-M12-8

KM12-8

- Pre-assembled at both ends
- Cable lengths 2 m, 5 m and 10 m
- 8 wires
- M12



General technical data

Cable composition	NEBU	[mm ²]	8x 0.25, screened	
	SIM/KM12	[mm ²]	8x 0.25	
Cable diameter	KM12	[mm]	6.2	
Wire ends	NEBU		Tinned	
Type of mounting	SIM-M12-8GD-5-PU		Via union nut	
	KM12-8GD8GS-2-PU		Via union nut, via threaded connector	
Min. cable bending radius	NEBU	[mm]	66	

Technical data

Operating voltage range	NEBU	[V]	0 ... 36 DC	0 ... 30 AC
	SIM	[V]	0 ... 70 DC	0 ... 45 AC
	KM12	[V]	0 ... 30 DC	0 ... 30 AC
Acceptable current load		[A]	1.5	
	SIM-M12-8GD-5-PU	[A]	4	
Protection class to EN 60529	NEBU		IP67	
	SIM/KM12		IP68	

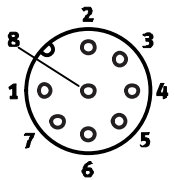
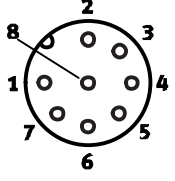
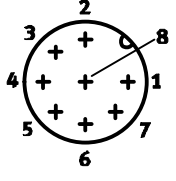
Materials

Cable sheath colour	SIM-M12-8GD-2-PU/SIM-M12-8GD-10-PU		Grey	
Housing	NEBU/SIM-M12-8GD-5-PU		PUR	
Union nut	KM12		Nickel-plated brass	
Cable sheath			PUR	
	SIM-M12-8GD-5-PU		-	
Pin contacts	KM12		Nickel-plated and gold-plated bronze	
Note on materials	NEBU-M12W8-K-10-N-LE8		RoHS-compliant	
	SIM-M12-8GD-10-PU		RoHS-compliant	

Operating and environmental conditions

Ambient temperature	NEBU	[°C]	-25 ... +90	
	SIM/KM12	[°C]	-25 ... +80	

Circuitry (socket view)

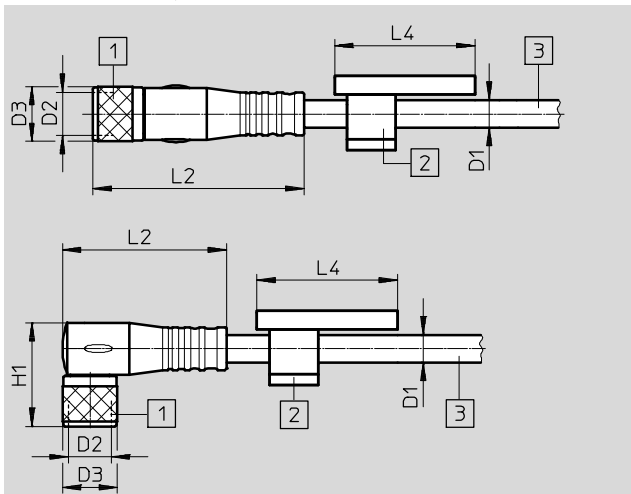
Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection: socket, 8-pin, M12 – open cable end				
	1	WH	-	-
	2	BN	-	
	3	GN	-	
	4	YE	-	
	5	GY	-	
	6	PK	-	
	7	BU	-	
	8	RD	-	
Electrical connection: socket, 8-pin, M12 – plug, 8-pin				
	1	WH	1	
	2	BN	2	
	3	GN	3	
	4	YE	4	
	5	GY	5	
	6	PK	6	
	7	BU	7	
	8	RD	8	

1) To IEC 757

Dimensions

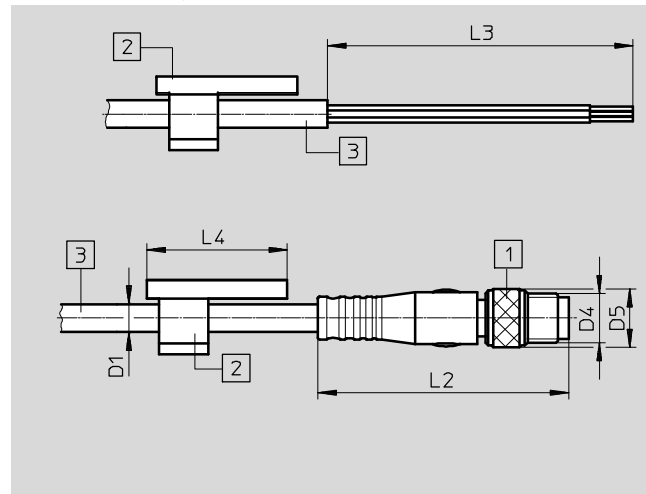
Download CAD data → www.festo.com

Connection technology, left-hand end



1 Socket M12x1 3 Cable, length 2 m, 5 m, 10 m depending on order
2 Inscription label holder

Connection technology, right-hand end



1 Plug 3 Cable, length 2 m, 5 m, 10 m depending on order
2 Inscription label holder

Connection technology, left-hand end	D1	D2	D3	L2	L4	H1
NEBU						
Angled socket	6.6	M12x1	14.5	38	-	28
SIM						
Straight socket	6.2	M12x1	14.6	-	-	-
KM12						
Straight socket	6.2	M12x1	-	-	-	-

Connection technology, right-hand end	D1	D4	D5	L2	L3	L4
NEBU						
Open end	6.6	-	-	-	50	-
SIM						
Open end	6.2	-	-	-	50	-
KM12						
Straight plug	6.2	M12x1	14.6	-	-	-

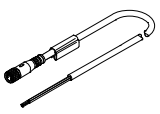
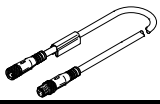
Universal connecting cables

NEBU-M12/SIM-M12-8/KM12-8, M12 8-pin – Technical data

FESTO

1

Ordering data

	Cable length [m]	Outlet direction	Special features	Product weight [g]	Part No.	Type	
Socket, 8-pin, M12 – open cable end, 8-wire							
	2	Angled – straight	Screened	–	542256	NEBU-M12W8-K-2-N-LE8	
		Straight – straight	–	–	525616	SIM-M12-8GD-2-PU	
	5	Angled – straight	Screened	–	–	542257	NEBU-M12W8-K-5-N-LE8
		Straight – straight	–	–	343	525618	SIM-M12-8GD-5-PU
	10	Angled – straight	Screened	–	–	570007	NEBU-M12W8-K-10-N-LE8
		Straight – straight	–	–	–	570008	SIM-M12-8GD-10-PU
Socket, 8-pin, M12 – plug, 8-pin, M12							
	2	Straight – straight	–	156	525617	KM12-8GD8GS-2-PU	

Connecting cable
NEBU-G78W5

- Connecting cable for power supply
- Pre-assembled
- Cable length 2 m
- 5 wires
- 7/8"



1

General technical data

Electrical connection	Angled socket/open end	
	7/8" round plug connector	
	5-pin	
Plug coding	NFPA/T3.5.29 R1-2003	
Based on standard	EN 61984	
Cable composition	[mm ²]	5x 1.5
Cable diameter	[mm]	8.7
Cable diameter tolerance	[mm]	±2
Cable characteristics	Standard	
Min. cable bending radius	[mm]	65
Operating voltage range	[V]	0 ... 300 DC 0 ... 300 AC
Surge resistance	[kV]	4
Acceptable current load at 40 °C	[A]	9
Protection class to EN 60529	IP65, IP67	
Product weight	[g]	300

Materials

Housing	TPE-U(PU)
Union nut	Nickel-plated brass
Pin contact	Gold-plated brass
Cable sheath	PUR
Cable characteristics	For static applications
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	-20 ... +80
CE marking (see declaration of conformity)	In accordance with EU Low Voltage Directive	
Degree of contamination	3	

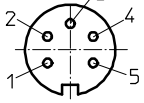
Universal connecting cables

NEBU-G78W5, 7/8" 5-pin – Technical data

FESTO

1

Circuitry (socket view)

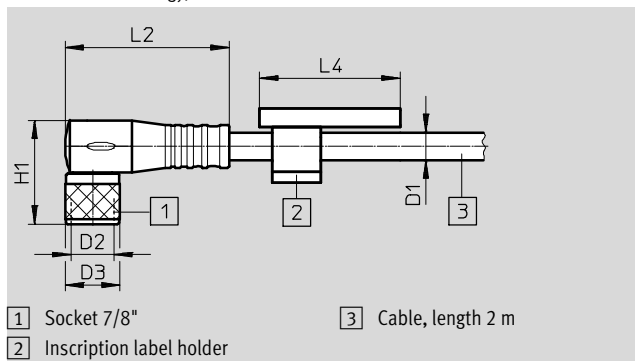
Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection: socket, 5-pin, 7/8" – open cable end				
	1	SW	-	-
	2	BU	-	
	3	GN/YE	-	
	4	BN	-	
	5	WH	-	

1) To IEC 757

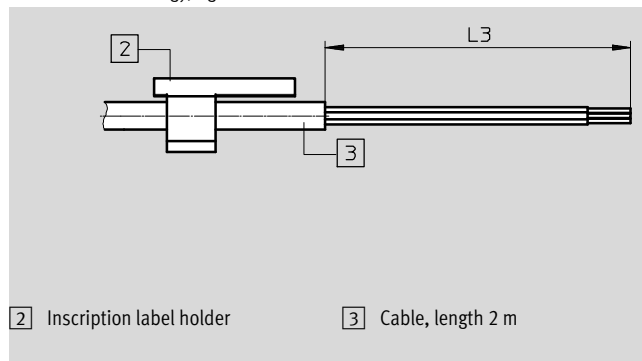
Dimensions

Download CAD data → www.festo.com

Connection technology, left-hand end



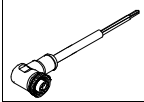
Connection technology, right-hand end



Connection technology, left-hand end	D1	D2	D3	L2	L4	H1
Angled socket	8.7	7/8"	26	53	-	40.4

Connection technology, right-hand end	D1	D4	D5	L2	L3	L4	H1
Open end	4.5	-	-	-	-	-	-

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type
Socket, 5-pin, 7/8" – open cable end						
	2	Standard	Angled – straight	-	573855	NEBU-G78W5-K-2-N-LE5

**Connecting cable
SIM-K**

- Plug socket with cable for connecting inputs/outputs
- Pre-assembled
- Cable lengths 2.5 m, 5 m and 10 m
- 3 wires
- Mounting via clip



General technical data

Conforms to standard	EN 61076-2-104	
	EN 61984	
Cable diameter	[mm]	4.5
Nominal conductor cross section	[mm ²]	0.25
Cable characteristics	Standard	
Cable test conditions	Resistance to bending: to Festo standard	
	Test conditions on request	
	Energy chain: 5 million cycles, bending radius 75 mm	

Technical data

Operating voltage range	[V]	0 ... 60 DC	0 ... 60 AC
Acceptable current load	[A]	3	
Surge resistance	[kV]	1.5	
Protection class to EN 60529	IP65, IP67		

Materials

Wire colour	Blue, brown, black		
Housing colour	Black		
Cable sheath colour	Grey		
Housing	TPE-U(PU)		
Insulating sheath	PVC		
Cable sheath	TPE-U(PU)		
Note on materials	RoHS-compliant		

Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +70
Ambient temperature with flexible cable installation	[°C]	-5 ... +70
CE marking (see declaration of conformity)	In accordance with EU Low Voltage Directive	
Degree of contamination	3	

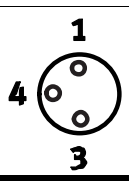
Universal connecting cables

SIM-K, clip, 3-pin – Technical data

FESTO

1

Circuitry (socket view)

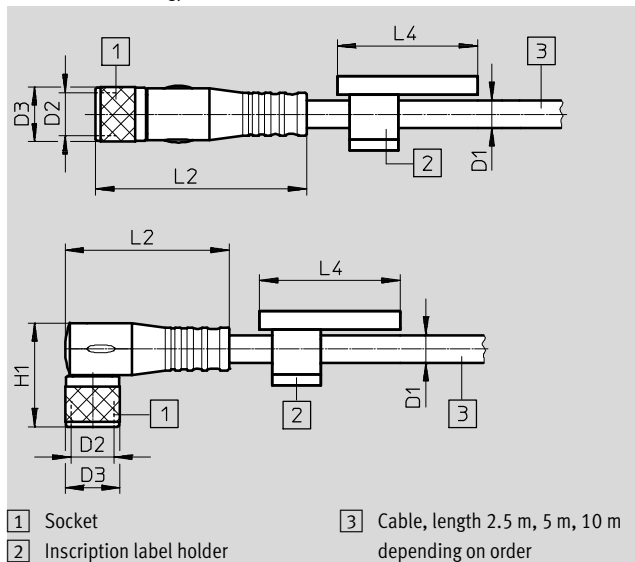
Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection: socket, 3-pin, clip – open cable end				
	1	BN	-	-
	3	BU	-	
	4	BK	-	

1) To IEC 757

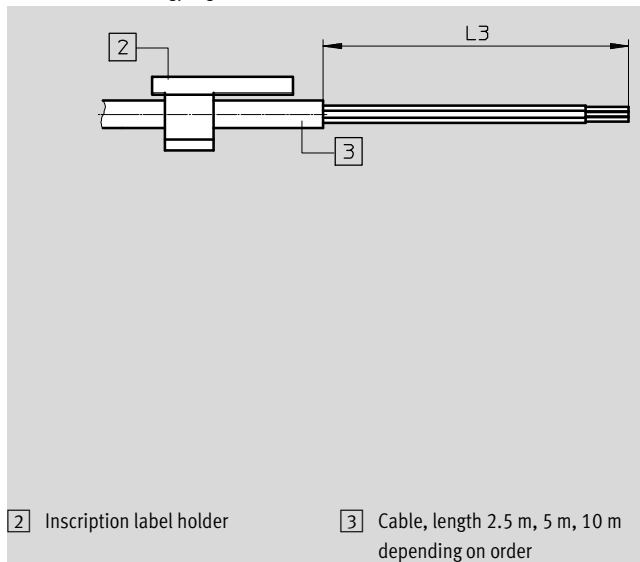
Dimensions

Download CAD data → www.festo.com

Connection technology, left-hand end



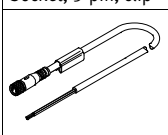
Connection technology, right-hand end



Connection technology, left-hand end	D1	D2	D3	L2	L4	H1
	∅	-	∅			
Straight socket	4.5	-	8.5	33.6	-	-
Angled socket	4.5	8.3	8.5	26.1	-	18.4

Connection technology, right-hand end	D1	L3	L4	H1
	∅			
Open end	4.5	50	-	-

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type
Socket, 3-pin, clip – open cable end						
	2.5	Standard	Straight – straight	-	164257	SIM-K-GD-2,5-PU
			Angled – straight	-	164255	SIM-K-WD-2,5-PU
	5	Standard	Straight – straight	-	164256	SIM-K-GD-5-PU
			Angled – straight	-	164254	SIM-K-WD-5-PU
	10	Standard	Straight – straight	-	192962	SIM-K-GD-10-PU
			Angled – straight	-	192963	SIM-K-WD-10-PU

Connecting cable
SIM-K

- Plug socket with cable for connecting inputs/outputs
- Pre-assembled
- Cable lengths 2.5 m and 5 m
- 4 wires
- Mounting via clip



General technical data

Conforms to standard	EN 61076-2-104	
	EN 61984	
Cable diameter	[mm]	4.5
Nominal conductor cross section	[mm ²]	0.25
Cable characteristics	Standard	
Cable test conditions	Resistance to bending: to Festo standard	
	Test conditions on request	
	Energy chain: 5 million cycles, bending radius 75 mm	

Technical data

Operating voltage range	[V]	0 ... 30 DC	0 ... 30 AC
Acceptable current load	[A]	3	
Surge resistance	[kV]	0.8	
Protection class to EN 60529	IP65, IP67		

Materials

Wire colour	Blue, brown, black, white		
Housing colour	Black		
Cable sheath colour	Grey		
Housing	TPE-U(PU)		
Insulating sheath	PVC		
Cable sheath	TPE-U(PU)		
Note on materials	RoHS-compliant		

Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +70
Ambient temperature with flexible cable installation	[°C]	-5 ... +70
Degree of contamination	3	

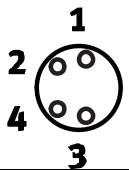
Universal connecting cables

SIM-K, clip, 4-pin – Technical data

FESTO

1

Circuitry (socket view)

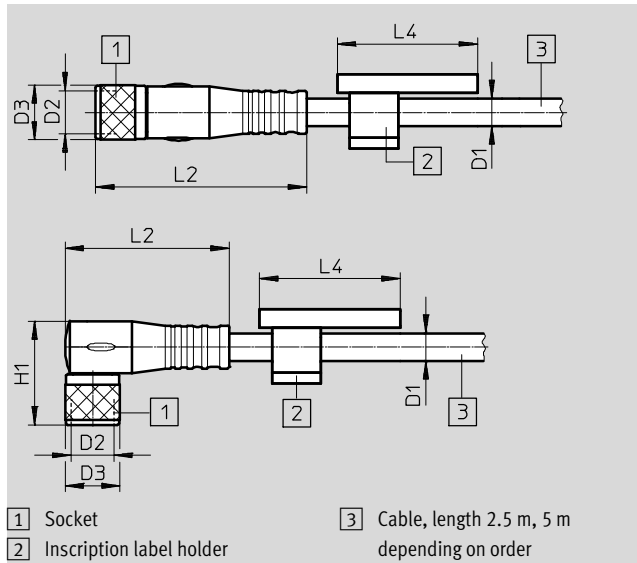
Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection: socket, 4-pin, clip – open cable end				
	1	BN	-	-
	2	WH	-	-
	3	BU	-	-
	4	BK	-	-

1) To IEC 757

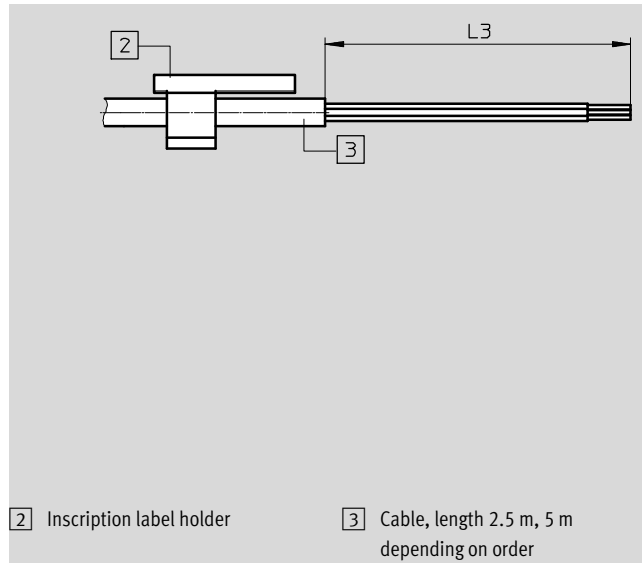
Dimensions

Download CAD data → www.festo.com

Connection technology, left-hand end



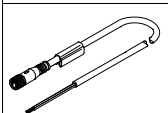
Connection technology, right-hand end



Connection technology, left-hand end	D1 Ø	D2	D3 Ø	L2	L4	H1
Straight socket	4.5	-	8.5	33.6	-	-
Angled socket	4.5	-	8.3	26.1	-	18.4

Connection technology, right-hand end	D1 Ø	L3	L4	H1
Open end	4.5	50	-	-

Ordering data

	Cable length [m]	Cable characteristics	Outlet direction	Special features	Part No.	Type
Socket, 4-pin, clip – open cable end						
	2.5	Standard	Straight – straight	-	164250	SIM-K-4-GD-2,5-PU
			Angled – straight	-	164252	SIM-K-4-WD-2,5-PU
	5	Standard	Straight – straight	-	164251	SIM-K-4-GD-5-PU
			Angled – straight	-	164253	SIM-K-4-WD-5-PU

Ordering table

		Conditions	Code	Enter code
[M] Module No.	539052			
Function	Connecting cable		NEBU	NEBU
Connection technology, left-hand end	Open end	[1]	-LE	
	Socket with connecting thread M8		-M8	
	Socket with connecting thread M12, A-coded		-M12	
[M] Socket design	None (only with open end connection technology at left-hand end)			
	Straight		G	
	Angled		W	
	Rotatable	[2]	R	
[M] Number of pins/wires (left-hand end)	3-pin (suitable for open end, plug M8)		3	
	4-pin (suitable for open end, plug M8)		4	
	5-pin (suitable for 3, 4 and 5-pin plug M12)		5	
[O] Display	Without LED, DC (standard)			
	LED, PNP	[3]	P	
	LED, NPN	[3]	N	
	LED, DC	[4]	L	
	2x LED, PNP	[5]	P2	
[M] Cable characteristics	Basic		-P	
	Standard		-K	
	Suitable for use with energy chains		-E	
	Suitable for robot applications		-R	
	Cable length	0.1 ... 30 m (0.1 ... 2.5 m in 0.1 m increments, 2.5 ... 30 m in 0.5 m increments)		-...
[O] Wire cross section	0.25 mm ² (standard)			
	1.00 mm ²	[6]	Q8	
Cable colour	Grey (standard)			
Cable designation	With inscription label holder (standard)			
	Without inscription label holder		-N	
[M] Connection technology, right-hand end	Open end (not possible with open end connection technology at left-hand end)	[1]	-LE	
	Plug with connecting thread M8		-M8	
	Plug with connecting thread M12, A-coded		-M12	
[M] Plug design	None (only with open end connection technology at right-hand end)			
	Straight		G	
	Angled		W	
[M] Number of pins/wires (right-hand end)	2-pin	[7]	2	
	3-pin (suitable for socket M8/M12)	[8]	3	
	4-pin (suitable for socket M8/M12)	[8]	4	
	5-pin (suitable for socket M12)	[8] [9]	5	

- [1] LE** With open end LE, the number of pins/wires at the open end must be equal or less than the number of pins on the opposite side.
- [2] R** Can only be combined with M8 (connection technology at left-hand end), 3-pin (pins/wires at left-hand end), without display, standard wire cross section.
- [3] P, N** Can only be combined with M8 connection technology at left-hand end in combination with socket design W and 3 pins/wires (left-hand end) or M12 connection technology at left-hand end in combination with socket design W and 5 pins/wires (left-hand end) and 3 pins/wires (right-hand end).
- [4] L** Can only be combined with M8 connection technology at left-hand end with 4 pins/wires (left-hand end) and M8 connection technology at right-hand end with 3 or 4 pins/wires (left-hand end) or M12 connection technology at right-hand end with 2 pins/wires (left-hand end) or LE connection technology at right-hand end with 2 pins/wires (left-hand end).
Can only be combined with cable characteristics K.

- [5] P2** Can only be combined with M12 connection technology at left-hand end in combination with socket design W and 4 pins/wires (right-hand end).
- [6] Q8** Can only be combined with M12 connection technology at left-hand end in combination with socket design G and 5 pins/wires (left-hand end) and M12 connection technology at right-hand end in combination with plug design G and 5 pins/wires (left-hand end).
Can only be combined with cable characteristics E.
- [7] 2** Can only be combined with M12 connection technology at right-hand end or LE in combination with display L.
Can only be combined with cable characteristics K.
- [8] 3, 4, 5** With LE connection technology at left-hand end, the number of wires (left-hand end) is copied over.
- [9] 5** Can only be combined with M12 or LE connection technology at left-hand end.

Transfer order code

539052 NEBU - - - - - - - - - -

Universal connecting cables

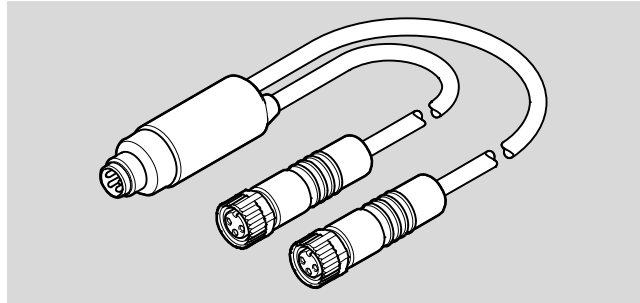
NEDU-L2, DUO cable, plug M8 4-pin – Technical data

FESTO

1

DUO cable NEDU-L2

- Y-connecting cable
- For connecting 2 sensors to an input socket with double allocation



General technical data

Operating voltage range	[V AC]	0 ... 60
Acceptable current load	[A]	2
Surge resistance	[kV]	1.5
Cable diameter	[mm]	3.1
Cable length	[m]	1
Protection class to EN 60529		IP67

Materials

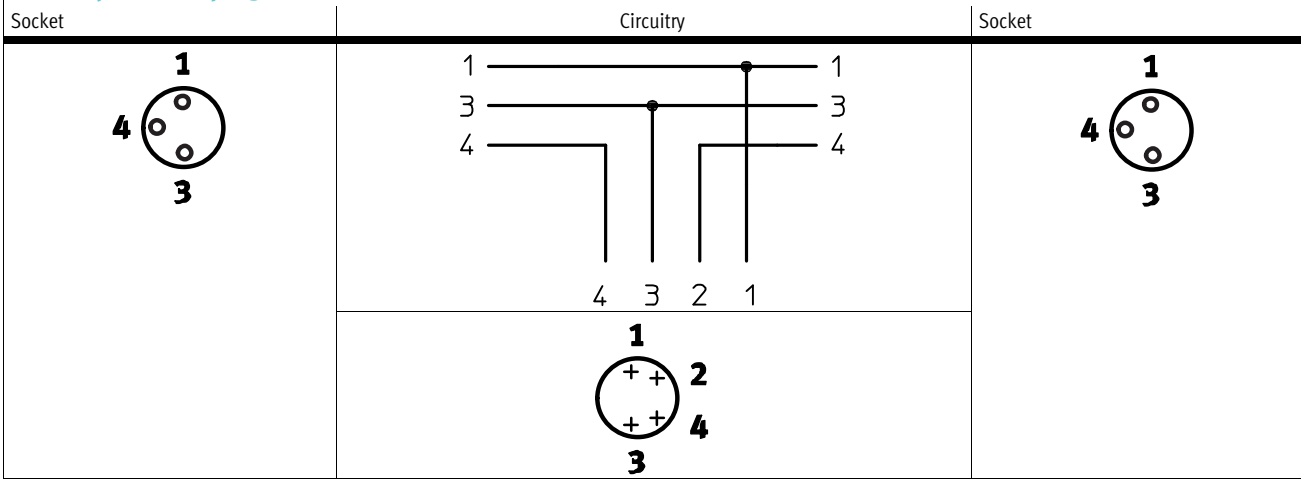
Housing	PUR
Socket	PUR
Pin contacts	Gold-plated brass
Note on materials	RoHS-compliant
Corrosion resistance class CRC ¹⁾	1

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Operating and environmental conditions

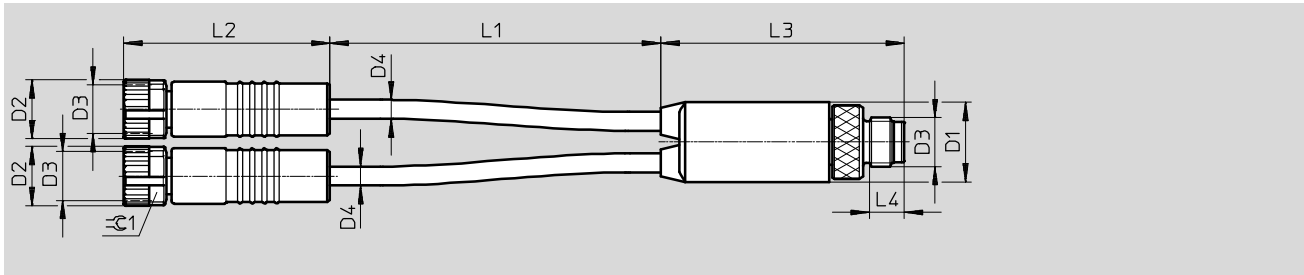
Ambient temperature	[°C]	-25 ... +85
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Circuitry (socket/plug view)



Dimensions

Download CAD data → www.festo.com



Type	D1 Ø	D2 Ø	D3 Ø	D4 Ø	L1	L2	L3	L4	C1
NEDU-L2R1-M8G3-K-1L1-1L2-M8G4	13	9.7	M8	3.1	1000	33.8	39.9	4.7	9

Ordering data

Electrical connection		Part No.	Type
Plug M8, 4 pin	2x socket M8, 3-pin	574591	NEDU-L2R1-M8G3-K-1L1-1L2-M8G4

Universal connecting cables

KM12-DUO, DUO cable, plug M12 4-pin – Technical data

FESTO

1

DUO cable KM12-DUO

- Y-connecting cable
- For connecting 2 sensors to an input socket with double allocation



General technical data

Type of mounting	Via through-hole, via threaded connector, via union nut	
Mounting position	Any	
Operating voltage range	[V AC]	Max. 60
	[V DC]	Max. 75
Acceptable current load	[A]	2.8
Cable composition	[mm ²]	2x 3x 0.25
Cable diameter	[mm]	4.5
Cable length	[m]	0.6
Protection class to EN 60529	IP67	

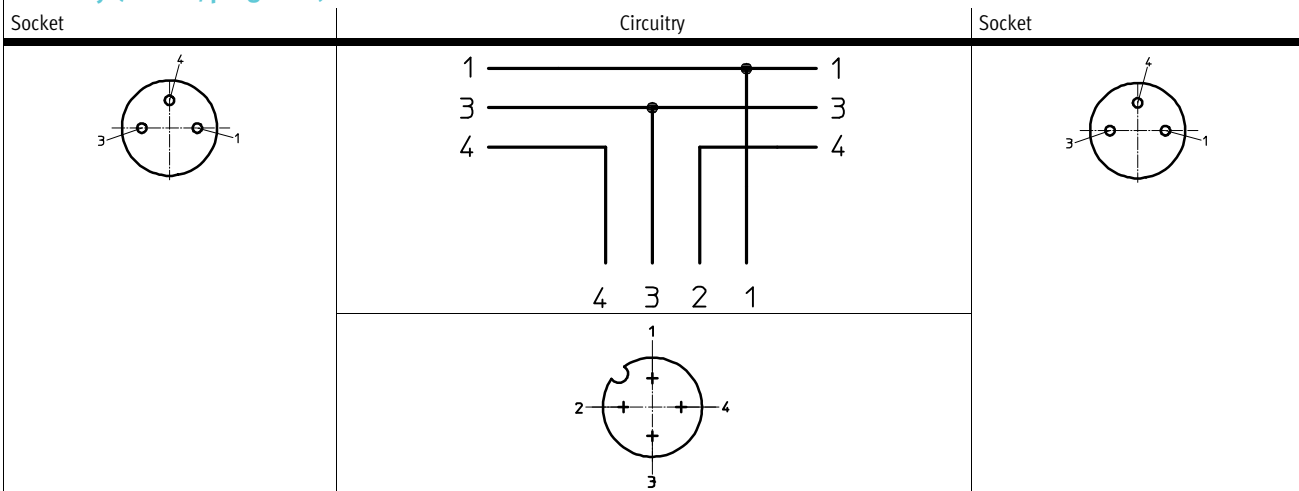
Materials

Housing	PUR
Cable sheath	PUR
Cable sheath colour	Grey
Pin contacts	Gold-plated brass
Union nut	Nickel-plated brass

Operating and environmental conditions

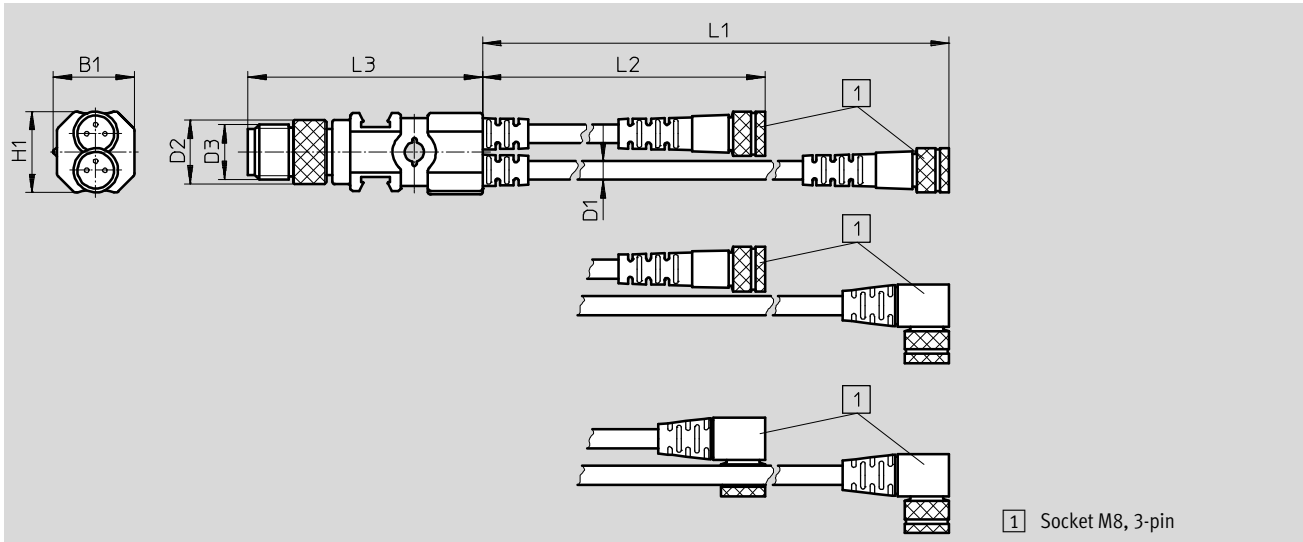
Ambient temperature	[°C]	-30 ... +70
Ambient temperature with flexible cable installation	[°C]	-5 ... +70

Circuitry (socket/plug view)



Dimensions

Download CAD data → www.festo.com



Type	B1	D1 ∅	D2 ∅	D3 ∅	H1	L1	L2	L3
KM12-DUO-M8	17	4.5	14	M12	17.5	600	500	51.5

Ordering data

Electrical connection	Outlet direction socket M8	Weight [g]	Part No.	Type
Plug M12, 4-pin	2x socket M8, 3-pin	Straight - straight	61	18685 KM12-DUO-M8-GDGD
		Straight - angled	61	18688 KM12-DUO-M8-GDWD
		Angled - angled	61	18687 KM12-DUO-M8-WDWD

Universal connecting cables

KVI-CP, for fieldbus – Technical data

FESTO

1

Connecting cable KVI-CP

- Connecting cable for fieldbus connection (CP bus valve terminal CPV, type 03 and CPI installation system)
- Pre-assembled at both ends
- Cable lengths 0.25 m, 0.5 m, 2 m, 5 m or 8 m
- 5-pin
- Round plug



General technical data

Type of mounting	M9 union nut
Mounting position	Any
Operating voltage range [V DC]	60
Acceptable current load [A]	1.6
Cable composition [mm ²]	2x0.24, 2x0.34 and 0.49
Cable diameter [mm]	5.5
Protection class to EN 60529	IP65/67 (assembled)

Materials

Housing	Polyurethane, nickel-plated brass
Contacts	Gold-plated bronze/brass
Cable sheath	Polyurethane
Cable sheath colour	Light grey
Note on materials	RoHS-compliant

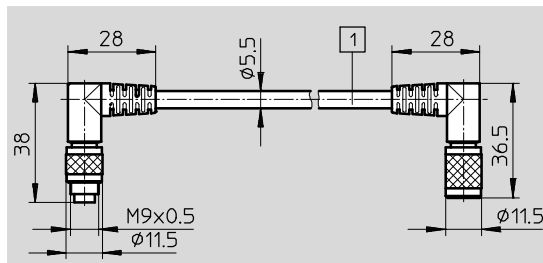
Operating and environmental conditions

Ambient temperature for flexible cable installation [°C]	-5 ... +80
Ambient temperature [°C]	-20 ... +80

Dimensions

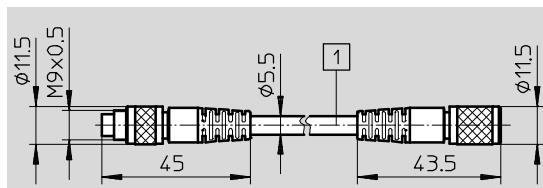
Download CAD data → www.festo.com

KVI-CP-3-WSWD-...



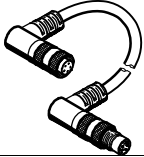

- 1 Cable length 0.25 m, 0.5 m, 2 m, 5 m or 8 m

KVI-CP-3-GSGD-...



- 1 Cable length 2 m, 5 m or 8 m

Ordering data

	Electrical connection	Weight [g]	Cable length [m]	Part No.	Type
	Angled plug - angled socket	34	0.25	540327	KVI-CP-3-WS-WD-0,25
		45	0.5	540328	KVI-CP-3-WS-WD-0,5
		116	2	540329	KVI-CP-3-WS-WD-2
		256	5	540330	KVI-CP-3-WS-WD-5
		399	8	540331	KVI-CP-3-WS-WD-8
	Straight plug - straight socket	114	2	540332	KVI-CP-3-GS-GD-2
		255	5	540333	KVI-CP-3-GS-GD-5
		397	8	540334	KVI-CP-3-GS-GD-8

Universal connecting cables

VAVE-P8-VPS – Technical data

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1

Programming cable VAVE-P8-VPS



General technical data

Operating voltage range	[V DC]	30
Acceptable current load at 40°C	[A]	2
Cable composition	[mm ²]	8x0.25
Cable diameter	[mm]	6.3
Protection class		IP65/67

Operating and environmental conditions

Ambient temperature for flexible cable installation	[°C]	-5 ... +80
Ambient temperature	[°C]	-25 ... +85

Dimensions

Download CAD data → www.festo.com



Dimensions and ordering data

D1	D3	D5	D6	D7	H1	L1	L2	L3	Part No.	Type
6.2	14.5	14.5	M12x1	14.5	54	150	41.7	11.1	570971	VAVE-P8-VPS

Ordering data – Accessories

	Description	Part no.	Type
Connecting cable			
Technical data → Internet: connecting cable			
	Straight socket, 8-pin, M12	2 m	525616 SIM-M12-8GD-2-PU
		5 m	525618 SIM-M12-8GD-5-PU
		10 m	570008 SIM-M12-8GD-10-PU
	Angled socket, 8-pin, M12	2 m	542256 NEBU-M12W8-K-2-N-LE8
		5 m	542257 NEBU-M12W8-K-5-N-LE8
		10 m	570007 NEBU-M12W8-K-10-N-LE8



Connecting cables for control systems

Overview

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2

Management level

Management system

Control level

Control

Modular controller
CECX



Compact controller
CECC



Integrated controller
CDPX



Controller

Motor controllers
CMFL



SFC-LACI



Servo motor controllers

CMMP-AS



CMMS-AS



Field level

Actuation

Drives

Linear motor axes

ELGL-LAS



DNCE-LAS



DFME-LAS



ADNE-LAS



Gantry axis

EGC



DGE



ELGA



EGC-HD



ELGR/ELGG



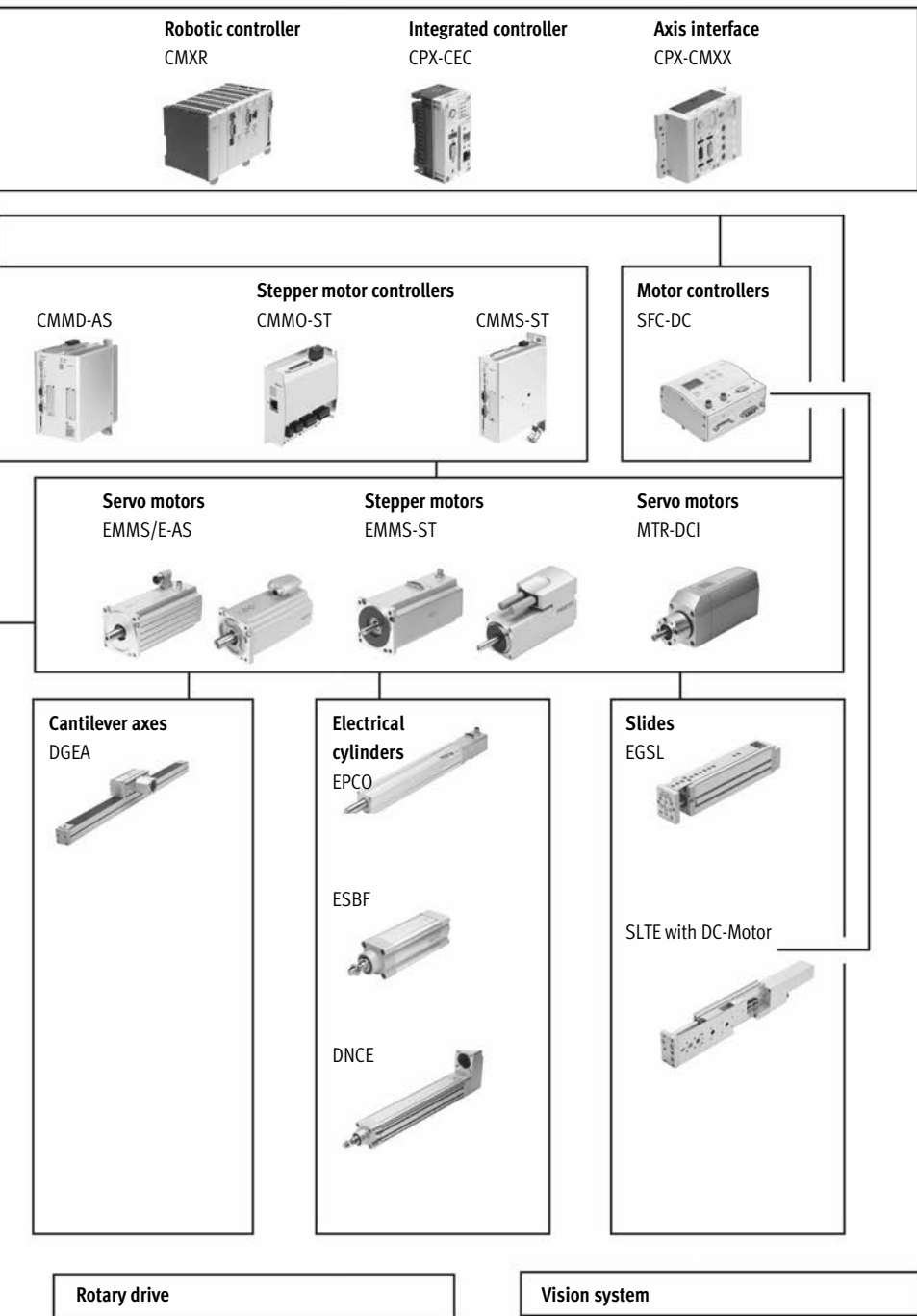
EGSK/EGSP



Front Unit

Grippers

Vacuum



FHPF
Festo Handling and Positioning Profile

CODESYS
provided by Festo

FST 4
Festo Software Tool



FCT
Festo Configuration Tool













PositioningDrives
Design and calculation software for electric drives





















Connecting cables for control systems

Selection aid

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2

Version	Type	Higher-level device											Page/Internet	
		CECX/CMXR-C1/ CMXR-C2					Basic unit CPX							
		Controller												
		CECX-S-2S1	CAMI-C	CECC-LK/CECC-S	CDPX-X-A-W	FED-770/3000	CPX-CEC-C1	CPX-CEC-M1	CPX-CMIX	CPX-CMAX-C1	CPX-CMPX	CPX-CM-HPP	CPX-CTEL-2-M12-5POL-LK	
		Operating mode/controller interfaces												
		RS 485		IO-Link/I-Port	Modbus RTU Server/Modbus TCP Server/CODESYS	EtherNet	CODESYS CANopen	CODESYS/CANopen/Softmotion	FHPP-MAX CANopen	CANopen CPI	CANopen CPI	CANopen	IO-Link	→ Page/Internet
	NEBU-M12G5-K-2.5-LE5 NEBU-M12W5-K-2.5-LE5			■										35
	NEBU-M12G5-E-...-Q8-M12G5			■										35
	NEBU-M12G5-E-...-Q8N-M12G5											■		35
	KVI-CP-3-WS-WD-...		■							■	■			54
	NEBC-M9W5-K-2-N-LE3											■		64
	NEBP-M16W6-K-2-M9W5								■					65
	NEBC-S1G15-K-2.5N-B-S1G9	■												71
	FEC-KBG7 FEC-KBG8					■	■	■						76
	FEDZ-PC FEDZ-PC-9PIN					■								76
	NESC-C-D1-...-C1	■	■											76










Version	Type	Controller				Page /Internet →
		 CMFL	 SFC-LACI-VD-10-E-H2-10	 CMMO-ST-C5-1-DIOP/DION	 SFC-DC	
		Operating mode/controller interfaces				
		PWM-MOSFET output stage	FHPP / I/O interface PROFIBUS /CANopen/ DeviceNet	FCT EtherNet TCP/IP RS422	FCT /PROFIBUS CANopen/DeviceNet	
	NEBM-M12G8-E...-Q5-LE6			■		73
	NEBM-S1W9-E...-Q5-LE6			■		73
	NEBM-S1G9-E...-Q5-LE6			■		73
	NEBM-M12G8-E...-LE8			■		73
	NEBM-M12W8-E...-LE8			■		73
	NEBM-T1G6-T1G6...		■			74
	NEBM-T1G12-T1G12...		■			74
	KPWR-MC-1-SUB-15HC...		■		■	74
	KES-MC-1-SUB-15...		■		■	74
	KMTR-DC-SUB-15-M12...				■	74
	NEBM-S1G9-E...-N-S1G9	■				75
	KPWR-MC-1-SUB-9HC...	■				75
	KES-MC-1-SUB-9...	■				75
	KDI-MC-M8-SUB-9-2,5		■		■	75
	NEBC-S1G25-K...-N-S1G25			■		76
	NEBC-S1G25-K-3.2-N-LE25			■		76

Connecting cables for control systems

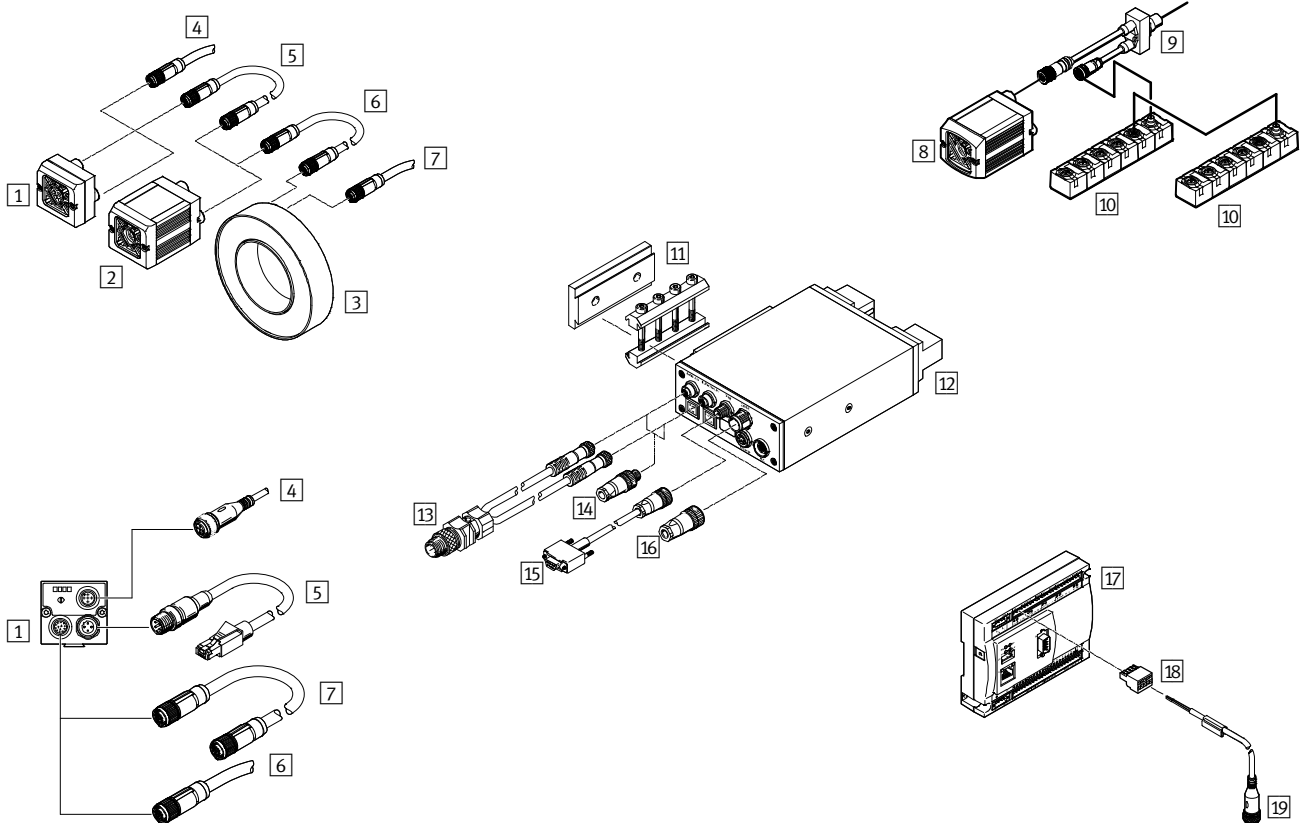
Selection aid

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2

Version	Type	Controller						→ Page/Internet
		 CMMP-AS-MO	 CMMP-AS-M3	 CMMP-AS	 CMMS-AS-C4-3A	 CMMD-AS-C8-3A	 CMMS-ST	
		Operating mode/controller interfaces						
		FHPP I/O interface CANopen	FHPP / I/O Anschaltung CANopen / PROFIBUS / EtherCAT EtherNet / PROFINET / DeviceNet	FHPP / I/O Anschaltung CANopen / PROFIBUS EtherCAT / DeviceNet	CODESYS / TwinCat Step7 / CANopen PROFIBUS / DeviceNet	CODESYS / TwinCat Step7 / CANopen PROFIBUS / DeviceNet	CODESYS / TwinCat Step7 / CANopen PROFIBUS / DeviceNet	
	NEBC-S1G25-K-2.5N-LE26	■	■	■	■	■	■	74
	PS1-ZK11-NULLMODEM-1,5M			■	■	■	■	74
	NEBC-U1G-K-1.8-N-U2G	■	■					74

Operator units and control systems



Designation	Type	→ Page/ Internet
1 Area light	SBAL-C6-A	sbal
2 Code reader Object sensor	SBSI-B SBSI-Q	sbsi
3 Ring light	SBAL-C6-R	sbal
4 Connecting cable	NEBS-M12G5-KS-5-LE5	83
5 Connecting cable	NEBC-D12G4-KS-3-R3G4	83
6 Connecting cable	NEBS-M12G12-KS-5-LE12	83
7 Connecting cable	NEBS-M12G12-KS-5-LE12	83
8 Compact Vision System	SBOI-Q	sboi
9 Cable	SBOA-K20CP-SUP	sboa
10 Input module	CPI	cpi

Designation	Type	→ Page/ Internet
11 Adapter kit	HMSV-12	hmsv
12 Checkbox	CHB-C-X	chb
13 DUO cable	KM12-DUO-M8-GDGD	52
14 Plug connector	SEA/ NECU	231
15 Programming cable	KDI-SB202-BU9	72
16 Power supply socket	NTSD	338
17 Controller	CECC	cecc
18 Plug	NECC	246
19 Connecting cable	NEBU	14

Connecting cables for control systems

NEBC-M9W5, M9 5-pin – Technical data

FESTO

Connecting cable NEBC-M9W5

- Connecting cable M9 5-pin
- Pre-assembled
- Cable lengths 2 and 5 m
- Suitable for CPX-CM-HPP



2

General technical data

Electrical connection	Angled plug, 5-pin, M9	
	Open cable end, 5-wire	
Operating voltage range	[V DC]	Max. 60
Acceptable current load	[A]	1.6
24 V		
Cable diameter	[mm]	5.5
Wire ends	Wire end sleeve	
Cable characteristics	Suitable for use with energy chains	
Cable test conditions	Test conditions on request	
Type of mounting	Via union nut	
Mounting position	Any	
Protection class to EN 60529	IP65, IP67	

Materials

Housing	PA, PBT, TPE-U (PUR)
Pin contact	Bronze/brass, gold-plated
Cable sheath	TPE-U (PUR)
Cable sheath colour	Light grey
Union nut	Nickel-plated brass
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	-20 ... +80
Ambient temperature with flexible cable installation	[°C]	-5 ... +80
Min. cable bending radius	[mm]	75

Wiring allocation (plug view)

Socket	Pin	Wire colour ¹⁾
Electrical connection plug connector, 5-pin, M9 open cable end		
	1	YE
	2	GY
	3	GN
	4	WH
	5	BN

1) To IEC 757

Ordering data

Electrical connection	Cable composition	Product weight [g]	Cable length [m]	Part No.	Type
Angled plug, 5-pin	2x 0.25 mm ² , 2x 0.34 mm ² , 0.49 mm ²	108	2	563711	NEBC-M9W5-K-2-N-LE3
		250	5	563712	NEBC-M9W5-K-5-N-LE3

Connecting cable
NEBP-M16W6

- Pre-assembled at both ends
- Cable length 2 m
- 5 wires
- M16/M9



General technical data

Electrical connection	Angled socket, 6-pin, M16x0.75
	Angled plug, 5-pin, M9x0.5
Operating voltage range [V DC]	60
Surge resistance [kV]	0.5
Acceptable current load [A]	3
Type of mounting	Via union nut
Cable composition [mm ²]	2x 0.24 + 2x 0.34 + 1x 0.49
Protection class to EN 60529	IP65, IP67
Product weight [g]	160

Materials

Housing	PUR
Pin contacts	Bronze/brass, nickel-plated, and gold-plated
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-20 ... +70
Ambient temperature with flexible cable installation [°C]	-5 ... +70
Degree of contamination	1

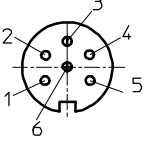
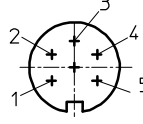
Connecting cables for control systems

NEBP-M16W6, M16 6-pin – Technical data

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2

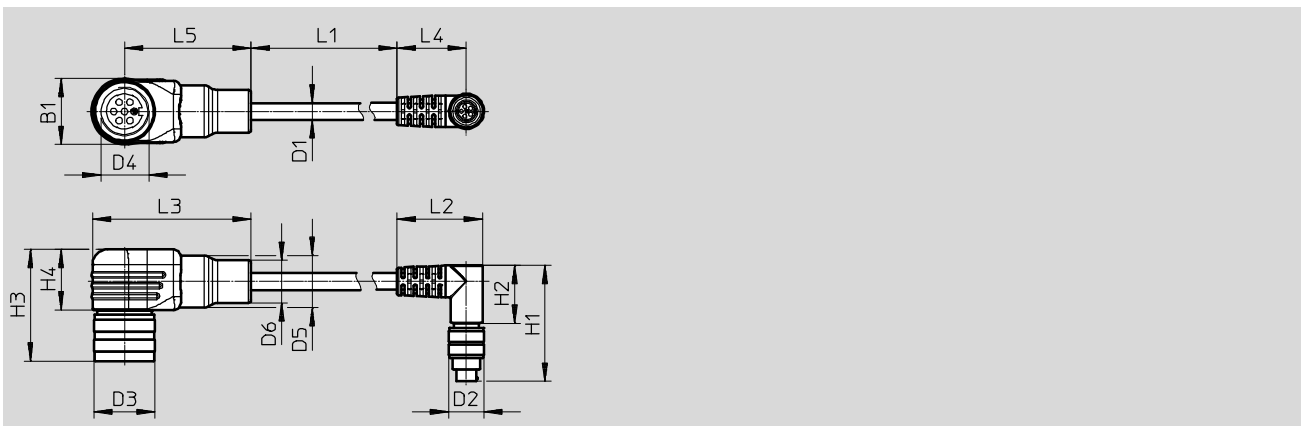
Circuitry (socket/plug view)

Socket	Pin	Wire colour ¹⁾	Pin	Plug
Electrical connection, socket, 6-pin, M16 plug connector, 5-pin, M9				
	1	BN	5	
	2	WH	4	
	3	-	2	
	4	-	-	
	5	YE	1	
	6	GN	3	

1) To IEC 757

Dimensions

Download CAD data → www.festo.com



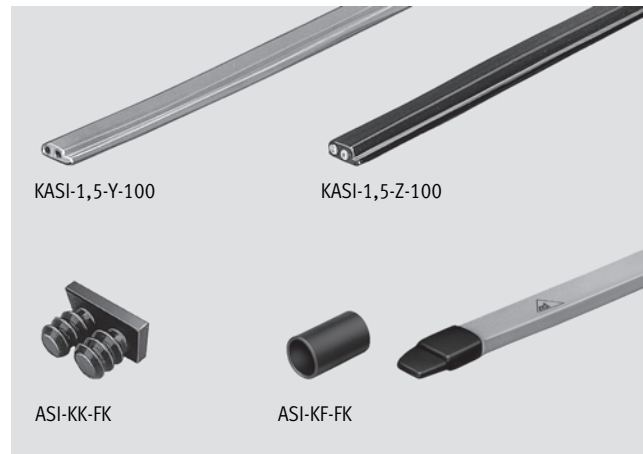
Type	B1	D1	D2	D3	D4	D5	D6	H1	H2	H3	H4	L1	L2	L3	L4	L5
NEBP-M16W6-K-2-M9W5	21.6	5.5	11.5	20	M16x 0.75	17	14	38	19	36.6	19.8	2,000	28	52	22.8	41.5

Ordering data

Electrical connection	Cable length [m]	Part No.	Type
Socket, 6-pin, M16 plug connector, 5-pin, M9	2	575898	NEBP-M16W6-K-2-M9W5

Flat cable
KASI

- Flat cable, 2-core
- Reverse polarity protected
- Contact established using insulation displacement technology – no need to strip cable and wire insulation
- 2 different colours: yellow (preferred for the AS-interface network) and black (for auxiliary power supply)
- Pre-assembled
- Accessories
 - Flat cable sleeve
For insulating and sealing the AS-interface cable
 - Cable cap
For insulating and sealing the AS-interface cable at the end of the string



General technical data

Type	KASI-1,5-Y-100	KASI-1,5-Z-100
Connection cross-section [mm ²]	2x 1.5	
Max. cable length [m]	100	
Colour	Yellow	Black
Use	For indoor use only	For outdoor use
Ambient temperature [°C]	-40 ... +85	
Ambient temperature of flexible cable installation [°C]	-25 ... +85	

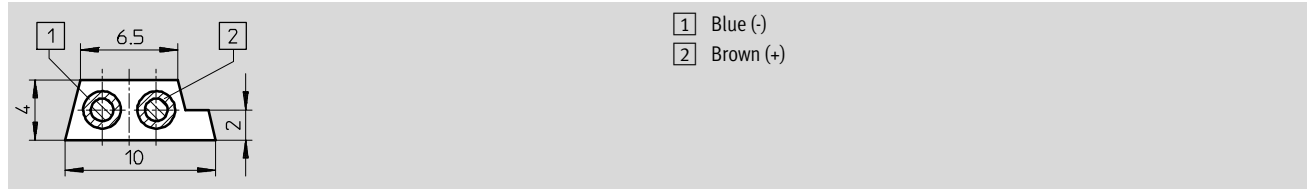
Ordering data

View	Material	Protection class	Operating voltage range		Current-carrying capacity [A]	Product weight [g]	Type	Part No.
			[V]	[V]				
	Sheath: Polyamide Cable: Tinned copper	IP65 with closed wire ends	60 AC	75 DC	3	71	KASI-1,5-Y-100	18 940
							KASI-1,5-Z-100	18 941
	Polyamide	IP65	–	–	–	–	ASI-KK-FK	18 787
			–	–	–	–	ASI-KT-FK	165 593

Dimensions

Download CAD data → www.festo.com

Flat cable – KASI-1,5-...-100

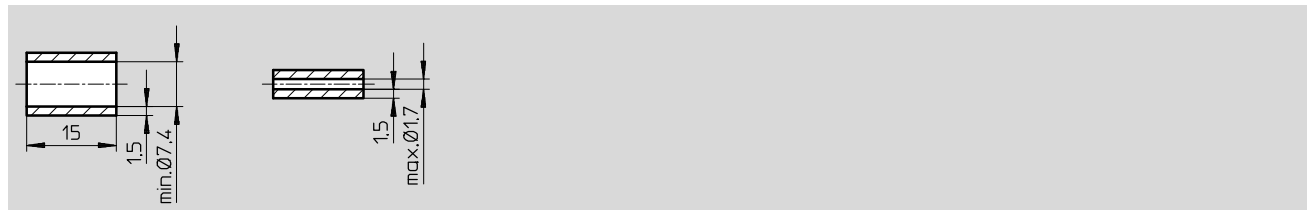


2

Cable cap – ASI-KK-FK



Flat cable sleeve – ASI-KT-FK



**Addressing cable
KASI-ADR
for AS-interface**

- Addressing cable for any slaves including
 - Individual valve interface
 - Midi/maxi valve terminal with AS-interface connection
 - CP valve terminals
- Cable length 2.5 m
- Pre-assembled
- Reverse polarity protected



General technical data

Type	Type	KASI-ADR
Connection type		Plug-in/screw-in
Connection cross-section	[mm ²]	2x 1.5
Protection class		IP65
Material of plug, straight	Housing	Polybuteneterephthalate
	Contacts	Copper base alloy
	Union nut	Polybuteneterephthalate
Material of plug, angled	Housing	Polyurethane
	Contacts	Bronze
	Union nut	Nickel-plated brass
Material of flat cable socket	Housing	Polyamide
	Contacts	Bronze
Material of cable sheath		Rubber compound
Ambient temperature	[°C]	-40 ... +85

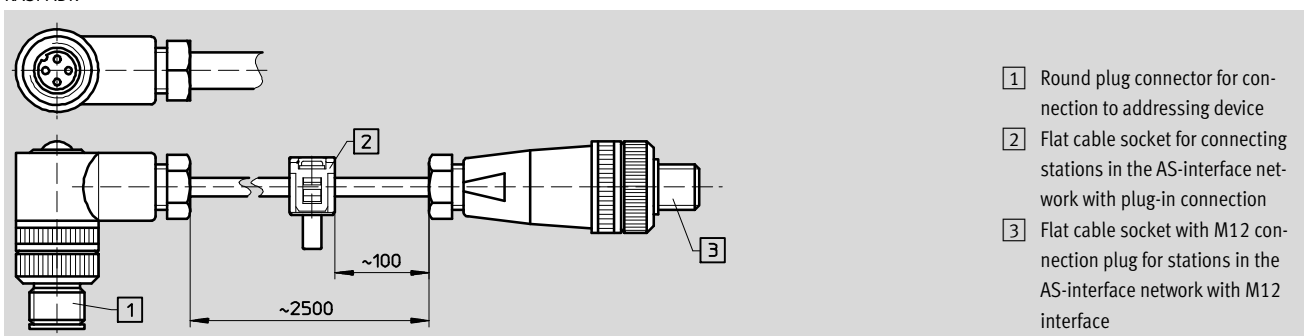
Ordering data

View	Electrical connection	Operating voltage range		Current-carrying capacity [A]	Type	Part No.
		[V]	[V]			
	Plug, straight, 4-pin Plug, angled, 4-pin Socket, straight, 2-pin	60 AC	75 DC	3	KASI-ADR	18 960

Dimensions

Download CAD data → www.festo.com

KASI-ADR



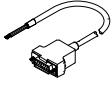
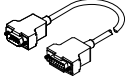
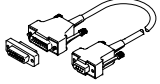
- 1 Round plug connector for connection to addressing device
- 2 Flat cable socket for connecting stations in the AS-interface network with plug-in connection
- 3 Flat cable socket with M12 connection plug for stations in the AS-interface network with M12 interface

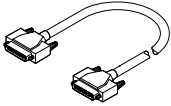
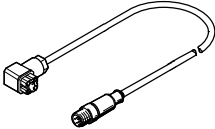
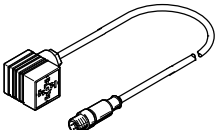
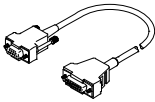
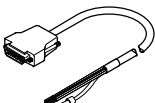

Connecting cables for control systems

FEC/FEDZ, Operator units FED – Technical data

FESTO

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Ordering data					
	Description	Electrical connection	Cable length [m]	Part No.	Type
	For connecting to control block CPX-FEC Prepared for combining with plug FBS-SUB-9-GS-1X9POL-B	Open end Sub-D socket, 15-pin	5	539642	FEC-KBG7
	For connecting to control block CPX-FEC	Sub-D plug, 15-pin Sub-D socket, 15-pin	2.5	539643	FEC-KBG8
	Programming cable	Sub-D plug, 15-pin Sub-D socket, 15-pin	3	533534	FEDZ-PC

Ordering data				
	Brief description	Cable length [m]	Part No.	Type
Connection options from I/O interface to controller				
	Connects the motor controller to the connection block	2.0	8001375	NEBC-S1G25-K-2.0-N-S1G25
		5.0	8001376	NEBC-S1G25-K-5.0-N-S1G25
Connection between sensor interface CASM and displacement encoder				
	For swivel module DSM1 and potentiometer LWG	0.3	549293	NEBC-P1W4-K-0.3-N-M12G5
	Potentiometer TLF	0.3	549294	NEBC-A1W3-K-0.3-N-M12G5
Connecting cable for modular controllers CECX				
	Cable for connecting an operator unit FED via RS485, 6 x 0,34 mm ² Straight socket, Sub-D, 15-pin Straight socket, Sub-D, 9-pin	2.5	563782	NEBC-S1G15-K-2.5-N-B-S1G9-V
	Cable for connecting an operator unit FED via RS485, 3 x 0,34 mm ² , shielded Straight socket, Sub-D, 15-pin Straight socket, Sub-D, 9-pin	2.5	553949	NEBC-S1G15-K-2.5-N-B-S1G9
Connecting cable for motor controller CMMS-ST				
	Control cable, for I/O interface to any controller	2.5	552254	NEBC-S1G25-K-2.5N-LE26
Accessories				
	Inscription labels 8x20, in frames 20 pieces		539388	IBS-8X20

Connecting cable KDI

- Connecting cable (programming cable) for different applications
- Pre-assembled at both ends
- Cable lengths: 3 m and 5 m



General technical data

Type	KDI-...	KDI-PPA-3-BU9
Type of mounting	Via union nut, clip	Screws 4-40 UNC
Mounting position	Any	
Operating voltage range [V AC]	≤300	-

Materials

Type	KDI-...	KDI-PPA-3-BU9
Housing	PBT	
Contacts	Gold-plated copper base alloy	
Union nut	Nickel-plated brass	
Cable sheath	PUR	PVC

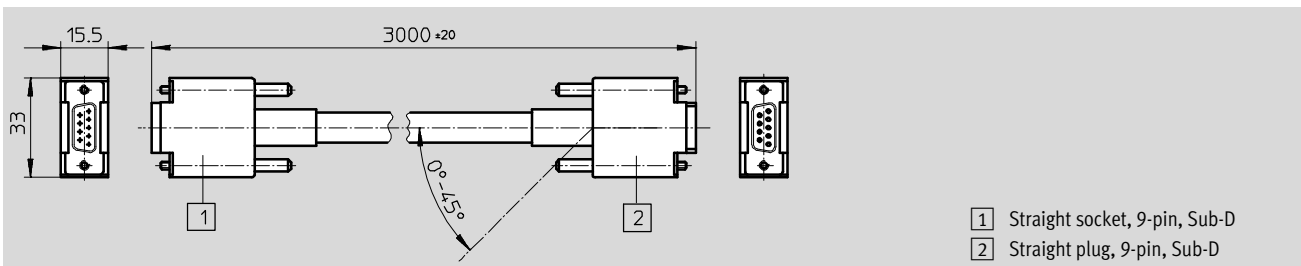
Operating and environmental conditions

Ambient temperature [°C]	-30 ... +80
Ambient temperature for flexible cable installation [°C]	-10 ... +80

Dimensions

Download CAD data → www.festo.com

KDI-PPA-3-BU9

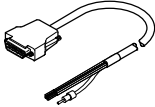
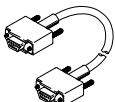
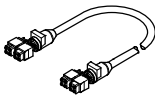
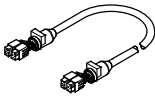
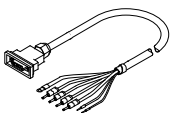
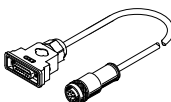
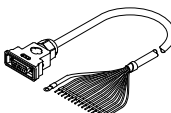
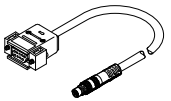
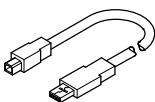


Ordering data

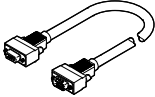

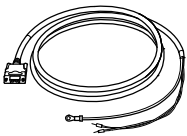
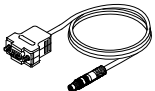
	Electrical connection	Cable composition [mm ²]	Cable Ø [mm]	Cable length [m]	Weight [g]	Part No.	Type
	Straight socket, 9-pin, Sub-D – straight plug, 9-pin, Sub-D	9x0.22	-	3	156	151915	KDI-PPA-3-BU9
	Straight socket, 5-pin, M12 – straight socket, 9-pin, Sub-D	4x0.14	4.5 ... 6.5	5	181	150268	KDI-SB202-BU9

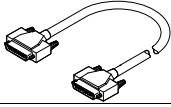
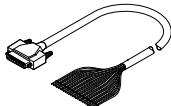
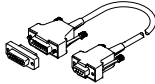
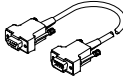
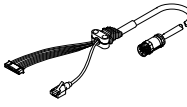
Ordering data					
	For type	Description	Cable length [m]	Part No.	Type
Motor cable for motor controller CMMO-ST					
	EPCO-16 EMMS-ST-28	Straight plug – Min. bending radius: 62 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	1449600	NEBM-M12G8-E-1.5-Q5-LE6
			2.5	1449601	NEBM-M12G8-E-2.5-Q5-LE6
			5	1449602	NEBM-M12G8-E-5-Q5-LE6
			7	1449603	NEBM-M12G8-E-7-Q5-LE6
			10	1449604	NEBM-M12G8-E-10-Q5-LE6
	EPCO-25/-40 EMMS-ST-42/-57	Angled plug – Min. bending radius: 62 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	1450736	NEBM-S1W9-E-1.5-Q5-LE6
			2.5	1450737	NEBM-S1W9-E-2.5-Q5-LE6
			5	1450738	NEBM-S1W9-E-5-Q5-LE6
			7	1450739	NEBM-S1W9-E-7-Q5-LE6
			10	1450740	NEBM-S1W9-E-10-Q5-LE6
		Straight plug – Min. bending radius: 62 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	1450368	NEBM-S1G9-E-1.5-Q5-LE6
			2.5	1450369	NEBM-S1G9-E-2.5-Q5-LE6
			5	1450370	NEBM-S1G9-E-5-Q5-LE6
			7	1450371	NEBM-S1G9-E-7-Q5-LE6
			10	1450372	NEBM-S1G9-E-10-Q5-LE6
	EMMS-ST-87	Angled plug – Min. bending radius: 80 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	1450943	NEBM-S1W15-E-1.5-Q7-LE6
			2.5	1450944	NEBM-S1W15-E-2.5-Q7-LE6
			5	1450945	NEBM-S1W15-E-5-Q7-LE6
			7	1450946	NEBM-S1W15-E-7-Q7-LE6
			10	1450947	NEBM-S1W15-E-10-Q7-LE6
		Straight plug – Min. bending radius: 80 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	1450834	NEBM-S1G15-E-1.5-Q7-LE6
			2.5	1450835	NEBM-S1G15-E-2.5-Q7-LE6
			5	1450836	NEBM-S1G15-E-5-Q7-LE6
			7	1450837	NEBM-S1G15-E-7-Q7-LE6
			10	1450838	NEBM-S1G15-E-10-Q7-LE6
Encoder cable					
	EPCO-16/-25/-40 EMMS-ST-28/-42/ -57/-87	Straight plug – Min. bending radius: 68 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	1451586	NEBM-M12G8-E-1.5-LE8
			2.5	1451587	NEBM-M12G8-E-2.5-LE8
			5	1451588	NEBM-M12G8-E-5-LE8
			7	1451589	NEBM-M12G8-E-7-LE8
			10	1451590	NEBM-M12G8-E-10-LE8
	EPCO-25/-40 EMMS-ST-42/-57/-87	Angled plug – Min. bending radius: 68 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	1451674	NEBM-M12W8-E-1.5-LE8
			2.5	1451675	NEBM-M12W8-E-2.5-LE8
			5	1451676	NEBM-M12W8-E-5-LE8
			7	1451677	NEBM-M12W8-E-7-LE8
			10	1451678	NEBM-M12W8-E-10-LE8

1) Other cable lengths on request.

Ordering data		Brief description	Cable length	Part No.	Type
Connecting cable for motor controller CMMS-ST, for stepper motors					
	Control cable, for I/O interface to any controller	2.5	552254	NEBC-S1G25-K-2.5N-LE26	
	Programming cable	1.5	160786	PS1-ZK11-NULLMODEM-1,5M	
Connecting cable for motor controller SFC-LACI					
	Motor cable, for connecting motor and controller	2.5	556794	NEBM-T1G6-T1G6-2.5	
		5	556796	NEBM-T1G6-T1G6-5	
		10	556798	NEBM-T1G6-T1G6-10	
	Encoder cable, for connecting motor and controller	2.5	556795	NEBM-T1G12-T1G12-2.5	
		5	556797	NEBM-T1G12-T1G12-5	
		10	556799	NEBM-T1G12-T1G12-10	
Connecting cable for motor controller SFC-DC					
	Supply cable, for connecting load and logic supply	2.5	538914	KPWR-MC-1-SUB-15HC-2,5	
		5	538915	KPWR-MC-1-SUB-15HC-5	
		10	538916	KPWR-MC-1-SUB-15HC-10	
	Motor cable, for connecting motor and controller	2.5	538917	KMTR-DC-SUB-15-M12-2,5	
		5	538918	KMTR-DC-SUB-15-M12-5	
		10	539316	KMTR-DC-SUB-15-M12-10	
	Control cable, for I/O interface to any controller	2.5	538919	KES-MC-1-SUB-15-2,5	
		5	538920	KES-MC-1-SUB-15-5	
		10	538921	KES-MC-1-SUB-15-10	
	Programming cable, for parameterisation and commissioning via RS232 interface using FCT software	2.5	537926	KDI-MC-M8-SUB-9-2,5	
Connecting cable for motor controller CMMP-AS, for servo motors					
	Programming cable for CMMP-AS-...-M0, CMMP-AS-...-M3	1.8	1501332	NEBC-U1G-K-1.8-N-U2G	

Ordering data

	Brief description	Cable length	Part No.	Type
Connecting cable for motor unit MTR-DCI				
	Motor cable for connecting the motor and controller	2.5 m	565369	NEBM-S1G9-E-2.5-N-S1G9
		5 m	565370	NEBM-S1G9-E-5-N-S1G9
		10 m	565371	NEBM-S1G9-E-10-N-S1G9
	Control cable for I/O connection to any PLC controller	2.5 m	537923	KES-MC-1-SUB-9-2,5
		5 m	537924	KES-MC-1-SUB-9-5
		10 m	537925	KES-MC-1-SUB-9-10
Supply cable for motor unit MTR-DCI and End position controller CMFL				
	Supply cable	2.5 m	537931	KPWR-MC-1-SUB-9HC-2,5
		5 m	537932	KPWR-MC-1-SUB-9HC-5
		10 m	537933	KPWR-MC-1-SUB-9HC-10
	Programming cable For parameterisation and commissioning via the RS232 interface using FCT software	2.5 m	537926	KDI-MC-M8-SUB-9-2,5

Ordering data		Brief description	Cable length	Part No.	Type
Connection options from I/O interface to controller					
	Connects the motor controller to the connection block	1.0	8001374	NEBC-S1G25-K-1.0-N-S1G25	
		2.0	8001375	NEBC-S1G25-K-2.0-N-S1G25	
		5.0	8001376	NEBC-S1G25-K-5.0-N-S1G25	
Control cable					
	Is connected to the motor controller. The other end comprises individual flying leads	3.2	8001373	NEBC-S1G25-K-3.2-N-LE25	
Connecting cable for control blocks					
	For connecting to control block CPX-FEC Prepared for combining with plug FBS-SUB-9-GS-1X9POL-B Open end, Sub-D socket, 15-pin	5	539642	FEC-KBG7	
	For connecting to control block CPX-FEC Sub-D plug, 15-pin Sub-D socket, 15-pin	2.5	539643	FEC-KBG8	
	Programming cable Sub-D plug, 15-pin Sub-D socket, 15-pin	3	533534	FEDZ-PC	
	Connecting cable, serial Sub-D plug, 9-pin Sub-D socket, 9-pin	3	575299	FEDZ-PC-9PIN	
Cable for compact vision system SBOC/SBOI Technical data → Internet: sboa					
	Ethernet diagnostic cable Straight socket, M12x1, 4-pin, D-coded RJ45 plug	3	542139	SBOA-K30E-M12S	
	For integration in a CPI system Straight socket, M12x1, 5-pin Angled plug, M9x0.5, 5-pin	2	548823	SBOA-K20CP-WS	
	For I/O expansion Straight socket, M12x1, 5-pin Straight socket, M9x0.5, 5-pin Straight plug, M12x1, 4-pin	2	548824	SBOA-K20CP-SUP	
Connecting cable for multi-axis controller CMXR-C1					
	Connecting cable: between multi-axis controller CMXR and teach pendant CDSA via interface housing CAMI-C	5	552104	NESC-C-D1-5-C1	
		10	552105	NESC-C-D1-10-C1	
		15	552106	NESC-C-D1-15-C1	

Function

CPX Maintenance Tool (CPX-FMT) combines service software with a connecting adapter. The service software is a tool for the design, parameterisation and online diagnostics of the CPX terminal. The USB-to-M12 adapter features built-in galvanic isolation (between CPX and PC) and enables a PC to be connected to the diagnostic interface of the CPX terminal.

- Adapter
- Software on CD-ROM



Application

Only from Festo

The CPX-FMT software enables access to CPX valve terminals via Ethernet with the control block CPX-FEC and the bus nodes EtherNet/IP (FB 32) and PROFINET (FB 33, FB 34, FB 35, FB 41). The bus nodes or control block can be connected directly to the PC via a USB adapter from Festo. Similar to the CPX-MMI, diagnostic data such as

the error trace or module diagnostics can be read out and parameters can be modified in plain text. In contrast to the CPX-MMI, the data can be used directly on a PC. There is an option, for example, to send screenshots of a configuration or the current error trace directly via e-mail. In addition, CPX configurations can also be saved

and archived directly as a CPX-FMT project. Undocumented changes can subsequently be identified using the online/offline comparison function. On-site tests such as the actuation of valves or the emulation of sensor feedback (in both cases called “forcing”), for example, can be

performed without an existing controller infrastructure. It must be noted that with both the CPX-FMT and the CPX-MMI, only local parameters on the CPX valve terminal can be changed and saved. The configuration of the networks or controller software cannot be influenced.

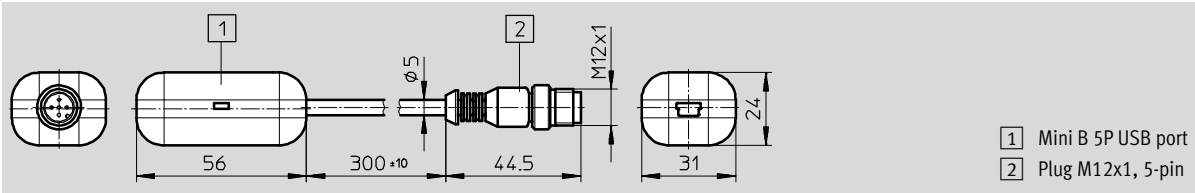
General technical data

Type	NEFC-M12G5-0.3-U1G5	
System requirements	PC	IBM-compatible
	Drive	CD-ROM
	Interfaces	USB port (specification USB 1.1 or higher)
	Operating system	Microsoft Windows 2000 or XP
Functional range	<ul style="list-style-type: none"> • Configuration and parameterisation • Reading out of system, module, channel diagnostics and error trace • Saving of the configuration as a project • Integration of plug-ins/links to self-executing programs 	
Scope of delivery	<ul style="list-style-type: none"> • Adapter M12, 5-pin to mini USB socket • CD-ROM with installation program 	
Type of mounting	Screw-in	
Electrical connection	Plug M12x1, 5-pin	
Adapter cable composition	4 x 0.34 mm ²	
Cable length	[m]	0.3
Protection class to EN 60529	IP20	
CE mark (see declaration of conformity)	To EU EMC Directive	
Ambient temperature	[°C]	-5 ... +50
Material	Housing	ABS
	Cable sheath	PUR
	Pin contact	Gold-plated brass
Note on materials	RoHS-compliant	

Dimensions


Download CAD data → www.festo.com

Adapter



2

Ordering data

Designation	Part No.	Type
 CPX Maintenance Tool (CPX-FMT), software and USB-to-M12 adapter	547432	NEFC-M12G5-0.3-U1G5

Connecting cable KV-M12

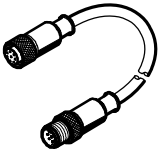
- Plug socket with cable for diagnostic interface (to terminal CPX)
- Pre-assembled at both ends
- Cable lengths: 1.5 m and 3.5 m
- 5-pin/4-wire
- Round plug



General technical data

Type	KV-M12-M12-...	
Type of mounting	M12 union nut	
Mounting position	Any	
Operating voltage range	[V AC]	30
	[V DC]	36
Current-carrying capacity	[A]	4
Cable diameter	[mm]	5
Protection class to EN 60 529	IP67 (assembled)	
Material of housing	Polyurethane	
Material of contacts	Socket	Gold-plated brass
	Plug	Gold-plated bronze
Material of union nut	Nickel-plated/chrome-plated brass	
Material of cable sheath	Polyurethane	
Material note	RoHS compliant	
Ambient temperature	[°C]	-25 ... +70
Ambient temperature of flexible cable installation	[°C]	-5 ... +70

Ordering data

	Electrical connection	Constructional design [mm ²]	Product weight	Cable length	Type	Part No.
			[g]	[m]		
	Straight plug – straight socket, 5-pin	4x0.34	97	1.5	KV-M12-M12-1,5	529 044
	Straight plug – straight socket, 5-pin	4x0.34	182	3.5	KV-M12-M12-3,5	530 901

Connecting cables for control systems

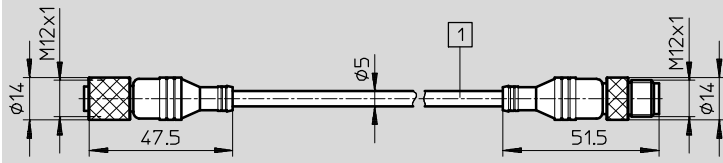
KV-M12, for Operator unit CPX-MMI-1 – Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

KV-M12-M12-...



1 Cable length of 1.5 m or 3.5 m

2

Wiring allocation (socket/plug view)

KV-M12-M12-...

View – socket

Wiring allocation

View – plug

View – socket	Wiring allocation	View – plug
	<ul style="list-style-type: none"> 1 (+24V) — Brown — 1 (+24V) 3 (0V) — Blue — 3 (0V) 2 (Rx/D, MMI) — White — 2 (Tx/D, CPX) 4 (Tx/D, MMI) — Black — 4 (Rx/D, CPX) 5 (FE) — Screen — 5 (FE) 	

Operator unit CPX-MMI-1

The operator unit is a small, convenient commissioning and service device for the CPX terminal. It provides data polling, configuration and diagnostic functions for CPX terminals. Its extremely flexible application range means that data can be read in or out at any location. IP65 compatibility makes it suitable for use in harsh industrial environments.

- Width 81 mm



Application

Functions

- Advance commissioning through the monitoring/forcing of inputs and outputs without fieldbus master/PLC
- Test function for parameter settings, for example fail-safe of the outputs or switch-on delay of the inputs
- Plain-text diagnostics of module and channel-oriented errors
- Condition monitoring: preselection/loading of counters, activation of the channels to be monitored
- Display of the last 40 error occurrences with timestamp
- Identification of sporadic causes of errors through display of the diagnostic history
- Password protection

Connection

The operator unit is connected to the CPX bus nodes or control block, as appropriate, using a M12 connecting cable.

The voltage for the operator unit is supplied by the CPX component

Communication

Once connected to the CPX terminal, the operator unit loads the available configuration for the I/O modules, valves, etc.

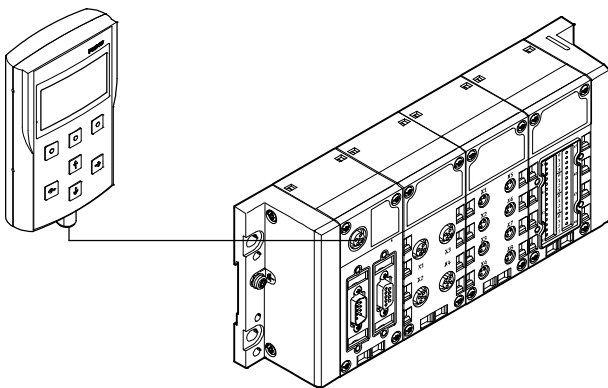
This ensures the availability of up-to-date texts, messages, menus and displays. Status information, diagnostic messages and parameter bits are then exchanged during operation.

Assembly

A mounting bracket for the operator unit offers the option of wall or H-rail mounting.

The mounting bracket also has an option for temporary mounting using a hanging device.

Connection



The operator unit is connected to the CPX terminal using a pre-assembled connecting cable.

Connecting cables for control systems

Cables and plugs for operator units FED – Technical data

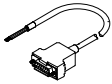
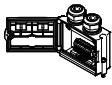
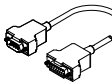
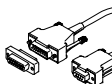
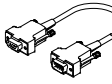
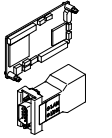


Cables and plugs for operator units FED



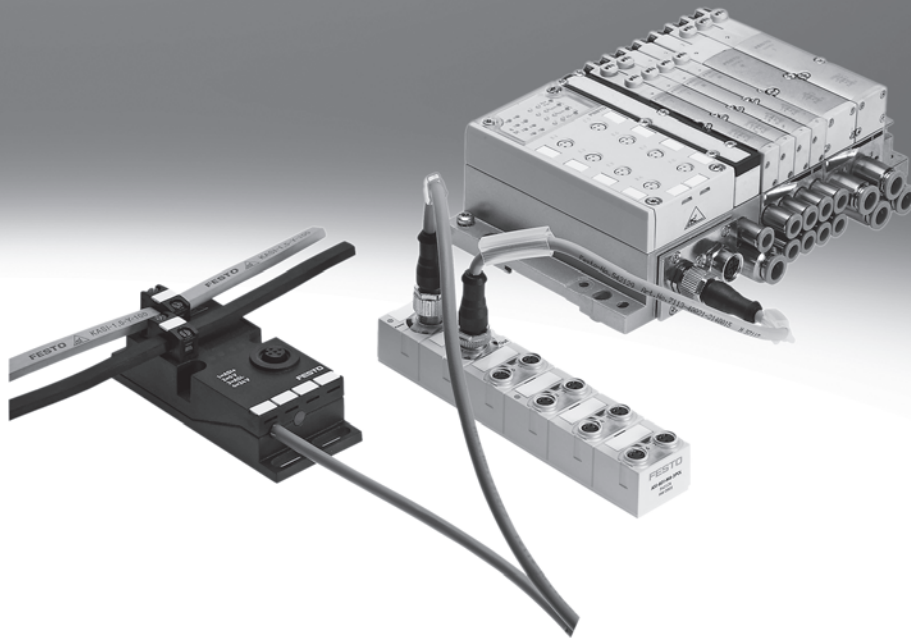
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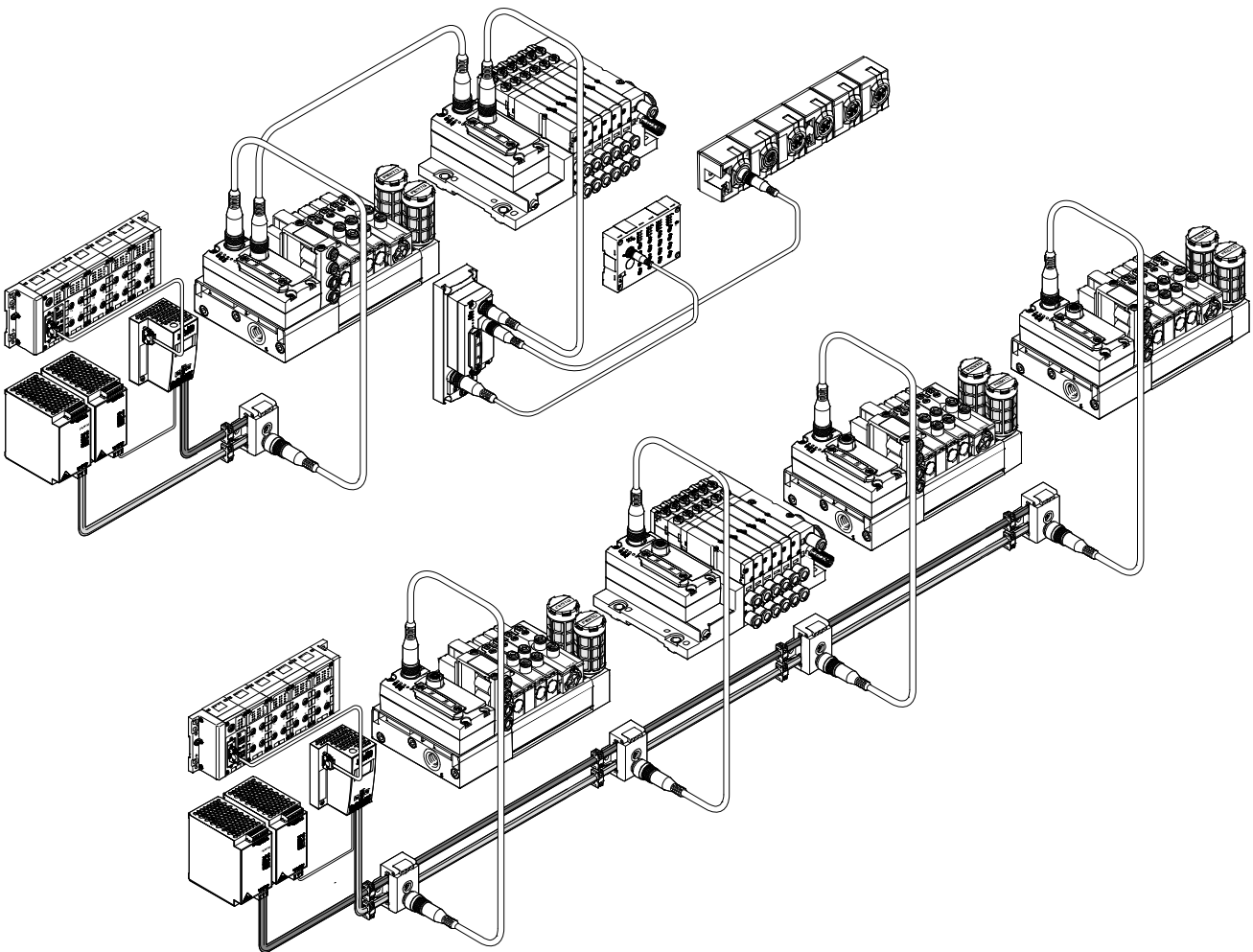
Ordering data

	Description	Electrical connection	Cable length [m]	Part No.	Type
Cables and plugs					
	For connecting to control block CPX-FEC Prepared for combining with plug FBS-SUB-9-GS-1X9POL-B	Open end Sub-D socket, 15-pin	5	539642	FEC-KBG7
	Suitable for control block CPX-FEC For combining with cable FEC-KBG7	Sub-D plug, 9-pin	–	534497	FBS-SUB-9-GS-1X9POL-B
	For connecting to control block CPX-FEC	Sub-D plug, 15-pin Sub-D socket, 15-pin	2.5	539643	FEC-KBG8
	Programming cable	Sub-D plug, 15-pin Sub-D socket, 15-pin	3	533534	FEDZ-PC
	Connecting cable, serial	Sub-D plug, 9-pin Sub-D socket, 9-pin	3	575299	FEDZ-PC-9PIN
Fieldbus interface					
	Ethernet TCP interface module (CODESYS controller software)	Sub-D adapter, 9-pin to RJ45		543450	FEDZ-IET TCP

Ordering data

	Description	Part No.	Type
Connecting cable		Technical data → Internet: nebs	
	Cable for power supply and digital I/Os (M12, 12-pin on open end); length 5 m or 10 m	3058614	NEBS-M12G12-KS-5-LE12
		2912452	NEBS-M12G12-KS-10-LE12
	Serial data cable (M12, 5-pin on open end); length 5 m or 10 m	8030962	NEBS-M12G5-KS-5-LE5
		8030963	NEBS-M12G5-KS-10-LE5
	Cable for connecting the external lights SBAL (M12, 12-pin on M12, 12-pin); length 0.5 m or 2 m	3056124	NEBS-M12G12-KS-0.5-SM12G12
		3058527	NEBS-M12G12-KS-2-SM12G12
Connecting cable		Technical data → Internet: nebc	
	Ethernet cable (M12, 4-pin on RJ45); length 3 m or 10 m	8031121	NEBC-D12G4-KS-3-R3G4
		8031122	NEBC-D12G4-KS-10-R3G4





	Type	→ Page/Internet
1	Industrial PC with fieldbus master	
2	Power supply unit	SVG1/230VAC-ASI-SA
3	AS-interface module	ASI-EVA-2E2A-M12-8POL-Z
4	AS-interface module	ASI-EVA-4E-M12-5POL
5	AS-interface module	ASI-EVA-2E2A, 2E1A
6	Connecting cable	KM12-8GD8GS-2-PU
7	Connecting cable	KM8-M8-GSGD-...
		NEBU-M8-...
8	Flat cable	KASI-1,5-Y-100
	Cable socket	ASI-SD
	Plug socket	FBSD-GD
9	Connecting cable	NEBU-M12G5-F-0.2-M12G4
		KM12-M12-GSGD
		KM12 M12-GSWD-...
		KM12-DUO-M8-GDGD
10	Local controller	DLP-VSE-3-5/3-G-ASI
11	Limit switch attachment	DAPZ-SB-I-30DC-DSAM-RO
12	Cable distributor	ASI-KVT-FKx2-M12
13	AS-interface module	ASI-8DI-M8-3POL
14	AS-interface module	ASI-4DI3DO-M12X2-5POL-Z

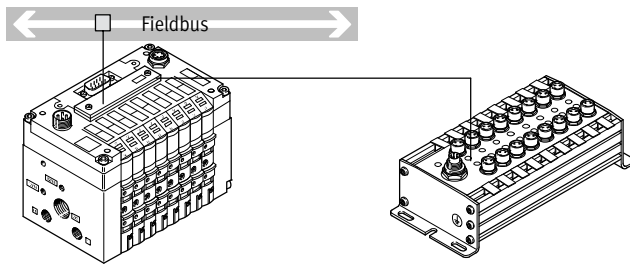
Connecting cables for fieldbuses

KVI – Connection options for CP installation system

FESTO

Fieldbus Direct with CP string extension

CPV valve terminal

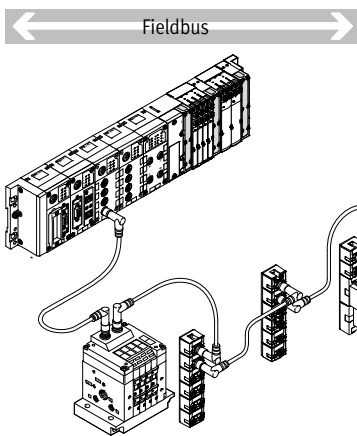


- 4 to 8 valve positions
- DeviceNet
- CANopen
- Profibus DP
- ABB CS31
- Interbus
- Moeller Suconet
- Festo fieldbus
- Beckhoff
- CC-Link
- 4 to 16 solenoid coils

More information
→ Internet: cpv

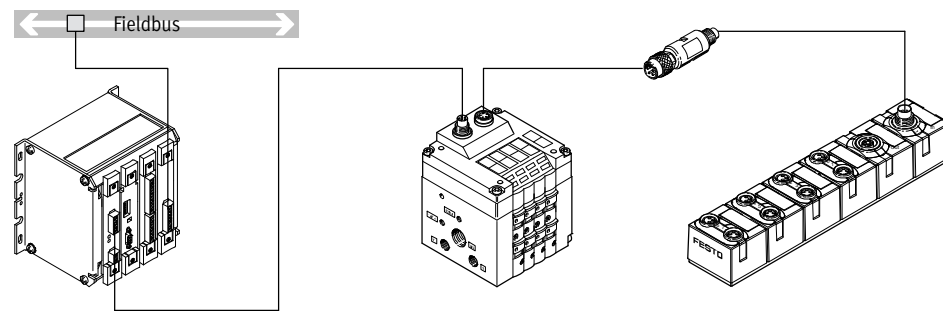
3

CPX with CP interface



- Max. 4 installation strings per CP interface
- Max. 10 metre line length per string (radius)
- Max. 4 CP modules per string
- Max. 32 inputs and max. 32 outputs per string

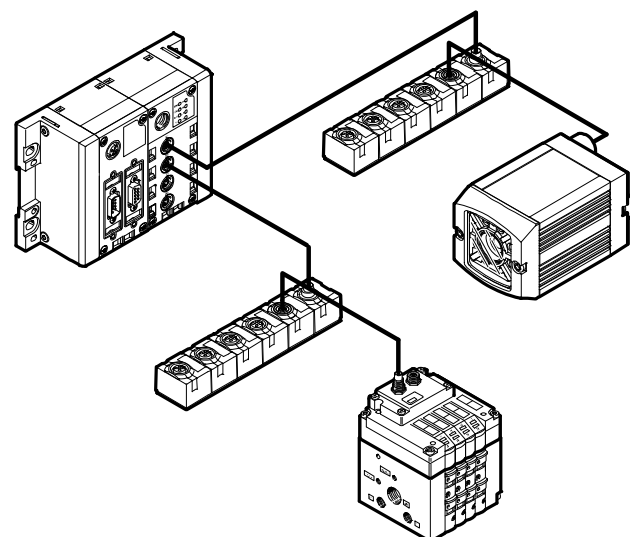
Axis controller SPC200 with CP interface



- Max. 64 inputs and 64 outputs via fieldbus
- DeviceNet, Interbus or Profibus connection

More information
→ Internet: spc200

Compact Vision System SBOC-Q/SBOI-Q with CP interface



The Compact Vision System SBOx-Q can be integrated into a Festo CPI network. In this case it functions like a binary module with 16 inputs and outputs. In combination with a CPX-CPI module and a CPX fieldbus, for example, the camera can be accessed via Profibus DP, Interbus, DeviceNet, CANopen and CC-Link.

- Address requirement: 16 digital inputs/outputs
- CPI connection

More information
→ Internet: sboc-q, sboi-q

Connecting cable
KV-M12

- Plug socket with cable for diagnostic interface (to terminal CPX)
- Pre-assembled at both ends
- Cable lengths: 1.5 m and 3.5 m
- 5-pin/4-wire
- Round plug



General technical data

Type	KV-M12-M12-...	
Type of mounting	M12 union nut	
Mounting position	Any	
Operating voltage range	[V AC]	30
	[V DC]	36
Current-carrying capacity	[A]	4
Cable diameter	[mm]	5
Protection class to EN 60 529	IP67 (assembled)	
Material of housing	Polyurethane	
Material of contacts	Socket	Gold-plated brass
	Plug	Gold-plated bronze
Material of union nut	Nickel-plated/chrome-plated brass	
Material of cable sheath	Polyurethane	
Material note	RoHS compliant	
Ambient temperature	[°C]	-25 ... +70
Ambient temperature of flexible cable installation	[°C]	-5 ... +70

Ordering data

	Electrical connection	Constructional design [mm ²]	Product weight [g]	Cable length [m]	Type	Part No.
	Straight plug – straight socket, 5-pin	4x0.34	97	1.5	KV-M12-M12-1,5	529 044
	Straight plug – straight socket, 5-pin	4x0.34	182	3.5	KV-M12-M12-3,5	530 901

Connecting cables for fieldbuses

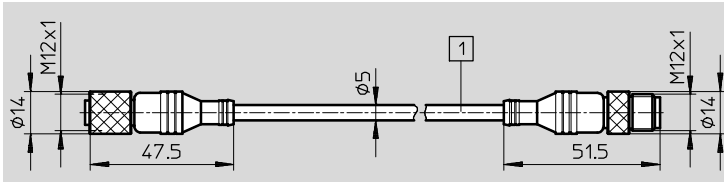
KV-M12, for diagnostic interface – Technical data



Dimensions

Download CAD data → www.festo.com

KV-M12-M12-...



1 Cable length of 1.5 m or 3.5 m

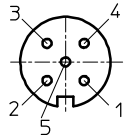
Wiring allocation (socket/plug view)

KV-M12-M12-...

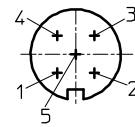
View – socket

Wiring allocation

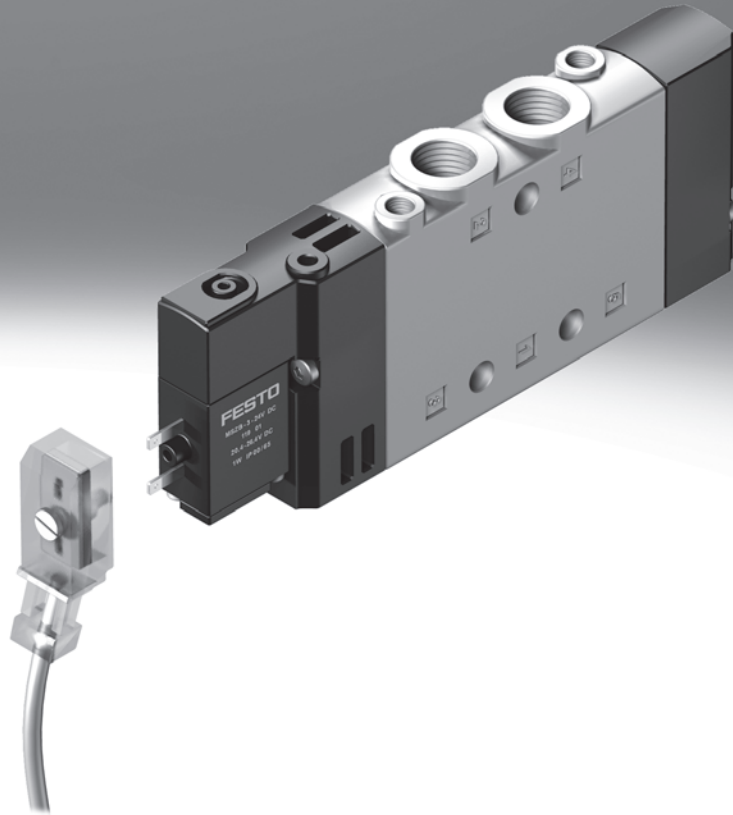
View – plug



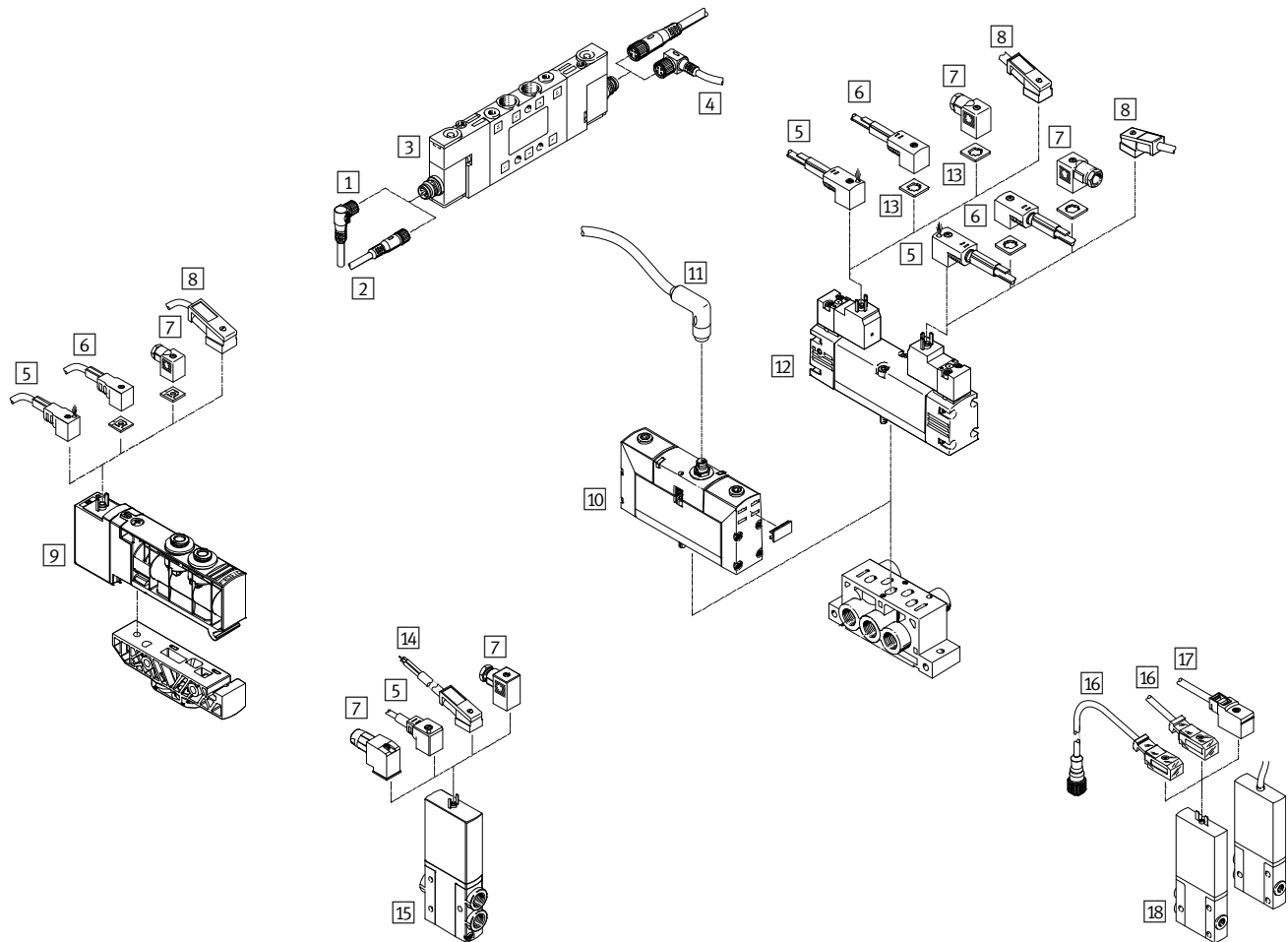
1 (+24V)	↔	Brown	↔	1 (+24V)
3 (0V)	↔	Blue	↔	3 (0V)
2 (RxD, MMI)	↔	White	↔	2 (TxD, CPX)
4 (TxD, MMI)	↔	Black	↔	4 (RxD, CPX)
5 (FE)	↔	Screen	↔	5 (FE)



3



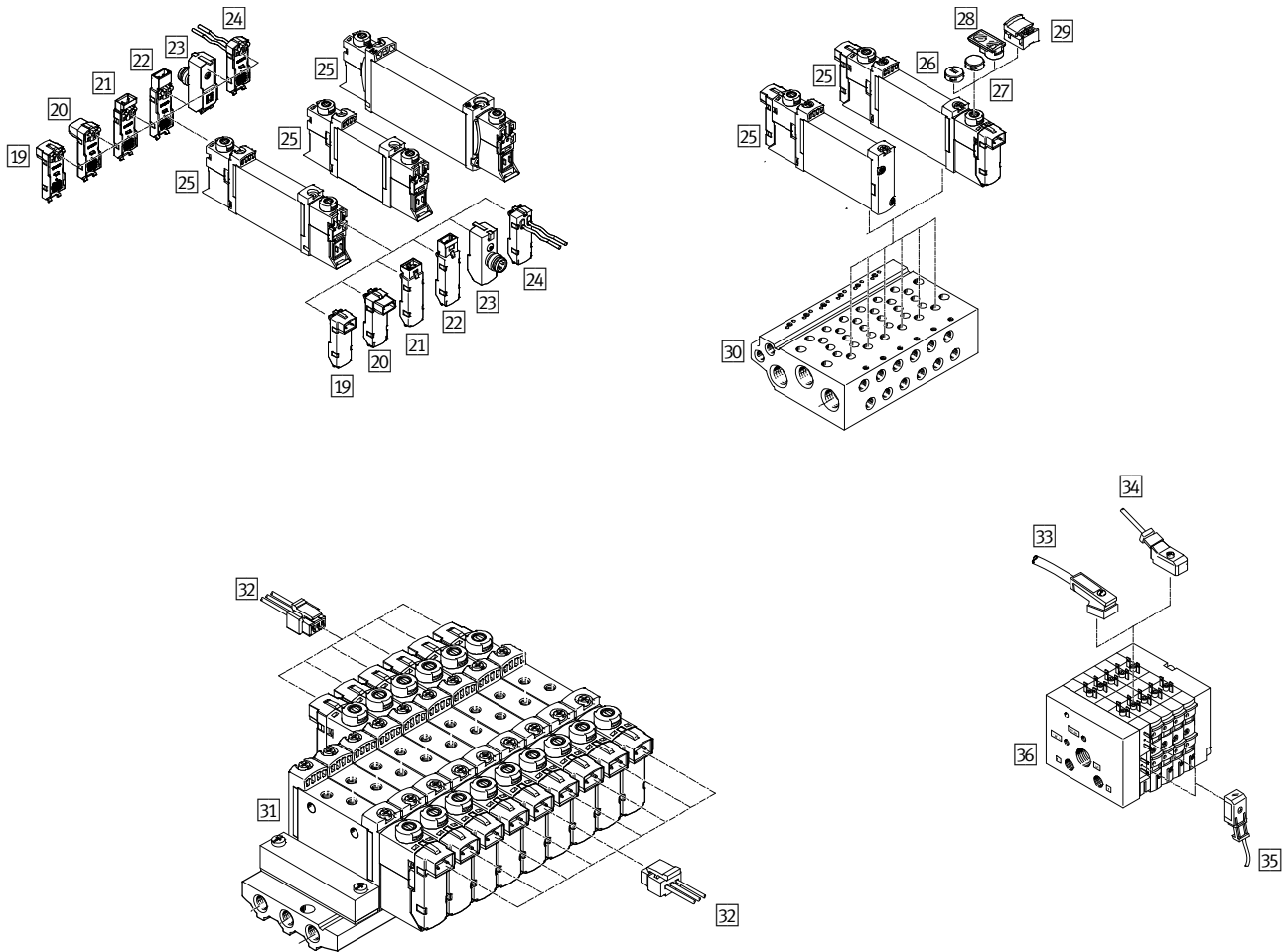
Valves with individual electrical connection



4

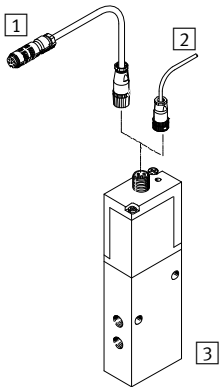
	Type	→ Page/Internet
1	Connecting cable	NEBV-M8W4L-...
2 + 4	Connecting cable	SIM-K-4-GD-...-PU
		SIM-K-4-...-WD-PU
		NEBU
3	Solenoid valve	CPE
5	Connecting cable	KMEB-1-24-...-LED
6	Connecting cable	KMEB-1-230AC-...
7	Plug socket	MSSD-EB
8	Connecting cable	KMEB-2-24-2,5-LED
9	Solenoid valve	VUVB
10	Solenoid valve	VSVA-...R-...
11	Connecting cable	NEBU
		SIM
12	Solenoid valve	VSVA-...C-...
13	Illuminating seal	MEB-LD-...
14	Plug socket with cable	KMEB-2
15	Solenoid valve	MHE4-...
16	Plug socket with cable	KMYZ-3
17	Plug socket with cable	KMYZ-4-...-B
18	Solenoid valve	MHE2-...

Valves with individual electrical connection






		Type	→ Page/Internet
19	E-box, bipolar/reduction of holding current	VAVE-L1-1VH2-L	vave
20	E-box, bipolar/reduction of holding current	VAVE-L1-1VS2-L	vave
21	E-box, bipolar/reduction of holding current	VAVE-L1-1VH3-L	vave
22	E-box, bipolar/reduction of holding current	VAVE-L1-1VS3-L	vave
23	E-box, bipolar/reduction of holding current	VAVE-L1-1VR8-L	vave
		VAVE-L1-1VR1-L	
24	Elektrische Anschlussplatte, Funkenlöschung/bipolar	E-box, spark arresting/bipolar	vave
25	Solenoid valve, individual valve / plug-in	VTUG-10/14/18	vtug
26	Cover cap, non-detenting	VMPA-HBT-B	vmpa-htb
27	Cover cap, covered	VMPA-HBV-B	vmpa-hbv
28	Inscription label holder	ASLR-D	aslr
29	Cover cap, detenting	VAMC-L1-CD	vamc-l1
30	Manifold rails	VABM-L1-10...-G18-...	vabm
31	Solenoid valve	VUVG-L10, VUVG-S10	vuvg
32	Plug socket with cable	NEBV-H1G2-...-LE2	129
33	Plug socket with cable	KMEB-2-24-M12-...-LED	108
34	Connecting cable	KMYZ-7-24-...-LED-PUR	123
35	Connecting cable	KRP-1-24-...	125
36	Valve terminal	CPV10	cpv10

Proportional directional control valves MPYE









	Type	→ Page/Internet
1 Connecting cable	KMPYE	134
2 Connecting cable	KVIA-MPYE	160
3 Proportional directional control valve	MPYE	mpye

Version	Type	Electrical connection	for solenoid coil			→ Page/ Internet
			MD/MH MSG/MSW MSN1 VACC-...-A1 VACN-...-A1	MSFG/MSFW VACF-...-B2	VACS-...-C1 VACF-...-C1	
	KMC	Pin allocations type A, to EN 175301-803	■	-	-	102
	KMF	Pin allocations type B, to industrial standard	-	■	-	106
	KMEB-1 KMEB-2	Pin allocations type C, to EN 175301-803	-	-	■	108

Connecting cables for valves

Selection aid

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









Version	Type	Electrical connection	for standard valves															→ Page/ Internet			
			Namur (VDI/VDE 3845)					ISO 15407-1			ISO 5599-1				ISO 15218						
			VSNB	VSNC...-A1	VSNC...-B2	MN1H	NVF3	MFH	VSVA...-C1	VSVA...-R2	VSVA...-R3/-...-R5	VSVA...-R5	MN1H	MFH	MEBH	MDH	VSCS...-C1		VSCS...-R3	MD	
	KMC	Pin allocations type A, to EN 175301-803	■	■	-	■	-	-	-	-	-	-	-	■	-	-	■	-	-	■	102
	KMF	Pin allocations type B, to industrial standard	-	-	■	-	■	■	-	-	-	-	-	-	■	-	-	-	-	-	106
	KMEB-1 KMEB-2	Pin allocations type C, to EN 175301-803	-	-	-	-	-	-	■	-	-	-	-	-	-	-	■	-	-	-	108
	NEBU-M8 SIM-M8	M8x1, 4-pin	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	24
	SIM-M12 KM12	M12x1, 4-pin	-	-	-	-	-	-	-	-	■	■	-	-	■	■	-	■	-	-	32
	NEBU-M12 SIM-M12	M12x1, 5-pin	-	-	-	-	-	-	-	-	■	■	-	-	-	-	-	-	-	-	35















Version	Type	Electrical connection	for universal directional control valves														→ Page/ Internet									
			VUVS...C1	VUVS...B2	VUVG...H2/...H3	VUVG...S2/...S3	VUVG...R1	VUVG...R8	VUVB...C1	CPV10/CPV14	CPV18	CPV...EX	CPV-SC	CPE10/CPE14-M1BH	CPE10/CPE14-M1CH	CPE18/CPE24-M...H		VMPA	MFH (Tiger 2000)	MVH (Tiger 2000)	MFH (Tiger Classic)	MEBH (Midi-Pneumatik)	MEH (Midi-Pneumatik)			
	KMV	Pin allocations type B, to EN 175301-803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	104	
	KMF	Pin allocations type B, industrial standard	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	■	-	-	-	-	-	106
	KMEB-1 KMEB-2	Pin allocations type C, to EN 175301-803	■	-	-	-	-	-	■	-	■	-	-	-	■	-	-	-	-	-	■	-	-	-	108	
	KME	Pin allocations type C, industrial standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	112	
	KMYZ-3	Pin allocations type ZC, metric screw	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	116	
	KMYZ-4-...-B	Pin allocations type ZC, metric screw	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	118	
	KMYZ-9	Pin allocations type ZC, metric screw	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	120	
	KMYZ-4-...-EX	Pin allocations type ZB/ ZC, metric screw	-	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-	118	
	KMYZ-7	Pin allocations type ZC, self-tapping screw	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	123	
	KRP	Pin allocations type ZC, self-tapping screw	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	
	NEBV-HS	Pin allocations type S	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126	
	KMH	Pin allocations type H	-	-	■	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	-	128	
	NEBV-H1	Pin allocations type H	-	-	■	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	-	129	
	NEBU-M8 SIM-M8	M8x1, 3-pin	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	
	NEBU-M8 SIM-M8	M8x1, 4-pin	-	-	-	-	■	-	-	-	-	-	-	■	-	■	-	-	-	-	-	-	-	-	24	
	NEBV-M8...4L	M8x1, 4-pin, switching status indication	-	-	-	-	■	-	-	-	-	-	-	■	-	■	-	-	-	-	-	-	-	-	136	

Connecting cables for valves

Selection aid

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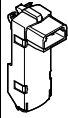
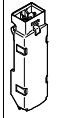
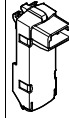
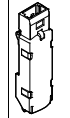
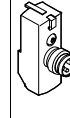
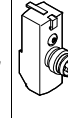
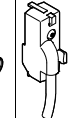
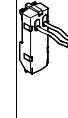
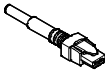
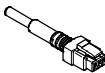

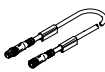

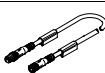
Version	Type	Electrical connection	for application-specific valves										→ Page/ Internet	
			VOFA...-C1-APP/-ANP	VOVG-...-B2	MHP1/MHA1...-HC	MHP1/MHA1...-TC	MHA1/MHP1...-PI	MHE2/MHP2/MHA2	MHE3/MHP3/MHA3	MHE4/MHP4/MHA4	MHJ9	MFH (M5-Compactsystem)		
	KMF	Pin allocations type B, industrial standard	-	-	-	-	-	-	-	-	-	-	■	106
	KMEB-1 KMEB-2	Pin allocations type C, to EN 175301-803	■	-	-	-	-	-	-	-	-	■	-	108
	KMYZ-3	Pin allocations type ZC, metric screw	-	-	-	-	-	-	■	■	-	-	-	116
	KMYZ-4...-B	Pin allocations type ZC, metric screw	-	-	-	-	-	-	■	■	-	-	-	118
	KMH	Pin allocations type H	-	■	■	■	-	-	-	-	-	-	-	128
	NEBV-H1	Pin allocations type H	-	■	■	■	-	-	-	-	-	-	-	129
	MHJ9-KMH	Pin allocations type H, mit Elektronikwith electronic components	-	-	-	-	-	-	-	-	-	■	-	131
	MHAP-PI	Pin allocations type H, Plug-In	-	-	-	-	■	-	-	-	-	-	-	133
	NEBU-M8 SIM-M8	M8x1, 3-pin	■	-	-	-	-	-	-	-	-	-	-	18
	NEBU-M8 SIM-M8	M8x1, 4-pin	-	-	-	-	-	-	-	-	-	■	-	24










Version	Type	Electrical connection	for proportional valve										→ Page/ Internet
			VPPX	VPPM-...-V1	VPPM-...-LK	VPPM-...-A4	VPWP	MPPE	MPPEs	VPPE	VPPE-...-E1	MPYE	
	NEDV	M8x1, 4-pin	-	-	-	-	■	-	-	-	-	-	139
	NEBP-...-M9W5	M9x0.5 5-pin	-	-	-	-	■	-	-	-	-	-	65
	KVI-CP-3	M9x0.5 5-pin	-	-	-	-	■	-	-	-	-	-	158
	SIM-M12 KM12	M12x1, 4-pin	-	-	-	-	-	-	-	■	-	-	32
	KMPYE	M12x1, 4-pin	-	-	-	-	-	-	-	-	-	■	134
	KVIA-MPYE	M12x1, 4-pin	-	-	-	-	-	-	-	-	-	■	160
	SIM-M12	M12x1, 5-pin	-	-	-	-	-	-	-	-	■	-	35
	NEBU-...-Q8N	M12x1, 5-pin	-	■	-	-	-	-	-	-	-	-	35
	SIM-M12 NEBU-M12	M12x1, 8-pin	■	■	-	■	-	-	-	-	-	-	40
	SIM-M12 NEBU-M12	M12x1, 8-pin M12x1,58-pin	-	■	■	■	-	-	-	-	-	-	138
	VAVE-P8	M12x1, 8-pin	■	-	-	-	-	-	-	-	-	-	56
	NEBV-M12 NEDU-...-V9	M12x1, 8-pin	■	■	-	■	-	-	-	-	-	-	217
	KMPPE	M16x0.75, 8-pin	-	-	-	-	-	■	■	-	-	-	135
	KVIA-MPPE	M16x0.75, 8-pin	-	-	-	-	-	■	■	-	-	-	160

Connecting cables for valves

Selection aid

FESTO

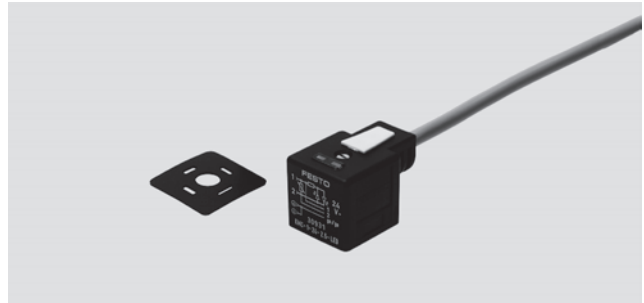
Version	Type	Electrical connection	E-box for VUVG-...P3								→ Page/ Internet
											
	NEBV-HS	Pin allocations type S, 2-pin	-	-	■	■	-	-	-	-	126
	NEBV-H1	Pin allocations type H, 2-pin	■	■	-	-	-	-	-	-	129
	NEBU-M8...3-K	M8x1, 3-pin	-	-	-	-	■	-	-	-	18
	NEBU-M8G3-K...-M8G3	M8x1, 3-pin	-	-	-	-	■	-	-	-	18
	NEBU-M8G4-K	M8x1, 4-pin	-	-	-	-	-	■	-	-	24
	NEBU-M8G4-K...-M8G4	M8x1, 4-pin	-	-	-	-	-	■	-	-	24

Version	Type	Electrical connection	for on-off valves	for soft-start valves	for soft-start valves and exhaust valves	for vacuum generators										→ Page/ Internet		
			(Service units MS series)															
			MS4/MS6-EE	MS9/MS12-EE	MS4/MS6-DE	MS12-DE	MS6-SV-C	MS6-SV-D	MS9-SV-C	VAD-MYB	VAD-ME	VN-P	VN-...M/-B	VADM/VADMI-45/70	VADM/VADMI-95/140/200/300			
	KMC	Pin allocations type A, to EN 175301-803	-	■	-	■	-	-	-	■	-	-	-	-	-	-	-	102
	KMEB	Pin allocations type C, to EN 175301-803	■	-	■	-	■	■	-	-	-	-	-	-	-	■	-	108
	KME	Pin allocations type C, industrial standard	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	112
	KMYZ-2	Pin allocations type ZB, self-tapping screw	-	-	-	-	-	-	-	-	■	-	-	-	■	-	-	114
	KMYZ-4	Pin allocations type ZB/ZC, self-tapping screw	-	-	-	-	-	-	-	-	■	-	-	-	■	-	-	118
	KMH	Pin allocations type H	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	128
	NEBV-H1	Pin allocations type H	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	129
	NEBU-M8 SIM-M8	M8x1, 3-pin	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	18
	NEBU-M12 SIM-M12	M12x1, 5-pin	■	-	■	-	■	■	-	-	-	-	-	-	-	-	-	35



Plug socket with cable KMC

- For valves with D and N1 solenoid coils



General technical data

Cable Ø [mm]	6
Cable composition	3 x 0.75 mm ²
Protective earth connection	Yes
Type of mounting	On solenoid valve via M3 central screw
Mounting position	Any
Protection class to EN 60529	IP67 (assembled)

Materials

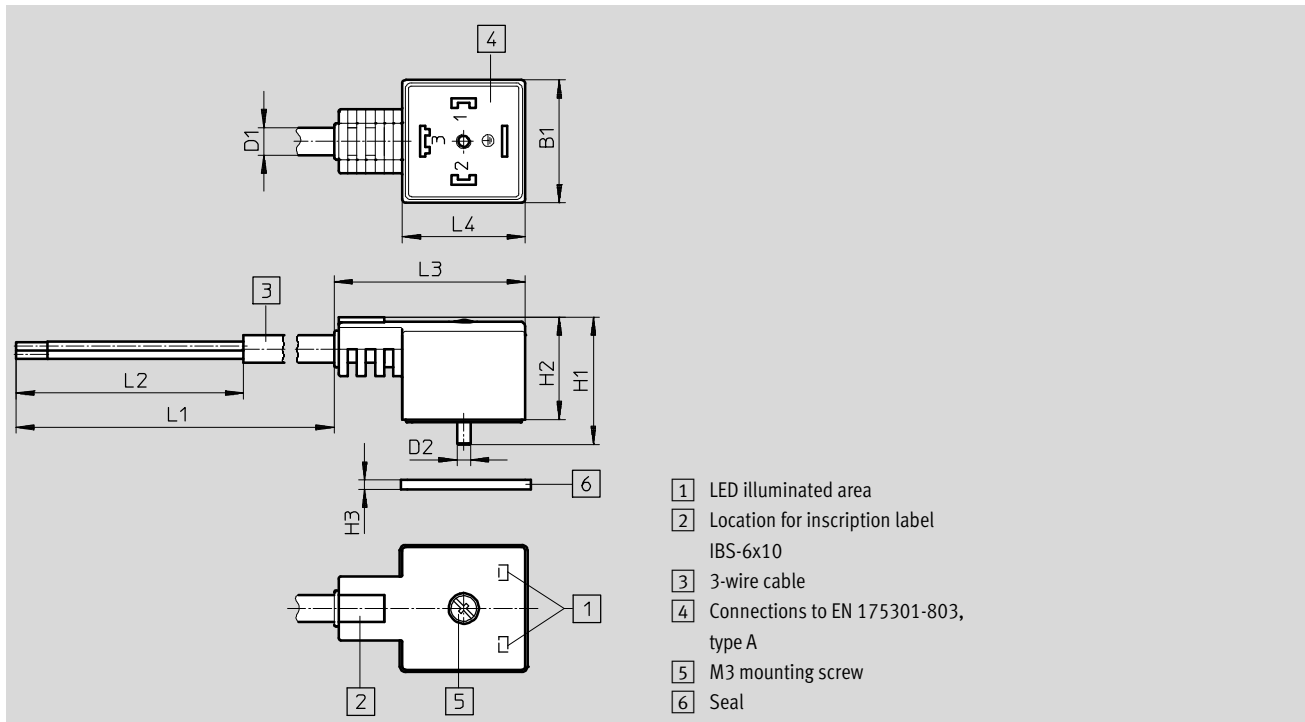
Housing	PA, POM
Pin contact	Bronze
Cable sheath	PVC

Operating and environmental conditions

	KMC-1-24	KMC-1-230
Ambient temperature [°C]	-20 ... +80	-20 ... +80
CE mark (see declaration of conformity)	-	To EU Low Voltage Directive
Certification	-	Germanischer Lloyd

Dimensions

Download CAD data → www.festo.com

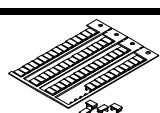


Type	B1	D1 Ø	D2 Ø	H1	H2	H3	L1	L2	L3	L4
KMC-1-...-2,5	27	6	M3	28	22.5	1.5	2.5	50	42	27
KMC-1-...-5							5			
KMC-1-...-10							10			

Ordering data

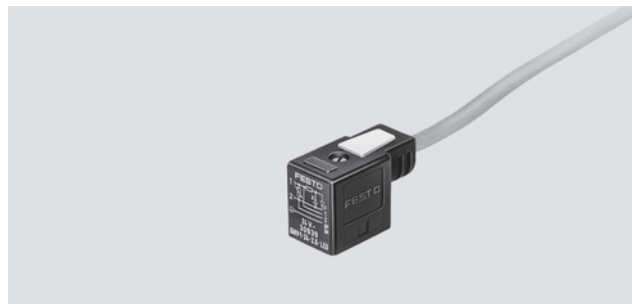
Electrical connection	Nominal operating voltage [V]	Switching position display	Cable length [m]	Weight [g]	Part No.	Type
Socket, type A	24 DC	LED	2.5	110	30931	KMC-1-24DC-2,5-LED
			5	315	30933	KMC-1-24DC-5-LED
			10	725	193459	KMC-1-24-10-LED
	230 AC	-	2.5	110	30932	KMC-1-230AC-2,5
			5	315	30934	KMC-1-230AC-5

Ordering data – Accessories

	Part No.	Type
 Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10

Plug socket with cable KMV

- For valves with V solenoid coils



General technical data

Cable Ø [mm]	6
Cable composition	3 x 0.75 mm ²
Protective earth connection	Yes
Reverse polarity protection	For all electrical connections
Type of mounting	Via M3 central screw
Mounting position	Any
Protection class to EN 60529	IP67 (assembled)

Materials

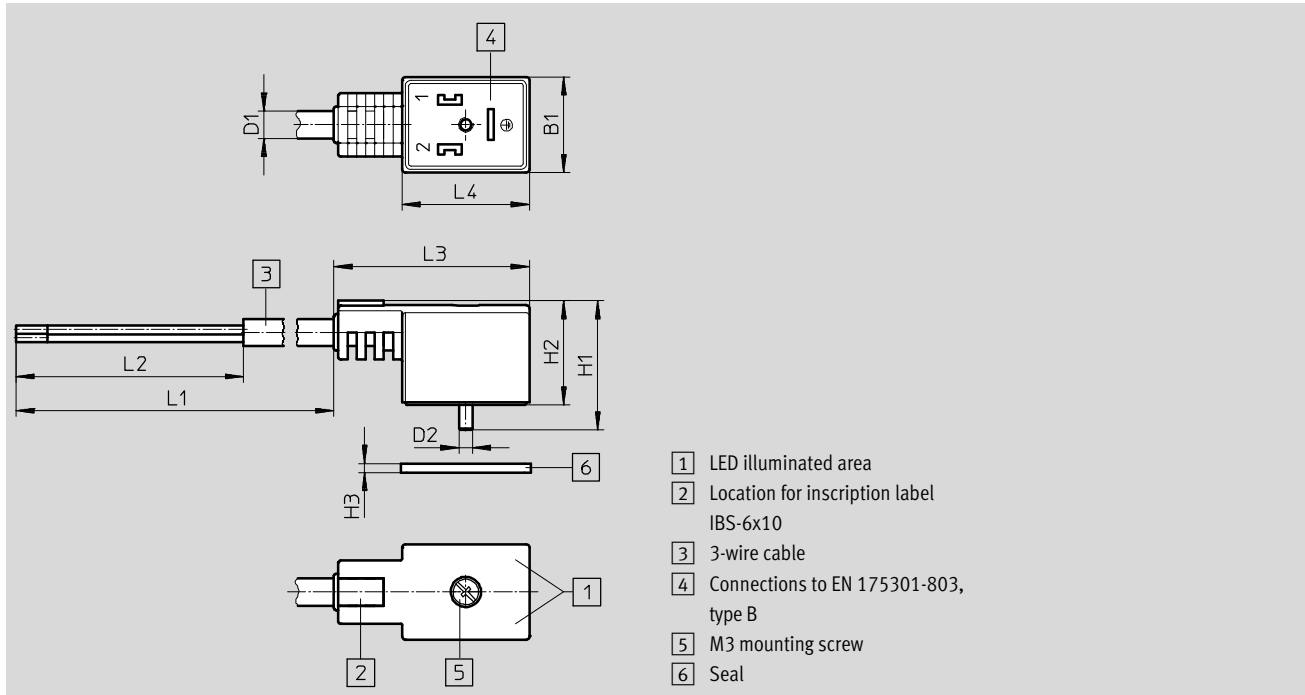
Housing	PC
Pin contact	Bronze
Cable sheath	PVC

Operating and environmental conditions

	KMV-1-24	KMV-1-230
Ambient temperature [°C]	-20 ... +80	-20 ... +80
CE mark (see declaration of conformity)	-	To EU Low Voltage Directive

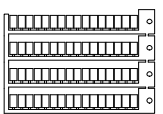
Dimensions

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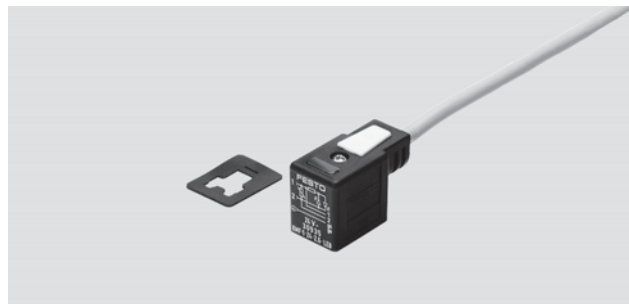
Type	B1	D1 ∅	D2 ∅	H1	H2	H3	L1	L2	L3	L4
KMV-1-...-2,5	21	6	M3	28.5	23	2	2.5	50	42.5	28
KMV-1-...-5							5			
KMV-1-...-10							10			

Ordering data						
Electrical connection	Nominal operating voltage [V]	Switching status display	Cable length [m]	Product weight [g]	Part No.	Type
Socket, type B	24 DC	LED	2.5	170	30939	KMV-1-24DC-2,5-LED
			5	320	30941	KMV-1-24DC-5-LED
			10	620	193456	KMV-1-24-10-LED
	230 AC	-	2.5	170	30940	KMV-1-230AC-2,5
			5	320	30942	KMV-1-230AC-5

Ordering data – Accessories		Part No.	Type
	Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10

Plug socket with cable KMF

- Plug socket with cable for valves with F solenoid coils
- Pre-assembled
- Cable lengths 2.5 to 10 m



General technical data

Type	KMF-1-24	KMF-1-230
Electrical connection	Socket	
Switching position display	LED	–
Nominal operating voltage [V]	24 DC	230 AC
Cable composition [mm ²]	3x0.75	
Cable diameter [mm]	6	
Protective earth connection	Yes	
Type of mounting	On solenoid valve via M3 central screw	
Mounting position	Any	
Protection class to EN 60529	IP67 (assembled)	

Materials

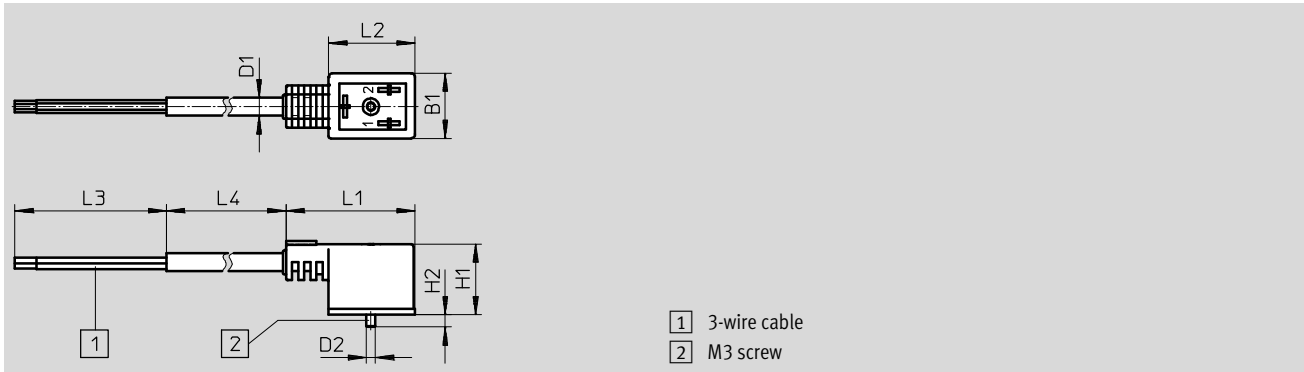
Housing	PC
Pin contact	Bronze
Cable sheath	PVC

Operating and environmental conditions

Type	KMF-1-24	KMF-1-230
Ambient temperature [°C]	–20 ... +80	–20 ... +80
CE marking (see declaration of conformity)	–	To EU Low Voltage Directive

Dimensions

Download CAD data → www.festo.com



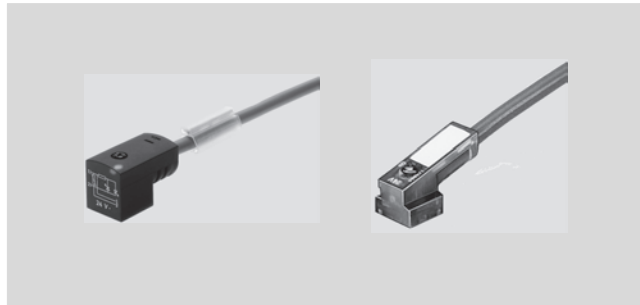
Type	B1	D1	D2	H1	H2	L1	L2	L3	L4
KMF-1-...-2,5	21	6	M3	23	6	43	28	50	2,500
KMF-1-...-5									5,000
KMF-1-...-10									10,000

Ordering data

Electrical connection	Nominal operating voltage [V]	Product weight [g]	Length [m]	Part No.	Type
Socket	24 DC	170	2.5	30935	KMF-1-24DC-2,5-LED
		320	5	30937	KMF-1-24DC-5-LED
		460	10	193458	KMF-1-24-10-LED
	230 AC	170	2.5	30936	KMF-1-230AC-2,5
		320	5	30938	KMF-1-230AC-5

Connecting cable KMEB

- For valves with EB solenoid coil
- Pre-assembled
- Cable lengths 2.5 m, 5 m and 10 m
- 24 V DC:
with LEDs and protective circuit
- Not suitable for energy chains
- KMEB-1 with PVC cable
- KMEB-2 with PUR cable
- KMEB-3 with PVC cable



General technical data

Type	KMEB-1	KMEB-2	KMEB-2-24-M12	KMEB-3
Electrical connection	Angled socket	Angled socket	Angled socket	Angled socket
	3-pin	4-pin	5-pin	2-pin
	Type C	Type C	Type C	Type C
	To EN 175301-803	To EN 175301-803	To EN 175301-803	To EN 175301-803
Reverse polarity protection	–	–	–	For all electrical connections
Cable Ø [mm]	5.2	6.2	4.6	5.2
Cable composition	3 x 0.5 mm ²	3 x 0.75 mm ²	3 x 0.5 mm ²	2 x 0.75 mm ²
Protective earth connection	Yes	Yes	Yes	No
Type of mounting	M2.5 central screw	M2.5 central screw	M2.5 central screw	M2.5 central screw
Mounting position	Any	Any	Any	Any
Cable properties	–	–	–	Standard
Protection class to EN 60529	IP65 (assembled)	IP65 (assembled)	IP65 (assembled)	IP65 (assembled)

Materials

Type	KMEB-1	KMEB-2	KMEB-2-24-M12	KMEB-3
Housing	PA	PA, POM	PA, POM	PC
Pin contact	Bronze	Bronze	Bronze	Silver-plated bronze
Cable sheath	PVC	PUR	TPE-U (PU)	PVC
Note on materials	–	RoHS-compliant	–	–

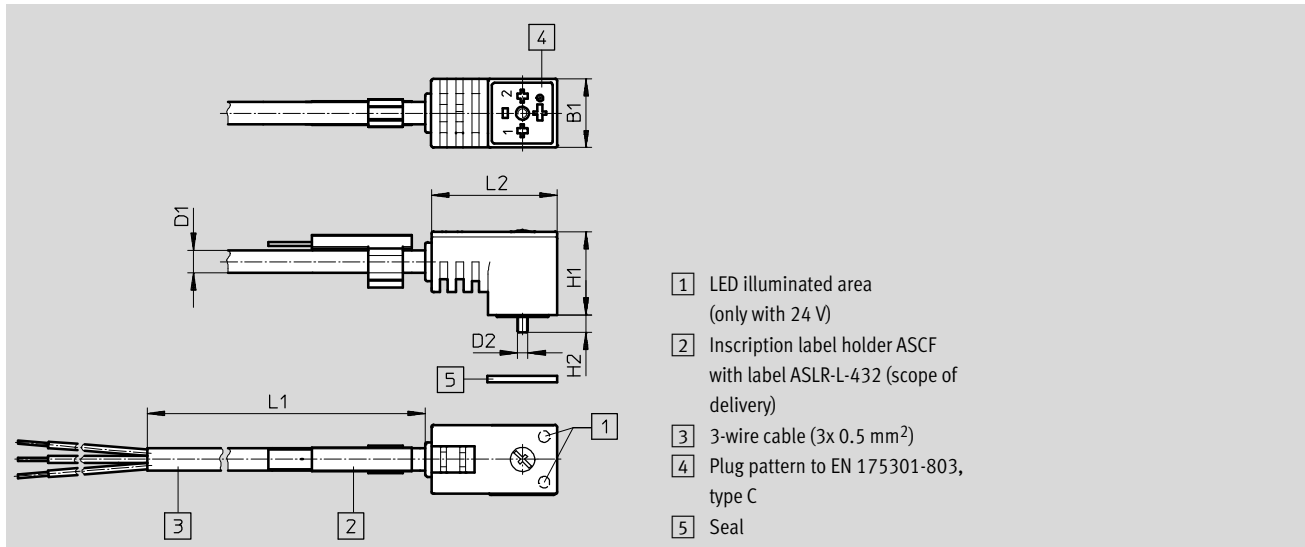
Operating and environmental conditions

Type	KMEB-1-24	KMEB-1-230	KMEB-2	KMEB-2-24-M12	KMEB-3
Ambient temperature [°C]	–20 ... +80	–20 ... +80	–20 ... +80	–5 ... +50	–20 ... +80
CE mark (see declaration of conformity)	–	To EU Low Voltage Directive	–	–	To EU Low Voltage Directive

Dimensions

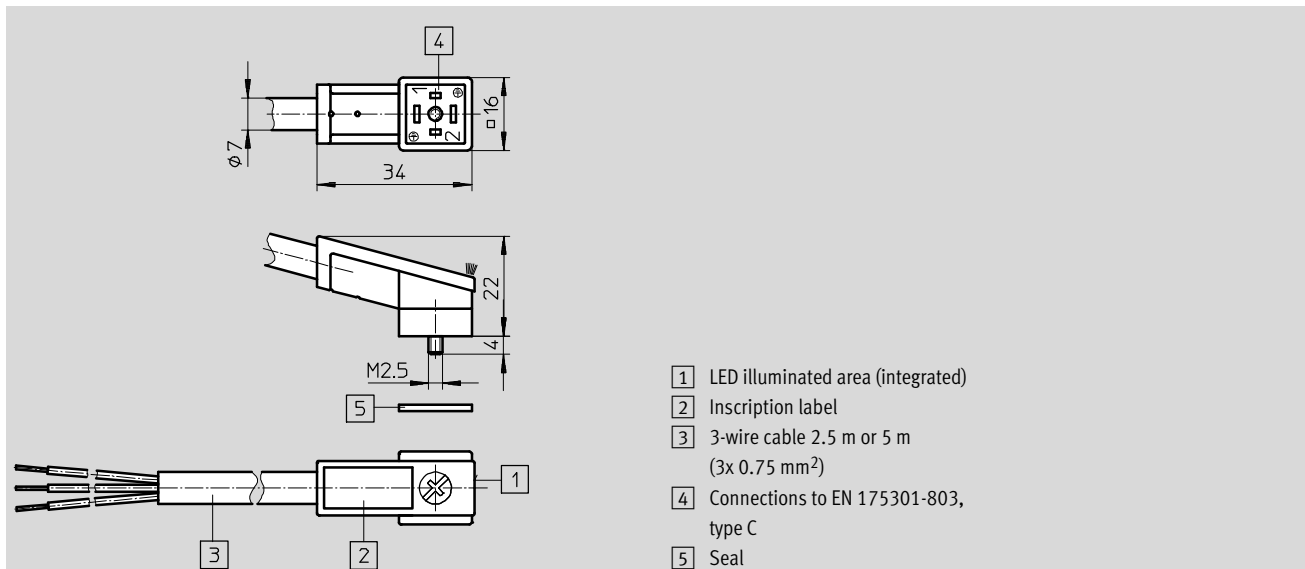
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KMEB-1

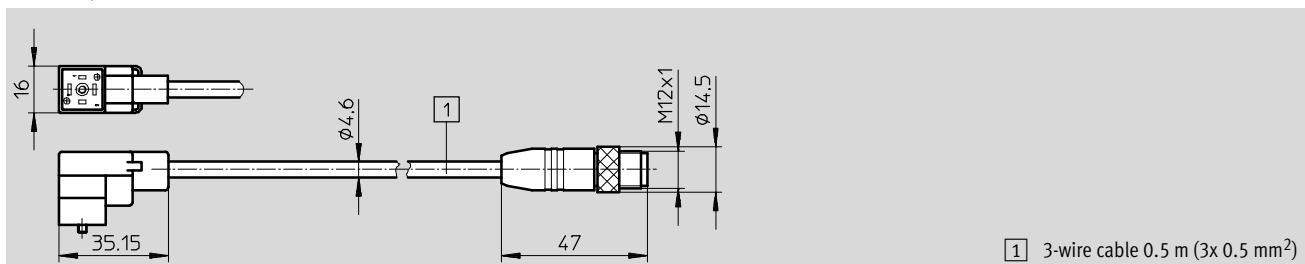


Type	D1	D2	L1	L2	H1	H2	B1
KMEB-1-...-2,5	5.2	2.5	2,500	29.1	19.3	4	16
KMEB-1-...-5	5.2	2.5	5,000	29.1	19.3	4	16
KMEB-1-...-10	5.2	2.5	10,000	29.1	19.3	4	16

KMEB-2



KMEB-2-24-M12

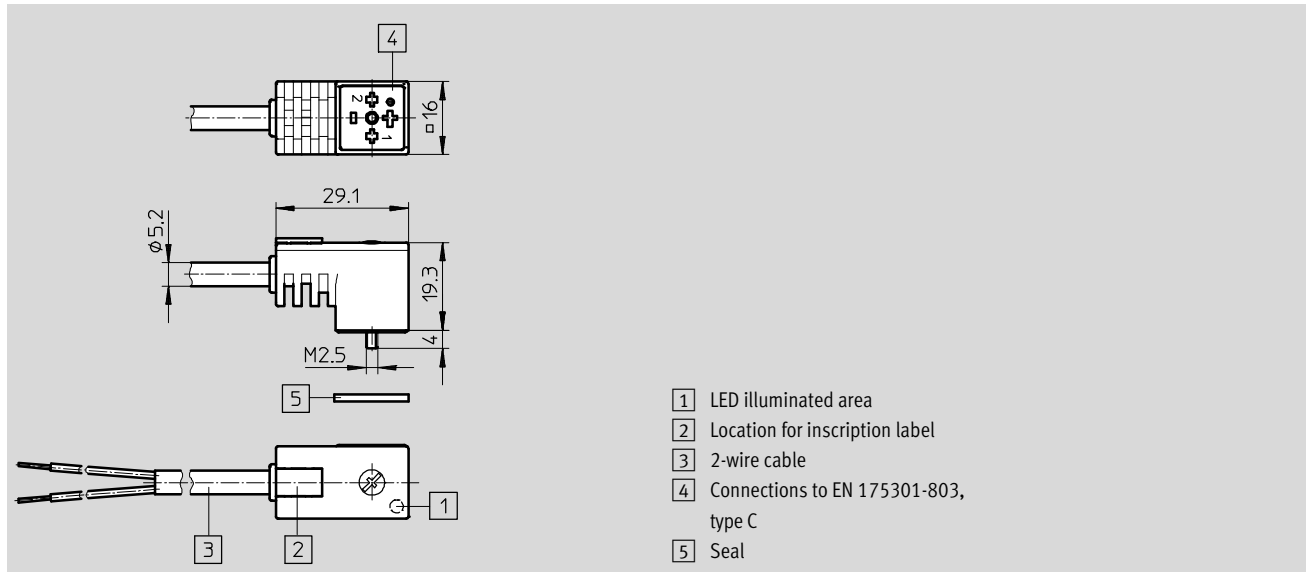


1 3-wire cable 0.5 m (3x 0.5 mm²)

Dimensions

Download CAD data → www.festo.com

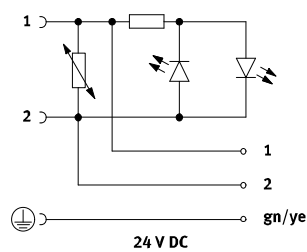
KMEB-3



4

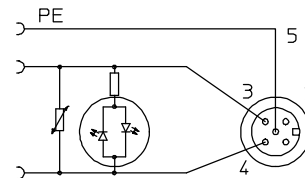
Circuitry

KMEB-1/KMEB-3 with integrated signal status display

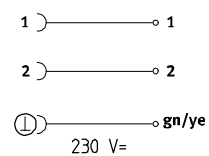


The 24 V DC version is reverse polarity protected and has a protective circuit for peak voltages of up to 100 V DC as well as an operating status indicator with yellow LED. (No gn/ye connection with KMEB-3.)

KMEB-2-24-M12

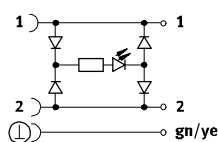


KMEB-1/KMEB-3 without integrated signal status display



For KMEB-3
 – No gn/ye connection
 – Operating voltage 24 V DC

KMEB-2



Ordering data

	Signal status display	Cable sheath material	Operating voltage [V]	Cable length [m]	Weight [g]	Part No.	Type
KMEB-1							
	LED	PVC	24 DC	2.5	125	151688	KMEB-1-24-2,5-LED
				5	230	151689	KMEB-1-24-5-LED
				10	460	193457	KMEB-1-24-10-LED
	–	PVC	230 AC	2.5	125	151690	KMEB-1-230AC-2,5
				5	230	151691	KMEB-1-230AC-5
KMEB-2							
	LED	PUR	24 DC	2.5	200	174844	KMEB-2-24-2,5-LED
				5	400	174845	KMEB-2-24-5-LED
	–	PUR	230 AC	2.5	200	174846	KMEB-2-230-2,5
				5	400	174847	KMEB-2-230-5
KMEB-2-24-M12							
	LED	TPE-U (PU)	24 DC	0.5	54	177677	KMEB-2-24-M12-0,5-LED
KMEB-3							
	LED	PVC	24 DC	2.5	120	547268	KMEB-3-24-2,5-LED
				5	230	547269	KMEB-3-24-5-LED
	–	PVC	24 DC	2.5	120	547270	KMEB-3-24-2,5
				5	230	547271	KMEB-3-24-5

Ordering data – Accessories

	Description	Use	Part No.	Type
	Inscription labels 6x10 mm, 64 pieces, in frames	KMEB-3	18576	IBS-6x10
	Inscription labels 9x20 mm, 20 pieces, in frames	KMEB-2	18182	IBS-9x20

Plug socket with cable KME

- Plug socket with cable for valves with E solenoid coils
- Pre-assembled
- Cable lengths 2.5 to 10 m



General technical data

Electrical connection	Angled socket, square design, 3-pin, type C (industrial type)	
	Open end, 2-wire	
Switching position display	LED	
Protective earth connection	Not present	
Nominal operating voltage	[V DC]	24
Acceptable current load	[A]	4
Cable composition	[mm ²]	2x0.75
Cable diameter	[mm]	5.2
Cable diameter tolerance	[mm]	±0.1
Min. cable bending radius	[mm]	52
Cable properties	For static applications	
Type of mounting	On solenoid valve via central screw M3	
Tightening torque of plug socket	[Nm]	Max. 0.35
Mounting position	Any	
Degree of protection to EN 60529	IP67 (assembled)	

Materials

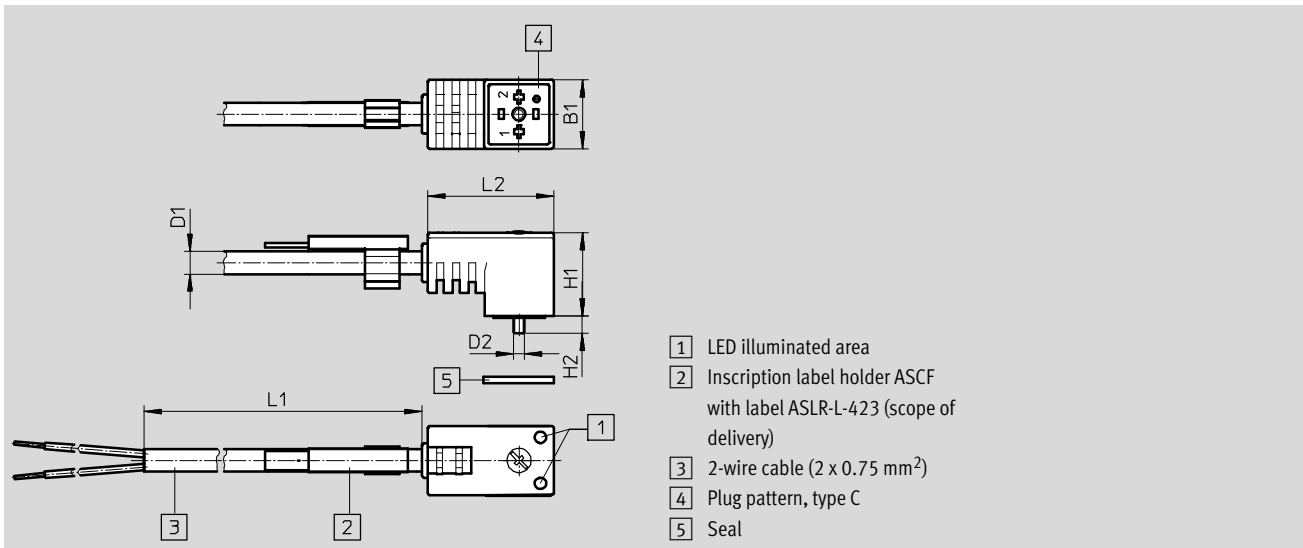
Housing	TPE-U(PU)
Seals	NBR
Pin contact	Bronze
Cable sheath	PVC

Operating and environmental conditions

Ambient temperature	[°C]	-20 ... +80
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Dimensions

Download CAD data → www.festo.com



Type	B1	D1	D2	H1	H2	L1	L2
KME-1-24DC-2,5-LED	16	5.2	M3	19.3	4	2500	29.1
KME-1-24DC-5-LED						5000	
KME-1-24-10-LED						10000	

Ordering data

Electrical connection	Product weight [g]	Length [m]	Part No.	Type
Angled socket, square design, 3-pin, type C	135	2.5	30943	KME-1-24DC-2,5-LED
	280	5	30945	KME-1-24DC-5-LED
	570	10	193455	KME-1-24-10-LED

Connecting cables for valves

KMYZ-2 – Technical data

FESTO

Plug socket with cable KMYZ-2

- Plug socket with cable for valves with ZB solenoid coils
- Pre-assembled
- Cable lengths 0.5 to 10 m



General technical data

Type	KMYZ-2-24	KMYZ-2-24-M8
Electrical connection	Angled socket, 2-pin, square design	Angled socket, 2-pin, square design
	Open cable end	Straight plug, 3-pin, M8x1
Switching position display	LED	
Nominal operating voltage [V DC]	24	
Acceptable current load [A]	1 at 40 °C	
Cable composition [mm ²]	2x0.25	
Cable diameter [mm]	3.4	
Protective earth connection	No	
Type of mounting	On solenoid valve via self-tapping screw	
Mounting position	Any	
Protection class to EN 60529	IP65 (assembled)	

Materials

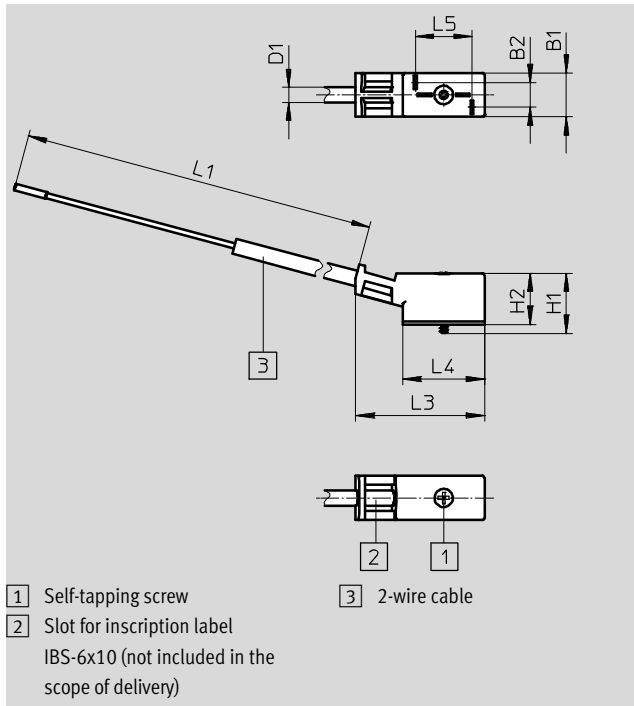
Housing	PA
Pin contact	Bronze
Cable sheath	Polyurethane
Note on materials	RoHS-compliant

Operating and environmental conditions

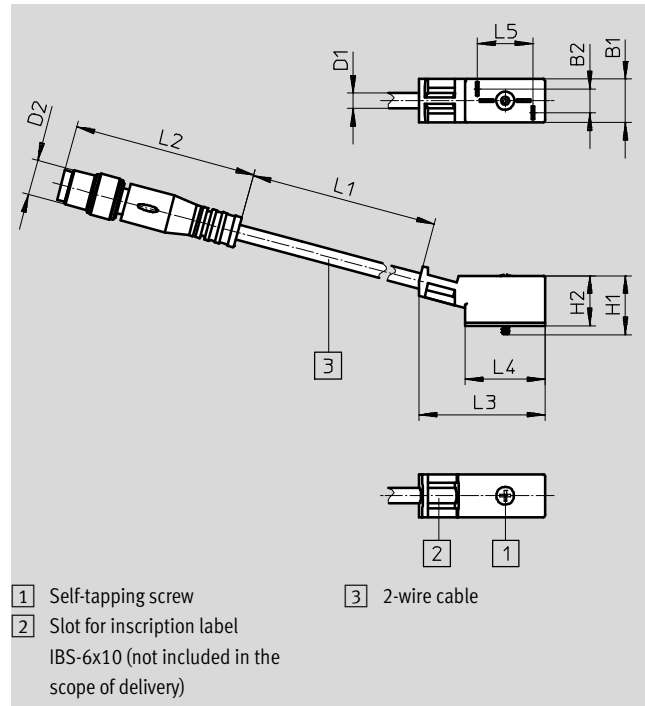
Ambient temperature [°C]	-10 ... +50
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Dimensions

KMYZ-2-24



KMYZ-2-24-M8



Type	B1	B2	D1	D2	H1	H2	L1	L2	L3	L4	L5
KMYZ-2-24-2,5-LED	10	5	3.4	-	13	11	2,500	-	28	18	13
KMYZ-2-24-5-LED							5,000				
KMYZ-2-24-10-LED							10,000				
KMYZ-2-24-M8-0,5-LED	10	5	3.4	M8	13	11	500	41	28	18	13
KMYZ-2-24-M8-2,5-LED							2,500				

Ordering data

	Electrical connection	Weight	Cable length	Part No.	Type
	Open cable end, 2-wire	50 g	2.5 m	34997	KMYZ-2-24-2,5-LED
		90 g	5 m	34998	KMYZ-2-24-5-LED
		170 g	10 m	193443	KMYZ-2-24-10-LED
	Straight plug, 3-pin, M8x1	18 g	0.5 m	177676	KMYZ-2-24-M8-0,5-LED
		54 g	2.5 m	177678	KMYZ-2-24-M8-2,5-LED

Ordering data – Accessories

	Description	Part No.	Type
	Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10

Connecting cables for valves

KMYZ-3 – Technical data

FESTO

Plug socket with cable KMYZ-3

- Plug socket with cable for the fast-switching valves MH2/MH3 with ZC solenoid coils
- Pre-assembled
- Cable lengths 0.5 to 10 m



General technical data

Type	KMYZ-3-24	KMYZ-3-24-M8
Electrical connection	Angled socket, 2-pin, square design	Angled socket, 2-pin, square design
	Open cable end, 2-wire	Straight plug, 3-pin, M8x1
Switching position display	LED	
Nominal operating voltage [V DC]	24	
Cable composition [mm ²]	2x0.25	
Cable diameter [mm]	3.4	
Protective earth connection	No	
Type of mounting	On solenoid valve via M2 central screw	
Mounting position	Any	
Protection class to EN 60529	IP65 (assembled)	

Materials

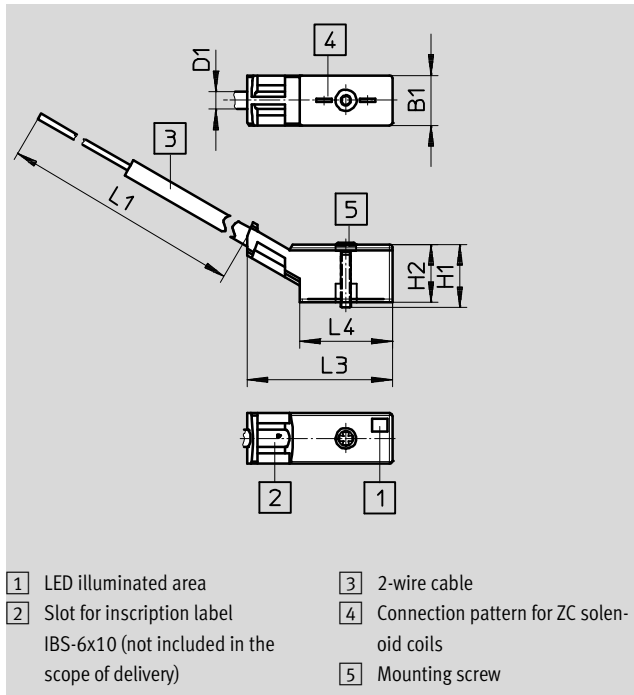
Housing	Polyamide
Pin contact	Bronze
Cable sheath	Polyurethane
Note on materials	RoHS-compliant

Operating and environmental conditions

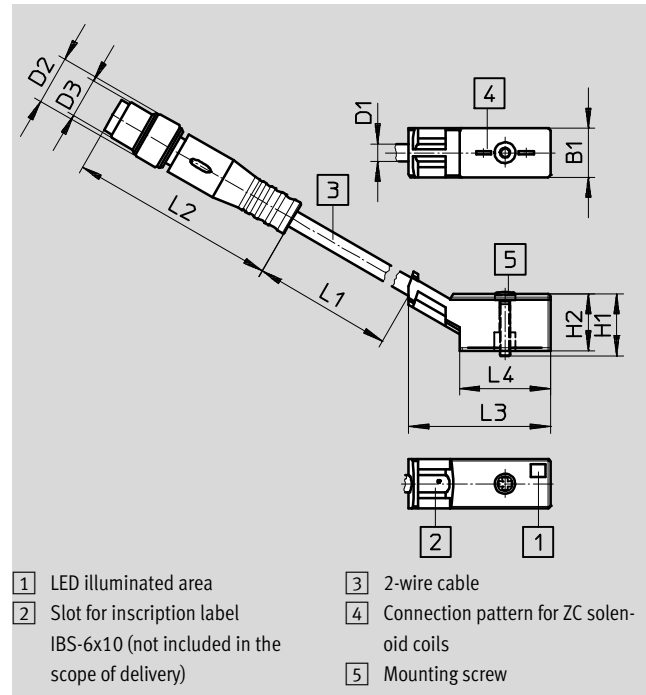
Ambient temperature [°C]	-10 ... +50
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Dimensions

KMYZ-3-24



KMYZ-3-24-M8



- 1 LED illuminated area
- 2 Slot for inscription label IBS-6x10 (not included in the scope of delivery)
- 3 2-wire cable
- 4 Connection pattern for ZC solenoid coils
- 5 Mounting screw

- 1 LED illuminated area
- 2 Slot for inscription label IBS-6x10 (not included in the scope of delivery)
- 3 2-wire cable
- 4 Connection pattern for ZC solenoid coils
- 5 Mounting screw

Type	B1	D1 · σ	D2 · σ	D3 · σ	H1	H2	L1	L2	L3	L4
KMYZ-3-24-2,5-LED-PUR-B	9.7	3.4	-	-	12.25	12.15	500	-	28.1	18
KMYZ-3-24-5-LED-PUR-B							2,500			
KMYZ-3-24-10-LED-PUR-B							10,000			
KMYZ-3-24-M8-0,5-LED-PUR	9.7	3.4	9.7	M8X1	12.25	12.15	500	41.1	28.1	18
KMYZ-3-24-M8-2,5-LED-PUR							2,500			

Ordering data

	Electrical connection	Weight	Cable length	Part No.	Type
	Open cable end, 2-wire	50 g	2.5 m	193693	KMYZ-3-24-2,5-LED-PUR-B
		90 g	5 m	193695	KMYZ-3-24-5-LED-PUR-B
		170 g	10 m	196066	KMYZ-3-24-10-LED-PUR-B
	Straight plug, M8x1, 3-pin	18 g	0.5 m	525654	KMYZ-3-24-M8-0,5-LED-PUR
		54 g	2.5 m	525655	KMYZ-3-24-M8-2,5-LED-PUR

Ordering data – Accessories


	Description	Part No.	Type
	Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10



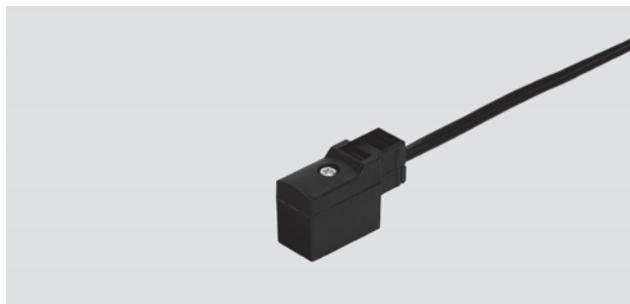
Connecting cables for valves

KMYZ-4 – Technical data

FESTO

•  Temperature range
-10 ... +50 °C




- For valves with ZB and ZC solenoid coils
- Variant KMYZ-4-...-B for fast-switching valves MH2/MH3
- Variant KMYZ-4-...-B-EX for use with intrinsically safe CPV valve terminals



General technical data

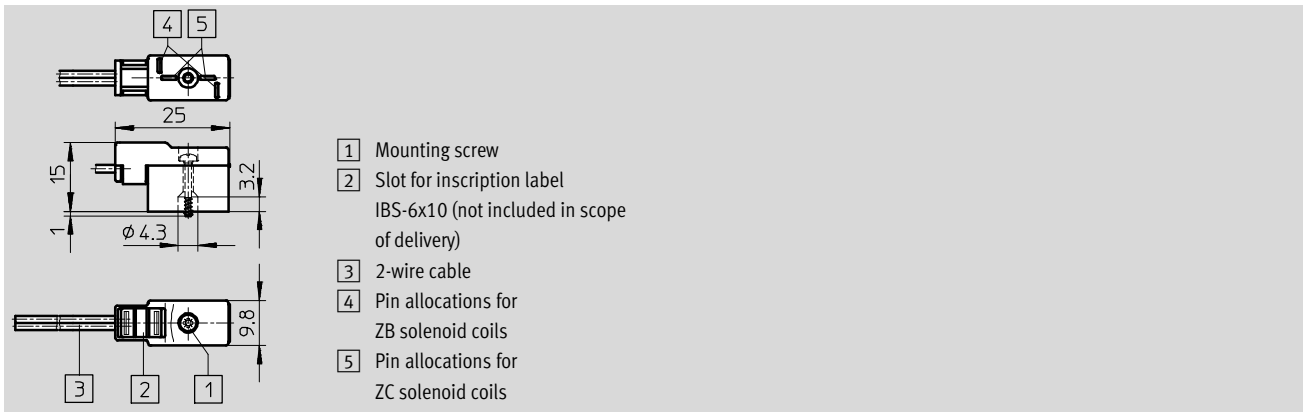
Type	KMYZ-4-...-B	KMYZ-4	KMYZ-4-...-B-EX
Electrical connection	Angled socket, square design MSZC	Angled socket, square design MSZB	Angled socket, square design MSZB
Number of pins	2		
Cable design	[mm ²] 2x0.35		
Cable diameter	[mm] 3.9		
Type of mounting	Central screw M2	Self-tapping central screw	Central screw M2
Protection class to EN 60529	IP40 (assembled)		
Operating voltage range	[V DC] 3 ... 36		
Nominal operating voltage	[V DC] 24		
Mounting position	Any		
Ambient temperature	[°C] -10 ... +50		
Material	Housing	PA	
	Cable sheath	PVC	
	Plug contacts	Bronze	
Note on material	Conforms to RoHS		
Certification	Germanischer Lloyd	-	Germanischer Lloyd

Ordering data

	Description	Product weight [g]	Cable length [m]	Part No.	Type
With central screw M2					
	Plug socket with cable for valves with ZC solenoid coils	10	0.5	193690	KMYZ-4-24-0,5-B
		32	2.5	193691	KMYZ-4-24-2,5-B
With self-tapping central screw					
	Plug socket with cable for valves with ZB and ZC solenoid coils	10	0.5	185519	KMYZ-4-24-0,5
		32	2.5	185520	KMYZ-4-24-2,5
With central screw M2 for use with intrinsically safe CPV valve terminals					
	Plug socket with cable for CPV valves	12	0.5	550324	KMYZ-4-0,5-B-EX
		34.5	2.5	550481	KMYZ-4-2,5-B-EX
		62.5	5	550482	KMYZ-4-5,0-B-EX

Dimensions

Download CAD data → www.festo.com



Connecting cables for valves

KMYZ-9 – Technical data

FESTO

Plug socket with cable KMYZ-9

- Plug socket with cable for valves with ZC solenoid coils (CPE10/CPE14)
- Pre-assembled
- Cable lengths 0.2 to 10 m



General technical data

Type	KMYZ-9-24-...-PUR-B	KMYZ-9-24-M8-...-LED-B	KMYZ-9-24-AD-0,2-LED-B	KMYZ-9-24-AD-0,2-B
Electrical connection	Angled socket, 2-pin, square design			
	Open cable end, 2-wire	Straight plug, 3-pin, M8x1	Angled plug, 2-pin, square design	Angled plug, 2-pin, square design
Switching position display	LED	LED	LED	–
Additional functions	Reduction of retaining current	Reduction of retaining current	Reduction of retaining current	–
Nominal operating voltage [V DC]	24			
Cable composition [mm ²]	2x0.25			
Cable diameter [mm]	3.4			
Protective earth connection	No			
Type of mounting	On solenoid valve via M2 central screw			
Tightening torque [Nm]	0.25			
Mounting position	Any			
Protection class to EN 60529	IP65 (assembled)			

Materials

Housing	Polyamide
Pin contact	Bronze
Cable sheath	TPE-U(PUR)
Note on materials	RoHS-compliant

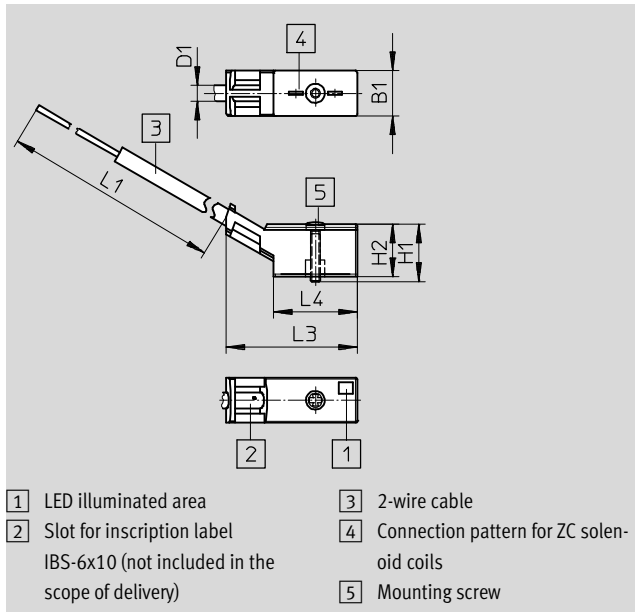
Operating and environmental conditions

Ambient temperature [°C]	–10 ... +50
CE marking (see declaration of conformity)	To EU EMC Directive

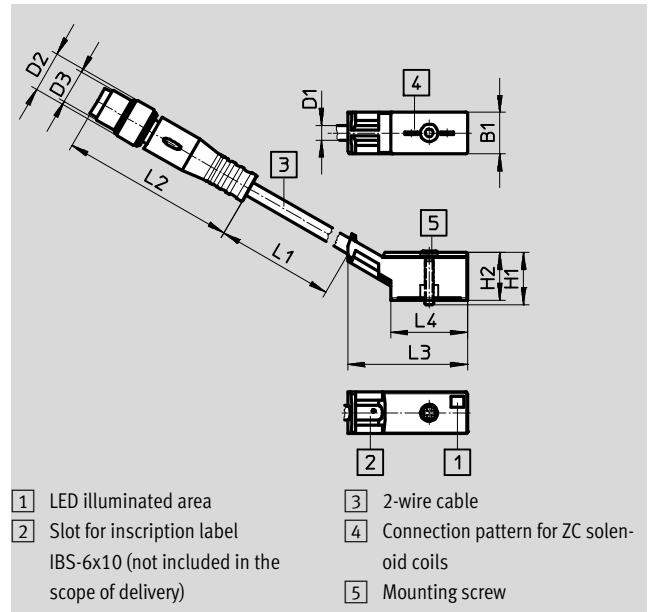
Download CAD data → www.festo.com

Dimensions

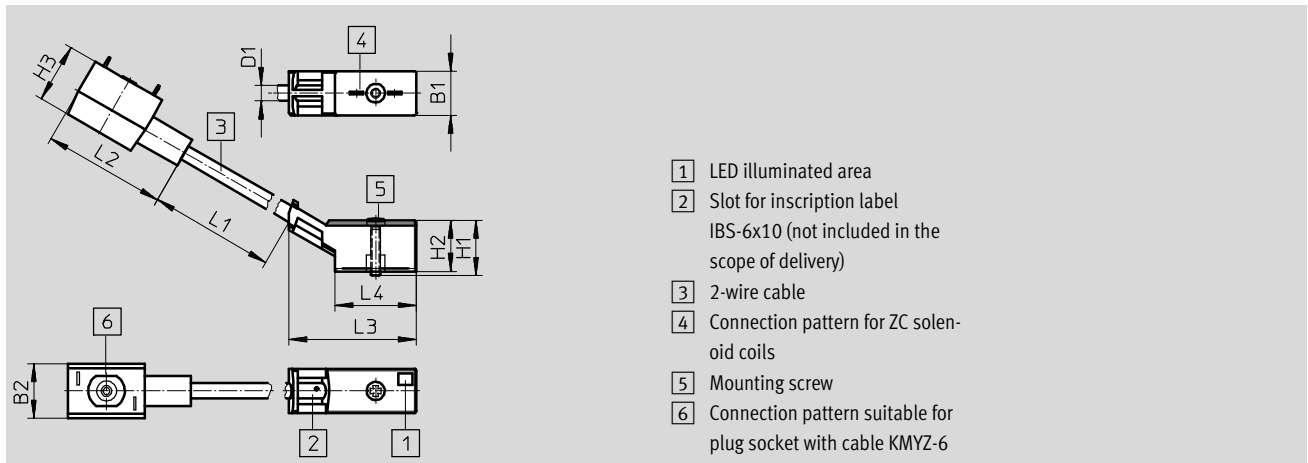
KMYZ-9-24



KMYZ-9-24-M8



KMYZ-9-24-AD



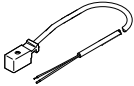
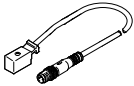
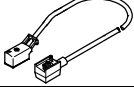
Type	B1	B2	D1 -Ø-	D2 -Ø-	D3 -Ø-	H1	H2	H3	L1	L2	L3	L4
KMYZ-9-24-2,5-LED-PUR-B	9.7	-	3.4	-	-	12.25	12.15	-	2,500	-	28.1	18
KMYZ-9-24-5-LED-PUR-B									5,000			
KMYZ-9-24-10-LED-PUR-B									10,000			
KMYZ-9-24-M8-0,5-LED-PUR	9.7	-	3.4	9.7	M8X1	12.25	12.15	-	500	41.1	28.1	18
KMYZ-9-24-M8-2,5-LED-PUR									2,500			
KMYZ-9-24-AD	9.7	12	3.4	-	-	12.25	12.15	13	200	27	28.1	18

Connecting cables for valves

KMYZ-9 – Technical data

FESTO

Ordering data

	Electrical connection	Switching position display	Weight	Cable length	Part No.	Type
	Open cable end, 2-wire	LED	50 g	2.5 m	193687	KMYZ-9-24-2,5-LED-PUR-B
		LED	90 g	5 m	193689	KMYZ-9-24-5-LED-PUR-B
		LED	170 g	10 m	196063	KMYZ-9-24-10-LED-PUR-B
	Straight plug, M8x1, 3-pin	LED	18 g	0.5 m	196064	KMYZ-9-24-M8-0,5-LED-B
		LED	54 g	2.5 m	196065	KMYZ-9-24-M8-2,5-LED-B
	Angled plug, square design, 2-pin	LED	18 g	0.2 m	530942	KMYZ-9-24-AD-0,2-LED-B
		–	18 g	0.2 m	547449	KMYZ-9-24-AD-0,2-B

Ordering data – Accessories

	Description	Part No.	Type
	Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10

Plug socket with cable KMYZ-7

- Plug socket with cable for connecting individual valves CPV/CPA10/14
- Pre-assembled
- Cable lengths 2.5 m, 5 m and 10 m
- With LEDs and protective circuit
- With integrated holding current reduction



General technical data

Electrical connection	Angled socket, 2-pin, square design
	Open cable end, 2-wire
Switching position display	LED
Additional functions	Holding current reduction
Nominal operating voltage [V DC]	24
Cable composition [mm ²]	2x0.25
Cable diameter [mm]	3.4
Protective earth connection	No
Type of mounting	On solenoid valve via self-tapping screw
Tightening torque [Nm]	0.25
Mounting position	Any
Protection class to EN 60529	IP65 (assembled)

Materials

Housing	Polyamide
Pin contact	Bronze
Cable sheath	TPE-U(PUR)
Note on materials	RoHS-compliant

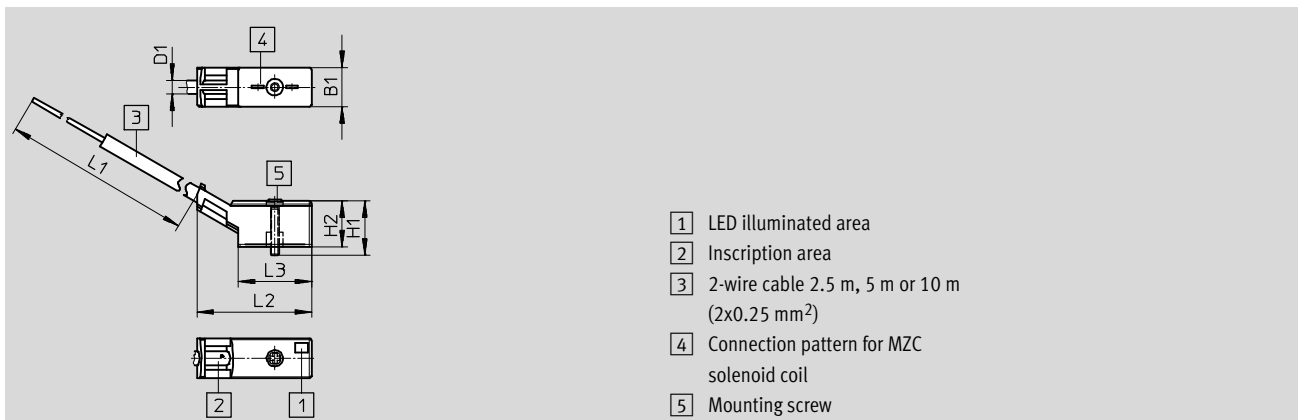
Operating and environmental conditions

Ambient temperature [°C]	-10 ... +50
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Dimensions

Download CAD data → www.festo.com



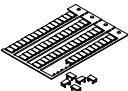
Type	B1	D1	H1	H2	L1	L2	L3
KMYZ-7-24-2,5-LED-PUR	9.7	3.4	13.25	12.15	2,500	28.1	18
KMYZ-7-24-5-LED-PUR	9.7	3.4	13.25	12.15	5,000	28.1	18
KMYZ-7-24-10-LED-PUR	9.7	3.4	13.25	12.15	10,000	28.1	18

4

Ordering data

Electrical connection	Switching position display	Weight	Cable length	Part No.	Type
Angled socket, square design, 2-pin	LED	50 g	2.5 m	193683	KMYZ-7-24-2,5-LED-PUR
Open cable end, 2-wire	LED	90 g	5 m	193685	KMYZ-7-24-5-LED-PUR
	LED	170 g	10 m	196070	KMYZ-7-24-10-LED-PUR

Ordering data – Accessories

Description	Part No.	Type
 Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10

Connecting cable KRP

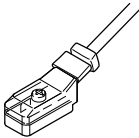
- Plug socket with cable for connecting relay plates, (valve terminal CPV10 and CPV14)
- Pre-assembled
- Cable lengths: 2.5 m and 5 m
- 2-pin plug socket
- Not suitable for chain link trunking



General technical data

Type	KRP...
Electrical connection	Angled socket, 2-pin
Type of mounting	Self-tapping central screw KB 18x9
Mounting position	Any
Operating voltage range [V]	20 ... 26 DC
Current-carrying capacity [A]	1
Cable diameter [mm]	3.5
Protection class to EN 60 529	IP65 (assembled)
Material of housing	Polyurethane
Material of contacts	Bronze
Material of cable sheath	Polyvinyl chloride
Ambient temperature [°C]	-10 ... +50

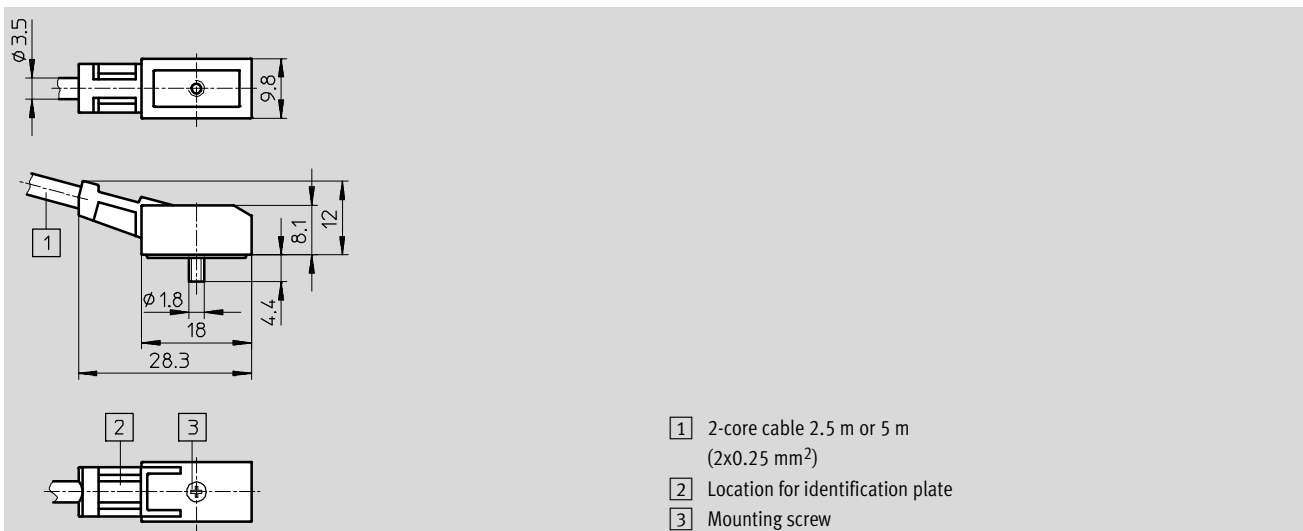
Ordering data

	Constructional design [mm ²]	Product weight [g]	Cable length [m]	Type	Part No.
	2x0.25	49	2.5	KRP-1-24-2,5	165 612
	2x0.25	94	5	KRP-1-24-5	165 613

Dimensions

Download CAD data → www.festo.com

KRP...



- 1 2-core cable 2.5 m or 5 m (2x0.25 mm²)
- 2 Location for identification plate
- 3 Mounting screw

Connecting cables for valves

NEBV-HSG2 – Technical data

FESTO

Connecting cable NEBV-HSG2

- Connecting cable for VUVG valves
- Pre-assembled
- Cable lengths 0.5 to 5 m
- For connecting to electrical connection box VAVE-L1-...S



General technical data

Electrical connection	Socket, 2-pin	
Nominal operating voltage	[V DC]	0 ... 30
Wire insulation colour code	Pin1	Black
	Pin2	Red
Type of mounting	Clip	
Mounting position	Any	
Protection class to EN 60529	IP40	

Materials

Type	NEBV-HSG2-KN	NEBV-HSG2-P
Housing	POM	POM
Housing colour	Black	Black
Pin contact	Tin-plated copper alloy	Tin-plated copper alloy
Cable sheath	–	PUR
Cable sheath colour	–	Grey
Insulating sheath	PVC	PVC
Cable properties	–	Suitable for use with energy chains
Note on materials	RoHS-compliant	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	–5 ... +60
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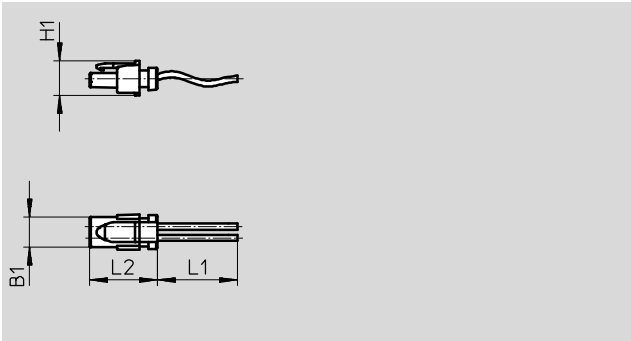
Circuitry (view of socket)

	Pin	Wire colour
	1	Black
	2	Red

4

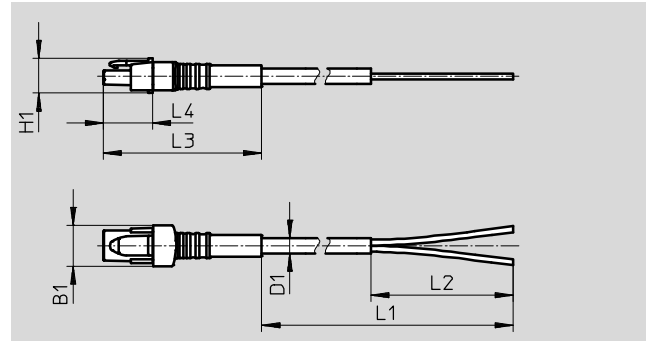
Dimensions

NEBV-HSG2-KN



Type	B1	H1	L1	L2
NEBV-HSG2-KN-0.5-N-LE2	7.8	7.7	500	15
NEBV-HSG2-KN-1-N-LE2			1000	
NEBV-HSG2-KN-2.5-N-LE2			2500	
NEBV-HSG2-KN-5-N-LE2			5000	

NEBV-HSG2-P



Type	B1	D1	H1	L1	L2	L3	L4
NEBV-HSG2-P-0.5-N-LE2	9	3.4	7.7	500	50	35.2	11
NEBV-HSG2-P-1-N-LE2				1000			
NEBV-HSG2-P-2.5-N-LE2				2500			
NEBV-HSG2-P-5-N-LE2				5000			

Ordering data

Electrical connection	Cable composition	Product weight [g]	Length [m]	Part No.	Type
Straight socket, 2-pin	2 individual cables	4	0.5	566662	NEBV-HSG2-KN-0.5-N-LE2
		7	1	566663	NEBV-HSG2-KN-1-N-LE2
		17	2.5	566664	NEBV-HSG2-KN-2.5-N-LE2
		31	5	566665	NEBV-HSG2-KN-5-N-LE2
	2-wire cable	8	0.5	566666	NEBV-HSG2-P-0.5-N-LE2
		16	1	566667	NEBV-HSG2-P-1-N-LE2
		35	2.5	566668	NEBV-HSG2-P-2.5-N-LE2
		70	5	566669	NEBV-HSG2-P-5-N-LE2

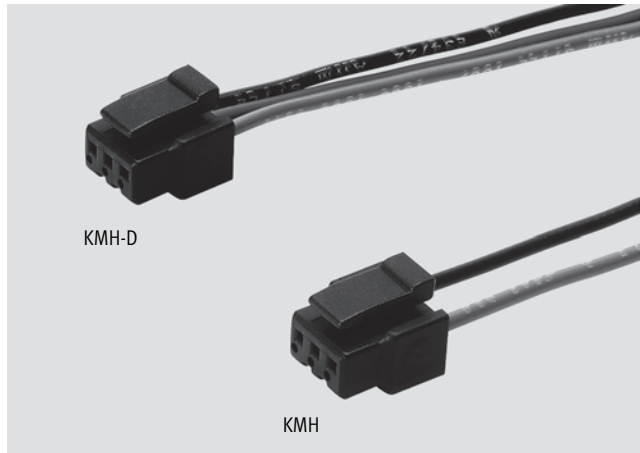
Connecting cables for valves

KMH, for individual connection – Technical data

FESTO

Plug socket with cable KMH

- Plug socket with cable for the horizontal connection of individual valves (type CPA-SC1)
- Pre-assembled
- Cable lengths 0.5 m, 1 m, 2.5 m or 5 m
- 3-pin plug socket
- Not suitable for chain link trunking
- KMH-D for 2 coils



General technical data

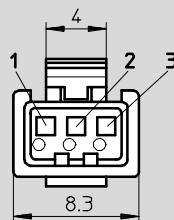
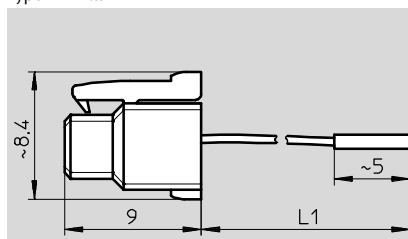
Type	KMH...	
Electrical connection	3-pin plug socket	
Type of mounting	Clip	
Mounting position	Any	
Operating voltage	[V]	60 DC
Current-carrying capacity	[A]	3
Cable diameter	[mm]	1.3
Protection class to EN 60 529	IP40	
Material of housing	Polyacetal	
Material of contacts	Tin-plated bronze	
Material of cable sheath	Polyvinyl chloride	
Ambient temperature	[°C]	-40 ... +105

Ordering data

	Constructional design [mm ²]	Product weight [g]	Cable length (L1) [m]	Type	Part No.
	2x0.14	4	0.5	KMH-0,5	197 263
	2x0.14	7	1	KMH-1	197 264
	2x0.14	17	2.5	KMH-2,5	527 400
	2x0.14	31	5	KMH-5	527 401
	3x0.14	6	0.5	KMH-D-0,5	527 396
	3x0.14	11	1	KMH-D-1	527 397
	3x0.14	24	2.5	KMH-D-2,5	527 398
	3x0.14	46	5	KMH-D-5	527 399

Dimensions

Type KMH...

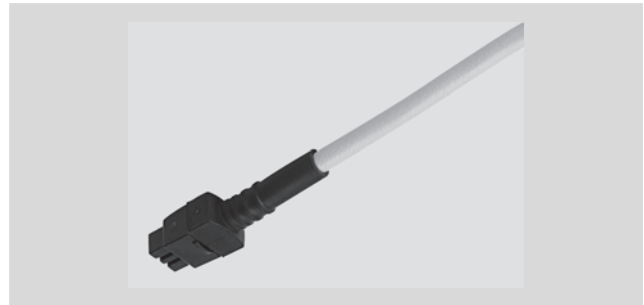


Download CAD data → www.festo.com

- 1 Pin 1, core colour black
 - 2 Pin 2, core colour blue
 - 3 Pin 3, core colour red
- L1 Length according to type (0.5 m, 1 m, 2.5 m or 5 m)

Connecting cable NEBV-H1G2

- Connecting cable for VUVG valves
- Pre-assembled
- Cable lengths 0.5 to 5 m
- For connecting to electrical connection box VAVE-L1-...H
- Suitable for valves with MH connection



General technical data

Electrical connection	Socket, 2-pin
Nominal operating voltage [V DC]	0 ... 30
Wire insulation colour code	Pin1 Red Pin3 Black
Type of mounting	Clip
Mounting position	Any
Protection class to EN 60529	IP40

Materials

Type	NEBV-H1G2-KN	NEBV-H1G2-P
Housing	POM	POM
Housing colour	Black	Black
Pin contact	Tin-plated copper alloy	Tin-plated copper alloy
Cable sheath	–	PUR
Cable sheath colour	–	Grey
Insulating sheath	PVC	PVC
Cable properties	–	Suitable for use with energy chains
Note on materials	RoHS-compliant	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	–5 ... +60
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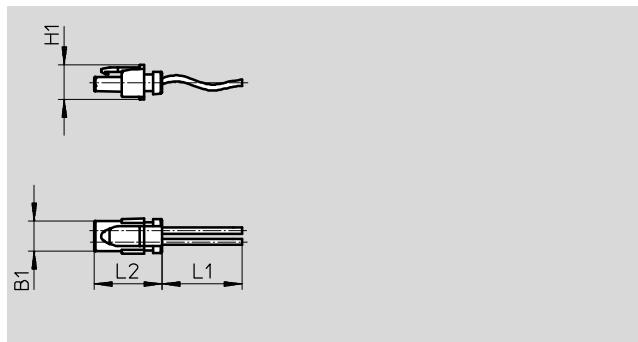
Circuitry (view of socket)

	Pin	Wire colour
	1	Red
	2	–
	3	Black

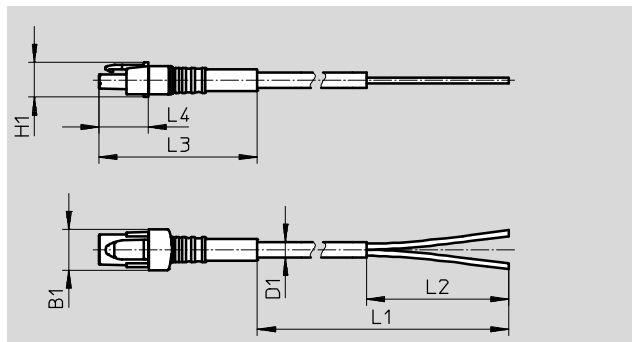
Dimensions

Download CAD data → www.festo.com

NEBV-H1G2-KN



NEBV-H1G2-P



Type	B1	H1	L1	L2
NEBV-H1G2-KN-0.5-N-LE2	8.3	8.4	500	13
NEBV-H1G2-KN-1-N-LE2			1000	
NEBV-H1G2-KN-2.5-N-LE2			2500	
NEBV-H1G2-KN-5-N-LE2			5000	

Type	B1	D1	H1	L1	L2	L3	L4
NEBV-H1G2-P-0.5-N-LE2	9	3.4	8.4	500	50	33.2	9
NEBV-H1G2-P-1-N-LE2				1000			
NEBV-H1G2-P-2.5-N-LE2				2500			
NEBV-H1G2-P-5-N-LE2				5000			

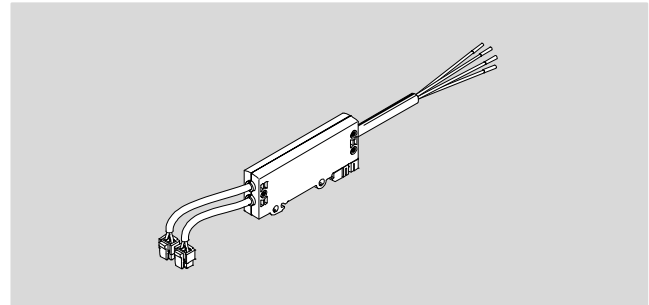
4

Ordering data

Electrical connection	Cable composition	Product weight [g]	Length [m]	Part No.	Type
Straight socket, 2-pin	2 individual cables	4	0.5	566654	NEBV-H1G2-KN-0.5-N-LE2
		7	1	566655	NEBV-H1G2-KN-1-N-LE2
		17	2.5	566656	NEBV-H1G2-KN-2.5-N-LE2
		31	5	566657	NEBV-H1G2-KN-5-N-LE2
	2-wire cable	8	0.5	566658	NEBV-H1G2-P-0.5-N-LE2
		16	1	566659	NEBV-H1G2-P-1-N-LE2
		35	2.5	566660	NEBV-H1G2-P-2.5-N-LE2
		70	5	566661	NEBV-H1G2-P-5-N-LE2

Connecting cable MHJ9-KMH

- For MHJ9 valves
- With plug sockets KMH
- Cable lengths 0.5 and 2.5 m



General technical data

Type	MHJ9-KMH-...-MF	MHJ9-KMH-...-HF
Electrical connection	2x straight socket KMH, 2-pin Cable, 4-wire	
Operating voltage range [V DC]	12 ... 53	
Control signal voltage range [V DC]	3 ... 30	
Note on power consumption per channel [W]	Low-current phase 2 High-current phase 7	Low-current phase 2.8 High-current phase 17.1
Notes on operation	Power supply unit must be able to supply at least 1.7 A without voltage dips	Power supply unit must be able to supply at least 1.85 A without voltage dips
Cable characteristics	For static applications	
Type of mounting	Via H-rail	
Mounting position	Any	
Protection class to EN 60529	IP40	

Materials

Housing	POM
Cable sheath	PVC
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-5 ... +50
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.
Max. permissible cable length 2.5 m.

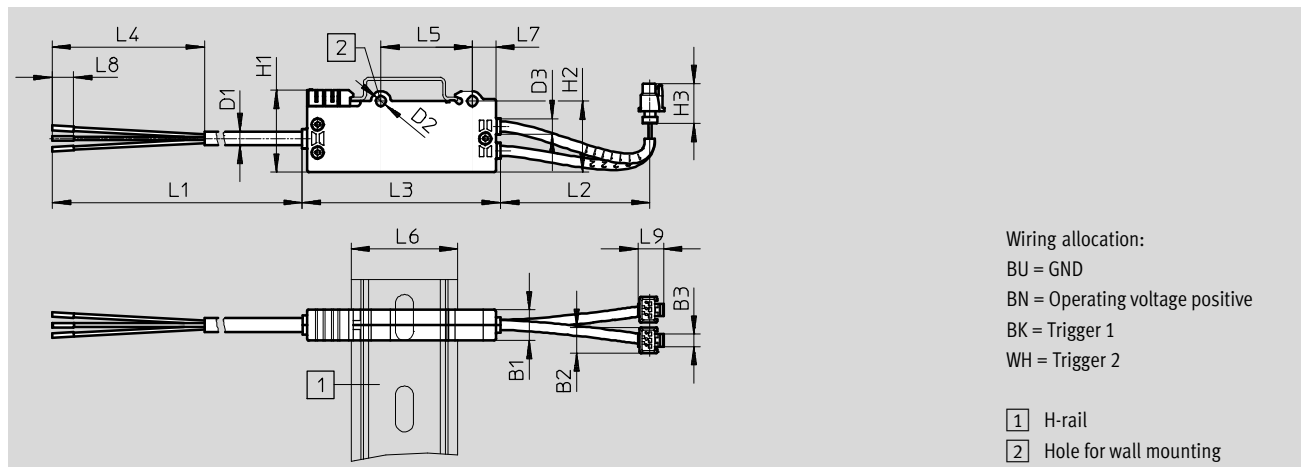
Connecting cables for valves

MHJ9-KMH – Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	D1	D2	D3	H1	H2	H3	L1	L2	L3	L4	L5	L6	L7	L8	L9
MHJ9-KMH-0,5	10	8	4	5	3.4	3.3	27	23	13	500	200	65	50	30	35	8	7	8
MHJ9-KMH-2,5										2,500								

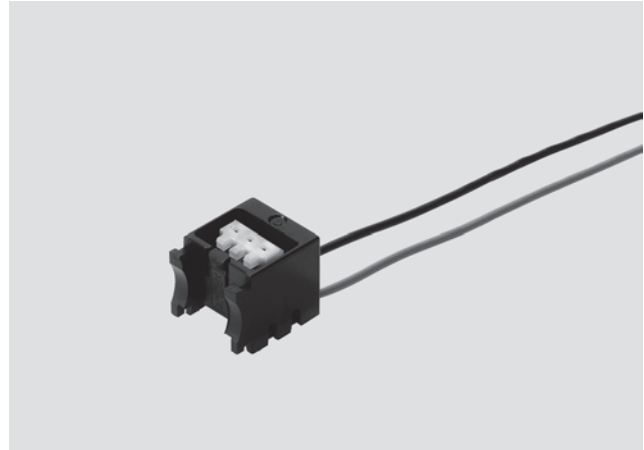
4

Ordering data

		Length	Weight	Part No.	Type
Connecting cable					
	With control electronics for 2 valves LF/LP, MF/LP and HF/LP	0.5 m	40 g	553121	MHJ9-KMH-0,5-MF
		2.5 m	98 g	565519	MHJ9-KMH-2,5-MF
	With control electronics for 2 valves HF	0.5 m	40 g	562170	MHJ9-KMH-0,5-HF
		2.5 m	98 g	567505	MHJ9-KMH-2,5-HF
H-rail					
	H-rail to EN 60715, galvanised steel	2 m	600 g	35430	NRH-35-2000

Electrical plug base MHAP-PI

- Plug base with cable for connecting individual valves (type CPA-SC1, plug-in)
- Pre-assembled
- Cable lengths 0.5 m or 1 m
- 3-pin plug socket
- Not suitable for chain link trunking



General technical data

Type	MHAP-PI...
Electrical connection	3-pin plug socket
Type of mounting	Clip
Mounting position	Any
Operating voltage [V]	60 DC
Current-carrying capacity [A]	3
Cable diameter [mm]	1
Protection class to EN 60 529	IP40
Material of housing	Polyamide
Material of contacts	Tin-plated copper
Ambient temperature [°C]	-20 ... +80
Storage temperature [°C]	-20 ... +50

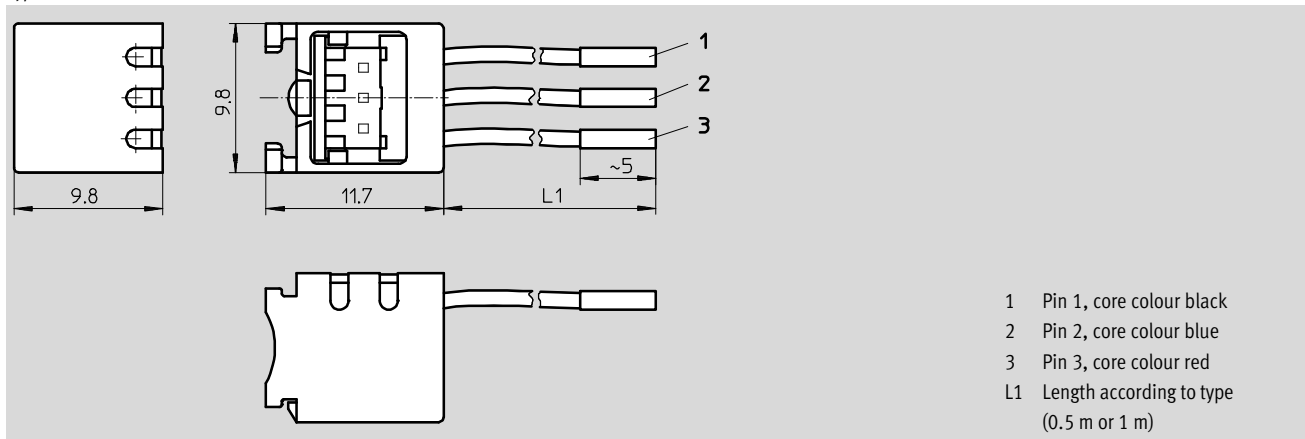
Ordering data

	Constructional design [mm ²]	Product weight [g]	Cable length (L1) [m]	Type	Part No.
	3x0.14	5	0.5	MHAP-PI-D-0,5	529 116
	3x0.14	8	1	MHAP-PI-D-1	527 395
	2x0.14	4	0.5	MHAP-PI	197 260
	2x0.14	6	1	MHAP-PI-1	532 182

Dimensions

Download CAD data → www.festo.com

Type MHAP-PI...



- 1 Pin 1, core colour black
- 2 Pin 2, core colour blue
- 3 Pin 3, core colour red
- L1 Length according to type (0.5 m or 1 m)

Connecting cables for valves


KMPYE, for proportional directional control valves MPYE – Technical data

FESTO

Connecting cable KMPYE



Ordering data

	Ordering data	Cable length [m]	Part No.	Type
	Straight socket, M12x1, A-coded, to EN 61076-2-101, screened	5	151909	KMPYE-5

Plug socket with cable KMPPE

- Plug socket with cable for proportional pressure regulators MPPE and MPPES
- Pre-assembled
- Cable lengths 2.5 and 5 m



General technical data

Electrical connection	Angled socket, 8-pin, M16
Nominal operating voltage [V DC]	24
Cable composition [mm ²]	8x0.25
Cable diameter [mm]	6.8
Type of mounting	M16x0.75 union nut
Mounting position	Any

Materials

Pin contact	Bronze
Cable sheath	PVC

Operating and environmental conditions

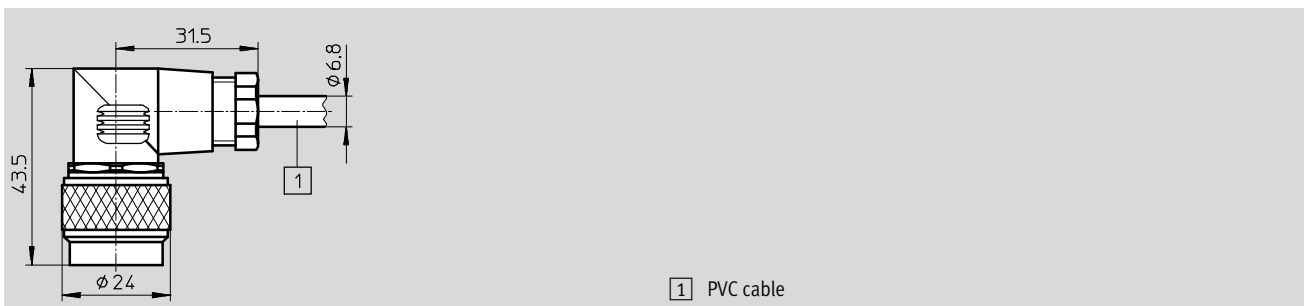
Ambient temperature [°C]	-30 ... +80
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Circuitry (socket view)

Socket	Pin	Wire colour
	1	White
	2	Brown
	3	Green
	4	Yellow
	5	Grey
	6	Pink
	7	Red
	8	Blue

Dimensions

Download CAD data → www.festo.com



Ordering data

Electrical connection	Product weight [g]	Length [m]	Part No.	Type
Angled socket, 8-pin, M16	243	2.5	161879	KMPPE-B-2,5
	459	5	161878	KMPPE-B-5

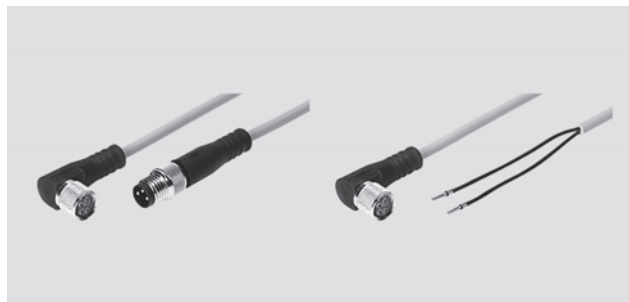
Connecting cables for valves

NEBV-M8W4L – Technical data

FESTO

Connecting cable NEBV-M8W4L

- For CPE10 and CPE14
- With round plug
- Cable lengths 2.5 to 10 m



General technical data

Type	NEBV-M8W4L-...-LE2	NEBV-M8W4L-...-M8G3
Electrical connection	Angled socket, M8x1, 4-pin Cable, 2-wire	Angled socket, M8x1, 4-pin Straight plug, M8x1, 3-pin
Operating voltage range [V DC]	20.4 ... 26.4	
Acceptable current load [A] at 40 °C	3	
Switching status display	Yellow LED	
Tightening torque [Nm]	0.3	
Cable composition [mm ²]	2x0.25	
Cable diameter [mm]	3.4	
Wire ends	Wire end sleeve	-
Conforms to	EN 61076-2-101, ISO 20401	
Cable characteristics	Suitable for use with energy chains	
Protection class to EN 60529	IP65 and IP67 (assembled)	

Materials

Housing	TPE-U (PU)
Pin contacts	Gold-plated brass
Insulating sheath	PVC
Cable sheath	Polyurethane
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-10 ... +50
Min. cable bending radius [mm]	35

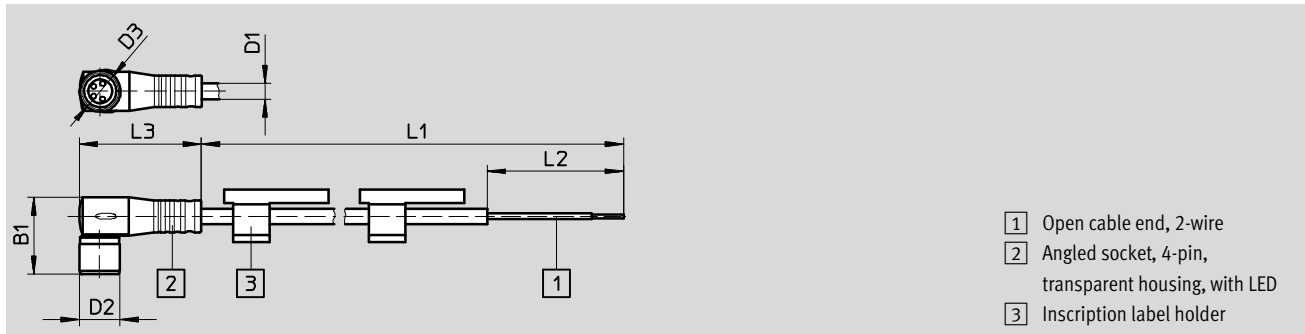
Circuitry (socket/plug view)

Socket	Pin	Wire colour	Pin	Plug
	1	-	1	
	2	-	-	
	3	Brown	3	
	4	Blue	4	
	1	-	-	
	2	-	-	
	3	Black	-	
	4	Black	-	

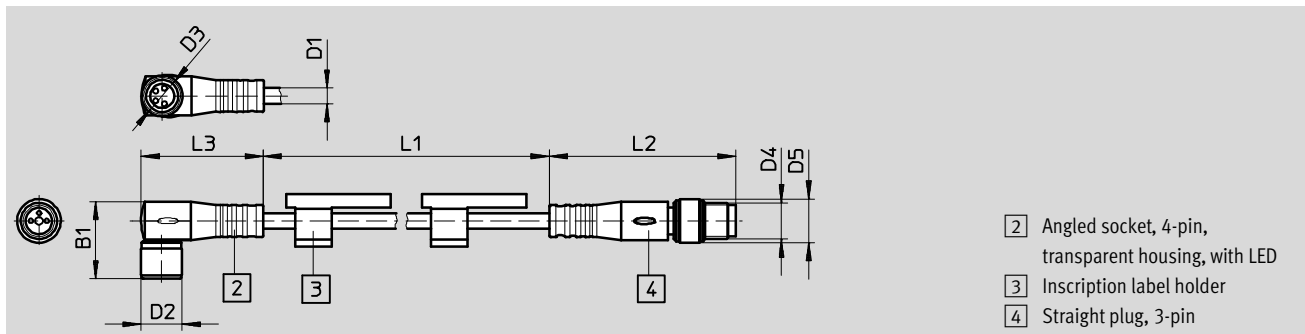
Download CAD data → www.festo.com

Dimensions

NEBV-M8W4L-...-LE2



NEBV-M8W4L-...-M8G3



	B1	D1	D2	D3	D4	D5	L1	L2	L3
NEBV-M8W4L-E-2.5-LE2	17	3.4	9	M8x1	-	-	2,500	50	26.9
NEBV-M8W4L-E-5-LE2							5,000		
NEBV-M8W4L-E-10-LE2							10,000		
NEBV-M8W4L-E-2.5-M8G3	17	3.3	9	M8x1	M8x1	9.6	2,500	41.1	26.9
NEBV-M8W4L-E-5-M8G3							5,000		
NEBV-M8W4L-E-10-M8G3							10,000		

Ordering data

	Description	Product weight [g]	Cable length [m]	Part No.	Type
	Angled socket, M8x1, 4-pin; cable, 2-wire	45	2.5	562471	NEBV-M8W4L-E-2.5-LE2
		85	5	562472	NEBV-M8W4L-E-5-LE2
		165	10	562473	NEBV-M8W4L-E-10-LE2
	Angled socket, M8x1, 4-pin; straight plug, M8x1, 3-pin	50	2.5	562468	NEBV-M8W4L-E-2.5-M8G3
		90	5	562469	NEBV-M8W4L-E-5-M8G3
		170	10	562470	NEBV-M8W4L-E-10-M8G3

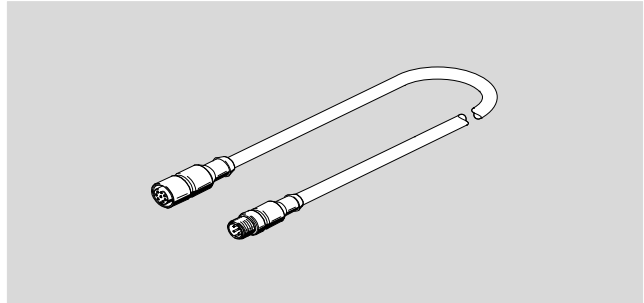
Connecting cables for valves

NEBV-M12G8 – Accessories for Proportional pressure regulators VPPM



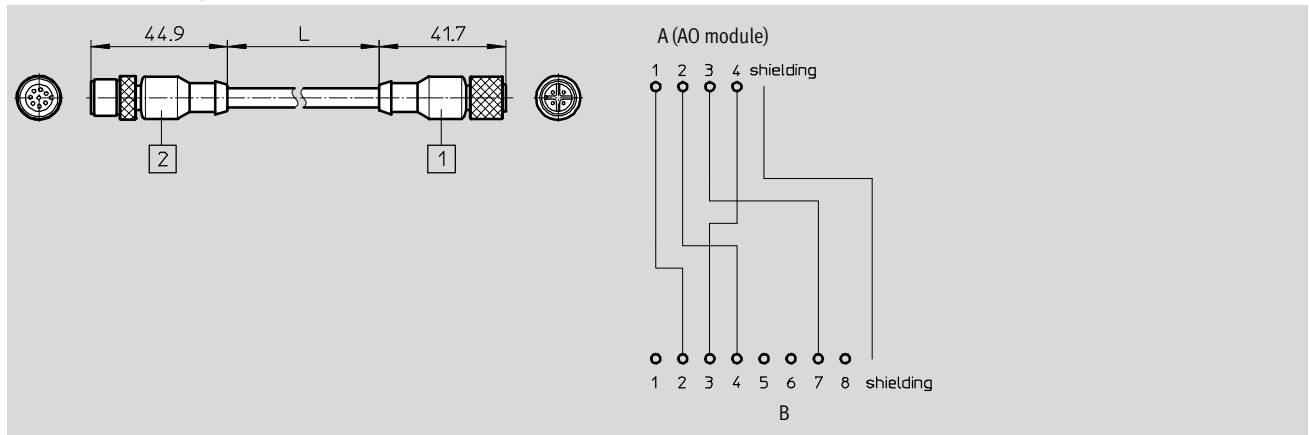
Plug socket with cable NEBV-M12G8-K-...-M12G4

For connecting the VPPM with the analogue output modules of the controller CPX.



Dimensions and pin allocation

Download CAD data → www.festo.com



4

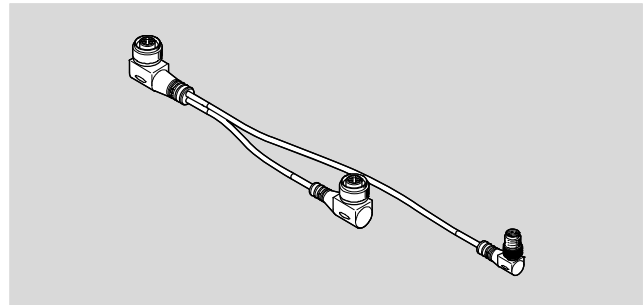
Type	2	1	L1
NEBV-M12G8-K-2-M12G4	Straight socket, M12, 8-pin to VPPM	Straight plug, M12, 4-pin to CPX module	2 m
NEBV-M12G8-K-5-M12G4			5 m

Ordering data		Part No.	Type
Connecting cable		Technical data → Internet: connecting cable	
	Straight socket, 8-pin, M12	2 m	525616 SIM-M12-8GD-2-PU
		5 m	525618 SIM-M12-8GD-5-PU
		10 m	570008 SIM-M12-8GD-10-PU
	Angled socket, 8-pin, M12	2 m	542256 NEBU-M12W8-K-2-N-LE8
		5 m	542257 NEBU-M12W8-K-5-N-LE8
		10 m	570007 NEBU-M12W8-K-10-N-LE8
	One straight socket, 8-pin, and one straight plug, 4-pin	2 m	553575 NEBV-M12G8-K-2-M12G4
		5 m	553576 NEBV-M12G8-K-5-M12G4
	One straight socket, 8-pin, and two straight plugs, 4-pin	547888	NEBV-M12G8-KD-3-M12G4
Setpoint module		Technical data → Internet: mpz	
	Generation of 6+1 analogue setpoint values	546224	MPZ-1-24DC-SGH-6-SW5

Ordering data IO-Link		Part No.	Type
Connecting cable		Technical data → Internet: connecting cable	
	Straight socket, 5-pin, M12x1, protection class IP65, IP68, IP69K	5 m	574321 NEBU-M12G5-E-5-Q8N-M12G5
		7 m	574322 NEBU-M12G5-E-7.5-Q8N-M12G5
		10 m	574323 NEBU-M12G5-E-10-Q8N-M12G5

Connecting cable NEDV-L2R1-V7

- Connecting cable for VPWP valves
- Pre-assembled
- 0.2 m cable length
- For connection to sub-base VAPB-S3



General technical data

Electrical connection	2x angled sockets, M12, 3-pin One angled plug, M8, 4-pin	
Based on standard	EN 61076-2-101, EN 61076-2-104, EN 61984	
Cable composition	[mm ²]	2x0.14
Cable diameter	[mm]	2.9
Cable length	[m]	0.2
Operating voltage range	[DC V]	0 ... 30
Acceptable current load	[A]	2
Mounting position	Any	
Protection class to EN 60529	IP65	

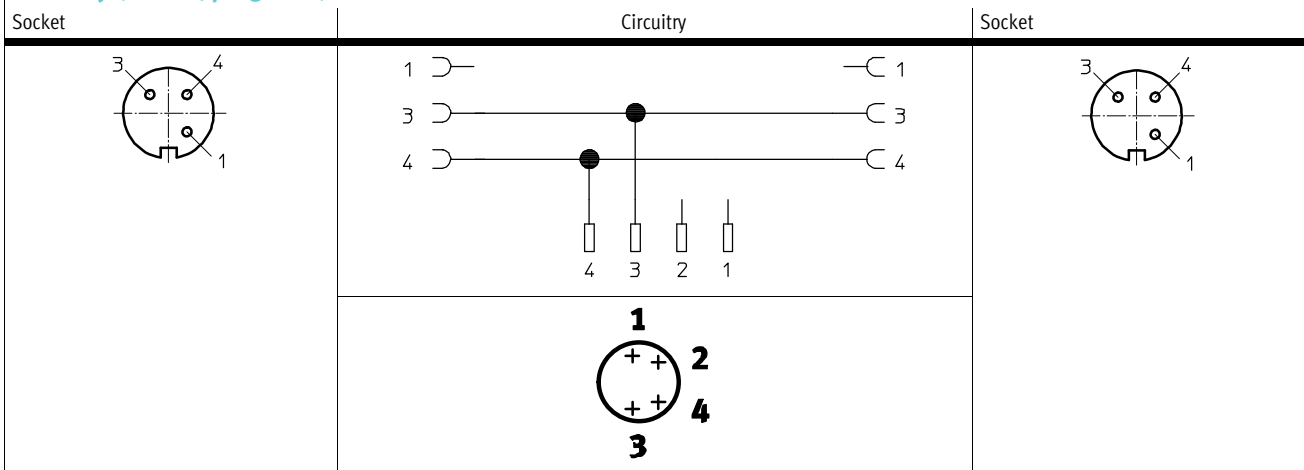
Materials

Cable sheath	TPE-U (PUR)
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +80
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Circuitry (socket/plug view)



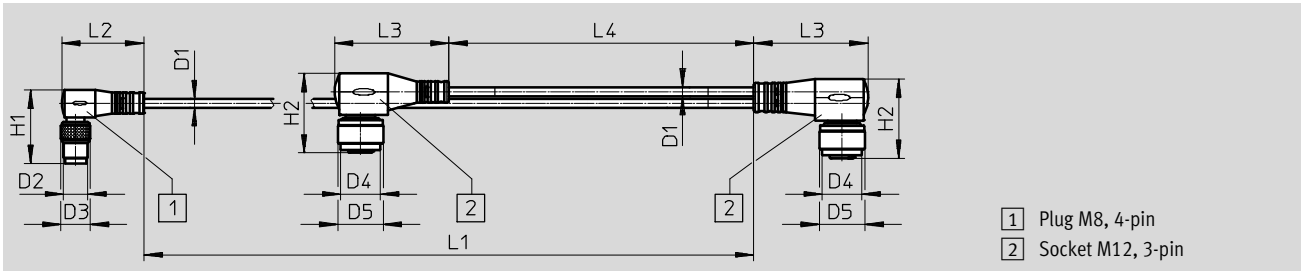
Connecting cables for valves

NEDV-L2R1-V7 – Technical data

FESTO

Dimensions

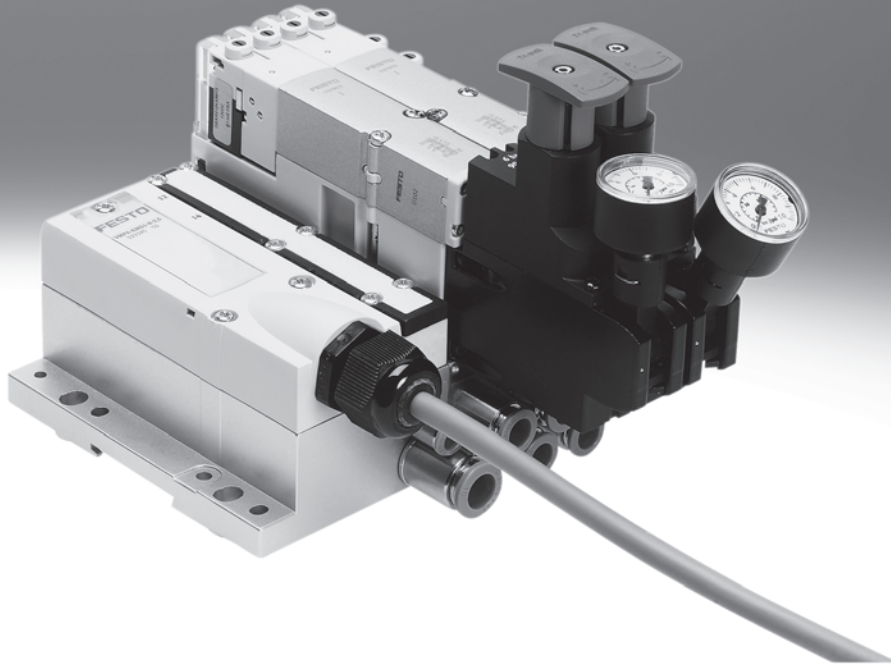
Download CAD data → www.festo.com



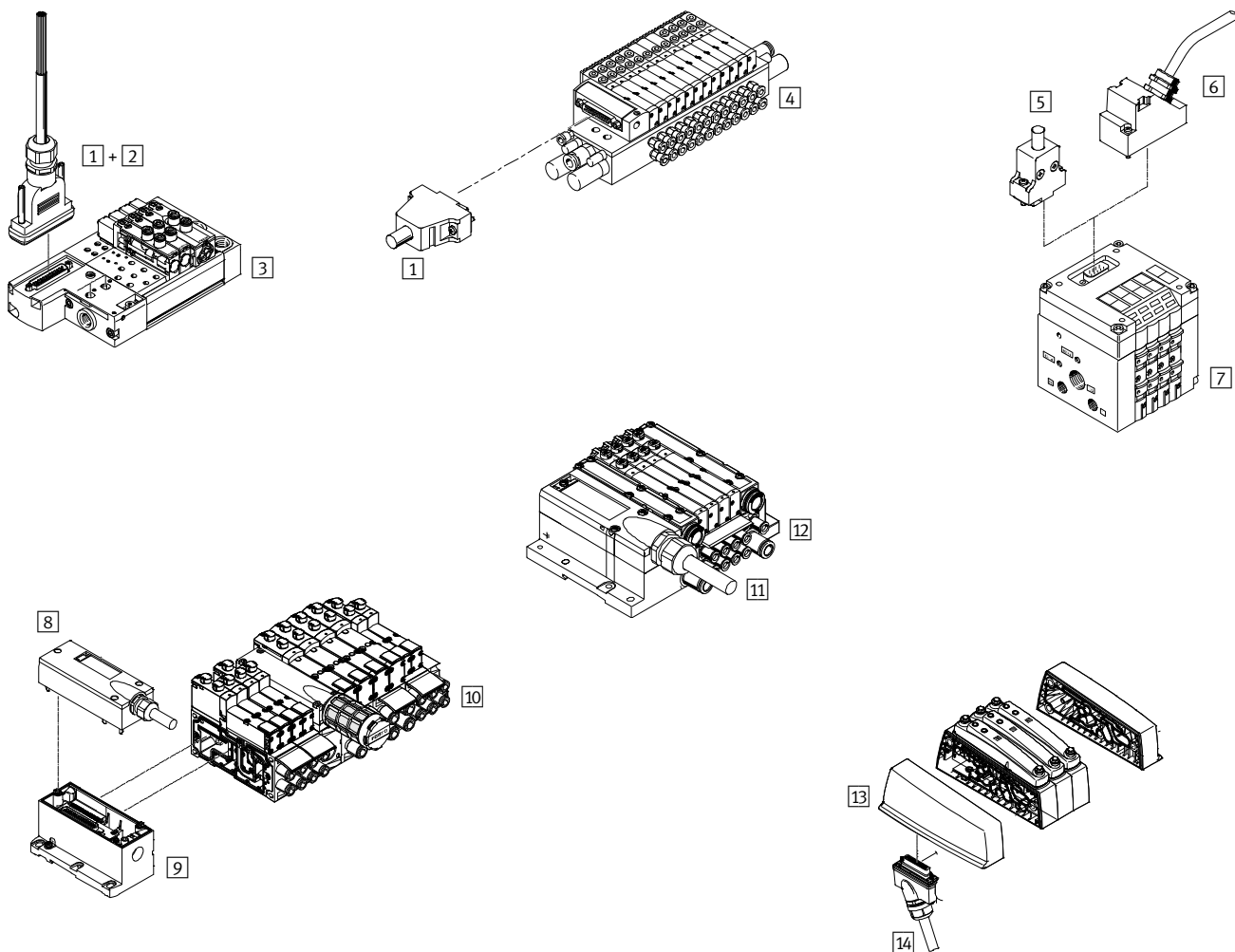
Type	D1 ∅	D2	D3 ∅	D4	D5 ∅	H1	H2	L1	L2	L3	L4
NEDV-L2R1-V7-M12W3-K-0.1L1-N-M8W4-0.2R1	2.9	M8	9.6	M12	15	24	26	200	26.9	37.5	100

Ordering data

Electrical connection	Product weight [g]	Length [m]	Part No.	Type
<ul style="list-style-type: none"> • 2x angled sockets, M12, 3-pin • One angled plug, M8, 4-pin 	28	0.2	2384165	NEDV-L2R1-V7-M12W3-K-0.1L1-N-M8W4-0.2R1



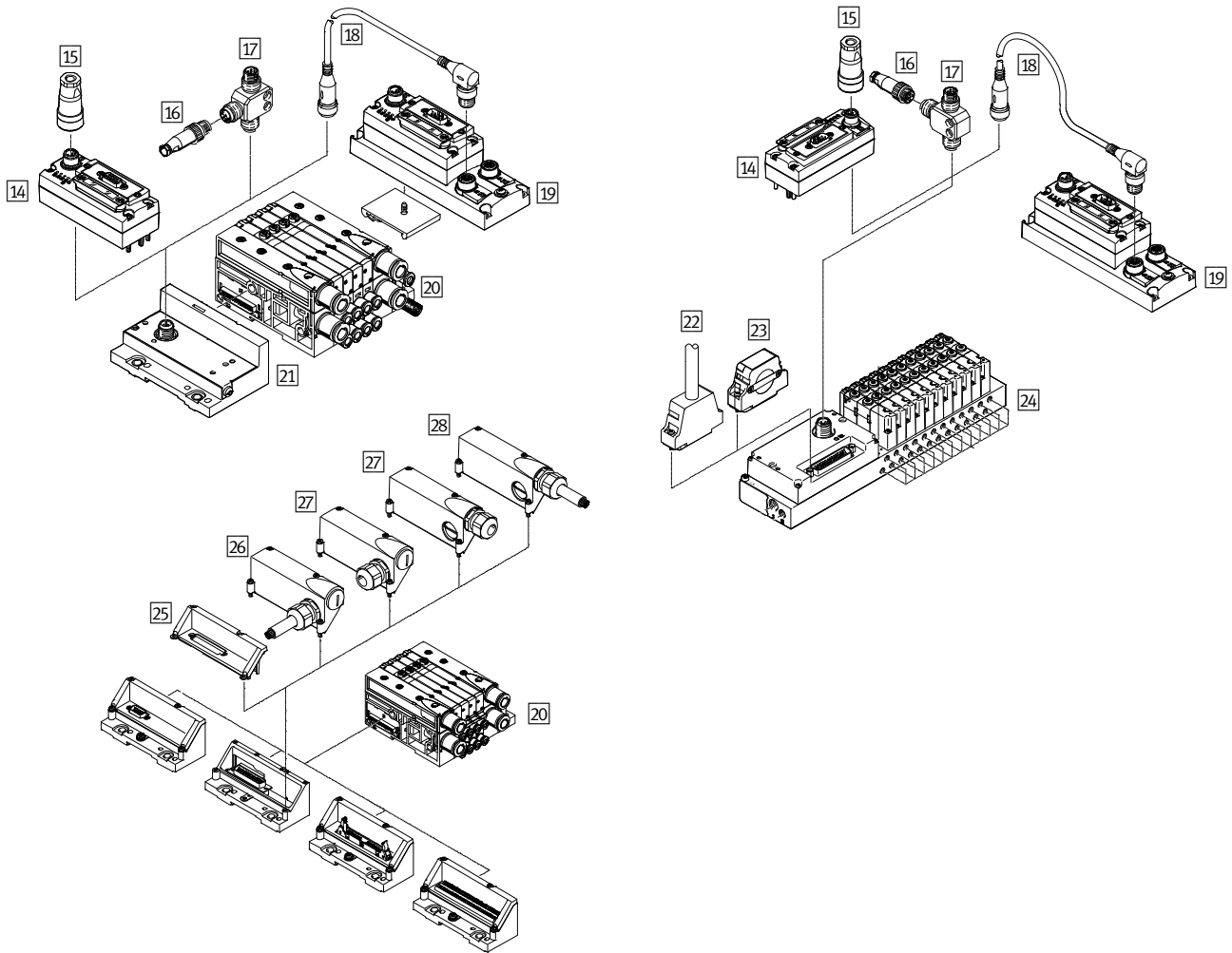
Valve terminals with multi-pin plug connection



5

Designation	Type	→ Page/Internet
1 Connecting cable	KMP6-...	173
2 Connecting cable	NEBV-S1G25-K-2.5-N-LE15	145
3 Valve terminal	VTUB	vtub
4 Valve terminal	CPV-SC	cpv-sc
5 Connecting cable	KMP3-... KMP4-... KMP6-...	169 171 173
6 Connecting cable	KEA-1-...	167
Plug socket with cable	KMYZ-4-...-B	118
7 Valve terminal	CPV	cpv
8 Connecting cable	NEBV-S1W37	155
9 Multi-pin plug connection		vtsa
10 Valve terminal	VTSA	vtsa
11 Connecting cable for self-assembly	VMPA-KMS... VMPA-KMS1-... VMPA-KMS2-...	163
12 Valve terminal	MPA-S	mpa
13 Valve terminal	MPA-C	mpa
14 Connecting cable	NEBV-C-S1WA	144

Valve terminals with multi-pin plug connection and I-Port connection



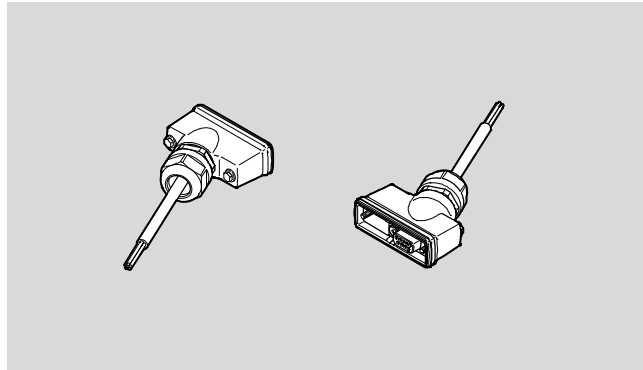
Designation	Type	→ Page/Internet
14 Bus node	CTEU-CC	cteu
15 Plug socket	FBSD-GD	269
16 Plug socket	SEA-M12	237
17 T-adapter	FB-TA-M12	259
18 Connecting cable	NEBU-M12G5-E NEBU-M12W5	35
19 Electrical subbase	CAPC-F1-E-M12	capc
20 Valve terminal	MPA-L	mpa-l
21 Electrical connection I-Port	VMPAL-EPL-IP032	vmpal-epl
22 Connecting cable for multi-pin plug connection	KMP6-25P-12 NEBV-S1G44-K	173 145
23 Plug socket	NEFF-S1G44	346
24 Valve terminal	VTOC	vtoc
25 End plate	VMPAL-EPL-SD	vmpal-epl
26 Connecting cable	VMPAL-KM-S-SD25-IP67	165
27 Connecting cable	VMPAL-KM-SD	165
28 Connecting cable	VMPAL-KM-V-SD25-IP67	165

Connecting cables for valve terminals

NEBC-C-S1WA – Technical data

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Connecting cable NEBC-C-S1WA

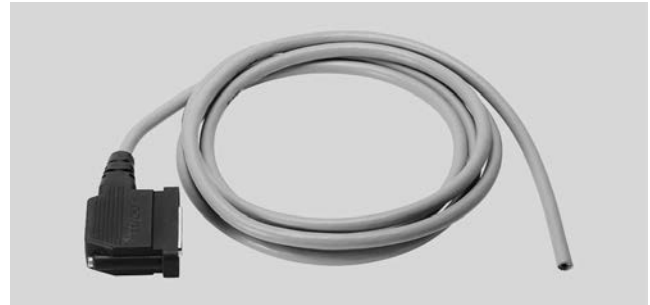


Ordering data

	Code	Description	Part No.	Type
Connecting cable for I-Port interface/IO-Link				
	Connecting cable: FH	9-pin socket, Sub-D, open cable end 5-wire	2.5 m	2376018 NEBC-C-S1WA9-F-2.5-N-B-LE5-PT-S10
	Connecting cable: FI		5 m	2376019 NEBC-C-S1WA9-F-5-N-B-LE5-PT-S10
	Connecting cable: FJ		10 m	2376020 NEBC-C-S1WA9-F-10-N-B-LE5-PT-S10
Connecting cable for multi-pin plug connection				
	Connecting cable: FA	25-pin socket, Sub-D, open cable end 25-wire	2.5 m	2265131 NEBV-C-S1WA25-F-2.5-N-LE25-S10
	Connecting cable: FB		5 m	2265132 NEBV-C-S1WA25-F-5-N-LE25-S10
	Connecting cable: FC		10 m	2265133 NEBV-C-S1WA25-F-10-N-LE25-S10
	Connecting cable: FD	44-pin socket, Sub-D, open cable end 36-wire	2.5 m	577376 NEBV-C-S1WA44-F-2.5-N-LE36-S10
	Connecting cable: FE		5 m	577377 NEBV-C-S1WA44-F-5-N-LE36-S10
	Connecting cable: FG		10 m	577378 NEBV-C-S1WA44-F-10-N-LE36-S10

Connecting cable
NEBV-S1G25
NEBV-S1WA25
NEBV-C-S1WA25

- Connecting cable for multi-pin plug connection
- Pre-assembled
- Straight or angled socket
- Cable lengths 2.5 m, 5 m or 10 m
- 15 or 25 wires
- Sub-D, 25-pin



General technical data

Electrical connection	Sub-D socket, 25-pin
	Open end
Type of mounting	4-40UNC

Technical data

Type		NEBV-...-LE15	NEBV-...-LE25
Cable composition	[mm ²]	15 x 0.34	20 x 0.25
	[mm ²]	–	5 x 0.34
Cable diameter	[mm]	9	10.5
Cable characteristics		Standard	Standard
Min. cable bending radius	[mm]	90	105
Max. tightening torque plug connector	[Nm]	0.2	0.2
Nominal operating voltage	[V DC]	24	24
Degree of protection to EN 60529		IP65, IP67	IP65, IP67

Technical data

Type		NEBV-...-LE25-S6	NEBV-...-LE25-S9	NEBV-...-LE25-S10
Mounting position		Any		
Cable composition	[mm ²]	25 x 0.34		
Cable diameter	[mm]	10.2		
Cable diameter tolerance	[mm]	±0.25		
Cable characteristic		For static applications		
Min. cable bending radius	[mm]	122		
Max. tightening torque plug connector		–	–	0.8
Operating voltage range	[V DC]	0 ... 30		
Acceptable current load at 40 °C	[A]	2.6		
Degree of protection to EN 60529		IP40	IP65, IP67	IP65, IP67, IP69K

Connecting cables for valve terminals

NEBV-S1G25/NEBV-S1WA25/NEBV-C, Sub-D, 25-pin – Technical data

FESTO

Materials

Type	NEBV-...-LE15	NEBV-...-LE25
Housing	PBT	
Union nut	PA	
Seals	TPE-O	
Cable sheath	PVC	
Note on materials	RoHS-compliant	

Type	NEBV-...-LE25-S6	NEBV-...-LE25-S9	NEBV-...-LE25-S10
Housing	Reinforced PC	PA66-GF30	Reinforced PC
Seals	–	–	EPDM
Pin contact	Gold-plated bronze		
Cable sheath	PVC		
Note on materials	RoHS-compliant		

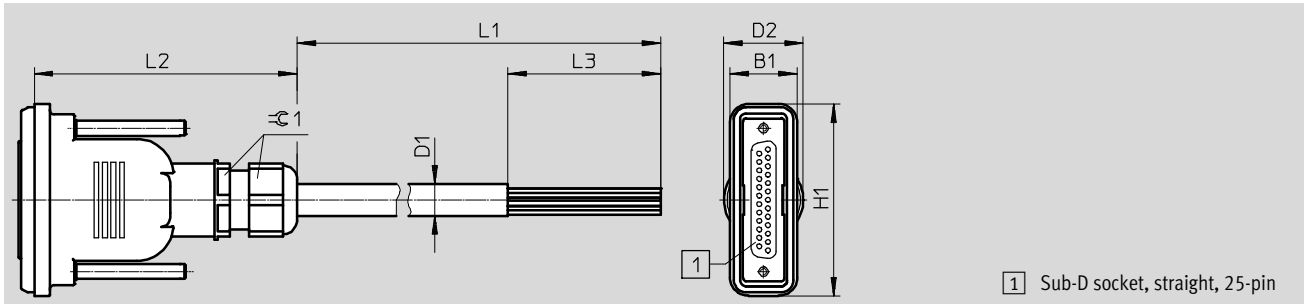
Operating and environmental conditions

Type	NEBV-...-LE15	NEBV-...-LE25
Ambient temperature with flexible cable installation [°C]	–5 ... +50	–5 ... +50

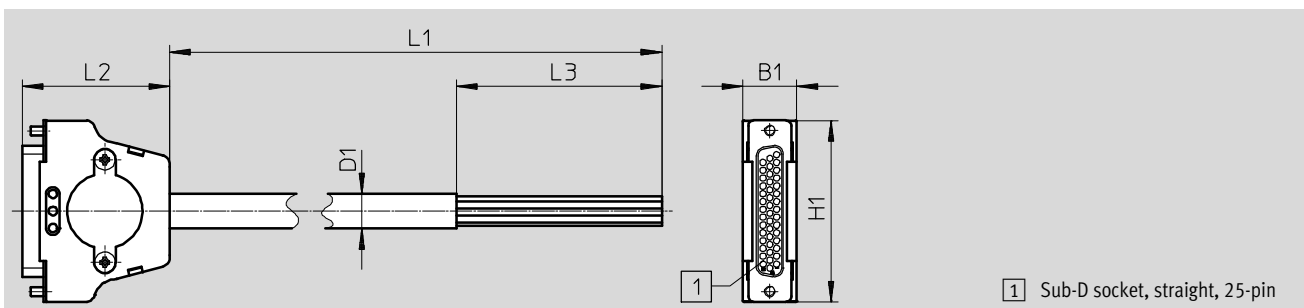
Type	NEBV-...-LE25-S6	NEBV-...-LE25-S9	NEBV-...-LE25-S10
Ambient temperature [°C]	–20 ... +80	–20 ... +80	–
Storage temperature [°C]	–	–	–20 ... +40
Degree of contamination	2	3	3

Dimensions

Download CAD data → www.festo.com



Type	B1	D1 ∅	D2 ∅	H1	L1	L2	L3	≙1
NEBV-S1G25-K-2,5-N-LE15	22	9	26	62.8	2500	86±0.5	60	24
NEBV-S1G25-K-5-N-LE15					5000			
NEBV-S1G25-K-10-N-LE15					10,000			
NEBV-S1G25-K-2.5-N-LE25	22	10.4	26	62.8	2500	86±0.5	50	24
NEBV-S1G25-K-5-N-LE25					5000			
NEBV-S1G25-K-10-N-LE25					10,000			



Type	B1	D1 ∅	H1	L1	L2	L3
NEBV-S1G25-K-2.5-N-LE25-S6	15.8	10.2	53	2500	43.1	60
NEBV-S1G25-K-5-N-LE25-S6				5000		
NEBV-S1G25-K-10-N-LE25-S6				10,000		

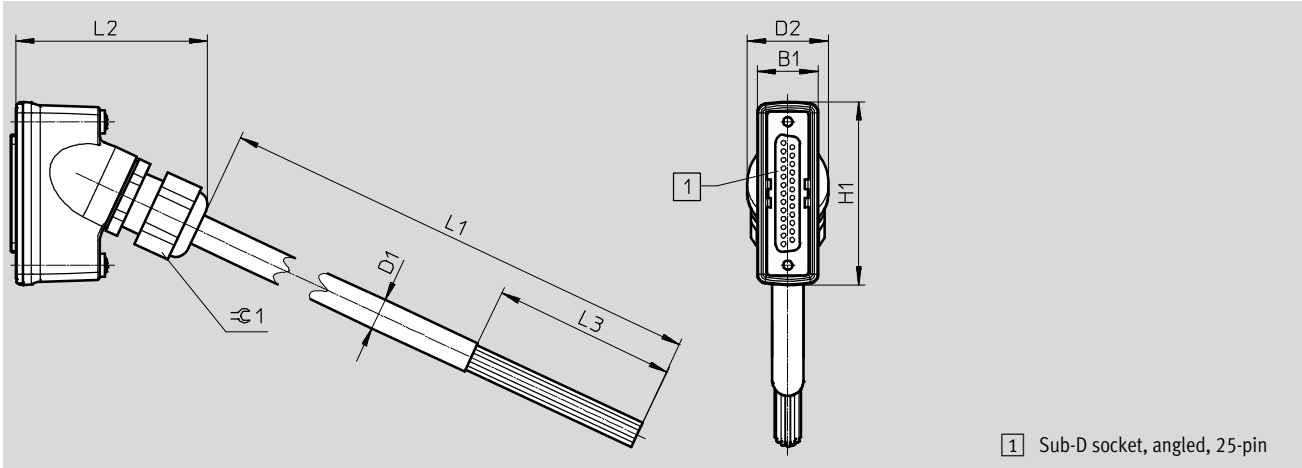
Connecting cables for valve terminals

NEBV-S1G25/NEBV-S1WA25/NEBV-C, Sub-D, 25-pin – Technical data



Dimensions

Download CAD data → www.festo.com



1 Sub-D socket, angled, 25-pin

Type	B1	D1 ∅	D2 ∅	H1	L1	L2	L3	⊕1
NEBV-S1WA25-K-2.5-N-LE25-S9	20	10.2	26.5	60	2500	60	60	24
NEBV-S1WA25-K-5-N-LE25-S9					5000			
NEBV-S1WA25-K-10-N-LE25-S9					10,000			
NEBV-C-S1WA25-F-2.5-N-LE25-S10	20	10.2	27	60	2500	60	60	-
NEBV-C-S1WA25-F-5-N-LE25-S10					5000			
NEBV-C-S1WA25-F-10-N-LE25-S10					10,000			

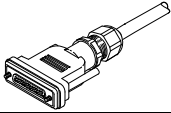
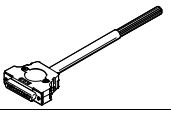
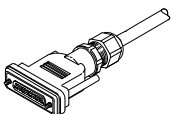
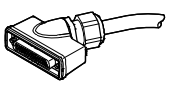
5

Circuitry (socket view)

	Open end, 15-wire		Open end, 25-wire	
	Pin	Wire colour ¹⁾	Pin	Wire colour ¹⁾
	1	WH	1	WH
	2	BN	2	BN
	3	GN	3	GN
	4	YE	4	YE
	5	GY	5	GY
	6	PK	6	PK
	7	BU	7	BU
	8	RD	8	RD
	9	BK	9	BK
	10	VT	10	VT
	11	GY PK	11	GY PK
	12	RD BU	12	RD BU
	13	-	13	GN WH
	14	-	14	BN GN
	15	-	15	YE WH
	16	-	16	BN YE
	17	-	17	GY WH
	18	-	18	BN GY
	19	-	19	WH PK
	20	-	20	BN PK
	21	-	21	BU WH
	22	-	22	BN BU
	23	GN WH	23	RD WH
	24	BN GN	24	BN RD
	25	YE WH	25	BK WH

1) To IEC 757

Ordering data

	Cable composition [mm ²]	Degree of protection	Weight [g]	Cable length [m]	Part No.	Type
Straight socket – open end, 15-wire						
	15 x 0.34	IP65, IP67	370	2.5	538222	NEBV-S1G25-K-2.5-N-LE15
			670	5	538223	NEBV-S1G25-K-5-N-LE15
			1270	10	538224	NEBV-S1G25-K-10-N-LE15
Straight socket – open end, 25-wire						
	25 x 0.34	IP40	429	2.5	575417	NEBV-S1G25-K-2.5-N-LE25-S6
			777	5	575418	NEBV-S1G25-K-5-N-LE25-S6
			1572	10	575419	NEBV-S1G25-K-10-N-LE25-S6
	20 x 0.25 5 x 0.34	IP65, IP67	490	2.5	538225	NEBV-S1G25-K-2.5-N-LE25
			910	5	538226	NEBV-S1G25-K-5-N-LE25
			1750	10	538227	NEBV-S1G25-K-10-N-LE25
Angled socket – open end, 25-wire						
	25 x 0.34	IP65, IP67	500	2.5	575423	NEBV-S1WA25-K-2.5-N-LE25-S9
			900	5	575424	NEBV-S1WA25-K-5-N-LE25-S9
			1800	10	575425	NEBV-S1WA25-K-10-N-LE25-S9
		IP65, IP67, IP69K	500	2.5	2265131	NEBV-C-S1WA25-F-2.5-N-LE25-S10
			900	5	2265132	NEBV-C-S1WA25-F-5-N-LE25-S10
			1800	10	2265133	NEBV-C-S1WA25-F-10-N-LE25-S10

Connecting cables for valve terminals

NEBV-S1G44/NEBV-WA44/NEBV-C, Sub-D, 44-pin – Technical data

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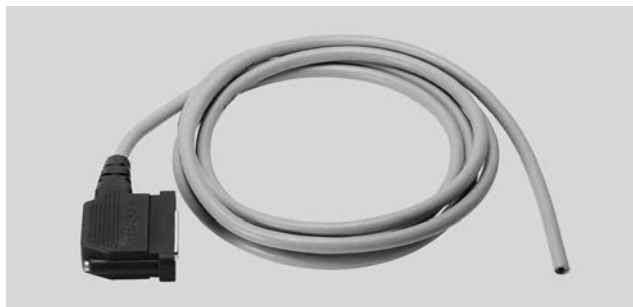
Connecting cable

NEBV-S1G44

NEBV-S1WA44

NEBV-C-S1WA44

- Connecting cable for multi-pin plug connection
- Pre-assembled
- Straight or angled socket
- Cable lengths 2.5 m, 5 m or 10 m
- 36, 40 or 44 wires
- Sub-D, 44-pin



General technical data

Electrical connection	Sub-D socket, 44-pin
	Open end
Type of mounting	4-40UNC
Mounting position	Any
Cable characteristics	For static applications
Operating voltage range	[V DC] 0 ... 30
Acceptable current load at 40 °C	[A] 0.86

Technical data

Type		NEBV-...-LE39	NEBV-...-S6	NEBV-...-S10	NEBV-...-S9
Cable composition	[mm ²]	40 x 0.14	44 x 0.14	36 x 0.14	44 x 0.14
Cable diameter	[mm]	9.6	10.2	9.6	10.2
Cable diameter tolerance	[mm]	±0.5	±0.3	±0.3	±0.3
Min. cable bending radius	[mm]	95	122	115	122
Tightening torque		–	–	0.8	–
Degree of protection to EN 60529		IP65, IP67	IP40	IP65, IP67, IP69K	IP65, IP67

Materials

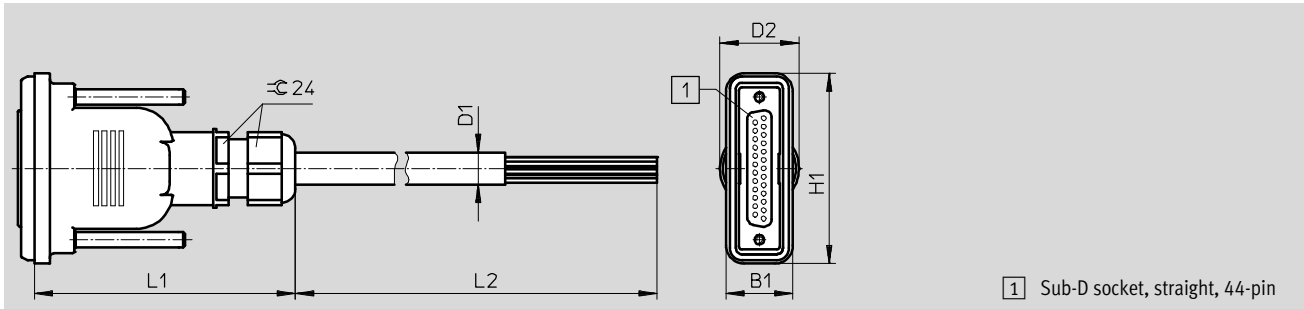
Type		NEBV-...-LE39	NEBV-...-S6	NEBV-...-S10	NEBV-...-S9
Housing		PBT	Reinforced PC	Reinforced PA	PA66-GF30
Seals		–	–	EPDM	–
Screws		–	–	Stainless steel	–
Pin contact		Gold-plated bronze			
Cable sheath		PVC			
Note on materials		RoHS-compliant			

Operating and environmental conditions

Type		NEBV-...-LE39	NEBV-...-S6	NEBV-...-S10	NEBV-...-S9
Ambient temperature	[°C]	–5 ... +60	–5 ... +80	–	–5 ... +80
Storage temperature	[°C]	–	–	–20 ... +40	–
Degree of contamination		–	–	3	3

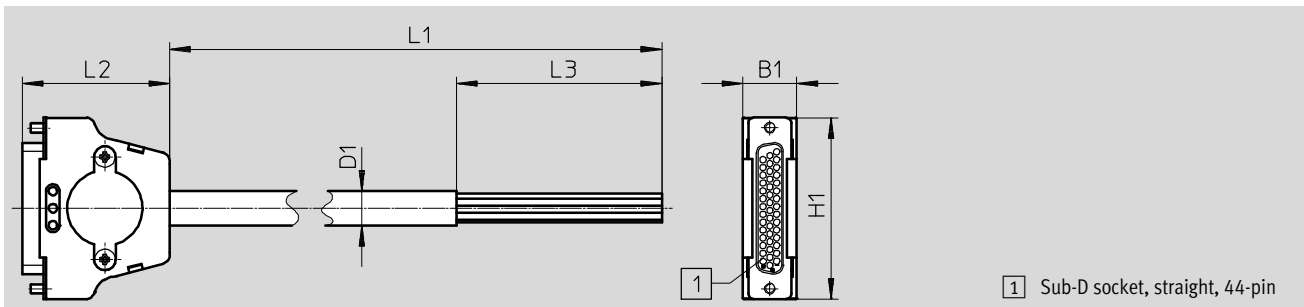
Dimensions

Download CAD data → www.festo.com



1 Sub-D socket, straight, 44-pin

Type	B1	D1 Ø	D2 Ø	H1	L1	L2
NEBV-S1G44-K-2.5-N-LE39	22	9.6	26	62.8	85±5	2500
NEBV-S1G44-K-5-N-LE39						5000
NEBV-S1G44-K-10-N-LE39						10,000



1 Sub-D socket, straight, 44-pin

Type	B1	D1 Ø	H1	L1	L2	L3
NEBV-S1G44-K-2.5-N-LE44-S6	15.8	10.2	53	2500	43.1	60
NEBV-S1G44-K-5-N-LE44-S6				5000		
NEBV-S1G44-K-10-N-LE44-S6				10,000		

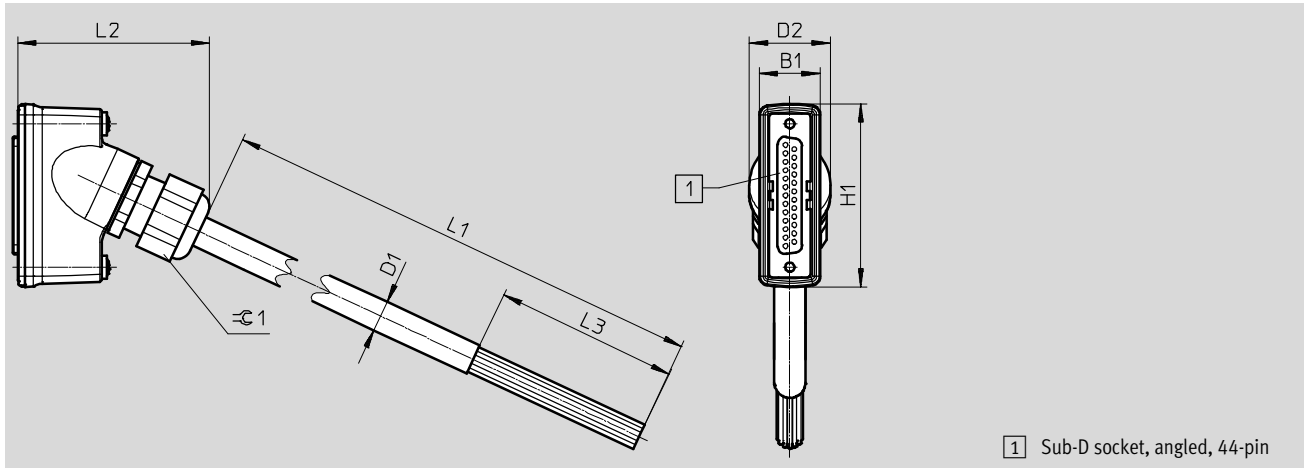
Connecting cables for valve terminals

NEBV-S1G44/NEBV-WA44/NEBV-C, Sub-D, 44-pin – Technical data

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Dimensions

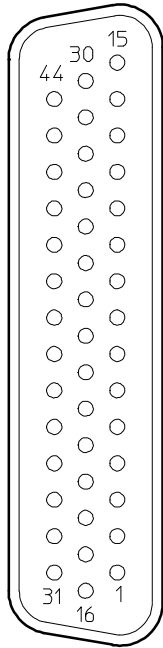
Download CAD data → www.festo.com



1 Sub-D socket, angled, 44-pin

Type	B1	D1 Ø	D2 Ø	H1	L1	L2	L3	☞1
NEBV-C-S1WA44-F-2.5-N-LE36-S10	20	9.6	27	60	2500	60	60	-
NEBV-C-S1WA44-F-5-N-LE36-S10					5000			
NEBV-C-S1WA44-F-10-N-LE36-S10					10,000			
NEBV-S1WA44-K-2.5-N-LE44-S9	20	10.2	26.5	60	2500	60	60	24
NEBV-S1WA44-K-5-N-LE44-S9					5000			
NEBV-S1WA44-K-10-N-LE44-S9					10,000			

Circuitry (socket view)



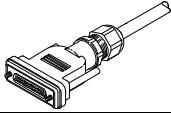
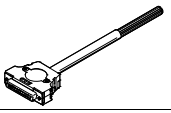
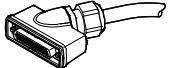
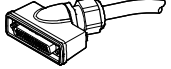
Open end, 36-wire ¹⁾		Open end, 40-wire		Open end, 44-wire	
Pin	Wire colour ¹⁾	Pin	Wire colour ¹⁾	Pin	Wire colour ¹⁾
1	WH	1	WH	1	WH
2	BN	2	BN	2	BN
3	GN	3	GN	3	GN
4	YE	4	YE	4	YE
5	GY	5	GY	5	GY
6	PK	6	PK	6	PK
7	BU	7	BU	7	BU
8	RD	8	RD	8	RD
9	BK	9	BK	9	BK
10	VT	10	VT	10	VT
11	GY PK	11	GY PK	11	GY PK
12	RD BU	12	RD BU	12	RD BU
13	WH GN	13	WH GN	13	WH GN
14	BN GN	14	BN GN	14	BN GN
15	WH YE	15	WH YE	15	WH YE
16	YE BN	16	YE BN	16	YE BN
17	WH GY	17	WH GY	17	WH GY
18	GY BN	18	GY BN	18	GY BN
19	WH PK	19	WH PK	19	WH PK
20	PK BN	20	PK BN	20	PK BN
21	WH BU	21	WH BU	21	WH BU
22	BN BU	22	BN BU	22	BN BU
23	WH RD	23	WH RD	23	WH RD
24	BN RD	24	BN RD	24	BN RD
25	WH BK	25	WH BK	25	WH BK
26	BN BK	26	BN BK	26	BN BK
27	GY GN	27	GY GN	27	GY GN
28	YE GY	28	YE GY	28	YE GY
29	PK GN	29	PK GN	29	PK GN
30	YE PK	30	YE PK	30	YE PK
31	GN BU	31	GN BU	31	GN BU
32	YE BU	32	YE BU	32	YE BU
33	–	33	GN RD	33	GN RD
34	–	34	YE RD	34	YE RD
35	–	35	GN BK	35	GN BK
36	–	36	–	36	YE BK
37	–	37	–	37	GY BU
38	–	38	–	38	PK BU
39	–	39	–	39	GY RD
40	–	40	–	40	PK RD
41	GN RD	41	YE BK	41	GY BK
42	YE RD	42	GY BU	42	PK BK
43	GN BK	43	PK BU	43	BU BK
44	YE BK	44	GY RD	44	RD BK

1) To IEC 757

Connecting cables for valve terminals

NEBV-S1G44/NEBV-WA44/NEBV-C, Sub-D, 44-pin – Technical data

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Ordering data						
	Cable composition [mm ²]	Degree of protection	Weight [g]	Cable length [m]	Part No.	Type
Straight socket – open end, 40-wire						
	40 x 0.14	IP65, IP67	389	2.5	565289	NEBV-S1G44-K-2.5-N-LE39
			737	5	565290	NEBV-S1G44-K-5-N-LE39
			1432	10	565291	NEBV-S1G44-K-10-N-LE39
Straight socket – open end, 44-wire						
	44 x 0.14	IP40	432	2.5	575113	NEBV-S1G44-K-2.5-N-LE44-S6
			814	5	575114	NEBV-S1G44-K-5-N-LE44-S6
			1600	10	575115	NEBV-S1G44-K-10-N-LE44-S6
Angled socket – open end, 36-wire						
	36 x 0.14	IP65, IP67, IP69K	460	2.5	577376	NEBV-C-S1WA44-F-2.5-N-LE36-S10
			860	5	577377	NEBV-C-S1WA44-F-5-N-LE36-S10
			1660	10	577378	NEBV-C-S1WA44-F-10-N-LE36-S10
Angled socket – open end, 44-wire						
	44 x 0.14	IP65, IP67	460	2.5	575420	NEBV-S1WA44-K-2.5-N-LE44-S9
			860	5	575421	NEBV-S1WA44-K-5-N-LE44-S9
			1660	10	575422	NEBV-S1WA44-K-10-N-LE44-S9

**Connecting cable
NEBV-S1W37**

- Connecting cable for multi-pin plug connection
- Pre-assembled
- Cable lengths 2.5 m, 5 m or 10 m
- 10-wire, 26-wire, 27-wire or 37-wire
- Sub-D, 37-pin



General technical data

Electrical connection	Socket, 37-pin, Sub-D
Nominal operating voltage [V DC]	24
Operating voltage range [V DC]	21.6 ... 26.4
Conductor nominal cross section [mm ²]	0.34
Cable characteristics	Standard
Degree of protection	IP65 NEMA4

Materials

Type	NEBV-S1W37-E-...	NEBV-S1W37-K-...	NEBV-S1W37-KM-...
Housing	PA	PA	PA
Cable sheath	TPE-U (polyurethane)	TPE-U (polyurethane)	PVC

Operating and environmental conditions

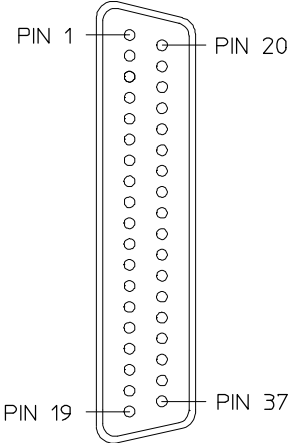
Ambient temperature [°C]	-5 ... +50
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Connecting cables for valve terminals

NEBV-S1W37, Sub-D, 37-pin – Technical data

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Circuitry (socket view)

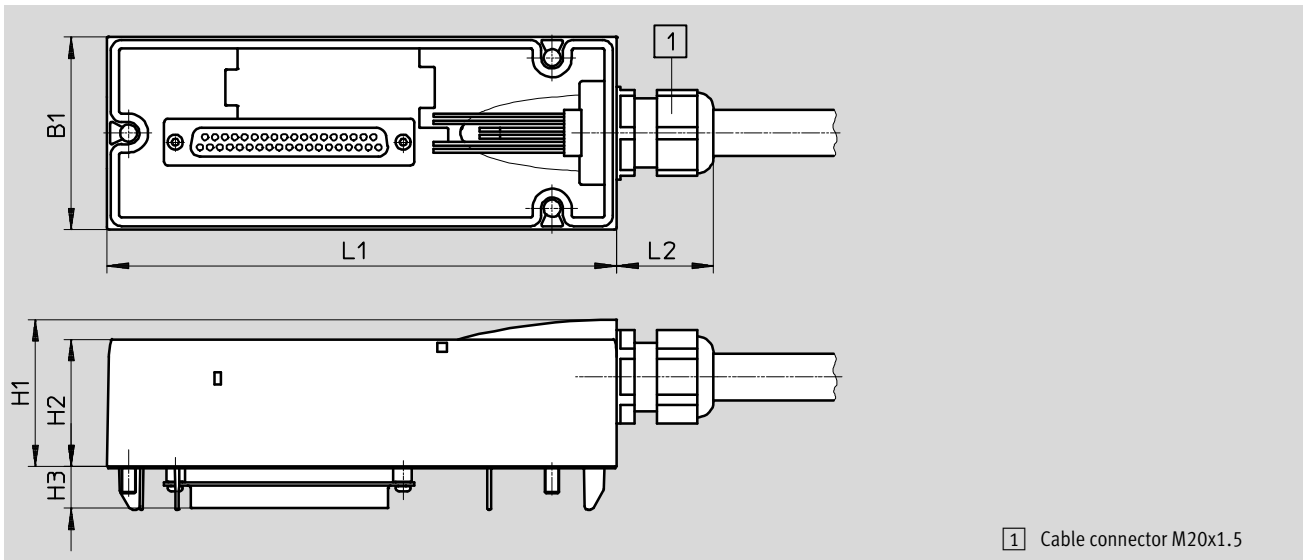


NEBV-S1W37-...-LE10		NEBV-S1W37-...-LE26		NEBV-S1W37-...-LE27		NEBV-S1W37-...-LE37	
Pin	Wire colour ¹⁾	Pin	Wire colour ¹⁾	Pin	Wire colour ¹⁾	Pin	Wire colour ¹⁾
1	WH	1	WH	1	WH	1	WH
2	BN	2	BN	2	BN	2	BN
3	GN	3	GN	3	GN	3	GN
4	YE	4	YE	4	YE	4	YE
5	GY	5	GY	5	GY	5	GY
6	PK	6	PK	6	PK	6	PK
7	BU	7	BU	7	BU	7	BU
8	RD	8	RD	8	RD	8	RD
9	–	9	GY PK	9	GY PK	9	GY PK
10	–	10	RD BU	10	RD BU	10	RD BU
11	–	11	WH GN	11	WH GN	11	WH GN
12	–	12	BN GN	12	BN GN	12	BN GN
13	–	13	WH YE	13	WH YE	13	WH YE
14	–	14	YE BN	14	YE BN	14	YE BN
15	–	15	WH GY	15	WH GY	15	WH GY
16	–	16	GY BN	16	GY BN	16	GY BN
17	–	17	WH PK	17	WH PK	17	WH PK
18	–	18	PK BN	18	PK BN	18	PK BN
19	–	19	WH BU	19	WH BU	19	WH BU
20	–	20	BN BU	20	BN BU	20	BN BU
21	–	21	WH RD	21	WH RD	21	WH RD
22	–	22	BN RD	22	BN RD	22	BN RD
23	–	23	–	23	GY GN	23	GY GN
24	–	24	–	24	–	24	YE GY
25	–	25	–	25	–	25	PK GN
26	–	26	–	26	–	26	YE PK
27	–	27	–	27	–	27	GN BU
28	–	28	–	28	–	28	YE BU
29	–	29	–	29	–	29	GN RD
30	–	30	–	30	–	30	YE RD
31	–	31	–	31	–	31	GN BK
32	–	32	–	32	–	32	GY BU
33	–	33	–	33	–	33	YE BK
34	–	34	WH BK	34	WH BK	34	WH BK
35	–	35	BN BK	35	BN BK	35	BN BK
36	BK	36	BK	36	BK	36	BK
37	VT	37	VT	37	VT	37	VT

1) To IEC 757

Dimensions

Download CAD data → www.festo.com



1 Cable connector M20x1.5

Type	B1	H1	H2	H3	L1	L2
NEBV-S1W37-...	54	41	36	11.6	142	27

Ordering data

	Electrical connection	Cable composition [mm ²]	Cable Ø [mm]	Cable length [m]	Product weight [g]	Part No.	Type
Cable sheath TPE-U (polyurethane)							
	Socket, 37-pin, Sub-D	10x0.34	7.7	2.5	383	539240	NEBV-S1W37-E-2.5-LE10
				5	570	539241	NEBV-S1W37-E-5-LE10
				10	954	539242	NEBV-S1W37-E-10-LE10
		26x0.34	11.5	2.5	649	539243	NEBV-S1W37-E-2.5-LE26
				5	1101	539244	NEBV-S1W37-E-5-LE26
				10	2010	539245	NEBV-S1W37-E-10-LE26
		37x0.34	13	2.5	820	539246	NEBV-S1W37-K-2.5-LE37
				5	1422	539247	NEBV-S1W37-K-5-LE37
				10	2619	539248	NEBV-S1W37-K-10-LE37
Cable sheath PVC							
	Socket, 37-pin, Sub-D	10x0.34	7.7	2.5	388	543271	NEBV-S1W37-KM-2.5-LE10
				5	592	543272	NEBV-S1W37-KM-5-LE10
				10	997	543273	NEBV-S1W37-KM-10-LE10
		27x0.34	11.5	2.5	749	543274	NEBV-S1W37-KM-2.5-LE27
				5	1285	543275	NEBV-S1W37-KM-5-LE27
				10	2371	543276	NEBV-S1W37-KM-10-LE27
		37x0.34	13	2.5	903	543277	NEBV-S1W37-KM-2.5-LE37
				5	1610	543278	NEBV-S1W37-KM-5-LE37
				10	2955	543279	NEBV-S1W37-KM-10-LE37

Connecting cables for valve terminals

KVI-CP, for fieldbus connection – Technical data

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Connecting cable KVI-CP

- Connecting cable for fieldbus connection (CP bus valve terminal CPV, type 03 and CPI installation system)
- Pre-assembled at both ends
- Cable lengths 0.25 m, 0.5 m, 2 m, 5 m or 8 m
- 5-pin
- Round plug



General technical data

Type of mounting	M9 union nut
Mounting position	Any
Operating voltage range [V DC]	60
Acceptable current load [A]	1.6
Cable composition [mm ²]	2x0.24, 2x0.34 and 0.49
Cable diameter [mm]	5.5
Protection class to EN 60529	IP65/67 (assembled)

Materials

Housing	Polyurethane, nickel-plated brass
Contacts	Gold-plated bronze/brass
Cable sheath	Polyurethane
Cable sheath colour	Light grey
Note on materials	RoHS-compliant

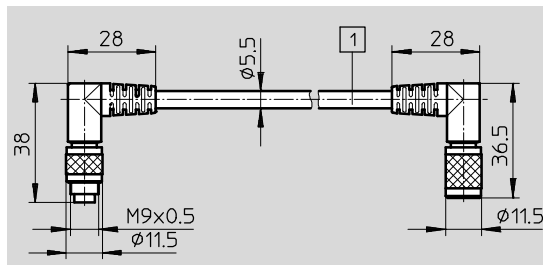
Operating and environmental conditions

Ambient temperature for flexible cable installation [°C]	-5 ... +80
Ambient temperature [°C]	-20 ... +80

Dimensions

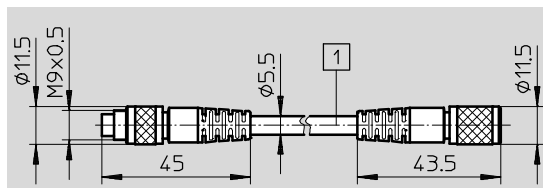
Download CAD data → www.festo.com

KVI-CP-3-WSWD-...



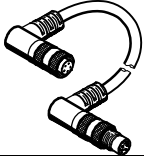

- 1 Cable length 0.25 m, 0.5 m, 2 m, 5 m or 8 m

KVI-CP-3-GSGD-...



- 1 Cable length 2 m, 5 m or 8 m

Ordering data

	Electrical connection	Weight [g]	Cable length [m]	Part No.	Type
	Angled plug - angled socket	34	0.25	540327	KVI-CP-3-WS-WD-0,25
		45	0.5	540328	KVI-CP-3-WS-WD-0,5
		116	2	540329	KVI-CP-3-WS-WD-2
		256	5	540330	KVI-CP-3-WS-WD-5
		399	8	540331	KVI-CP-3-WS-WD-8
	Straight plug - straight socket	114	2	540332	KVI-CP-3-GS-GD-2
		255	5	540333	KVI-CP-3-GS-GD-5
		397	8	540334	KVI-CP-3-GS-GD-8

Connecting cables for valve terminals

KVIA, for inputs/outputs – Technical data

FESTO

Connecting cable KVIA


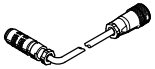
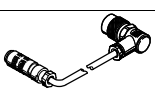
- Plug socket with cable for inputs/ outputs (valve terminal type 03/04, analogue connections)
- Pre-assembled at both ends
- Cable lengths 5 m or 10 m
- 4-pin/5-pin
- Round plug
- Suitable for chain link trunking



General technical data

Type	KVIA...	
Type of mounting	M16/M12 union nut	
Mounting position	Any	
Operating voltage range	[V]	250 AC
Current-carrying capacity	[A]	1
Protection class to EN 60 529	IP65 (assembled)	
Material of housing	Polybuteneterephthalate	
Material of contacts	Silver-plated/gold-plated bronze	
Material of cable sheath	Polyvinyl chloride	
Ambient temperature	[°C]	-30 ... +80

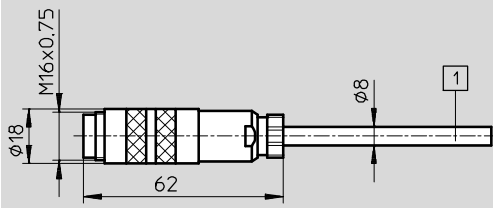
Ordering data

	Suitable for chain link trunking	Electrical connection	Constructional design [mm ²]	Cable diameter [mm]	Product weight [g]	Cable length [m]	Type	Part No.
	■	Straight plug	6x0.25	8	306	5	KVIA-5	163 960
	■	Straight plug	6x0.25	8	567	10	KVIA-10	163 961
	■	Straight plug Straight socket	4x0.25	6.2	297	5	KVIA-MPYE-5	161 984
	■	Straight plug Straight socket	4x0.25	6.2	530	10	KVIA-MPYE-10	161 985
	■	Straight plug Angled socket	6x0.25	8	352	5	KVIA-MPPE-5	163 882
	■	Straight plug Angled socket	6x0.25	8	828	10	KVIA-MPPE-10	163 883

Dimensions

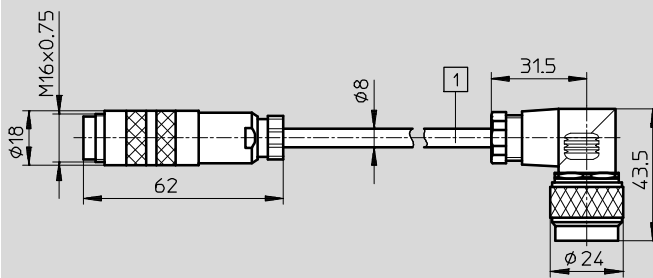
Download CAD data → www.festo.com

KVIA-5 and KVIA-10



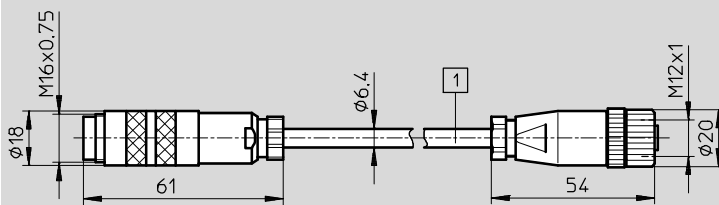
1 Cable length 5 m or 10 m

Type KVIA-MPPE...



1 Cable length 5 m or 10 m

Type KVIA-MPYE...



1 Cable length 5 m or 10 m

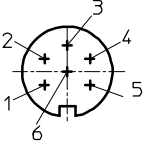
Connecting cables for valve terminals

KVIA, for inputs/outputs – Technical data

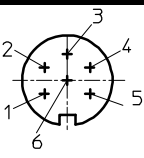
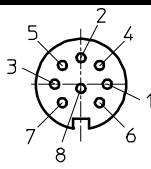
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Wiring allocation (socket/plug view)

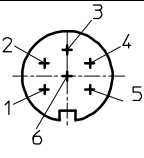
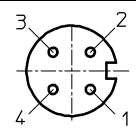
KVIA-5 and KVIA-10

Plug	Pin	Core colour
	1	Grey
	2	Pink
	3	Green
	4	Yellow
	5	Brown
	6	White
Housing		Screen

Type KVIA-MPPE-...

Plug	Pin	Core colour	Pin	Socket
	1	Grey	6	
	2	Pink	8	
	3	Green	4	
	4	Yellow	2	
	5	Brown	7	
	6	White	3	
Housing		Screen	-	

Type KVIA-MPPE-...

Plug	Pin	Core colour	Pin	Socket
	1	-	-	
	2	-	-	
	3	Green	3	
	4	Yellow	4	
	5	Brown	1	
	6	White	2	
Housing		Screen	-	

5

Connecting cable
VMPA-KMS

- Plug socket with cable for multi-pin connection (to valve terminal type 32 MPA)
- Pre-assembled
- Cable lengths 2.5 m, 5 m or 10 m
- For 8 or 24 solenoid coils
- Sub-D
- VMPA-KMS2 as a design suitable for chain link trunking



General technical data

Type	VMPA...
Type of mounting	3 M3x22 screws
Mounting position	Any
Operating voltage range [V DC]	24
Current-carrying capacity [A]	3
Protection class to EN 60 529	IP65 (assembled)
Material of housing	Fibreglass reinforced polyamide
Material of contacts	Gold-plated copper base alloy
Material of seal	Polyurethane
Ambient temperature [°C]	-30 ... +80
Ambient temperature of flexible cable installation [°C]	-5 ... +70

Ordering data

	Electrical connection	Cable composition [mm ²]	Material of cable sheath	Cable diameter [mm]	Cable length [m]	Type	Part No.
	25-pin Sub-D socket	10x0.34	Polyvinyl chloride	6.9	2.5	VMPA-KMS1-8-2,5	533 195
		10x0.34	Polyvinyl chloride	6.9	5	VMPA-KMS1-8-5	533 196
		10x0.34	Polyvinyl chloride	6.9	10	VMPA-KMS1-8-10	533 197
		25x0.34	Polyvinyl chloride	11.4	2.5	VMPA-KMS1-24-2,5	533 192
		25x0.34	Polyvinyl chloride	11.4	5	VMPA-KMS1-24-5	533 193
		25x0.34	Polyvinyl chloride	11.4	10	VMPA-KMS1-24-10	533 194
	25-pin Sub-D socket	10x0.25	Polyurethane	7.7	2.5	VMPA-KMS2-8-2,5-PUR	533 504
		10x0.25	Polyurethane	7.7	5	VMPA-KMS2-8-5-PUR	533 505
		10x0.25	Polyurethane	7.7	10	VMPA-KMS2-8-10-PUR	533 506
		25x0.25	Polyurethane	10.8	2.5	VMPA-KMS2-24-2,5-PUR	533 501
		25x0.25	Polyurethane	10.8	5	VMPA-KMS2-24-5-PUR	533 502
		25x0.25	Polyurethane	10.8	10	VMPA-KMS2-24-10-PUR	533 503

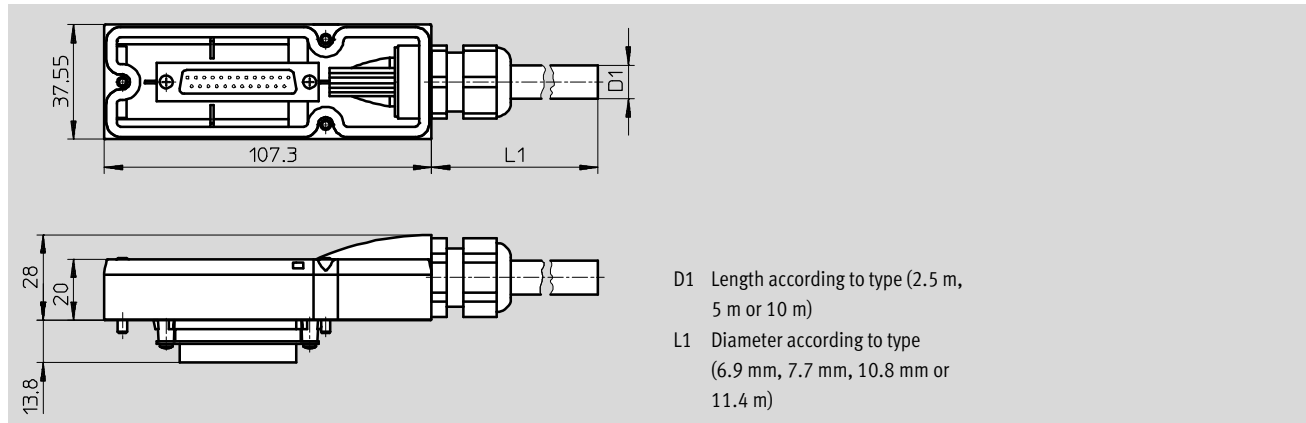
Connecting cables for valve terminals

VMPA-KMS, for multi-pin plug connection – Technical data

Dimensions

Download CAD data → www.festo.com

VMPA-...



Wiring allocation (socket view)

VMPA-KMS...-24-...

	Pin	Core colour	Pin	Core colour
	1	White	14	Yellow-brown
	2	Green	15	White-grey
	3	Yellow	16	Grey-brown
	4	Grey	17	White-pink
	5	Pink	18	Pink-brown
	6	Blue	19	White-blue
	7	Red	20	Brown-blue
	8	Purple	21	White-red
	9	Grey-pink	22	Brown-red
	10	Red-blue	23	White-black
	11	White-green	24	Brown
	12	Brown-green	25	Black
	13	White-yellow		

Pin allocation for electrical multi-pin plug connection – Sub-D plug, 9-pin

	Pin	Address/coil	Pin	Address/coil	
	1	0	6	5	Note The drawing shows the view onto the pins of the Sub-D plug.
	2	1	7	6	
	3	2	8	7	
	4	3	9	0 V ¹⁾	
	5	4			

1) 0 V for positive switching control signals; connect 24 V for negative switching control signals; mixed operation is not permitted.

Pin allocation for electrical multi-pin plug connection – Sub-D plug, 25-pin, connecting cable VMPAL-KM

	Pin	Address/coil	Connecting cable wire colour ²⁾	Pin	Address/coil	Connecting cable wire colour ²⁾	
	1	0	WH	14	13	BN YE	Note The drawing shows the view onto the pins of the Sub-D plug.
	2	1	GN	15	14	GY WH	
	3	2	YE	16	15	BN GY	
	4	3	GY	17	16	WH PK	
	5	4	PK	18	17	BN PK	
	6	5	BU	19	18	BU WH	
	7	6	RD	20	19	BN BU	
	8	7	VT	21	20	RD WH	
	9	8	GY PK	22	21	BN RD	
	10	9	RD BU	23	22	BK WH	
	11	10	GN WH	24	23	BN	
	12	11	BN GN	25	0 V ¹⁾	BK	
	13	12	YE WH				

1) 0 V for positive switching control signals; connect 24 V for negative switching control signals; mixed operation is not permitted.

2) To IEC 757

Pin allocation for electrical multi-pin plug connection – Sub-D plug, 44-pin, connecting cable VMPAL-KM

	Pin	Address/coil	Connecting cable wire colour ²⁾	Pin	Address/coil	Connecting cable wire colour ²⁾	Pin	Address/coil	Connecting cable wire colour ²⁾
	1	0	WH	18	17	BN PK	35	n.c.	n.c.
	2	1	GN	19	18	BU WH	36	n.c.	n.c.
	3	2	YE	20	19	BN BU	37	n.c.	n.c.
	4	3	GY	21	20	RD WH	38	n.c.	n.c.
	5	4	PK	22	21	BN RD	39	n.c.	n.c.
	6	5	BU	23	22	BK WH	40	n.c.	n.c.
	7	6	RD	24	23	BN	41	0 V ¹⁾	RD YE
	8	7	VT	25	24	BK BN	42	0 V ¹⁾	BK GN
	9	8	GY PK	26	25	GN GY	43	0 V ¹⁾	BK YE
	10	9	RD BU	27	26	YE GY	44	0 V ¹⁾	BK
	11	10	GN WH	28	27	GN PK			
	12	11	BN GN	29	28	YE PK			
	13	12	YE WH	30	29	GN BU			
	14	13	BN YE	31	30	YE BU			
	15	14	GY WH	32	31	RD GN			
	16	15	BN GY	33	n.c.	n.c.			
	17	16	WH PK	34	n.c.	n.c.			

1) 0 V for positive switching control signals; connect 24 V for negative switching control signals; mixed operation is not permitted.

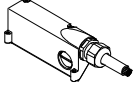

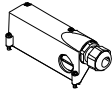
2) To IEC 757

Connecting cables for valve terminals

VMPAL-KM, for Valve terminals MPA-L – Technical data

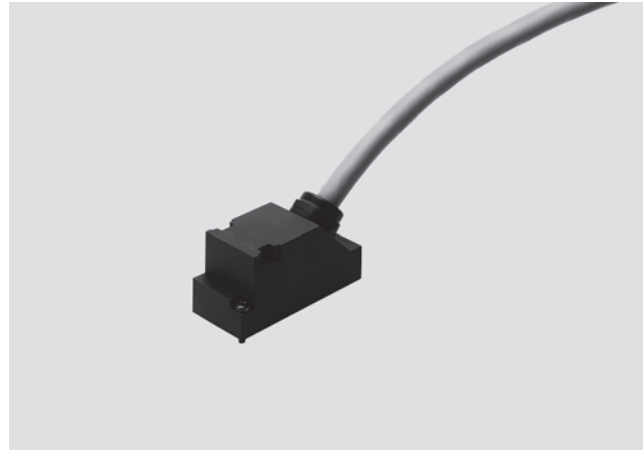
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Electrical multi-pin connection – Ordering data

Designation	Code	Description	Connection	Cable length	Part No.	Type
Connecting cable for multi-pin plug connection with Sub-D plug socket						
	Connecting cable: CA	Cable outlet to front (only with electrical connection code: MS6)	25-pin	2.5 m	560416	VMPAL-KM-V-SD25-IP67-2,5
	Connecting cable: CB			5 m	560417	VMPAL-KM-V-SD25-IP67-5
	Connecting cable: CC			10 m	560418	VMPAL-KM-V-SD25-IP67-10
	Connecting cable: –			Any	562389	VMPAL-KM-V-SD25-IP67-X
	Connecting cable: CQ	Cable outlet to front (only with electrical connection code: MS6)	25-pin	2.5 m	560410	VMPAL-KMSK-V-SD25-IP67-2,5
	Connecting cable: CR			5 m	560411	VMPAL-KMSK-V-SD25-IP67-5
	Connecting cable: CS			10 m	560412	VMPAL-KMSK-V-SD25-IP67-10
	Connecting cable: –			Any	562391	VMPAL-KMSK-V-SD25-IP67-X
	Connecting cable: CJ	Cable outlet to front (only with electrical connection code: MS8)	44-pin	2.5 m	560422	VMPAL-KM-V-SD44-IP67-2,5
	Connecting cable: CK			5 m	560423	VMPAL-KM-V-SD44-IP67-5
	Connecting cable: CL			10 m	560424	VMPAL-KM-V-SD44-IP67-10
	Connecting cable: –			Any	562390	VMPAL-KM-V-SD44-IP67-X
	Connecting cable: CD	Cable outlet to side (only with electrical connection code: MS6)	25-pin	2.5 m	560419	VMPAL-KM-S-SD25-IP67-2,5
	Connecting cable: CE			5 m	560420	VMPAL-KM-S-SD25-IP67-5
	Connecting cable: CH			10 m	560421	VMPAL-KM-S-SD25-IP67-10
	Connecting cable: –			Any	562392	VMPAL-KM-S-SD25-IP67-X
	Connecting cable: CT	Cable outlet to side (only with electrical connection code: MS6)	25-pin	2.5 m	560413	VMPAL-KMSK-S-SD25-IP67-2,5
	Connecting cable: CU			5 m	560414	VMPAL-KMSK-S-SD25-IP67-5
	Connecting cable: CV			10 m	560415	VMPAL-KMSK-S-SD25-IP67-10
	Connecting cable: –			Any	562394	VMPAL-KMSK-S-SD25-IP67-X
	Connecting cable: CM	Cable outlet to side (only with electrical connection code: MS8)	44-pin	2.5 m	560425	VMPAL-KM-S-SD44-IP67-2,5
	Connecting cable: CN			5 m	560426	VMPAL-KM-S-SD44-IP67-5
	Connecting cable: CP			10 m	560427	VMPAL-KM-S-SD44-IP67-10
	Connecting cable: –			Any	562393	VMPAL-KM-S-SD44-IP67-X
Cover for multi-pin plug connection without connecting cable with Sub-D plug socket						
	Connecting cable: EZ	Cable outlet to side or front (only with electrical connection code: MS6)	25-pin	–	560428	VMPAL-KM-SD25-IP67-0
	Connecting cable: EY			Cable outlet to side or front (only with electrical connection code: MS8)	44-pin	–

**Connecting cable
KEA-1-25P**

- Plug socket with cable for multi-pin connection
- Pre-assembled
- Cable lengths of 5 m, 10 m or by customer request
- 25-pin
- Sub-D



General technical data

Type	KEA-1-25P...	
Type of mounting	2 M3x16 screws	
Mounting position	Any	
Electrical connection	25-pin Sub-D socket	
Operating voltage range	[V]	250 AC
	[V]	250 DC
Current-carrying capacity	[A]	4
Cable diameter	[mm]	12
Protection class to EN 60 529	IP65 (assembled)	
Material of housing	Polyamide (Schulamid, 6GB30)	
Material of contacts	Gold-plated copper base alloy	
Material of cable sheath	Polyvinyl chloride	
Ambient temperature	[°C]	-20 ... +80
Ambient temperature of flexible cable installation	[°C]	-5 ... +70

Ordering data

	Cable composition [mm ²]	Product weight		Cable length [m]	Type	Part No.
		Cable [g/m]	Total [g]			
	25x0.34		1092	5	KEA-1-25P-5	177 413
	25x0.34		2040	10	KEA-1-25P-10	177 414
	25x0.34	Approx. 190	Acc. to length	Any	KEA-1-25P-X	177 415

Connecting cables for valve terminals

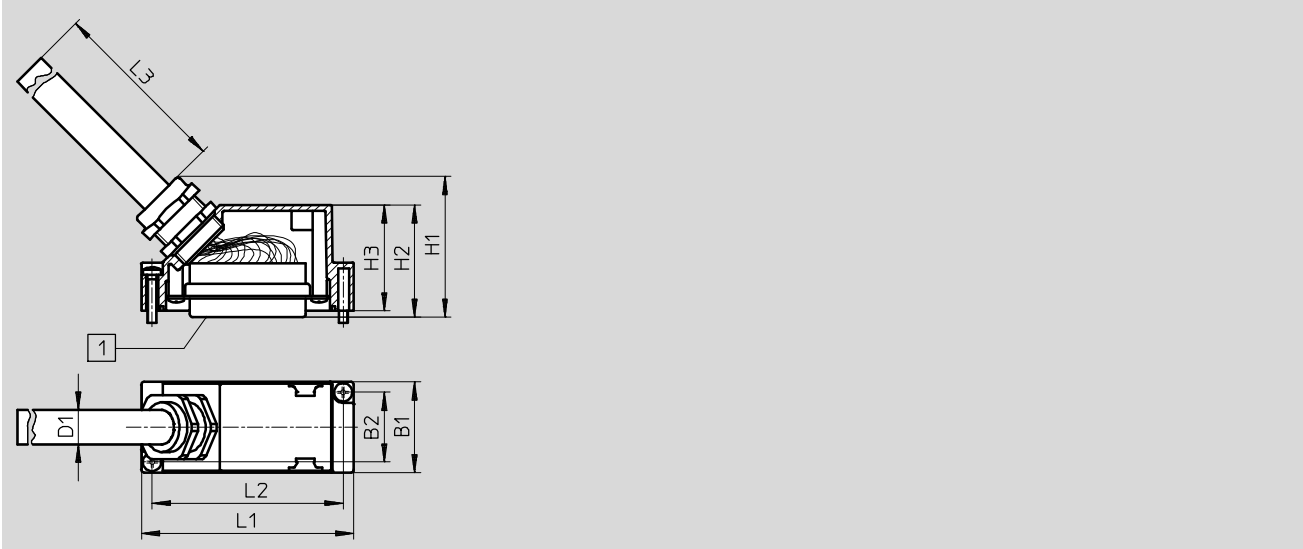
KEA-1-25P, for multi-pin plug connection – Technical data

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Dimensions

Download CAD data → www.festo.com

KEA-1-25P-...



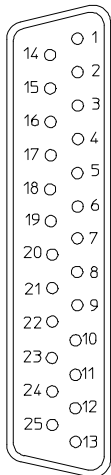
Type	1	B1	B2	D1	H1	H2	H3	L1	L2	L
KEA-1-25P-...	25-pin Sub-D socket	30	23	12	47	37	35	70	63	Length according to type (5 m or 10 m)

5

Wiring allocation (socket view)

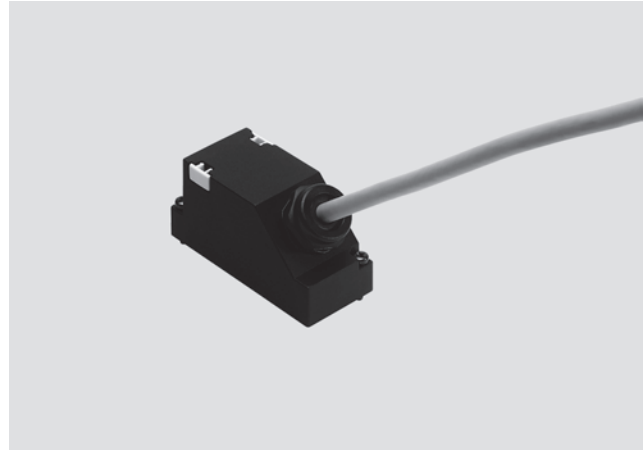
KEA-1-25P-...

Pin	Core colour
1	White
2	Green
3	Yellow
4	Grey
5	Pink
6	Blue
7	Red
8	Purple
9	Grey-pink
10	Red-blue
11	White-green
12	Brown-green
13	White-yellow
14	Yellow-brown
15	White-grey
16	Grey-brown
17	White-pink
18	Pink-brown
19	White-blue
20	Brown-blue
21	White-red
22	Brown-red
23	White-black
24	Brown
25	Black



Connecting cable KMP3

- Plug socket with cable for multi-pin connection
- Pre-assembled
- Cable lengths of 5 m or 10 m
- 9-pin or 25-pin
- Sub-D



General technical data

Type	KMP3-9P...	KMP3-25P...
Type of mounting	2 M3x16 screws	
Mounting position	Any	
Electrical connection	9-pin Sub-D socket	25-pin Sub-D socket
Nominal operating voltage	[V DC] 24	
Current-carrying capacity	[A] 3	
Cable diameter	[mm] 9.5	12
Protection class to EN 60 529	IP65 (assembled)	
Material of housing	Polyamide (Schulamid, 6GB30)	
Material of contacts	Gold-plated copper base alloy	
Material of cable sheath	Polyvinyl chloride	
Material of seal	Nitrile rubber (NBR)	
Ambient temperature	[°C] -30 ... +80	
Ambient temperature of flexible cable installation	[°C] -5 ... +80	

Ordering data

	Cable composition [mm ²]	Product weight		Cable length [m]	Type	Part No.
		Cable [g/m]	Total [g]			
	10x0.34		425	5	KMP3-9P-08-5	18 698
	10x0.34		814	10	KMP3-9P-08-10	18 579
	10x0.34	Approx. 117	Acc. to length	Any	KMP3-9P-08-X	18 697
	18x0.34		672	5	KMP3-25P-16-5	18 624
	18x0.34		1,303	10	KMP3-25P-16-10	18 625
	18x0.34	Approx. 180	Acc. to length	Any	KMP3-25P-16-X	18 699
	24x0.25	Approx. 178	Acc. to length	Any	KMP3-25P-22-X	163 971

Connecting cables for valve terminals

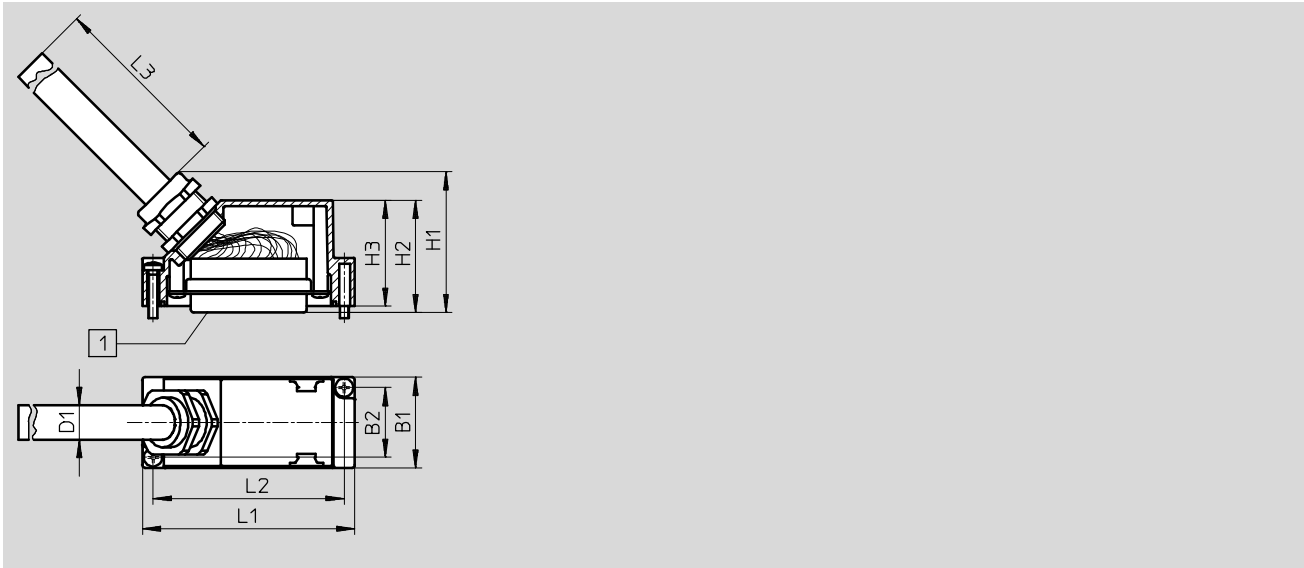
KMP3, for multi-pin plug connection – Technical data



Dimensions

Download CAD data → www.festo.com

KMP3-...



Type	1	B1	B2	D1	H1	H2	H3	L1	L2	L3
KMP3-09P-...	9-pin Sub-D socket	30	23	8.3	43	37	35	50	43	Length according to type (5 m, 10 m or any)
KMP3-25P-...	25-pin Sub-D socket	30	23	11.2	47	37	35	70	63	

5

Wiring allocation (socket view)

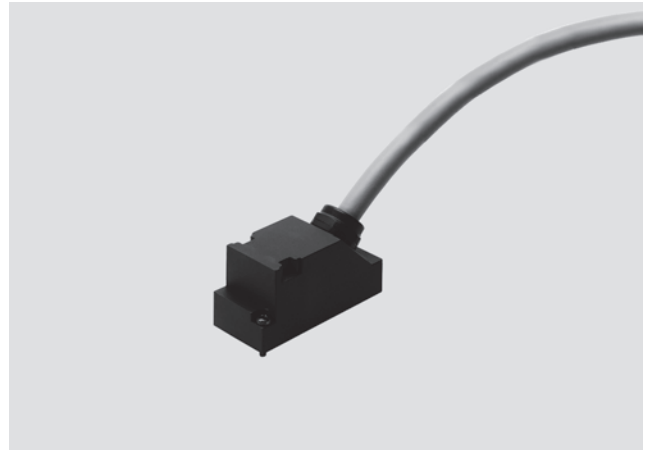
KMP3-9P-...

	Pin	Core colour	Pin	Core colour
	1	White	6	Blue
	2	Green	7	Red
	3	Yellow	8	Purple
	4	Grey	9	Black
	5	Pink	–	Brown

	KMP3-25P-16-...				KMP3-25P-22-...			
	Pin	Core colour	Pin	Core colour	Pin	Core colour	Pin	Core colour
	1	White	14	Yellow-brown	1	White	14	Yellow-brown
	2	Green	15	White-grey	2	Green	15	White-grey
	3	Yellow	16	Grey-brown	3	Yellow	16	Grey-brown
	4	Grey	17	–	4	Grey	17	White-pink
	5	Pink	18	–	5	Pink	18	Pink-brown
	6	Blue	19	–	6	Blue	19	White-blue
	7	Red	20	–	7	Red	20	Brown-blue
	8	Purple	21	–	8	Purple	21	White-red
	9	Grey-pink	22	–	9	Grey-pink	22	Brown-red
	10	Red-blue	23	–	10	Red-blue	23	–
	11	White-green	24	Brown	11	White-green	24	Brown
	12	Brown-green	25	Black	12	Brown-green	25	Black
	13	White-yellow	–	–	13	White-yellow	–	–

Connecting cable KMP4

- Plug socket with cable for multi-pin connection
- Pre-assembled
- Cable lengths of 5 m or 10 m
- 9-pin or 25-pin
- Sub-D
- Suitable for chain link trunking



General technical data

Type	KMP4-9P-...	KMP4-25P-...
Type of mounting	2 M3x16 screws	
Mounting position	Any	
Electrical connection	9-pin Sub-D socket	25-pin Sub-D socket
Nominal operating voltage	[V DC] 24	
Current-carrying capacity	[A] 3	
Cable composition	[mm ²] 10x0.25	25x0.25
Protection class to EN 60 529	IP65 (assembled)	
Material of housing	Polyamide (Schulamid, 6GB30)	
Material of contacts	Gold-plated copper base alloy	
Material of seal	Nitrile rubber (NBR)	
Ambient temperature	[°C] -40 ... +70	
Ambient temperature of flexible cable installation	[°C] -5 ... +70	

Ordering data

	Material of cable sheath	Product weight	Cable diameter	Cable length	Type	Part No.
		[g]	[mm]	[m]		
	Polyurethane	330	7.7	5	KMP4-9P-5-PUR	193 014
	Polyvinyl chloride	426	7.7	5	KMP4-9P-5-PVC	193 012
	Polyurethane	675	8.3	10	KMP4-9P-10-PUR	193 015
	Polyvinyl chloride	792	8.3	10	KMP4-9P-10-PVC	193 013
	Polyurethane	732	10.8	5	KMP4-25P-5-PUR	193 018
	Polyvinyl chloride	854	10.8	5	KMP4-25P-5-PVC	193 016
	Polyurethane	1411	11.2	10	KMP4-25P-10-PUR	193 019
	Polyvinyl chloride	1617	11.2	10	KMP4-25P-10-PVC	193 017

Connecting cables for valve terminals

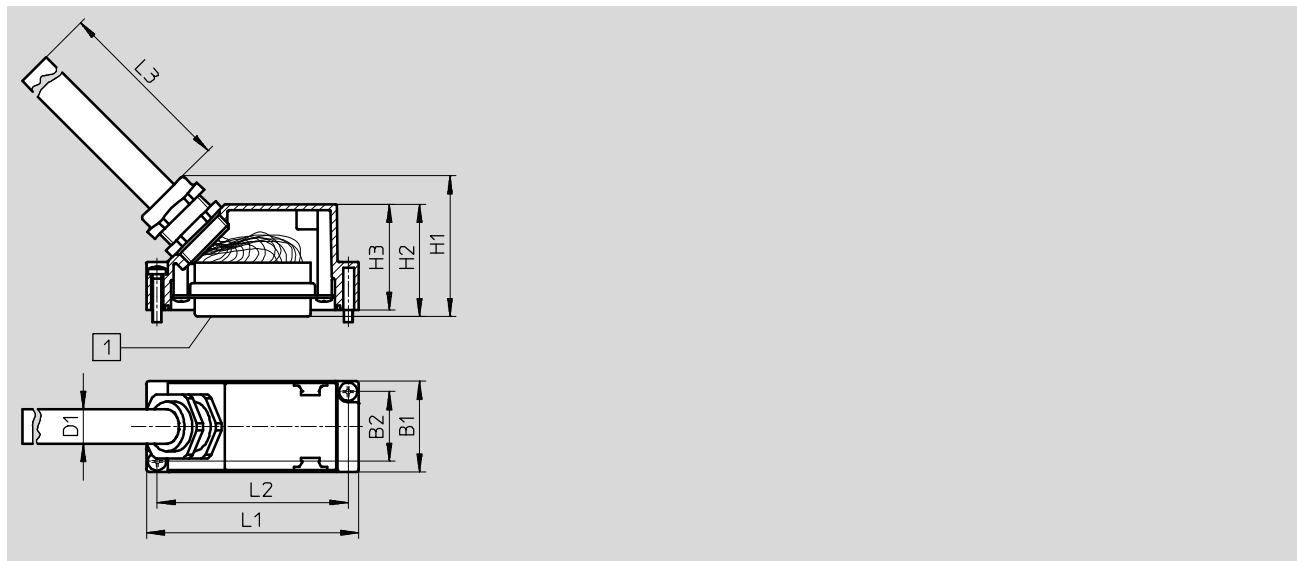
KMP4, for multi-pin plug connection – Technical data

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Dimensions

Download CAD data → www.festo.com

KMP4-...



Type	1	B1	B2	D1	H1	H2	H3	L1	L2	L3
KMP4-09P-...-PVC	9-pin Sub-D socket	30	23	8.3	43	37	35	50	43	Length according to type (5 m or 10 m)
KMP4-09P-...-PUR	9-pin Sub-D socket	30	23	7.7	43	37	35	50	43	
KMP4-25P-...-PVC	25-pin Sub-D socket	30	23	11.2	47	37	35	70	63	
KMP4-25P-...-PUR	25-pin Sub-D socket	30	23	10.8	47	37	35	70	63	

5

Wiring allocation (socket view)

KMP4-9P-...

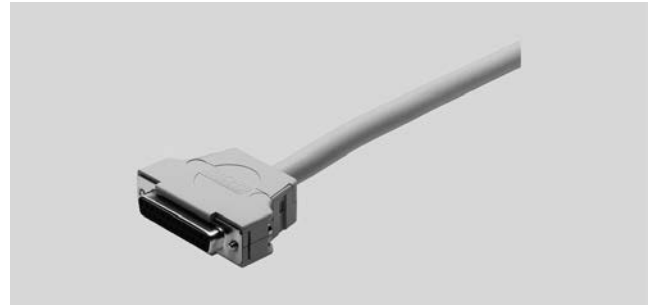
	Pin	Core colour	Pin	Core colour
	1	White	6	Blue
	2	Green	7	Red
	3	Yellow	8	Purple
	4	Grey	9	Black
	5	Pink	-	Brown

KMP4-25P-...

	Pin	Core colour	Pin	Core colour
	1	White	14	Yellow-brown
	2	Green	15	White-grey
	3	Yellow	16	Grey-brown
	4	Grey	17	White-pink
	5	Pink	18	Pink-brown
	6	Blue	19	White-blue
	7	Red	20	Brown-blue
	8	Purple	21	White-red
	9	Grey-pink	22	Brown-red
	10	Red-blue	23	White-black
	11	White-green	24	Brown
	12	Brown-green	25	Black
	13	White-yellow		

Connecting cable KMP6

- Connecting cable for multi-pin plug connection
- Pre-assembled
- Cable lengths 2.5 m, 5 m or 10 m
- 9-pin, 15-pin, 25-pin or 26-pin
- Sub-D



General technical data

Type	KMP6-9P-8-...	KMP6-15P-12-...	KMP6-25P-12-...	KMP6-25P-20-...	KMP6-26P-16-...
Electrical connection	Straight socket Sub-D 9-pin	Straight socket Sub-D 15-pin	Straight socket Sub-D 25-pin	Straight socket Sub-D 25-pin	Straight socket Sub-D 26-pin
	Open cable end 9-wire	Open cable end 15-wire	Open cable end 15-wire	Open cable end 25-wire	Open cable end 20-wire
Type of mounting	Via through-hole				
Mounting position	Any				
Operating voltage range [V DC]	0 ... 24				
Acceptable current load [A]	2.8	2.8	2.8	2.8	2.5
Cable composition [mm ²]	8x0.34	15x0.34	15x0.34	20x0.25	20x0.25
	1x0.5	–	–	5x0.34	–
Cable diameter [mm]	7.6	8.5	8.5	10.3	8.6
Degree of protection to EN 60529	IP40 (assembled)				

Materials

Housing	PBT reinforced
Pin contacts	Gold-plated copper alloy
Cable sheath	PVC

Operating and environmental conditions

Ambient temperature [°C]	–30 ... +80
Ambient temperature with flexible cable installation [°C]	–5 ... +80

Connecting cables for valve terminals

KMP6, Sub-D – Technical data

FESTO

Circuitry (socket view)

KMP6-9P-8-...		KMP6-15P-12-...			
	Pin	Wire colour ¹⁾		Pin	Wire colour ¹⁾
	1	WH		12	RD BU
	2	BN		13	WH GN
	3	GN		14	BN GN
	4	YE		15	WH YE
	5	GY			
	6	PK			
	7	BU			
	8	RD			
	9	BK ²⁾			
KMP6-25P-12-...		KMP6-25P-20-...			
	Pin	Wire colour ¹⁾		Pin	Wire colour ¹⁾
	1	WH	18	-	
	2	BN	19	-	
	3	GN	20	-	
	4	YE	21	-	
	5	GY	22	-	
	6	PK	23	WH GN	
	7	BU	24	BN GN	
	8	RD	25	WH YE	
	9	BK			
	10	VT			
	11	GY PK			
	12	RD BU			
	13	-			
	14	-			
	15	-			
	16	-			
	17	-			
	1	WH	18	GY BN	
	2	BN	19	WH PK	
	3	GN	20	PK BN	
	4	YE	21	WH BU ³⁾	
	5	GY	22	BN BU ³⁾	
	6	PK	23	WH RD ³⁾	
	7	BU	24	BN RD ³⁾	
	8	RD	25	WH BK ³⁾	
	9	BK			
	10	VT			
	11	GY PK			
	12	RD BU			
	13	WH GN			
	14	BN GN			
	15	WH YE			
	16	YE BN			
	17	WH GY			
KMP6-26P-16-...					
	Pin	Wire colour ¹⁾		Pin	Wire colour ¹⁾
	1	WH	14	BN GN	
	2	BN	15	WH YE	
	3	GN	16	YE BN	
	4	YE	17	-	
	5	GY	18	-	
	6	PK	19	-	
	7	BU	20	-	
	8	RD	21	-	
	9	BK	22	-	
	10	VT	23	WH GY	
	11	GY PK	24	GY BN	
	12	RD BU	25	WH PK	
	13	WH GN	26	PK BN	

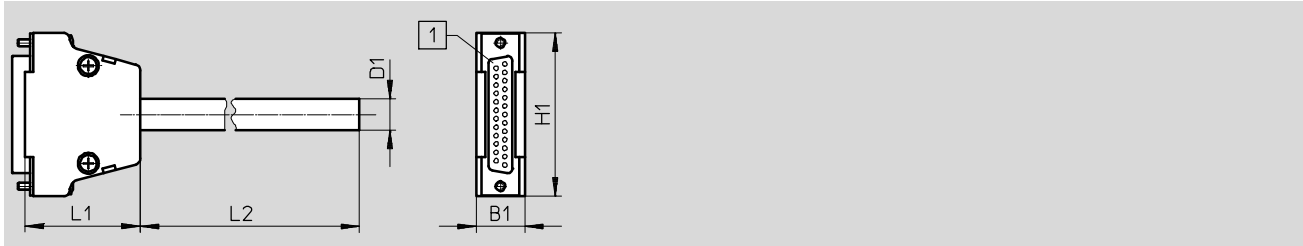
1) To IEC 757

2) Wire cross section 0.5 mm²

3) Wire cross section 0.34 mm²

Dimensions

Download CAD data → www.festo.com



Type	1	B1	D1	H1	L1	L2
KMP6-09P-8-...	Sub-D socket, 9-pin	16	7.6	31.2	34.5	Length according to type (2.5 m, 5 m or 10 m)
KMP6-15P-12-...	Sub-D socket, 15-pin	16	8.5	40	34.5	
KMP6-25P-12-...	Sub-D socket, 25-pin	16	8.5	53.4	37.7	
KMP6-25P-20-...	Sub-D socket, 25-pin	16	10.3	53.4	37.7	
KMP6-26P-16-...	Sub-D socket, 26-pin	16	8.6	40	34.5	

Ordering data

Electrical connection	Cable composition [mm ²]	Product weight [g]	Cable length [m]	Part No.	Type
Sub-D socket, 9-pin	8x0.34 + 1x0.5	248	2.5	531184	KMP6-09P-8-2,5
	8x0.34 + 1x0.5	454	5	531185	KMP6-09P-8-5
	8x0.34 + 1x0.5	864	10	531186	KMP6-09P-8-10
Sub-D socket, 15-pin	15x0.34	293	2.5	527543	KMP6-15P-12-2,5
	15x0.34	585	5	527544	KMP6-15P-12-5
	15x0.34	1134	10	527545	KMP6-15P-12-10
Sub-D socket, 25-pin	15x0.34	329	2.5	530049	KMP6-25P-12-2,5
	15x0.34	590	5	530050	KMP6-25P-12-5
	15x0.34	1140	10	530051	KMP6-25P-12-10
Sub-D socket, 25-pin	20x0.25 + 5x0.34	432	2.5	530046	KMP6-25P-20-2,5
	20x0.25 + 5x0.34	814	5	530047	KMP6-25P-20-5
	20x0.25 + 5x0.34	1600	10	530048	KMP6-25P-20-10
Sub-D socket, 26-pin	20x0.25	280	2.5	527546	KMP6-26P-16-2,5
	20x0.25	570	5	527547	KMP6-26P-16-5
	20x0.25	1145	10	527548	KMP6-26P-16-10

Connecting cables for valve terminals

KMPV, for multi-pin plug connection – Technical data

FESTO

Plug socket with cable KMPV

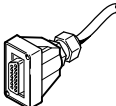
- Plug socket with cable for multi-pin connection (to multi-pin plug distributor MPV-...)
- Pre-assembled
- Cable lengths of 5 m or 10 m
- 15-pin
- Sub-D



General technical data

Type	KMPV-...	
Type of mounting	2 M4x16 screws	
Mounting position	Any	
Electrical connection	15-pin Sub-D socket	
Operating voltage range	[V]	30 DC
Current-carrying capacity	[A]	2.8
Cable diameter	[mm]	8.2
Protection class to EN 60 529	IP65 (assembled)	
Material of housing	Polyester, fibreglass reinforced	
Material of contacts	Gold-plated copper base alloy	
Material of cable sheath	Polyurethane	
Ambient temperature	[°C]	-20 ... +80

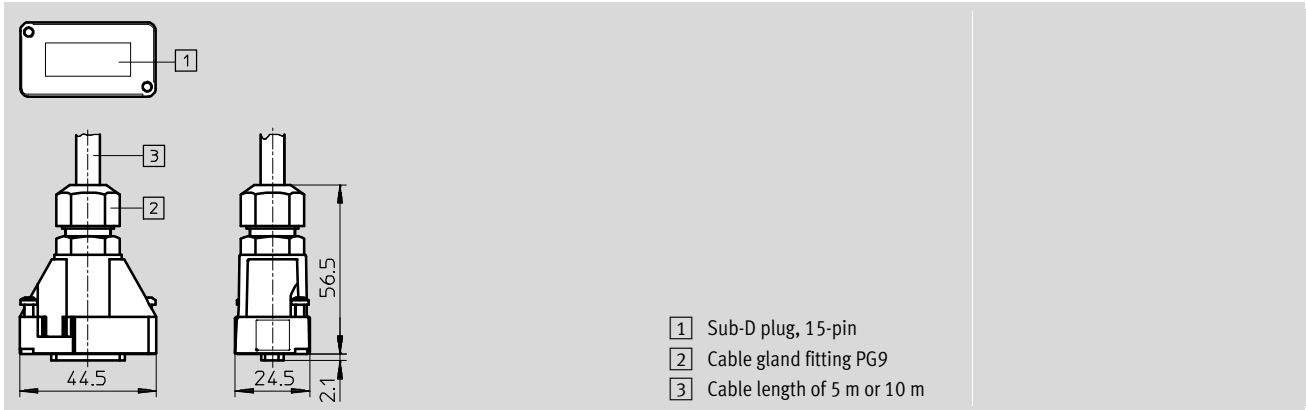
Ordering data

	Cable composition [mm ²]	Product weight [g]	Cable length [m]	Type	Part No.
	15x0.25	300	5	KMPV-SUB-D-15-5	177 673
	15x0.25	400	10	KMPV-SUB-D-15-10	177 674

Dimensions

Download CAD data → www.festo.com

KMPV-...



Wiring allocation (socket view)

KMPV-...


























	Pin	Core colour	Pin	Core colour
	1	White	9	Black
	2	Brown	10	Purple
	3	Green	11	Grey-pink
	4	Yellow	12	Red-blue
	5	Grey	13	White-green
	6	Pink	14	Brown-green
	7	Blue	15	White-yellow
	8	Red		



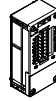















Universal plug connectors

Selection aid

FESTO
















Version	Type	CPX connection blocks										Page/Internet ↑
												
	NECU-S-M8G3-HX	■										184
	NECU-S-M8G4-HX		■									186
	NECU-S-M8G4-C2		■									186
	NECU-L3G7-C1										■	196
	NECU-G78G4-C2						■					203
	NECU-G78G5-C2							■				205
	NECU-M-PPG5-C1								■			207
	NEDU-M8D3-M8T4		■									210
	NEDU-M8D3-M12T4			■	■	■						214
	NEDU-M12D5-M12T4			■	■	■						214
	SEA-3GS-M8-S SEA-GS-M8	■										231
	SEA-GS-7 SEA-GS-9 SEA-4GS-7-2,5 SEA-M12-5GS-PG7 SEA-GS-11-DUO SEA-5GS-11-DUO			■	■	■						233
	NTSD-GD-9 NTSD-GD-13,5									■		338
	NTSD-WD-9									■		338
	NTSD-WD-11									■		338

Version	Type	CPX connection blocks						Page/Internet ↑
								
		CPX-P-AB-4XM12-4POL-8DE-N-IS	CPX-P-AB-2XKL-8POL-8DE-N-IS	CPX-P-AB-2XKL-8POL	CPX-M-GE-EV-Z-7/8-5POL CPX-M-GE-EV-Z-7/8-5POL-VL	IO-Link connecting Ports	CTS-L-D-16E-M8-3 CP-E08-M8-CL	
	NECU-S-M8G3-HX						■	184
	NECU-M-S-A12G4-IS	■						190
	NECU-L3G8-C1 Spring-loaded terminal			■				197
	NECU-L3G8-C2 Screw terminal			■				197
	NECU-L3G8-C1-IS Spring-loaded terminal		■					197
	NECU-L3G8-C2-IS Screw terminal		■					197
	NECU-G78G5-C2				■			205
	NEDU-M12D4-M12T4-IS	■						214
	SEA-GS-7 SEA-GS-9 SEA-4GS-7-2,5 SEA-M12-5GS-PG7 SEA-GS-11-DUO SEA-5GS-11-DUO						■	233
	FB-TA-M12-5POL					■		259

Universal plug connectors

Selection aid

FESTO

Version	Type	IO-Port / IO-Link / CP I/O modules			AS-interface modules		Multi-pin plug distributor		Page/Internet ↑
									
		CTSL-D-16E-M12-5 CP-E16N-M12-EL CP-E08-M12-CL CP-E16N-M12x2	CP-E32-M8-EL	CP-E16-KL-CL	ASI-4DI3DO-M12x2-5POL-Z	ASI-8DI-M8-3POL	MPV-E/A08-M8 MPV-/A0812M8 MPV-E/A08-M1	NEDU-L4R1-M8G3L-M12G8 NEDU-L6R1-M8G3L-M12G8	
	SEA-3GS-M8-S SEA-GS-M8						■	■	231
	SEA-GS-7 SEA-GS-9 SEA-4GS-7-2,5 SEA-M12-5GS-PG7 SEA-GS-11-DUO SEA-5GS-11-DUO	■					■		233
	NECU-S-M8G3-HX						■	■	184
	NECU-S-M8G4-HX		■						186
	NECU-S-M8G4-C2		■						186
	NEDU-M8D3-M8T4		■			■			210
	NEDU-M12D5-M12T4	■			■				214
	PS1-SAC31-30POL+LED			■					249

Function	Design	Type	Connection technology	Connection cross section [mm ²]	Protection class	Bus protocol/ac-tuation	→ Page/Internet
Plug	Round plug connector M8						
	3-pin	NECU-S-M8G3-HX	Harax® quick connection	0.1 ... 0.14 0.14 ... 0.34	IP65, IP67	–	184
	4-pin	NECU-S-M8G4-HX	Harax® quick connection	0.14 ... 0.34	IP65, IP67	–	186
		NECU-S-M8G4-C2	Screw terminal	0.14 ... 0.5	IP67	–	186
	Round plug connector M12, A-coded						
	3-pin	NECU-S-M12G3-HX	Harax® quick connection	0.14 ... 0.34 0.34 ... 0.75	IP65, IP67	–	188
	4-pin	NECU-M-S-A12G4	Spring-loaded terminal	0.14 ... 0.5	IP65, IP67	–	190
		NECU-S-M12G4-HX	Harax® quick connection	0.14 ... 0.34 0.34 ... 0.75	IP65, IP67	–	190
		NECU-S-M12G4-...-IS	Screw terminal	0.14 ... 0.5 0.75	IP65, IP67	–	190
	5-pin	NECU-M-S-B12G5	Screw terminal	0.14 ... 0.75	IP67	PROFIBUS	273
	Round plug connector M12, D-coded						
	4-pin	NECU-M-S-D12G4	Screw terminal, can be screened	0.14 ... 0.75	IP67	Ethernet	190
	Square plug connector						
	4-pin	NECU-S-ECG4	Insulation displacement connector	0.14	IP40	–	194
	7-pin	NECU-L3G7-C1	Spring-loaded terminal	0.2 ... 2.5	–	–	196
	8-pin	NECU-L3G8-C1	Spring-loaded terminal	0.2 ... 2.5	–	–	197
		NECU-L3G8-C2	Screw terminal	0.2 ... 2.5	–	–	197
	Sub-D plug connector						
	9-pin	NECU-S1W9-C2-APB	IDC terminal	0.08 ... 0.5	IP20	PROFIBUS	263

Function	Design	Type	Connection technology	Connection cross section [mm ²]	Protection class	Bus protocol/ac-tuation	→ Page/Internet
Socket	Round plug connector M8						
	4-pin	NECU-M8G4	Screw terminal	0.14 ... 0.5	IP67	–	199
	Round plug connector M12						
	4-pin	SIE	Screw terminal	0.25 ... 0.75	IP67	–	201
	5-pin	NECU-M-B12G5	Screw terminal	0.14 ... 0.75	IP67	–	275
	Round plug connector 7/8"						
	4-pin	NECU-G78G4	Screw terminal	Max. 1.5	IP67	–	203
	5-pin	NECU-G78G5	Screw terminal	Max. 1.5	IP67	–	205
	AIDA push-pull plug connector						
	5-pin	NECU-M-PPG5	Spring-loaded terminal	0.75 ... 2.5	IP65, IP67	–	207
	Sub-D plug connector						
	9-pin	NECU-S1W9-C2-ACO	Screw terminal, can be screened	0.14 ... 0.5	IP20	CANopen	265

Universal plug connectors

NECU-S-M8G3, M8, 3-pin – Technical data

FESTO

Plug
NECU-S-M8G3

- Plug
- 3-pin
- Can be assembled with any cable lengths



General technical data

Type	NECU-S-M8G3-HX-Q3	NECU-S-M8G3-HX
Electrical connection	Straight plug, M8x1	
	3-pin	
	Insulation displacement connector	
Operating voltage range	[V DC]	0 ... 32
	[V AC]	0 ... 32
Surge resistance	[kV]	0.8
Acceptable current load at 40 °C	[A]	2
		4
Based on standard	EN 61076-2-104	EN 61076-2-104
	EN 61984	EN 61984
Permissible cable Ø	[mm]	2.1 ... 3.5
Permissible individual wire Ø	[mm]	≥ 0.05
Connection cross section	[mm ²]	0.1 ... 0.14
Permissible wire Ø	[mm]	0.6 ... 1
Permissible wire insulation	PP	PP
	PVC	PVC
	–	TPE-E
Connection frequency		3
Max. tightening torque of locking clip	[Nm]	0.3
Protection class		IP65
		IP67

Materials

Housing	Polyamide
	Nickel-plated die-cast zinc
Seals	Fluoro elastomer
	Polyurethane
Pin contact	Gold-plated
Note on materials	Free of copper and PTFE
	RoHS-compliant

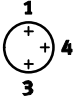
Operating and environmental conditions

Ambient temperature	[°C]	–25 ... +85
Corrosion resistance class CRC ¹⁾		1
Degree of contamination		3
Certification		cULus recognized (OL)

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

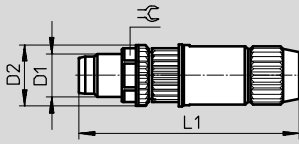
Pin allocation

M8x1

3-pin	Pin	Wire colour
	1	Brown
	3	Blue
	4	Black

Dimensions

Download CAD data → www.festo.com



Type	D1	D2	L1	⊕
NECU-S-M8G	M8x1	11.5	40.8	9

Ordering data

Electrical connection	Connection cross section [mm ²]	Weight [g]	Part No.	Type
Plug M8x1, 3-pin, straight, insulation displacement connector	0.1 ... 0.14	7.8	564945	NECU-S-M8G3-HX-Q3
	0.14 ... 0.34	7.8	562024	NECU-S-M8G3-HX

Universal plug connectors

NECU-S-M8G4, M8, 4-pin – Technical data

FESTO

Plug
NECU-S-M8G4

- Plug
- 4-pin
- Can be assembled with any cable lengths



General technical data

Type	NECU-S-M8G4-HX	NECU-S-M8G4-C2
Electrical connection	Straight plug, M8x1	
	4-pin	
	Insulation displacement connector	Screw terminal
Plug coding	–	Coded via contact arrangement
Operating voltage range	[V DC]	0 ... 32
	[V AC]	0 ... 32
Surge resistance	[kV]	0.8
Acceptable current load at 40 °C	[A]	4
Based on standard	EN 61076-2-104	EN 61076-2-101
	EN 61984	EN 61984
Transmission characteristics	–	DIN EN 50173/CAT 5
Permissible cable Ø	[mm]	2.5 ... 5.1
Permissible individual wire Ø	[mm]	≥ 0.1
Connection cross section	[mm ²]	0.14 ... 0.34
Permissible wire Ø	[mm]	0.9 ... 1.6
Permissible wire insulation	PP	–
	PVC	–
	TPE-E	–
Connection frequency		3
Max. tightening torque of locking clip	[Nm]	0.3
Protection class	IP65	–
	IP67	IP67

Materials

Type	NECU-S-M8G4-HX	NECU-S-M8G4-C2
Housing	Polyamide	–
	Nickel-plated die-cast zinc	–
Seals	Fluoro elastomer	–
	Polyurethane	–
Pin contact	Gold-plated	Gold-plated brass
Union nut	–	Nickel-plated brass
Note on materials	Free of copper and PTFE	–
	RoHS-compliant	RoHS-compliant

Operating and environmental conditions

Type	NECU-S-M8G4-HX	NECU-S-M8G4-C2
Ambient temperature [°C]	-25 ... +85	-25 ... +85
Corrosion resistance class CRC ¹⁾	1	1
Degree of contamination	3	3
Certification	cULus recognized (OL)	-

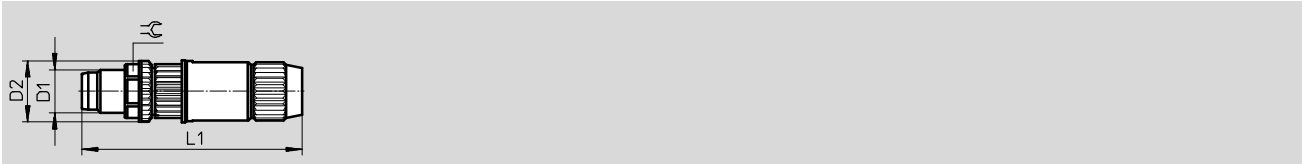
- 1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Pin allocation

M8x1		
4-pin	Pin	Wire colour
	1	Brown
	2	White
	3	Blue
	4	Black

Dimensions

Download CAD data → www.festo.com



Type	D1	D2	L1	☍
NECU-S-M8G4-HX	M8x1	11.5	40.8	9
NECU-S-M8G4-C2	M8x1	12	49.6	9

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Plug M8x1, 4-pin, straight	Insulation displacement connector	0.14 ... 0.34	7.8	562025	NECU-S-M8G4-HX
	Screw terminal	0.14 ... 0.5	10.9	1068198	NECU-S-M8G4-C2

Universal plug connectors

NECU-S-M12G3, M12, 3-pin – Technical data

FESTO

Plug NECU-S-M12G3

- Plug
- 3-pin
- Can be assembled with any cable lengths



General technical data

Type	NECU-S-M12G3-HX	NECU-S-M12G3-HX-Q7
Electrical connection	Straight plug, M12x1	
	3-pin	
	Insulation displacement connector	
Plug coding	A-coded	
Operating voltage range	[V DC]	0 ... 32
	[V AC]	0 ... 32
Surge resistance	[kV]	0.8
Acceptable current load at 40 °C	[A]	4
Based on standard	EN 61076-2-101	EN 61076-2-101
	EN 61984	EN 61984
Permissible cable Ø	[mm]	2.9 ... 5.1
Permissible individual wire Ø	[mm]	≥ 0.1
Connection cross section	[mm ²]	0.14 ... 0.34
Permissible wire Ø	[mm]	0.9 ... 1.6
Permissible wire insulation	PP	–
	PVC	PVC
	TPE-E	–
Connection frequency		3
Max. tightening torque of locking clip	[Nm]	0.5
Protection class	IP65	IP65
	IP67	IP67

Materials

Housing	Polyamide
	Nickel-plated die-cast zinc
Seals	Fluoro elastomer
	Polyurethane
Pin contact	Gold-plated
Note on materials	Free of copper and PTFE
	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-25 ... +85
Corrosion resistance class CRC ¹⁾	1
Degree of contamination	3
Certification	cULus recognized (OL)

- 1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

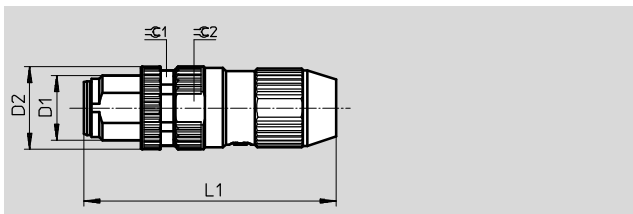
Pin allocation

M12x1		
3-pin	Pin	Wire colour
	1	Brown
	3	Blue
	4	Black

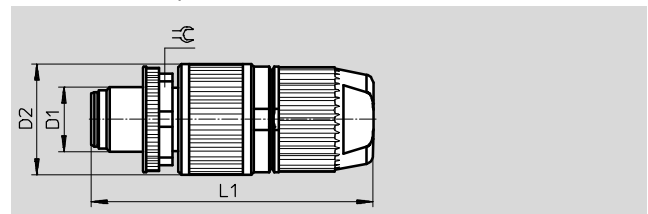
Dimensions

Download CAD data → www.festo.com

NECU-S-M12G3-HX



NECU-S-M12G3-HX-Q7



Type	D1	D2	L1	C	C1	C2
NECU-S-M12G3-HX	M12x1	15.3	46.75	-	13	14
NECU-S-M12G3-HX-Q7	M12x1	20.5	52.2	17	-	-

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Plug M12x1, 3-pin, straight	Insulation displacement connector	0.14 ... 0.34	17.5	562027	NECU-S-M12G3-HX
		0.34 ... 0.75	32.8	564946	NECU-S-M12G3-HX-Q7

Universal plug connectors

NECU-M/NECU-S, M12, 4-pin – Technical data

FESTO

Plug

NECU-M-S-A12G4

NECU-S-M12G4

NECU-M-S-D12G4

- Plug
- 4-pin
- Can be assembled with any cable lengths



General technical data

Type	NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
Electrical connection	Straight plug, M12x1		
	4-pin		
	Spring-loaded terminal	Insulation displacement connector	
Plug coding	A-coded	A-coded	
Operating voltage range	[V DC]	0 ... 30	0 ... 32
	[V AC]	–	0 ... 32
Surge resistance	[kV]	–	0.8
Acceptable current load at 40 °C	[A]	4	6
Based on standard	EN 61076-2-101	EN 61076-2-101	EN 61076-2-101
	–	EN 61984	EN 61984
Permissible cable Ø	[mm]	4.0 ... 8.0	2.9 ... 5.1
Permissible individual wire Ø	[mm]	–	≥ 0.1
Connection cross section	[mm ²]	0.14 ... 0.5	0.14 ... 0.34
Permissible wire Ø	[mm]	–	0.9 ... 1.6
Permissible wire insulation		–	PP, PVC, TPE-E
Connection frequency		100	3
Max. tightening torque of locking clip	[Nm]	0.8	0.5
Protection class		IP65	IP65
		IP67	IP67

Materials

Type	NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
Housing	–	Polyamide	Polyamide
	Nickel-plated die-cast zinc	Nickel-plated die-cast zinc	Nickel-plated die-cast zinc
Seals	–	Fluoro elastomer, polyurethane	Fluoro elastomer, polyurethane
Pin contact	Gold-plated bronze	Gold-plated	Gold-plated
Note on materials	–	Free of copper and PTFE	Free of copper and PTFE
	RoHS-compliant	RoHS-compliant	RoHS-compliant

Operating and environmental conditions

Type	NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
Ambient temperature	[°C]	–40 ... +85	–25 ... +85
Corrosion resistance class CRC ¹⁾		–	1
Degree of contamination		3	3
Certification		–	cULus recognized (OL)

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

General technical data

Type	NECU-S- M12G4-P1-Q6-IS	NECU-S- M12G4-D-IS	NECU-S- M12G4-P1-IS	NECU-S- M12G4-P2-IS	NECU-M-S- D12G4-C2-ET
Electrical connection	Straight plug, M12x1				
	4-pin				
	Screw terminal				Screw terminal, can be screened
Plug coding	A-coded				D-coded
Operating voltage range	[V DC] 0 ... 30				0 ... 250
	[V AC] –				0 ... 250
Surge resistance	[kV] 2.5				2.5
Acceptable current load at 40 °C	[A] 4				–
Based on standard	EN 61076-2-101				EN 61076-2-101
	EN 61984				EN 61984
Transmission characteristics	–				DIN EN 50173/CAT 5
Permissible cable Ø	[mm] 2.5 ... 2.9	2x 3.0 or 2x 5.0	4.0 ... 6.0	6.0 ... 8.0	6.0 ... 8.0
Connection cross section	[mm ²] 0.14 ... 0.5	0.75	0.75	0.75	0.14 ... 0.75
Connection frequency	50				–
Max. tightening torque of locking clip	[Nm] 0.5				–
Protection class	IP65				–
	IP67				IP67

Materials

Type	NECU-S-M12G4-...-IS	NECU-M-S-D12G4-C2-ET
Housing	Polyamide	Nickel-plated die-cast zinc
Pin contact	Brass	Gold-plated brass
	Coated white bronze	–
Note on materials	–	Free of copper and PTFE
	RoHS-compliant	RoHS-compliant

Operating and environmental conditions

Type	NECU-S-M12G4-...-IS	NECU-M-S-D12G4-C2-ET
Ambient temperature	[°C] –25 ... +85	–25 ... +85
Corrosion resistance class CRC ¹⁾	–	1
Degree of contamination	3	3
CE marking (see declaration of conformity)	–	To EU Low Voltage Directive

- 1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

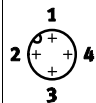
Universal plug connectors

NECU-M/NECU-S, M12, 4-pin – Technical data

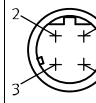
FESTO

Pin allocation

M12x1, A-coded

4-pin	Pin	Wire colour
	1	Brown
	2	White
	3	Blue
	4	Black

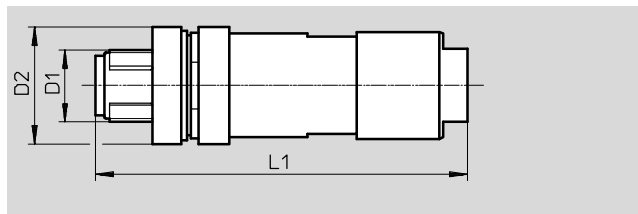
M12x1, D-coded

4-pin	Pin	Wire colour
	1	–
	2	–
	3	–
	4	–

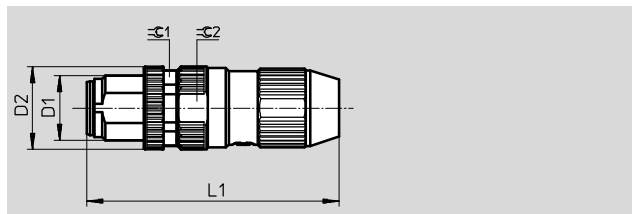
Dimensions

Download CAD data → www.festo.com

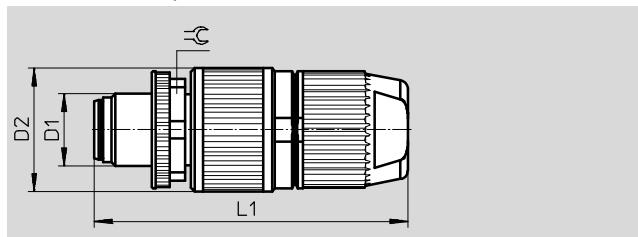
NECU-M-S-A12G4-IS



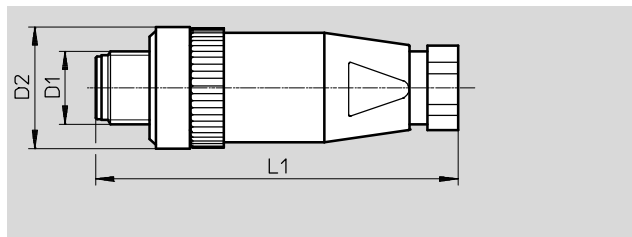
NECU-S-M12G4-HX



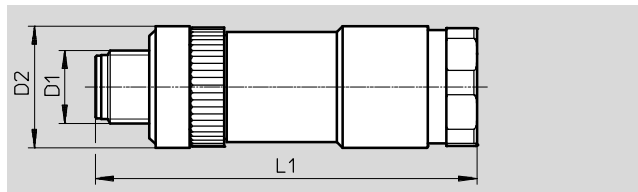
NECU-S-M12G4-HX-Q7



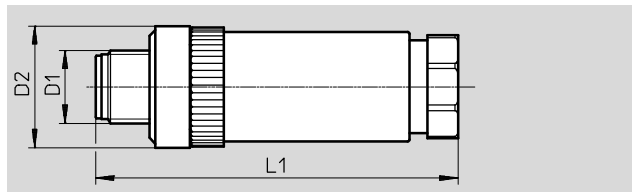
NECU-S-M12G4-P1



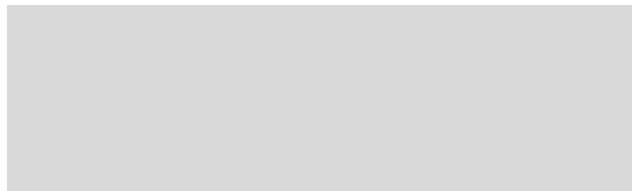
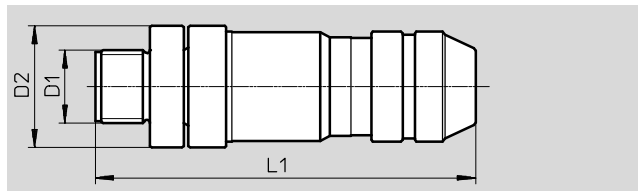
NECU-S-M12G4-D



NECU-S-M12G4-P2



NECU-M-S-D12G4-C2-ET



6

Type	D1	D2	L1	\varnothing	$\varnothing 1$	$\varnothing 2$
NECU-M-S-A12G4-IS	M12x1	19.2	61.1	–	–	–
NECU-S-M12G4-HX	M12x1	15.3	46.75	–	13	14
NECU-S-M12G4-HX-Q7	M12x1	20.5	52.2	17	–	–
NECU-S-M12G4-P1	M12x1	20	59.6	–	–	–
NECU-S-M12G4-D	M12x1	20	62.6	–	–	–
NECU-S-M12G4-P2	M12x1	20	59.6	–	–	–
NECU-M-S-D12G4-C2-ET	M12x1	20	62.5	–	–	–

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Plug M12x1, 4-pin, straight, A-coded	Spring-loaded terminal	0.14 ... 0.5	38	575719	NECU-M-S-A12G4-IS
	Insulation displacement connector	0.14 ... 0.34	17.5	562028	NECU-S-M12G4-HX
		0.34 ... 0.75	33.3	564947	NECU-S-M12G4-HX-Q7
	Screw terminal	0.14 ... 0.5	18	570955	NECU-S-M12G4-P1-Q6-IS
		0.75	24	570956	NECU-S-M12G4-D-IS
		0.75	17	570953	NECU-S-M12G4-P1-IS
		0.75	18	570954	NECU-S-M12G4-P2-IS
Plug M12x1, 4-pin, straight, D-coded	Screw terminal, can be screened	0.14 ... 0.75	45.3	543109	NECU-M-S-D12G4-C2-ET

Universal plug connectors

NECU-S-ECG4, square, 4-pin – Technical data

FESTO

Plug NECU-S-ECG4

- Plug
- 4-pin
- Insulation displacement connector
- Can be assembled with any cable lengths



General technical data

Electrical connection		Straight plug, square design
		4-pin
		Insulation displacement connector
Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	0.8
Acceptable current load at 40 °C	[A]	3
Permissible individual wire Ø	[mm]	≥ 0.07
Connection cross section	[mm ²]	0.14
Permissible wire Ø	[mm]	0.8 ... 1.0
Permissible wire insulation		PP
		PVC
		TPE-E
Connection frequency		1
Type of mounting		Engaging
Protection class		IP40

Materials

Housing		Polybutylene terephthalate
		Polycarbonate
Pin contact		Gold-plated
Note on materials		RoHS-compliant

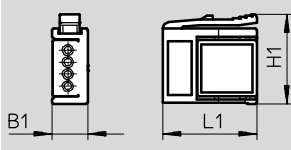
Operating and environmental conditions

Ambient temperature	[°C]	-20 ... +60
Corrosion resistance class CRC ¹⁾		1
Degree of contamination		2
Certification		cULus recognized (OL)

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Dimensions

Download CAD data → www.festo.com



Type	B1	H1	L1
NECU-S-ECG4	5.9	14.9	15.6

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Straight plug, square design, 4-pin	Insulation displacement connector	0.14	3.6	570922	NECU-S-ECG4-HX-Q3

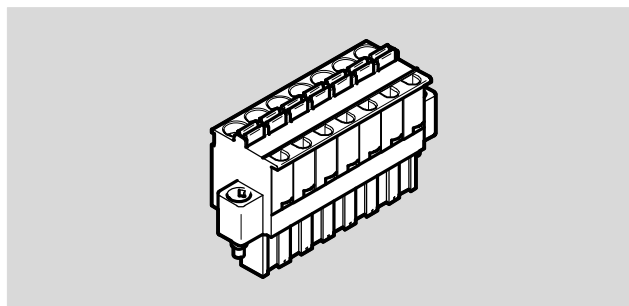
Universal plug connectors

NECU-L3G7, terminal strip, 7-pin – Technical data

FESTO

Terminal strip
NECU-L3G7

- Plug
- 7-pin
- Can be assembled with any cable lengths



General technical data

Electrical connection	Straight plug	
	7-pin	
	Spring-loaded terminal	
Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	4
Acceptable current load at 40 °C	[A]	12
Connection cross section	[mm ²]	0.2 ... 2.5
Connection frequency		100

Materials

Housing	Polyamide
Pin contact	Tin-plated copper alloy
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	-40 ... +85
Corrosion resistance class CRC ¹⁾		2
Degree of contamination		3
Certification		cULus listed (OL)

1) Corrosion resistance class 2 according to Festo standard 940 070

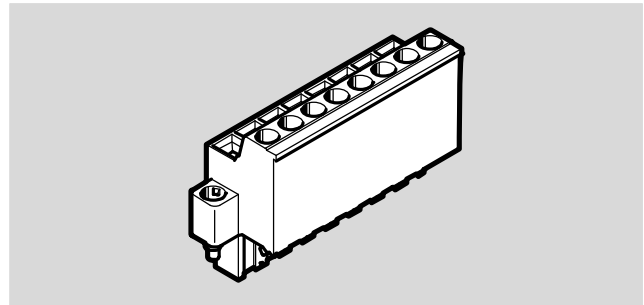
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Ordering data

Electrical connection		Housing colour	Part No.	Type
Plug, 7-pin, straight	Spring-loaded terminal	Black	576319	NECU-L3G7-C1

Terminal strip
NECU-L3G8

- Plug
- 8-pin
- Can be assembled with any cable lengths
- The plugs meet the requirements of IEC 60079-11 with regard to air, leakage paths and separation distances for the maximum intrinsically safe operating voltage of 30 V DC



General technical data

Type	NECU-L3G8-C1	NECU-L3G8-C2
Electrical connection	Straight plug	
	8-pin	
	Spring-loaded terminal	Screw terminal
Operating voltage range [V DC]	0 ... 30	0 ... 30
Surge resistance [kV]	4	0.8
Acceptable current load at 40 °C [A]	12	12
Connection cross section [mm ²]	0.2 ... 2.5	0.2 ... 2.5
Connection frequency	100	100
Max. tightening torque of locking clip [Nm]	–	0.6
Product weight [g]	20	20

Materials

Housing	Polyamide
Pin contact	Tin-plated copper alloy
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	–40 ... +85
Corrosion resistance class CRC ¹⁾	2
Degree of contamination	3

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Universal plug connectors

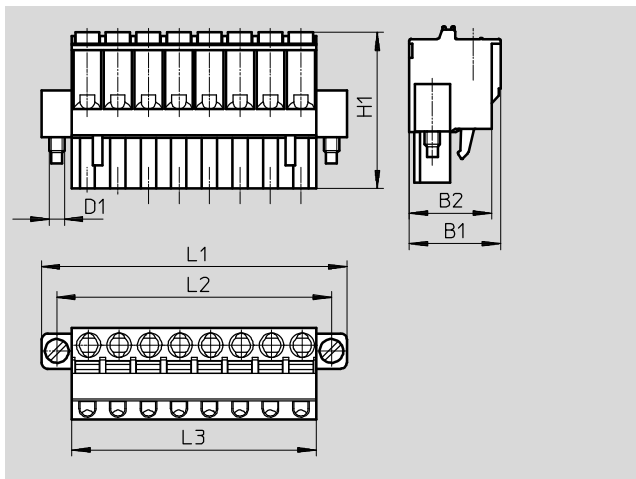
NECU-L3G8, terminal strip, 8-pin – Technical data

FESTO

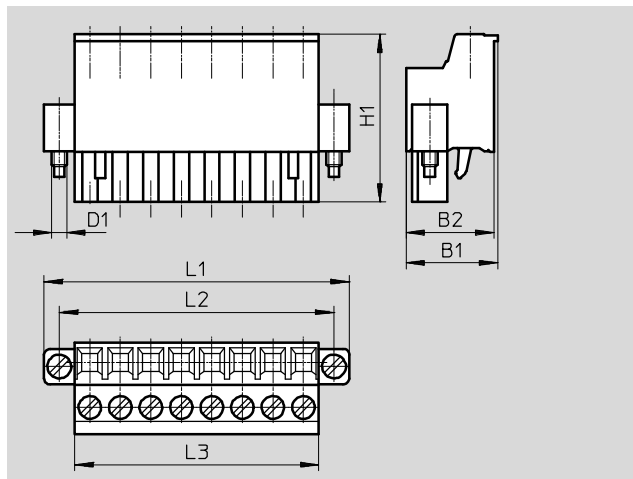
Dimensions

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NECU-L3G8-C1



NECU-L3G8-C2



Type	B1	B2	D1	H1	L1	L2	L3
NECU-L3G8-C1	15	13.5	M2.5	25.6	50	45	40
NECU-L3G8-C2	15	14.4	M2.5	27.5	50	45	40

Ordering data

Electrical connection		Housing colour	Part No.	Type
Plug, 8-pin, straight	Spring-loaded terminal	Black	565712	NECU-L3G8-C1
		Gentian blue	565711	NECU-L3G8-C1-IS
	Screw terminal	Black	565710	NECU-L3G8-C2
		Gentian blue	565709	NECU-L3G8-C2-IS

**Socket
NECU-M8G4**

- Socket
- 4-pin
- Can be assembled with any cable lengths



General technical data

Electrical connection	Straight socket, M8x1	
	4-pin	
Operating voltage range	[V DC]	0 ... 30
	[V AC]	0 ... 30
Surge resistance	[kV]	0.8
Acceptable current load at 40 °C	[A]	3
Based on standard	EN 61984	
Permissible cable Ø	[mm]	3.5 ... 5.0
Connection cross section	[mm ²]	0.14 ... 0.5
Connection frequency	500	
Max. tightening torque of locking clip	[Nm]	0.3
Protection class	IP67	

Materials

Housing	Polybutylene terephthalate	
	Nickel-plated brass	
Housing colour	Black	
Pin contact	Gold-plated brass	
Union nut	Nickel-plated brass	
Note on materials	RoHS-compliant	

Operating and environmental conditions

Ambient temperature	[°C]	-40 ... +80
Storage temperature	[°C]	-40 ... +80
Corrosion resistance class CRC ¹⁾	2	
Degree of contamination	3	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

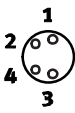
Universal plug connectors

NECU-M8G4, M8, 4-pin – Technical data

FESTO

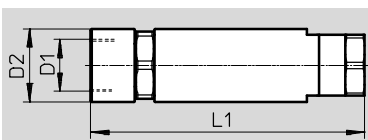
Pin allocation

M8x1

4-pin	Pin	Wire colour
	1	Brown
	2	White
	3	Blue
	4	Black

Dimensions

Download CAD data → www.festo.com



Type	D1	D2	L1
NECU-M8G	M8x1	12	45

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Socket M8x1, 4-pin, straight	Screw terminal	0.14 ... 0.5	9.5	544392	NECU-M8G4

Socket

SIE-GD

SIE-WD-TR

- Socket
- 4-pin
- Can be assembled with any cable lengths



General technical data

Type	SIE-GD	SIE-WD-TR
Electrical connection	Straight socket, M12x1 4-pin	Angled socket, M12x1 4-pin
Operating voltage range	[V DC] 0 ... 250	0 ... 250
	[V AC] 0 ... 250	0 ... 250
Surge resistance	[kV] 2.5	2.5
Acceptable current load at 40 °C	[A] 4	4
Based on standard	EN 61076-2-101	EN 61076-2-101
	EN 61984	EN 61984
Permissible cable Ø	[mm] 4 ... 6	4 ... 6
Connection cross section	[mm ²] 0.25 ... 0.75	0.25 ... 0.75
Max. tightening torque of locking clip	[Nm] 0.5	0.5
Protection class	IP67	IP67

Materials

Housing	Polyamide
Union nut	Polyamide
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C] -25 ... +85
Corrosion resistance class CRC ¹⁾	4
Degree of contamination	3
CE marking (see declaration of conformity)	To EU Low Voltage Directive

1) Corrosion resistance class 4 to Festo standard 940 070
Components subject to high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

Universal plug connectors

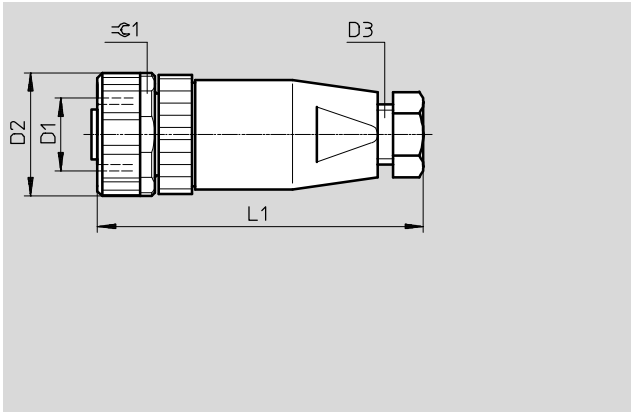
SIE-GD/SIE-WD, M12, 4-pin – Technical data

FESTO

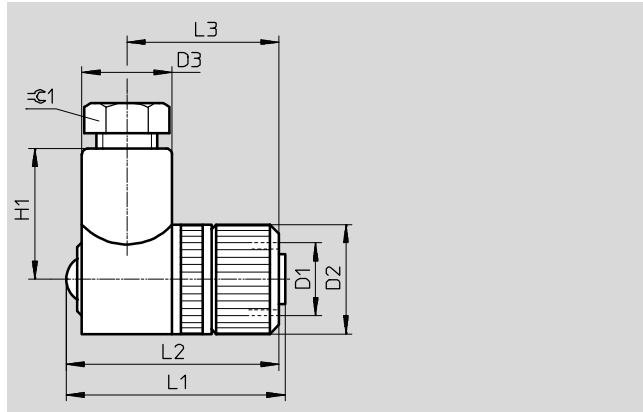
Dimensions

Download CAD data → www.festo.com

SIE-GD



SIE-WD-TR



Type	D1	D2	D3	H1	L1	L2	L3	≈C1
SIE-GD	M12x1	20.2	Pg7	–	54	–	–	18
SIE-WD-TR	M12x1	18	14.8	20.5	36	35	25	13

Ordering data

Electrical connection		Connection cross section [mm ²]	Part No.	Type
Socket M12x1, 4-pin	Straight	0.25 ... 0.75	18494	SIE-GD
	Angled	0.25 ... 0.75	12956	SIE-WD-TR

**Socket
NECU-G78G4**

- Socket
- 4-pin
- Can be assembled with any cable lengths



General technical data

Electrical connection	Straight socket, 7/8"	
	4-pin	
	Screw terminal	
Plug coding	ODVA AutoSIG	
Operating voltage range	[V DC]	0 ... 250
	[V AC]	0 ... 250
Surge resistance	[kV]	2.5
Acceptable current load at 40 °C	[A]	10
Based on standard	EN 61984	
Permissible cable Ø	[mm]	6 ... 12
Connection cross section	[mm ²]	Max. 1.5
Protection class	IP67	

Materials

Housing	Polyamide
Housing colour	Black
Seals	Fluoro elastomer
	Nitrile rubber
Pin contact	Gold-plated copper alloy
Union nut	Nickel-plated die-cast zinc
Note on materials	Free of copper and PTFE
	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +80
Corrosion resistance class CRC ¹⁾		1
Degree of contamination		3
CE marking (see declaration of conformity)	To EU Low Voltage Directive	
Certification	c CSA us (OL)	

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

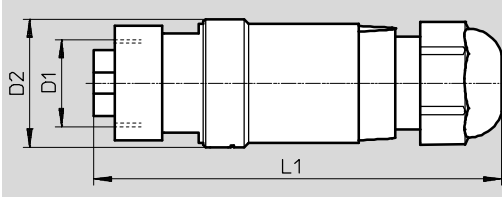
Universal plug connectors

NECU-G78G4, 7/8", 4-pin – Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



Type	D1	D2	L1
NECU-G78G4-C2	7/8"	28	89

Ordering data

Electrical connection	Connection cross section [mm ²]	Part No.	Type
Socket 7/8", 4-pin, straight	Max. 1.5	543108	NECU-G78G4-C2

Socket
NECU-G78G5

- Socket
- 5-pin
- Can be assembled with any cable lengths



General technical data

Electrical connection	Straight socket, 7/8"	
	5-pin	
	Screw terminal	
Plug coding	NFPA/T3.5.29 R1-2003	
Operating voltage range	[V DC]	0 ... 250
	[V AC]	0 ... 250
Surge resistance	[kV]	2.5
Acceptable current load at 40 °C	[A]	8
Based on standard	EN 61984	
Permissible cable Ø	[mm]	6 ... 12
Connection cross section	[mm ²]	Max. 1.5
Protection class	IP67	

Materials

Housing	Polyamide	
Housing colour	Black	
Seals	Fluoro elastomer	
	Nitrile rubber	
Pin contact	Gold-plated copper alloy	
Union nut	Nickel-plated die-cast zinc	
Note on materials	Free of copper and PTFE	
	RoHS-compliant	

Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +80
Corrosion resistance class CRC ¹⁾	1	
Degree of contamination	3	
CE marking (see declaration of conformity)	To EU Low Voltage Directive	
Certification	c CSA us (OL)	

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

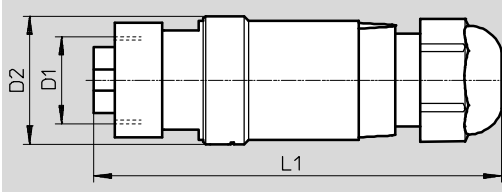
Universal plug connectors

NECU-G78G5, 7/8", 5-pin – Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



Type	D1	D2	L1
NECU-G78G5-C2	7/8"	28	89

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Socket 7/8", 5-pin, straight	Screw terminal	Max. 1.5	10.9	543107	NECU-G78G5-C2

Plug
NECU-M-PPG5

- Socket
- 5-pin
- Can be assembled with any cable lengths



General technical data

Electrical connection	Straight socket, AIDA push-pull	
		5-pin
		Spring-loaded terminal
Plug coding	On contact 2 and 5	
Operating voltage range	[V DC]	0 ... 24
Surge resistance	[kV]	2.5
Acceptable current load at 40 °C	[A]	16
Based on standard	EN 61984	
Permissible cable Ø	[mm]	9 ... 13
Connection cross section	[mm ²]	0.75 ... 2.5
Protection class	IP65	
	IP67	

Materials

Housing	Nickel-plated die-cast zinc
Housing colour	Silver
Seals	Nitrile rubber
	Thermoplastic elastomer
Pin contact	Nickel-plated and gold-plated copper alloy
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	-40 ... +100
Corrosion resistance class CRC ¹⁾		1
Degree of contamination		3

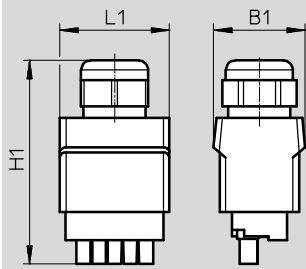
1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Universal plug connectors

NECU-M-PPG5, AIDA push-pull 5-pin – Technical data

FESTO

Dimensions



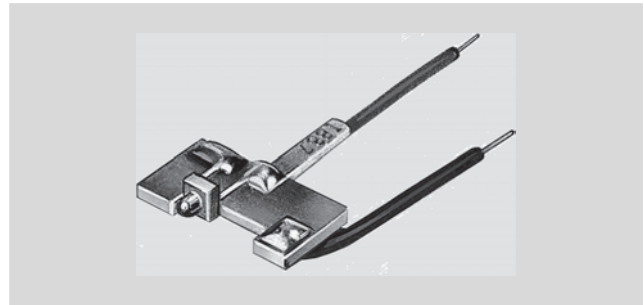
Type	B1	H1	L1
NECU-M-PPG5-C1	30	66.9	36

Ordering data

Electrical connection		Connection cross section [mm ²]	Part No.	Type
AIDA push-pull socket, 5-pin, straight	Spring-loaded terminal	0.75 ... 2.5	563059	NECU-M-PPG5-C1

**Operational status indicator
SIE-LP-LED-GR**

Used to indicate the ready status of a proximity sensor SIE connected via the angled socket SIE-WD-TR. It does this by illuminating a green LED.



Ordering data

Operating voltage range [V DC]	Ambient temperature [°C]	Part No.	Type
10 ... 30	-25 ... +70	12957	SIE-LP-LED-GR

Universal plug connectors

NEDU-M8, M8, 4-pin – Technical data

FESTO

Push-in T-connector NEDU-M8

• T-adapter



General technical data

Type of mounting		Screw-in
Mounting position		Any
Connection frequency		100
Nominal operating voltage	[V AC]	32
	[V DC]	32
Operating voltage range	[V AC]	32
	[V DC]	32
Acceptable current load	[A]	2
Protection class to EN 60529		IP65, IP67
Electrical connection		To EN 60947-5-2
Max. tightening torque	[Nm]	0.3
Product weight	[g]	9.5

Materials

Housing		PA
Housing colour		Black
Pin contacts		Gold-plated brass
Union nut		Chrome-plated and nickel-plated brass
Note on materials		Free of copper and PTFE

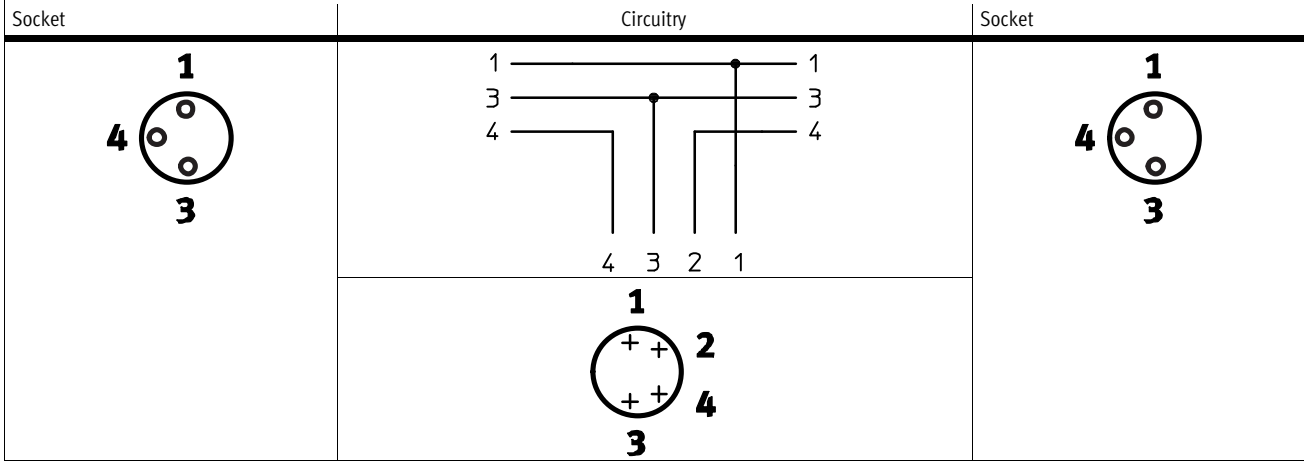
Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +85
Storage temperature	[°C]	-25 ... +85
Corrosion resistance class CRC ¹⁾		2

1) Corrosion resistance class 2 according to Festo standard 940 070

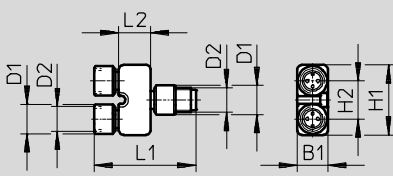
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Circuitry (socket/plug view)



Dimensions

Download CAD data → www.festo.com



Type	B1	D1 ∅	D2	H1	H2	L1	L2
NEDU-M8D3-M8T4	10	9.7	M8	23	12.5	33.6	10.4

Ordering data

Electrical connection	Part No.	Type
Plug M8, 4-pin	544391	NEDU-M8D3-M8T4

Universal plug connectors

NEDU-L2R1-V8, M12, 3-pin – Technical data

FESTO

Push-in T-connector NEDU-L2R1-V8

- T-adapter
- For IO-Link



General technical data

Electrical connection 3	Straight plug, M12, 3-pin, A-coded
Electrical connection 1	Straight socket, M12, 5-pin, A-coded
Electrical connection 2	Straight plug, M12, 2-pin, A-coded
Type of mounting	Screw-in
Max. tightening torque [Nm]	0.6
Operating voltage range [V DC]	0 ... 30
Surge strength [kV]	1.5
Acceptable current load [A]	4
Protection class to EN 60529	IP65, IP67, in assembled state
Product weight [g]	28

Materials

Housing	TPE-U(PUR)
Housing colour	Black
Union nut	Die-cast zinc, nickel plated
Seals	FPM
Pin contacts	Gold-plated copper alloy
Note on materials	RoHS-compliant

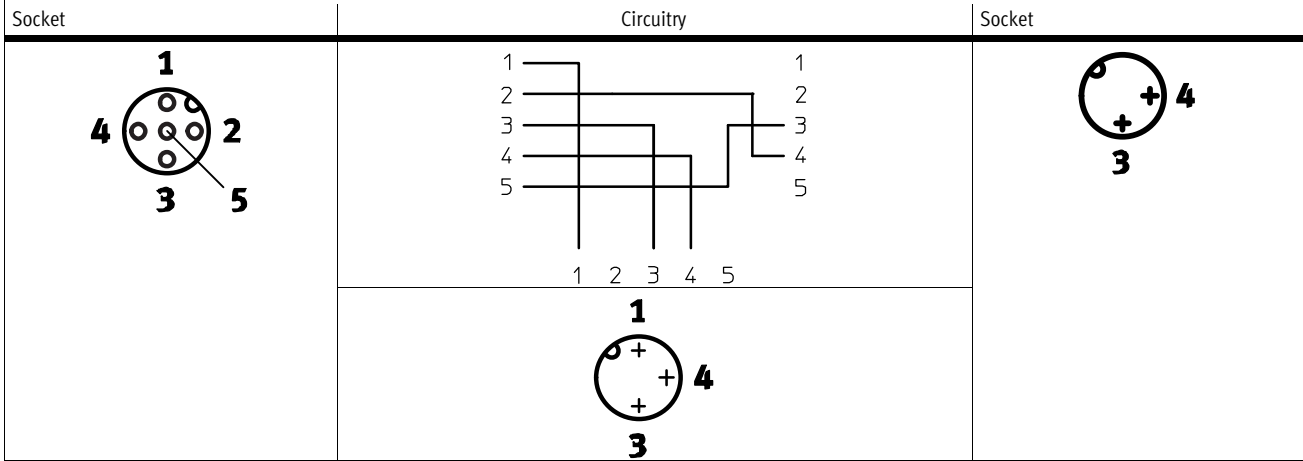
Operating and environmental conditions

Ambient temperature [°C]	-25 ... +85
Corrosion resistance class CRC ¹⁾	2
Degree of contamination	3

1) Corrosion resistance class 2 according to Festo standard 940 070

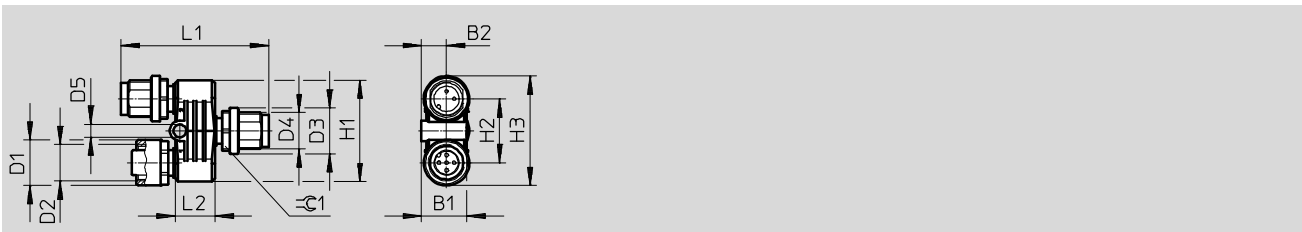
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Circuitry (socket/plug view)



Dimensions

Download CAD data → www.festo.com



Type	B1	B2	D1	D2	D3	D4	D5	H1	H2	H3	L1	L2	≈C 1
NEDU-L2R1-V8	15	8.3	15	M12	15	M12	4.2	33.3	21	36	48.5	13.2	13

Ordering data

Electrical connection	Product weight [g]	Part No.	Type
Plug M12 A-coded, 3-pin	28	2839846	NEDU-L2R1-V8-M12G5-M12G5
1x socket M12 A-coded, 5-pin 1x plug M12 A-coded, 2-pin			

Universal plug connectors

NEDU-M, M12, 4-pin – Technical data

FESTO

Push-in T-connector NEDU-M

• T-adapter



General technical data

Type	NEDU-M8D3-M12T4	NEDU-M12D4-M12T4-IS	NEDU-M12D5-M12T4
Type of mounting	Screw-in	Screw-in	Screw-in
Mounting position	Any	–	Any
Connection frequency	500	100	500
Nominal operating voltage	[V AC]	60	–
	[V DC]	60	–
Operating voltage range	[V AC]	60	–
	[V DC]	60	0 ... 30
Acceptable current load	[A]	4	–
Protection class to EN 60529	IP65, IP67	IP65, IP67	IP65, IP67
Based on standard	EN 60947-5-2	EN 61076-2-101	EN 60947-5-2
Max. tightening torque	[Nm]	0.3 with M8	0.5
	[Nm]	0.5 with M12	
Product weight	[g]	16.9	25.5

Materials

Type	NEDU-M8D3-M12T4	NEDU-M12D4-M12T4-IS	NEDU-M12D5-M12T4
Housing	Reinforced TPE-U(PU)	Reinforced TPE-U(PU) Die-cast zinc	Reinforced TPE-U(PU)
Housing colour	Black	–	Black
Pin contacts	Gold-plated brass	Gold-plated copper alloy	Gold-plated brass
Union nut	Chrome-plated and nickel-plated brass	PA reinforced	Chrome-plated and nickel-plated brass
Seals	–	FPM	–
Note on materials	Free of copper and PTFE	RoHS-compliant	Free of copper and PTFE

Operating and environmental conditions

Type	NEDU-M8D3-M12T4	NEDU-M12D4-M12T4-IS	NEDU-M12D5-M12T4
Ambient temperature	[°C]	–25 ... +85	–25 ... +85
Storage temperature	[°C]	–25 ... +85	–25 ... +85
Corrosion resistance class CRC	2 ¹⁾	3 ²⁾	2 ¹⁾

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
- 2) Corrosion resistance class 3 according to Festo standard 940 070
Components subject to high corrosion stress. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

Circuitry (socket/plug view)

NEDU-M8D3-M12T4

Socket	Circuitry	Socket

NEDU-M12D4-M12T4-IS

Socket	Circuitry	Socket

NEDU-M12D5-M12T4

Socket	Circuitry	Socket

Universal plug connectors

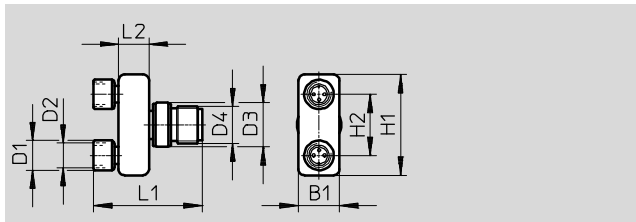
NEDU-M, M12, 4-pin – Technical data

FESTO

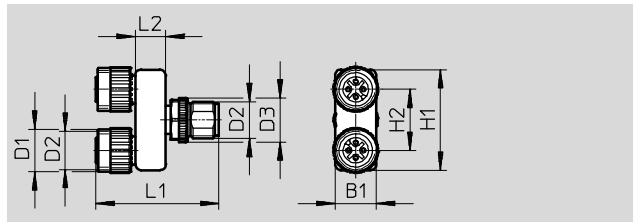
Dimensions

Download CAD data → www.festo.com

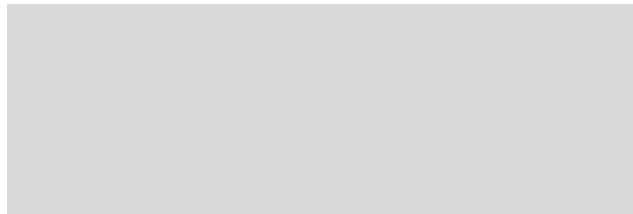
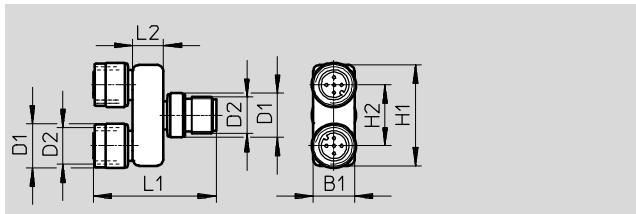
NEDU-M8D3-M12T4



NEDU-M12D4-M12T4-IS



NEDU-M12D5-M12T4



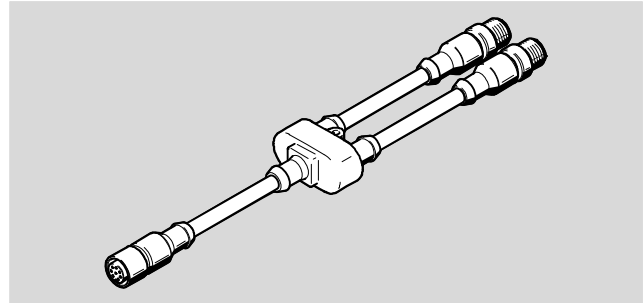
Type	B1	D1 ∅	D2	D3 ∅	D4	H1	H2	L1	L2
NEDU-M8D3-M12T4	13.5	9.7	M8	14.5	M12	33	20	35.6	10
NEDU-M12D4-M12T4-IS	13.5	14	M12	14.4	–	33	20	40.3	10
NEDU-M12D5-M12T4	13.5	14.5	M12	–	–	33	20	40.3	10

Ordering data

Electrical connection	Part No.	Type
Plug M12, A-coded, 4-pin	541597	NEDU-M8D3-M12T4
	562248	NEDU-M12D4-M12T4-IS
	541596	NEDU-M12D5-M12T4

Connecting cable NEBV-M12G8
DUO cable NEDU-L1R2-V9

- Y-connecting cable



General technical data

Type	NEBV-M12G8	NEDU-L1R2-V9
Conforms to	EN 61076-2-101	–
Cable composition	[mm ²] 8x 0.25, screened	3x 0.25
	[mm ²] –	5x 0.25, screened
Cable diameter	[mm] 6.3	4.5
	[mm] –	5.3
Cable length	[m] 3	2x 5
Assembly position	Any	Any
Operating voltage range	[V AC] 0 ... 30	0 ... 30
	[V DC] 0 ... 30	0 ... 30
Surge strength	[kV] 0.8	0.8
Acceptable current load	[A] 1.5	–
at 40 °C	[A] 2	2
Cable characteristics	Standard	–
Min. cable bending radius	[mm] 66	–
Protection class to EN 60529	IP67 in mounted status	IP65, IP67 in mounted status

Materials

Type	NEBV-M12G8	NEDU-L1R2-V9
Housing	TPE-U	TPE-U(PU), reinforced
Housing colour	–	Black
Cable sheath	TPE-U(PUR)	TPE-U(PUR)
Cable sheath colour	Grey	Black
Union nut	Nickel-plated brass	Nickel-plated brass
Seals	–	FPM
Plug contacts	Nickel-plated and gold-plated bronze	–
Note on materials	RoHS-compliant	RoHS-compliant

Operating and environmental conditions

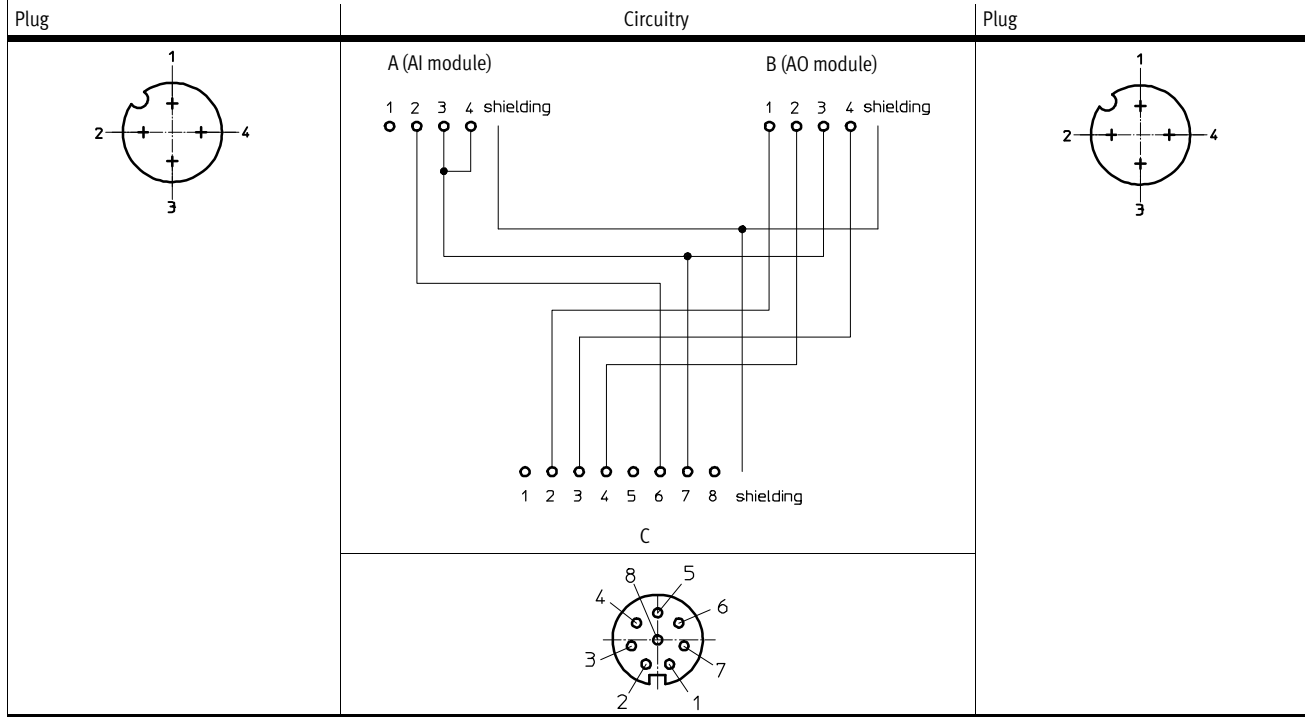
Type	NEBV-M12G8	NEDU-L1R2-V9
Ambient temperature	[°C] –25 ... +85	–25 ... +80
Ambient temperature with flexible cable installation	[°C] 0 ... +80	–5 ... +80
Corrosion resistance class CRC ¹⁾	–	2
Degree of contamination	3	3

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

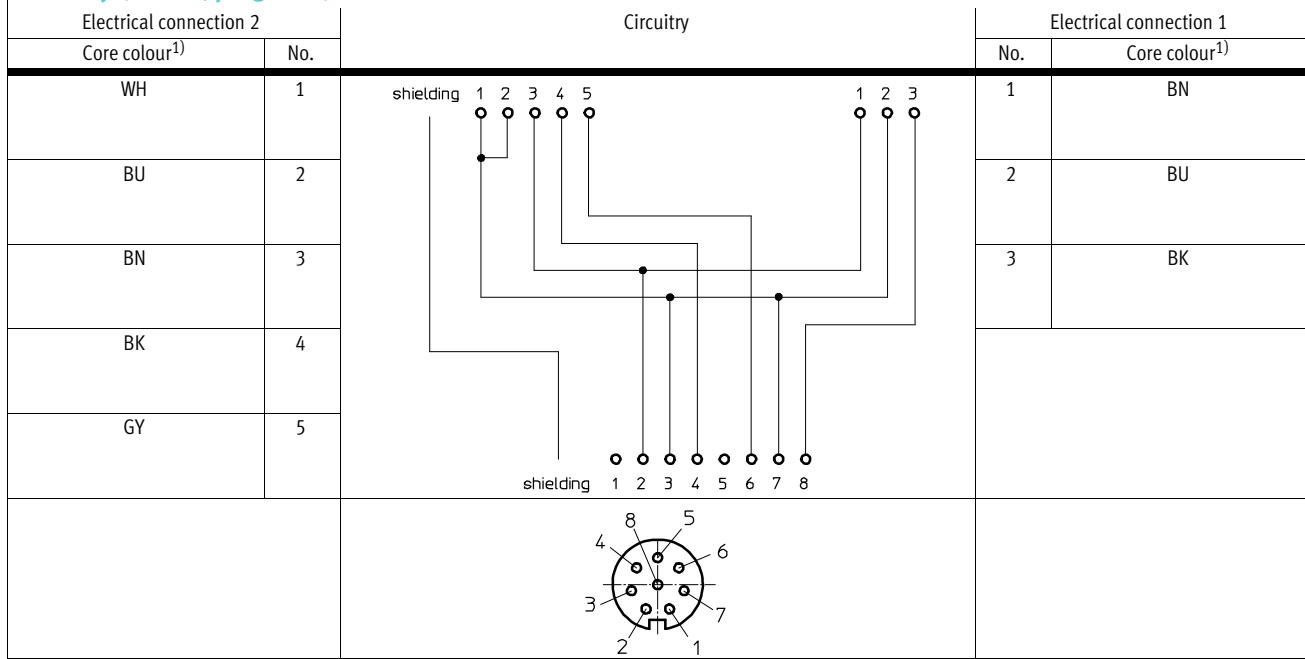
Universal plug connectors

NEDU-L1R2-V9, DUO cable, socket M12, 8-pin – Technical data

Circuitry (socket/plug view) – NEBV-M12G8



Circuitry (socket/plug view) – NEDU-L1R2-V9

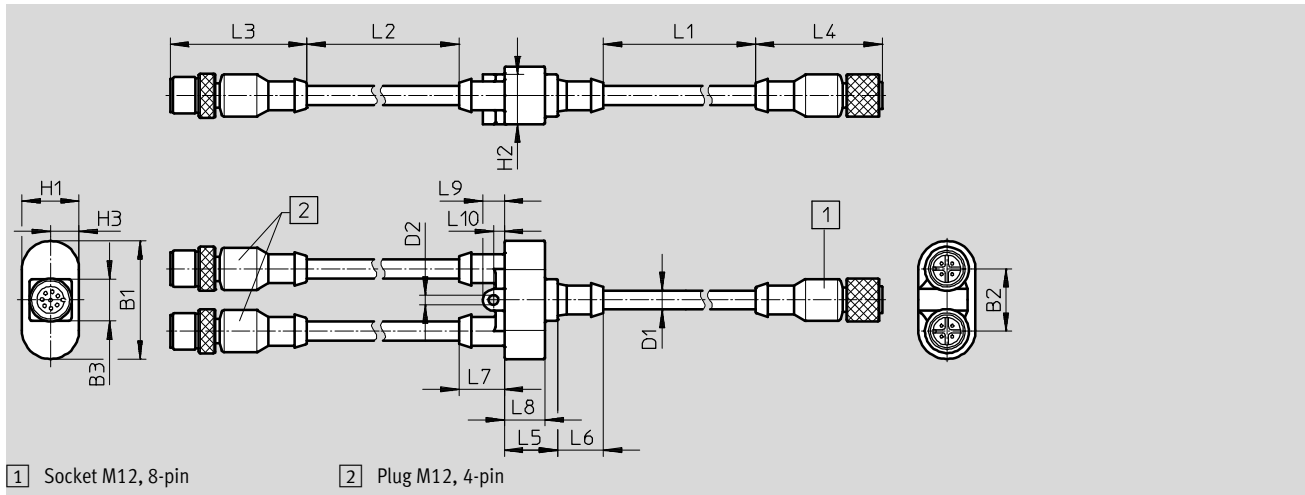


1) To IEC 757

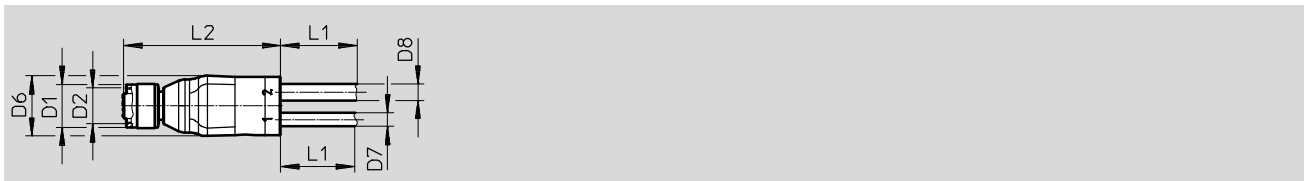
Dimensions

Download CAD data → www.festo.com

NEBV-M12G8



NEDU-L1R2-V9



Type	B1	B2	B3	D1	D2	D6	D7	D8	H1	H2	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
NEBV-M12G8	38.8	20.5	13.8	6.3	3.2	-	-	-	18.8	16.3	9.4	2500	500	44.9	41.7	17.5	15	15	13.3	7.1	3.6
NEDU-L1R2-V9	-	-	-	14.5	M12	20	4.5	5.3	-	-	-	5000	51.6	-	-	-	-	-	-	-	-

Ordering data

Electrical connection		Product weight [g]	Part No.	Type
Socket M12, 8-pin	<ul style="list-style-type: none"> Plug M12, 4-pin Plug M12, 4-pin 	247	547888	NEBV-M12G8-KD-3-M12G4
Socket M12, 8-pin, A-coded	<ul style="list-style-type: none"> Open cable end, 3-core Open cable end, 5-core 	377	2903567	NEDU-L1R2-V9-M12G8-E-LE5-5R1-LE3-5R2

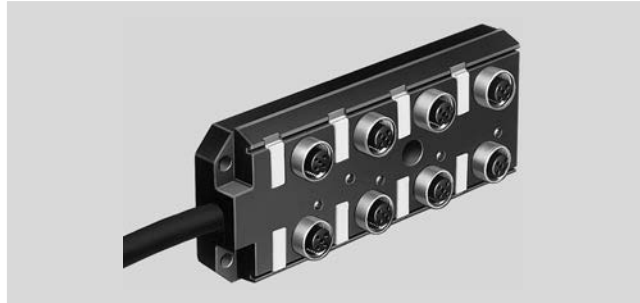
Universal plug connectors

MPV, open cable end 11-wire, socket M12, 5-pin – Technical data

FESTO

Multi-pin plug distributor MPV

- Multi-pin plug distributor



General technical data

Electrical connection technology for I/O	M12, 5-pin
Type of mounting	Via through-hole
Operating voltage range [V DC]	10 ... 30
Acceptable current load [A]	12
Acceptable current load per slot [A]	4
Protection class to EN 60529	IP67 in mounted status

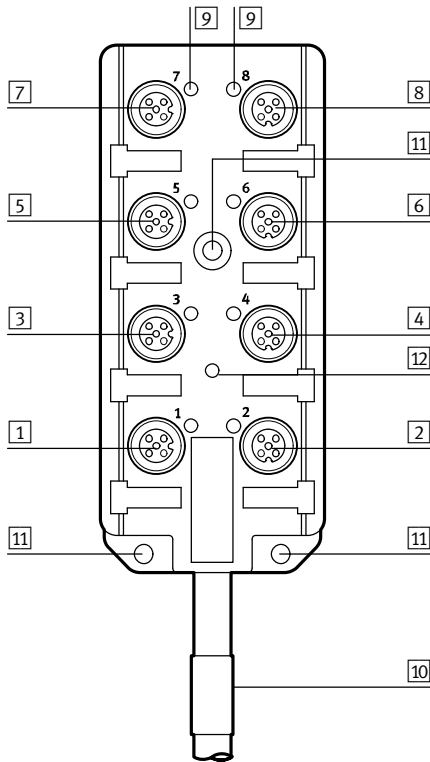
Materials

Housing	TPE-U (PU)
Cable sheath	TPE-U (PU)
Socket	Galvanized brass

Operating and environmental conditions

Ambient temperature [°C]	-20 ... +80
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Connection and display components



- 1 Sensor connection, location 1
- 2 Sensor connection, location 2
- 3 Sensor connection, location 3
- 4 Sensor connection, location 4
- 5 Sensor connection, location 5
- 6 Sensor connection, location 6
- 7 Sensor connection, location 7
- 8 Sensor connection, location 8
- 9 Green LED for status display (one LED per input)
- 10 Multi-pin plug connection/
multi-pin cable
- 11 Mounting holes
- 12 Ready status display

Circuitry (socket/plug view)

Individual connection		Allocation	Multi-pin plug connection		Allocation	Individual connection			
Location	Pin		Wire colour ¹⁾			Pin	Location		
	1	1	24 DC V	BN	BN	24 DC V	2		
		2	n.c.	–	–	n.c.			2
		3	0 V	BU	BU	0 V			3
		4	Input 1	WH	GN	Input 2			4
		5	PU	GN YE	GN YE	PU			5
	3	1	24 DC V	BN	BN	24 DC V	4		
		2	n.c.	–	–	n.c.			2
		3	0 V	BU	BU	0 V			3
		4	Input 3	YE	GY	Input 4			4
		5	PU	GN YE	GN YE	PU			5
	5	1	24 DC V	BN	BN	24 DC V	6		
		2	n.c.	–	–	n.c.			2
		3	0 V	BU	BU	0 V			3
		4	Input 5	PK	RD	Input 6			4
		5	PU	GN YE	GN YE	PU			5
	7	1	24 DC V	BN	BN	24 DC V	8		
		2	n.c.	–	–	n.c.			2
		3	0 V	BU	BU	0 V			3
		4	Input 7	BK	VT	Input 8			4
		5	PU	GN YE	GN YE	PU			5

1) To IEC 757

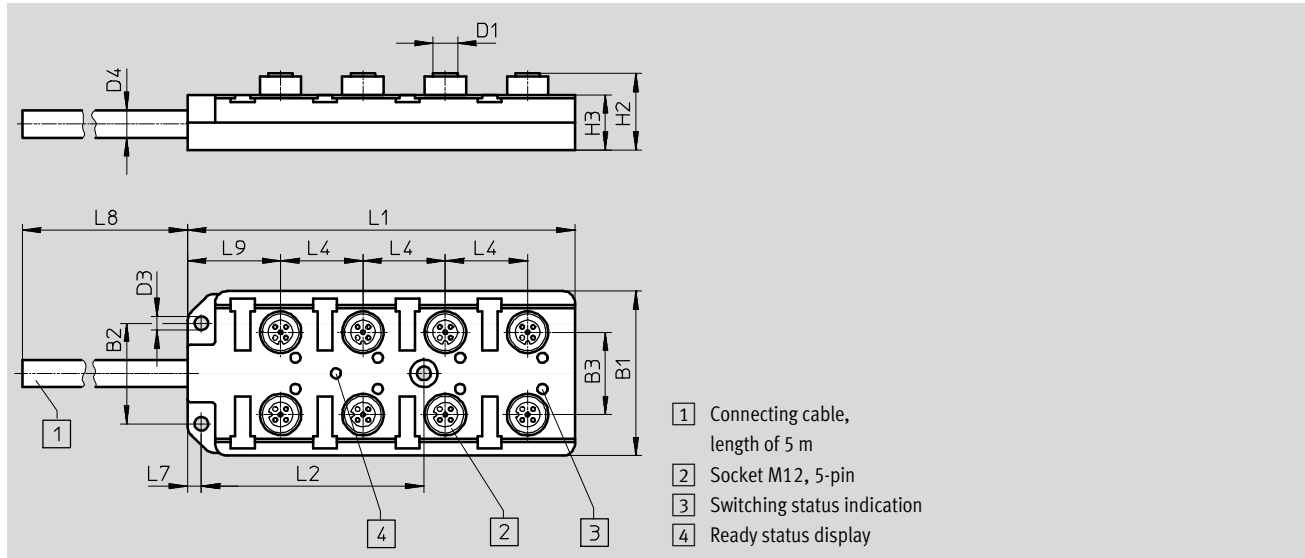
Universal plug connectors

MPV, open cable end 11-wire, socket M12, 5-pin – Technical data

FESTO

Dimensions

Download CAD data → www.festo.com




Type	B1	B2	B3	D1	D3 ∅	D4 ∅	H2	H3	L1	L2	L4	L7	L8	L9
MPV-E/A08-M12	54	33	27	M12	4.5	9	25	18	127	73	27	4.5	5000	30.5

Ordering data

Electrical connection	Weight [g]	Part No.	Type
Open cable end, 11-pin	200	177671	MPV-E/A08-M12

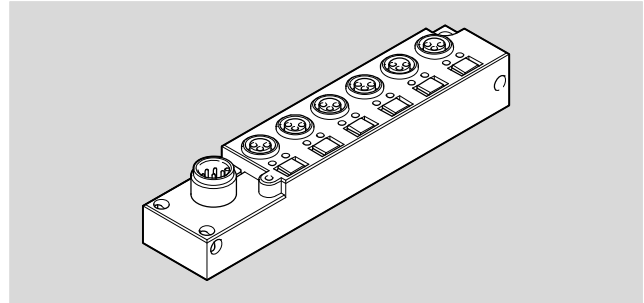
Ordering data – Accessories

Designation	Part No.	Type
Cover cap		
 Cover cap for sealing unused sockets (10 pieces)	For M12 connections	165592 ISK-M12

6

Multi-pin plug distributor NEDU-L

- Multi-pin plug distributor
- Particularly compact



General technical data

Electrical connection	Straight plug, M12, 8-pin
	Straight socket, M8, 3-pin
Mounting position	Any
Operating voltage range [V DC]	10 ... 30
Acceptable current load [A]	3
Acceptable current load per slot [A]	2
Ready status display	Green LED
Status display	Yellow LED
Protection class to EN 60529	IP68

Materials

Housing	PBT, reinforced
Housing colour	Grey
Seals	FPM
Pin contacts	Nickel-plated and gold-plated
Socket	Nickel-plated brass
Corrosion resistance class CRC ¹⁾	3

- 1) Corrosion resistance class 3 according to Festo standard 940 070
Components subject to high corrosion stress. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

Operating and environmental conditions

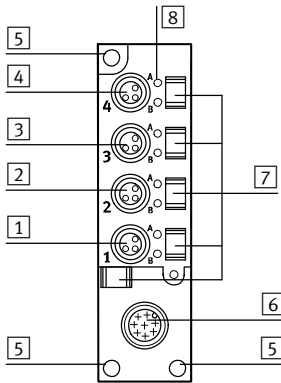
Ambient temperature [°C]	−20 ... +80
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Universal plug connectors

NEDU-L, plug M12, 8-pin, socket M8, 3-pin – Technical data

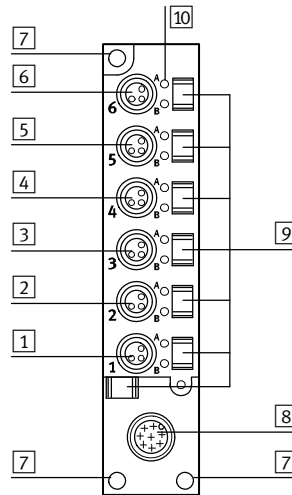
Connection and display components

NEDU-L4R1-M8G3L-M12G8



- 1 Sensor connection, location 1
- 2 Sensor connection, location 2
- 3 Sensor connection, location 3
- 4 Sensor connection, location 4
- 5 Mounting holes
- 6 Multi-pin plug connection
- 7 Holder for inscription label (ASLR-L-55)
- 8 LED for status display

NEDU-L6R1-M8G3L-M12G8



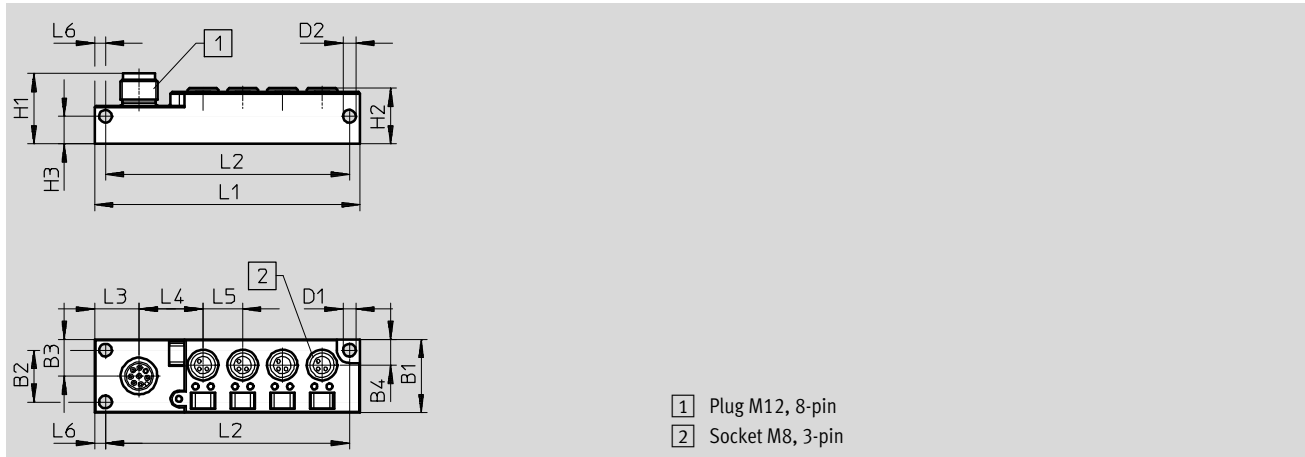
- 1 Sensor connection, location 1
- 2 Sensor connection, location 2
- 3 Sensor connection, location 3
- 4 Sensor connection, location 4
- 5 Sensor connection, location 5
- 6 Sensor connection, location 6
- 7 Mounting holes
- 8 Multi-pin plug connection
- 9 Holder for inscription label (ASLR-L-55)
- 10 LED for status display

Circuitry (socket/plug view)

Individual connection			Allocation	Multi-pin plug connection	
	Location	Pin		Pin	
	1	1	+UB	5	
		3	-UB	7	
		4	Input 1	1	
	2	1	+UB	5	
		3	-UB	7	
		4	Input 2	2	
	3	1	+UB	5	
		3	-UB	7	
		4	Input 3	3	
	4	1	+UB	5	
		3	-UB	7	
		4	Input 4	4	
	5	1	+UB	5	
		3	-UB	7	
		4	Input 5	6	
	6	1	+UB	5	
		3	-UB	7	
		4	Input 6	8	

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	B4	D1 ∅	D2 ∅	H1	H2	H3	L1	L2	L3	L4	L5	L6
NEDU-L4R1-M8G3L-M12G8	24	17	12	8.4	4.2	4.2	23	18.2	9	87	80	14.5	21	13	3.5
NEDU-L6R1-M8G3L-M12G8	24	17	12	8.4	4.2	4.2	23	18.2	9	113	106	14.5	21	13	3.5

Ordering data

Electrical connection	Weight [g]	Part No.	Type
Plug M12, 8 pin	4x socket, M8, 3-pin	574586	NEDU-L4R1-M8G3L-M12G8
	6x socket, M8, 3-pin	574587	NEDU-L6R1-M8G3L-M12G8

Ordering data – Accessories

Designation	Part No.	Type	
Connecting cable			
	Socket M12, 8-pin, angled	Open cable end, 8-wire	
		Length: 2 m	542256 NEBU-M12W8-2-N-LE8
		Length: 5 m	542257 NEBU-M12W8-5-N-LE8
	Socket M12, 8-pin, straight	Open cable end, 8-wire	
		Length: 2 m	525616 SIM-M12-8GD-2-PU
		Length: 5 m	525618 SIM-M12-8GD-5-PU
Plug M12, 8-pin, straight	Length: 10 m	570007 NEBU-M12W8-10-N-LE8	
	Length: 2 m	570008 SIM-M12-8GD-10-PU	
	Cover cap for sealing unused sockets (10 pieces)	For M12 connections	
		165592 ISK-M12	
Inscription label			
	Inscription labels in frames, pack of 1000	5x5 mm	
		574590 ASLR-L-55	

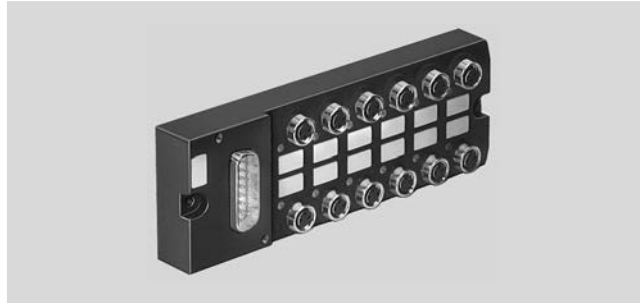
Universal plug connectors

MPV, plug Sub-D, 15-pin, socket M8, 3-pin – Technical data

FESTO

Multi-pin plug distributor MPV

- Multi-pin plug distributor



General technical data

Electrical connection technology for I/O	M8, 3-pin
Type of mounting	Either via H-rail or through-hole
Operating voltage range [V DC]	10 ... 30
Acceptable current load [A]	4
Acceptable current load per slot [A]	1
Protection class to EN 60529	IP65 in mounted status

Materials

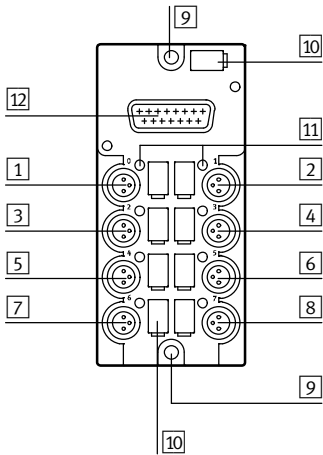
Housing	Reinforced PA6
Socket	Brass

Operating and environmental conditions

Ambient temperature [°C]	-20 ... +80
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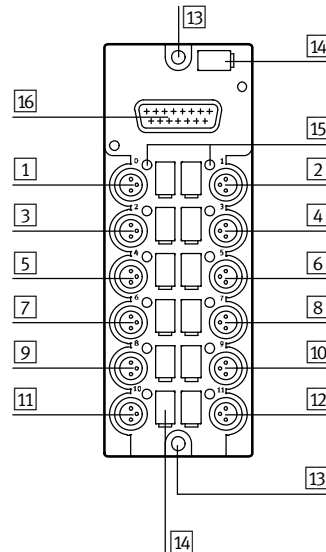
Connection and display components

MPV-E/A08-M8



- 1 Sensor connection, location 1
- 2 Sensor connection, location 2
- 3 Sensor connection, location 3
- 4 Sensor connection, location 4
- 5 Sensor connection, location 5
- 6 Sensor connection, location 6
- 7 Sensor connection, location 7
- 8 Sensor connection, location 8
- 9 Mounting holes
- 10 Holder for inscription label (IBS-6x10)
- 11 LED for status display
- 12 Multi-pin plug connection

MPV-E/A12-M8



- 1 Sensor connection, location 1
- 2 Sensor connection, location 2
- 3 Sensor connection, location 3
- 4 Sensor connection, location 4
- 5 Sensor connection, location 5
- 6 Sensor connection, location 6
- 7 Sensor connection, location 7
- 8 Sensor connection, location 8
- 9 Sensor connection, location 9
- 10 Sensor connection, location 10
- 11 Sensor connection, location 11
- 12 Sensor connection, location 12
- 13 Mounting holes
- 14 Holder for inscription label (IBS-6x10)
- 15 LED for status display
- 16 Multi-pin plug connection

Circuitry (socket/plug view)

Individual connection	Allocation		Multi-pin plug connection		Allocation		Individual connection			
	Location	Pin	Pin	Pin	Pin	Pin	Location			
	1	1	24 DC V	13		13	24 DC V	1		
		3	0 V	14/15			14/15	0 V		3
		4	Input ₁	1			2	Input ₂		4
	3	1	24 DC V	13		13	24 DC V	1	4	
		3	0 V	14/15		14/15	0 V	3	6	
		4	Input ₃	3		4	Input ₄	4		
	5	1	24 DC V	13		13	24 DC V	1		8
		3	0 V	14/15		14/15	0 V	3		
		4	Input ₅	5		6	Input ₆	4		
	7	1	24 DC V	13		13	24 DC V	1	10	
		3	0 V	14/15		14/15	0 V	3		
		4	Input ₇	7		8	Input ₈	4		
9	1	24 DC V	13	13	24 DC V	1	12			
	3	0 V	14/15	14/15	0 V	3				
	4	Input ₉	9	10	Input ₁₀	4				
11	1	24 DC V	13	13	24 DC V	1				
	3	0 V	14/15	14/15	0 V	3				
	4	Input ₁₁	11	12	Input ₁₂	4				

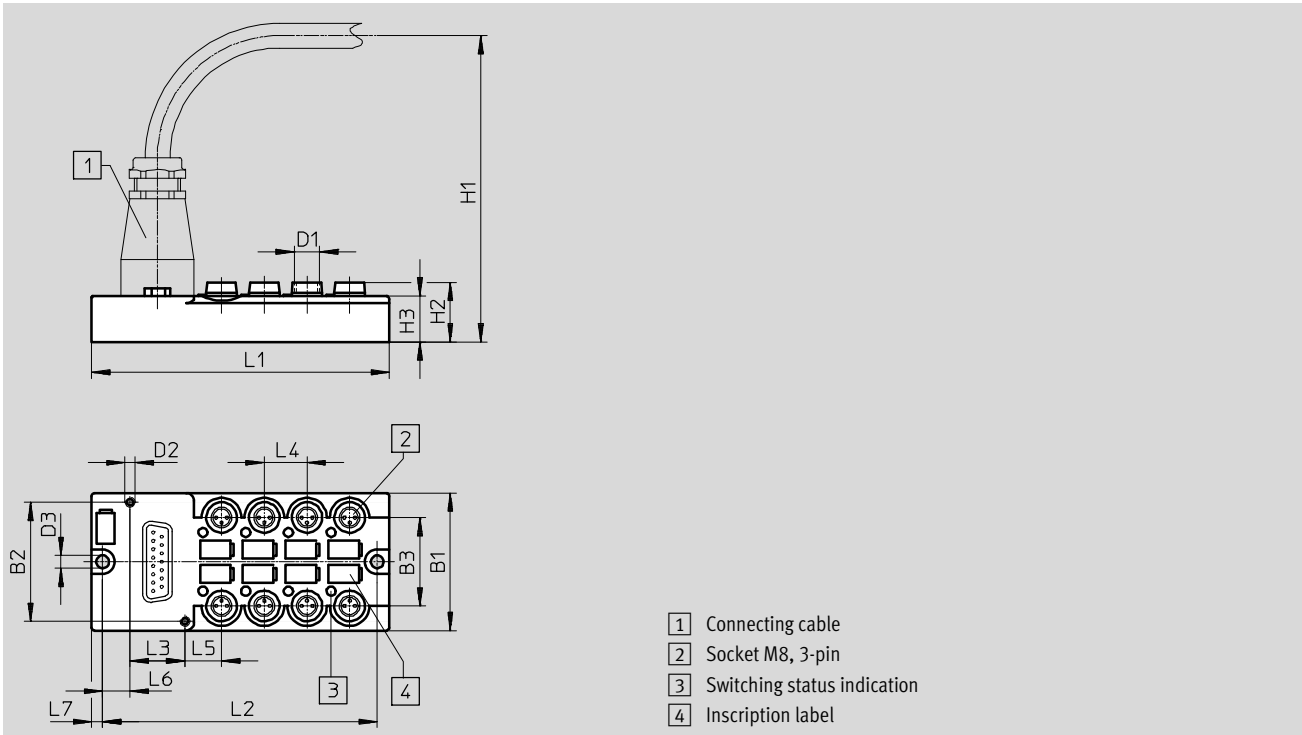
Universal plug connectors

MPV, plug Sub-D, 15-pin, socket M8, 3-pin – Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

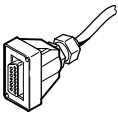
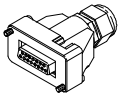

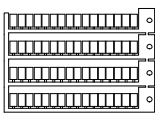


Type	B1	B2	B3	D1	D2	D3 Ø	H1	H2	H3	L1	L2	L3	L4	L5	L6	L7
MPV-E/A08-M8	45	39	29	M8	M3	4.2	126	19.5	15	98	90	18	14	12	9	4
MPV-E/A12-M8	45	39	29	M8	M3	4.2	126	19.5	15	126	118	18	14	12	9	4

Ordering data

Electrical connection		Weight [g]	Part No.	Type
Plug Sub-D, 15-pin	Socket M8x8	100	177669	MPV-E/A08-M8
	Socket M8x12	120	177670	MPV-E/A12-M8

Ordering data – Accessories

Designation			Part No.	Type
Multi-pin plug connection				
	Plug socket with cable <ul style="list-style-type: none"> • Socket Sub-D, 15-pin • Open cable end, 15-wire 	5 m	177673	KMPV-SUB-D-15-5
		10 m	177674	KMPV-SUB-D-15-10
	Socket Sub-D, 15-pin		177675	SD-SUB-D-BU15
Cover cap				
	Cover cap for sealing unused sockets (10 pieces)	For M8 connections	177672	ISK-M8
Inscription label				
	Inscription labels in frames, pack of 64	6x10 mm	18576	IBS-6x10

Universal plug connectors

SEA – Product range overview

FESTO

Function	Electrical connection	Type	Cable connector	Version	→ Page/Internet
Round plug connector	Plug				
	M8, 3-pin	SEA-3GS-M8-S	Pg7	Straight/ screw terminal	231
		SEA-GS-M8	Pg7	Straight/ solder lug	231
	M12, 4-pin	SEA-GS-7	Pg7	Straight/ screw terminal	233
		SEA-GS-9	Pg9	Straight/ screw terminal	233
		SEA-GS-11-DUO	Pg11	Straight/ screw terminal	233
		SEA-GS-HAR	Pg9	Straight/ insulation displacement connector	233
		SEA-4GS-7-2,5	Pg7	Straight/ screw terminal	233
	M12, 5-pin	SAE-M12-5GS	Pg7	Straight/ screw terminal	235
		SEA-5GS-11-DUO	Pg11	Straight/ screw terminal	235
	Plug socket				
	M12, 4-pin	SAE-M12-4WD	Pg7	Angled/ screw terminal	237

Plug
SEA-GS-M8

- Sensor plug/socket for inputs/ outputs
- Can be assembled with any cable lengths
- 3-pin
- With screw terminals or soldered connection
- Wire cross section up to 0.5 mm²



General technical data

Type	SEA-GS-M8	SEA-3GS-M8-S
Electrical connection	Straight plug, 3-pin, M8x1	
	Solder lug	Screw terminal
Type of mounting	Via threaded sleeve	
Mounting position	Any	
Max. tightening torque of locking clip	[Nm]	0.3
Permissible cable diameter	[mm]	3.5 ... 5
Connection cross section	[mm ²]	0.25
Acceptable current load at 40 °C	[A]	3
Surge resistance	[kV]	1.5
Operating voltage range	[V AC]	60
	[V DC]	60
Protection class to EN 60529	IP67 (assembled)	IP65 (assembled)
Based on standard	EN 61076-2-101, EN 61984	

Materials

Type	SEA-GS-M8	SEA-3GS-M8-S
Housing colour	Black	
Housing material	PA	
Contact material	Gold-plated brass	
Union nut material	Nickel-plated brass	Nickel-plated/chrome-plated brass
Note on materials	RoHS-compliant	
Max. tightening torque of locking clip	[Nm]	0.3

Operating and environmental conditions

Ambient temperature	[°C]	-40 ... +85
Corrosion resistance class CRC ¹⁾		2
CE marking (see declaration of conformity)		To EU Low Voltage Directive
Degree of contamination		3

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Universal plug connectors

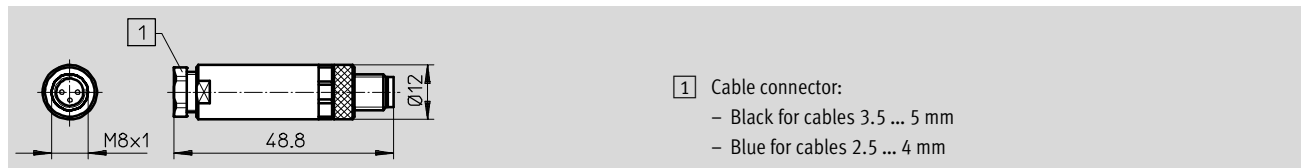
SEA-GS-M8, M8, 3-pin – Technical data

FESTO

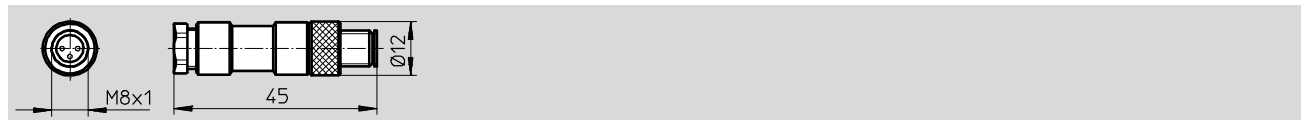
Dimensions

Download CAD data → www.festo.com

SEA-3GS-M8-S



SEA-GS-M8



Ordering data

Electrical connection	Cable connector	Product weight [g]	Part No.	Type
Straight plug, 3-pin, screw terminal	Pg7	11	192009	SEA-3GS-M8-S
Straight plug, 3-pin, solder lug	Pg7	9	18696	SEA-GS-M8

Plug

SEA-GS

SEA-GS-HAR

SEA-4GS

- Sensor plug for inputs/outputs
- Can be assembled with any cable lengths
- 4-pin
- Wire cross section up to 0.75 mm²



General technical data

	SEA-GS ...	SEA-4GS ...	SEA-GS-HAR ...
Electrical connection	Straight plug, 4-pin, M12x1		
	Screw terminal	Screw terminal	Insulation displacement connector
Type of mounting	Via threaded sleeve	Via threaded sleeve	Via thread
Mounting position	Any	Any	Any
Max. tightening torque of locking clip [Nm]	0.5	0.5	0.5
Connection cross section [mm ²]	0.75	0.14 ... 0.5	0.25 ... 0.5
Permissible individual wire diameter [mm]	–	–	0.1
Permissible wire diameter [mm]	–	–	1.2 ... 1.6
Acceptable current load at 40 °C [A]	4	4	4
Surge resistance [kV]	2.5	2.5	0.8
Operating voltage range [V AC]	250	250	32
	[V DC]	250	32
Protection class to EN 60529	IP67 (assembled)	IP65 (assembled)	IP67 (assembled)
Based on standard	EN 61076-2-101, EN 61984		

Materials

	SEA-GS ...	SEA-4GS ...	SEA-GS-HAR ...
Housing colour	Black	Black	–
Housing	PBT	PA	Nickel-plated die-cast zinc
Contacts	Brass, coated with white bronze	Brass, coated with white bronze	Gold-plated copper base alloy
Union nut	PBT	PA	–
Permissible wire insulation	–	–	PVC
Note on materials	RoHS-compliant		

Operating and environmental conditions

	SEA-GS ...	SEA-4GS ...	SEA-GS-HAR ...
Ambient temperature [°C]	–40 ... +85		–25 ... +85
Corrosion resistance class CRC ¹⁾	2		2
CE marking (see declaration of conformity)	To EU Low Voltage Directive		–
Degree of contamination	3		3

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Universal plug connectors

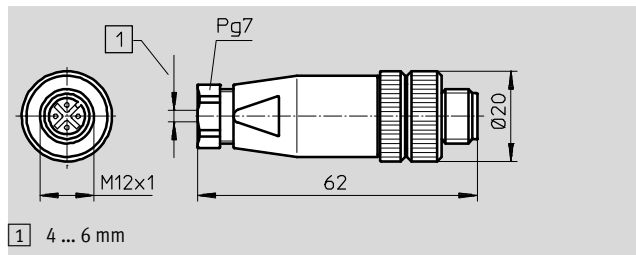
SEA-GS, M12, 4-pin – Technical data

FESTO

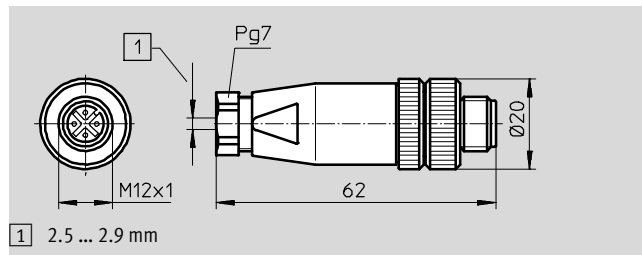
Dimensions

Download CAD data → www.festo.com

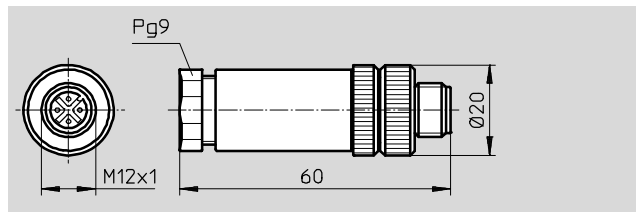
SEA-GS-7



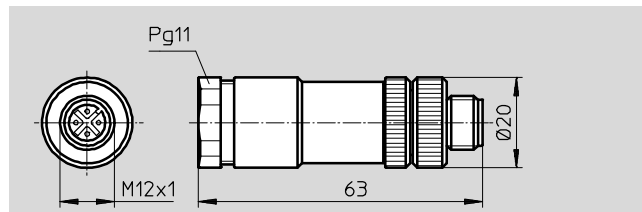
SEA-4GS-7-2,5



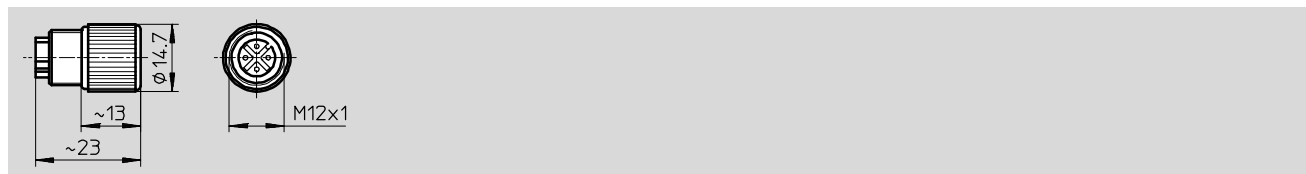
SEA-GS-9



SEA-GS-11-DUO



SEA-GS-HAR



Ordering data

Electrical connection	Cable connector	Perm. cable Ø [mm]	Product weight [g]	Part No.	Type
Straight plug (type A), 4-pin, screw terminal	Pg7	4 ... 6	17	18666	SEA-GS-7
		2.5 ... 2.9	18	192008	SEA-4GS-7-2,5
	Pg9	6 ... 8	18	18778	SEA-GS-9
Straight plug, 4-pin, insulation displacement connector	Pg11	3 ... 5	24	18779	SEA-GS-11-DUO
	Pg9	4 ... 5.1	11.5	525928	SEA-GS-HAR-4POL

Plug

SEA-M12-5GS

SEA-5GS

- Sensor plug for inputs/outputs
- Can be assembled with any cable lengths
- 5-pin
- Wire cross section up to 0.75 mm²



General technical data

Type	SEA-M12-5GS-PG7	SEA-5GS-11-DUO
Electrical connection	Straight plug (type A), 5-pin M12, screw terminal	
Type of mounting	Via threaded sleeve	
Max. tightening torque of locking clip [Nm]	0.5	
Mounting position	Any	
Permissible cable diameter [mm]	4 ... 6	2 x 2.5 ... 2.9 or 2 x 5
Connection cross section [mm ²]	0.75	0.14 ... 0.5
Acceptable current load at 40 °C [A]	4	
Surge resistance [kV]	1.5	
Operating voltage range	[V AC]	60
	[V DC]	60
Protection class to EN 60529	IP67 (assembled)	IP65 (assembled)
Based on standard	EN 61076-2-101, EN 61984	

Materials

Type	SEA-M12-5GS-PG7	SEA-5GS-11-DUO
Housing colour	Black	
Housing	PBT	PA
Contacts	Brass, coated with white bronze	
Union nut	Nickel-plated die-cast zinc	PA
Note on materials	RoHS-compliant	

Operating and environmental conditions

Ambient temperature [°C]	-40 ... +85
Corrosion resistance class CRC ¹⁾	2
CE marking (see declaration of conformity)	To EU Low Voltage Directive
Degree of contamination	3

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Universal plug connectors

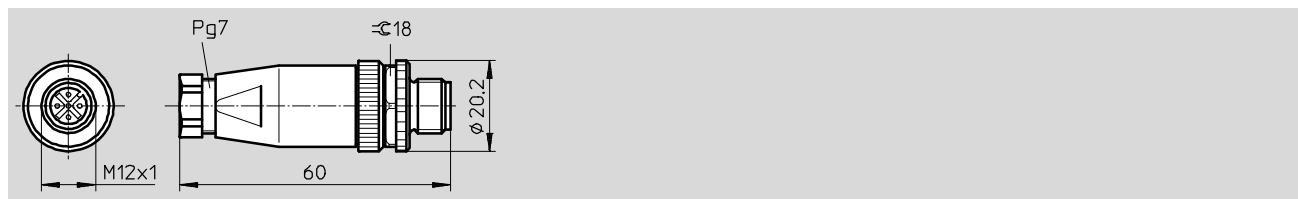
SEA-...-5GS, M12, 5-pin – Technical data

FESTO

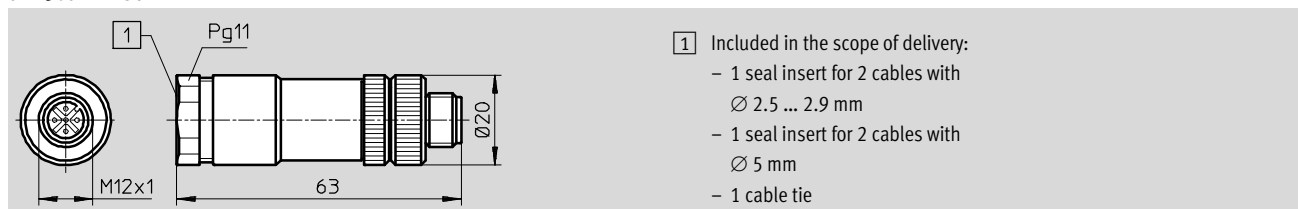
Dimensions

Download CAD data → www.festo.com

SEA-M12-5GS-PG7



SEA-5GS-11-DUO



- 1 Included in the scope of delivery:
- 1 seal insert for 2 cables with \varnothing 2.5 ... 2.9 mm
 - 1 seal insert for 2 cables with \varnothing 5 mm
 - 1 cable tie

Ordering data

Electrical connection	Cable connector	Product weight [g]	Part No.	Type
Straight plug (type A), 5-pin, screw terminal	Pg7	21.5	175487	SEA-M12-5GS-PG7
	Pg11	24	192010	SEA-5GS-11-DUO

Plug socket
SEA-M12-4WD

- Plug socket for inputs/outputs
- Can be assembled with any cable lengths
- 4-pin
- Wire cross section up to 0.75 mm²



General technical data

Electrical connection	Angled plug socket (type A), 4-pin M12, screw terminal	
Type of mounting	Via union nut	
Mounting position	Any	
Permissible cable diameter	[mm]	4 ... 6
Max. tightening torque of locking clip	[Nm]	0.5
Connection cross section	[mm ²]	0.75
Acceptable current load at 40 °C	[A]	4
Surge resistance	[kV]	2.5
Operating voltage range	[V AC]	250
	[V DC]	250
Protection class to EN 60529	IP67 (assembled)	
Based on standard	EN 61076-2-101, EN 61984	

Materials

Housing colour	Black
Housing	PBT
Contacts	Brass, coated with white bronze
Seals	Nitrile rubber
Union nut	Nickel-plated die-cast zinc
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	–40 ... +85
CE marking (see declaration of conformity)	To EU Low Voltage Directive	
Degree of contamination	3	

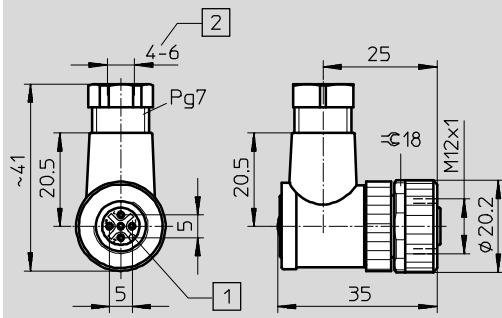
Universal plug connectors

SEA-M12-4WD, M12, 4-pin – Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

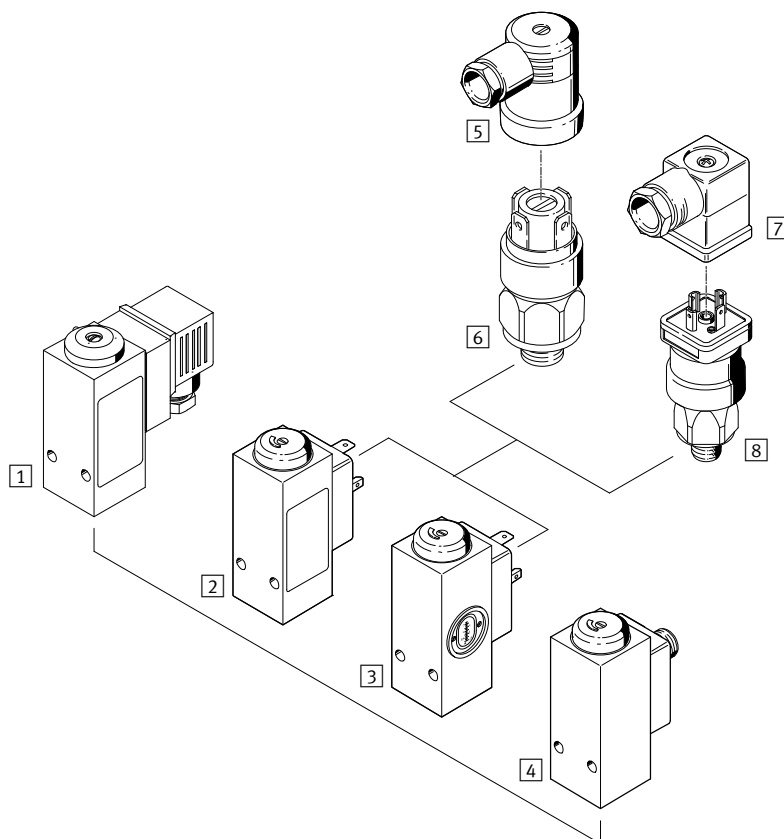


- 1 Insert rotatable in steps of 90°
- 2 Cable \varnothing 4 ... 6 mm

Ordering data

Electrical connection	Cable connector	Product weight [g]	Part No.	Type
Angled plug socket (type A), 4-pin, screw terminal	Pg7	30	185498	SEA-M12-4WD-PG7

Pressure and vacuum switches PEV/VPEV

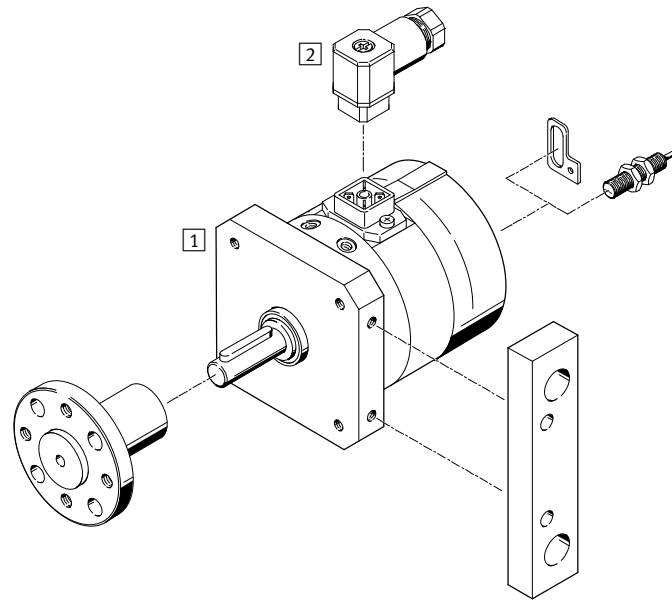


	Type	→ Page/Internet
1 Pressure switch Vacuum switch	PEV-1/4-B-... VPEV-1/8	pev
2 Pressure switch	PEV-1/4-B-OD-...	pev
3 Pressure switch with scale for pressure adjustment	PEV-1/4-SC-OD-...	pev
4 Pressure switch Vacuum switch	PEV-1/4-B-M12 VPEV-1/8-M12	pev
5 Angled socket	PEV-1/4-A-WD	see below
6 Pressure switch	PEV-1/4-A-SW27	pev
7 Angled socket	PEV-1/4-WD-LED-24	see below
Angled socket	PEV-1/4-WD-LED-230	see below
Angled socket	MSSD-C-4P	see below
8 Pressure switch	PEV-1/4-A-SW27-B-OD	pev

Ordering data


	Description	Operating voltage range		Part No.	Type
		[V DC]	[V AC]		
	Without switching status display	≤180	≤230	161209	PEV-1/4-A-WD
	With switching status display	15 ... 30	–	161274	PEV-1/4-WD-LED-24
	With switching status display	≤180	≤230	161275	PEV-1/4-WD-LED-230
	With switching status display	≤300	≤250	171157	MSSD-C-4P

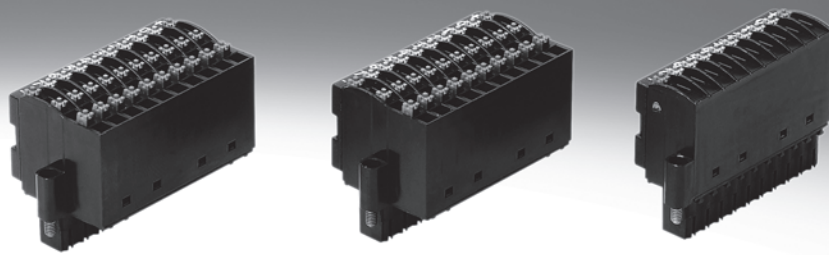
Swivel module DSMI



	Type	→ Page/Internet
1 Swivel module	DSMI	dsmi
2 Plug socket	SD-4-WD-7	see below

Ordering data




















	Pin	Pin allocation	Designation	Part No.	Type
	1	Power supply	Plug socket	194332	SD-4-WD-7
	2	Signal			
	3	0 V			
	4	PE (yellow), screened			








































Plug connectors for control systems















Selection aid

FESTO

Version	Type	Higher-order controller								Page/Internet
		 CDPX-X-A-W	 CMXR-C1/CECX PROFIBUS	 CMXR-C2 CODESYS	 Basic unit CPX	Controller				
		 CECC-LK/CECC-S	 CDPX-F-CO	 CECX-B-CO	 CECX-F-PB-V1	 CECX-F-CO	 CECX-C-ET	 CECX-C-PB-V1	 CPX-CM-HPP	Operating mode / interface controller
		IO-Link/(-Port)	Modbus RTU Server/Modbus TCP Server/CODESYS	CAN interface	PROFIBUS interface	Can Open	EtherNet	PROFIBUS	Can Open	→ Page/Internet
	NECU-S1W9-C2-APB				■			■		263
	NECU-S1W9-C2-ACO		■	■		■				265
	FBS-SUB-9-WS-CO-K			■		■			■	280
	FBS-SUB-9-WS-PB-K				■			■		280
	NECC-S1G9-C2-M	■	■	■		■				302
	NECC-L2G...-C1	■								302
	NECC-L2G4-C1-M	■								302

Version	Type	Higher-order controller						Page/Internet →
		 CMXR-C2 CODESYS	 Basic unit CPX					
		Controller						
		 CAMI-C	 CPX-CEC-C1	 CPX-CEC-M1	 CPX-CMXX	 CPX-CMAX-C1	 CPX-CMPX	
		Operating mode / interface controller						
			CANopen	CANopen + Softmotion		CANopen CPI	CANopen CPI	
	CAMF-B-M25-G4	■						246
	FBS-RJ45-8-GS		■	■	■			251
	FBSD-GD-9-5POL		■	■	■			269
	FBS-M12-5GS-PG9		■	■	■			269
	FBSD-KL-2x5POL		■	■	■			272
	FBS-SUB-9-BU-2x5POL-B		■	■	■			278
	FBA-2-M12-5POL		■	■	■			282
	FBA-1-SL-5POL		■	■	■			282
	KVI-CP-3-SSD					■	■	287

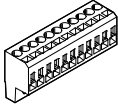
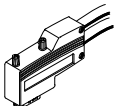
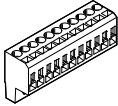
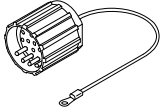
Version	Type	Controller							Page/Internet
									
		CMMP-AS-MO No slot	CMMP-AS-M3 With 3 slots	CMMP-AS-C20-11A-P3 With 2 slots	CMMS-AS-C4-3A	CMMD-AS-C8-3A	CMMO-ST-C5-1-DIOP/DION	CMMS-ST	
		Operating mode / interface controller							
		FHPP / Modbus/TCP I/O interface CANopen	FHPP / Modbus/TCP / I/O interface CANopen/PROFIBUS/EtherCAT EtherNet/PROFINET/DeviceNet	FHPP / I/O interface CANopen / PROFIBUS EtherCAT / DeviceNet	CODESYS / TwinCat Step 7 / CANopen PROFIBUS / DeviceNet	CODESYS / TwinCat Step 7 / CANopen PROFIBUS / DeviceNet	FCT EtherNet TCP/IP RS422	CODESYS / TwinCat Step 7 / CANopen PROFIBUS / DeviceNet	↑ Page/Internet
	NECC-A-S-S1G9-C2M	■	■	■	■	■		■	248
	NEKM-C-1							■	248
	NEKM-C-3	■	■						248
	NEKM-C-5		■	■					248
	NEKM-C-6			■					248
	NEKM-C-7	■	■						248
	NEKM-C-8	■	■						248
	NEKM-C-4				■	■			248
	NEKM-C-10						■		248
	FBS-SUB-9-WS-CO-K	■	■			■		■	280
	FBS-SUB-9-WS-PB-K		■		■	■		■	280
	FBSD-KL-2X5POL	■	■	■	■	■		■	248
	NEFC-S1G25-C2W25-S6	■	■	■			■	■	248

Version	Type	Controller						Page/Internet →
								
		SFC-LACI-YD-10-E-H2-10	CMMP-AS-M3	CMMS-AS-C4-3A	CMMD-AS-C8-3A	CMMS-ST	SFC-DC	
		Operating mode / interface controller						
		FHPP / I/O interface PROFIBUS/CanOpen DeviceNet	FHPP / I/O interface CanOpen/PROFIBUS/EtherCAT EtherNet/PROFINET/DeviceNet	CODESYS / TwinCat Step7 / CanOpen PROFIBUS / DeviceNet	CODESYS / TwinCat Step7 / CanOpen PROFIBUS / DeviceNet	CODESYS / TwinCat Step7 / CanOpen PROFIBUS / DeviceNet	FCT/PROFIBUS CanOpen/DeviceNet	
	FBS-GD-9-5POL	■						269
	FBS-M12-5GS-PG9	■						269
	FBS-KL-2x5POL	■	■	■	■	■	■	272
	FBS-SUB-9-BU-2x5POL-B	■					■	278
	FBS-SUB-9-GS-DP-B	■					■	280
	FBA-2-M12-5POL-RK	■					■	282
	FBA-2-M12-5POL	■					■	282
	FBA-1-SL-5POL	■					■	282

Plug connectors for control systems

NECC/FBS-SUB/CAMF, for modular control systems and multi-axis control systems

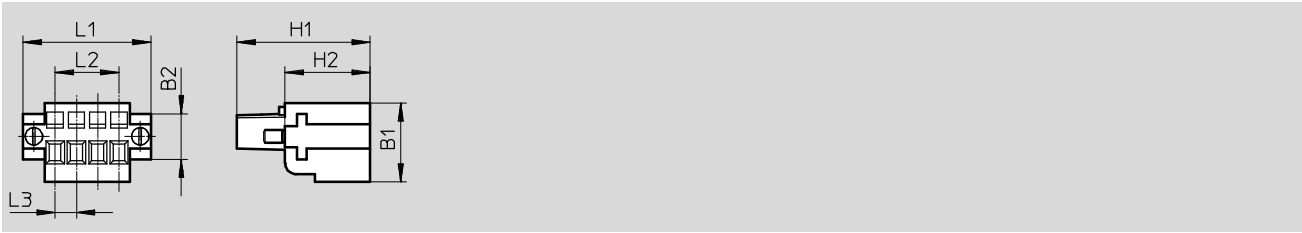
FESTO

Ordering data		Part No.	Type
Plug connectors for modular control systems CECX and multi-axis control systems CMXR			
	Plug for peripheral modules, 2-pin	553857	NECC-L1G2-C1
	Plug for peripheral modules, 4-pin	553858	NECC-L1G4-C1
	Plug for peripheral modules, 6-pin	553859	NECC-L1G6-C1
	Plug for peripheral modules, 8-pin	553860	NECC-L1G8-C1
	Plug for peripheral modules, 18-pin	553861	NECC-L1G18-C1
	Plug for Profibus interface, Sub-D, 9-pin, without terminating resistor	533780	FBS-SUB-9-WS-PB-K
	Plug for CAN bus interface, Sub-D, 9-pin, without terminating resistor	533783	FBS-SUB-9-WS-CO-K
Plug for multi-axis control systems CMXR			
	Plug for interface housing CAMI-C, 11-pin	558328	NECC-L1G11-C1
	Plug: is used to bridge the emergency stop circuit when the teach pendant is disconnected	555676	CAMF-B-M25-G4

Dimensions

Download CAD data → www.festo.com

Plug

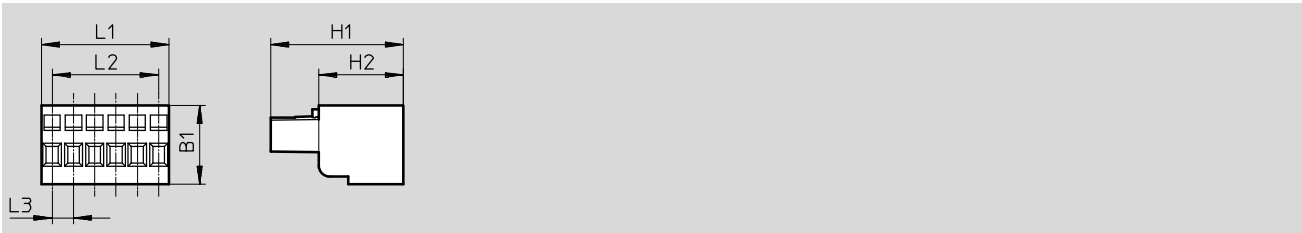


Type	B1	B2	H1	H2	L1	L2	L3
NECC-L2G4-C1-M	13	7.5	21.9	14	21	10.5	3.5

Dimensions

Download CAD data → www.festo.com

Plug



Type	B1	H1	H2	L1	L2	L3
NECC-L2G2-C1	13	21.9	14	7	3.5	3.5
NECC-L2G5-C1				17.5	14	
NECC-L2G6-C1				21	17.5	
NECC-L2G8-C1				28	24.5	
NECC-L2G24-C1				84	80.5	

Materials

Corrosion resistance class CRC ¹⁾	1
Note on materials	RoHS-compliant

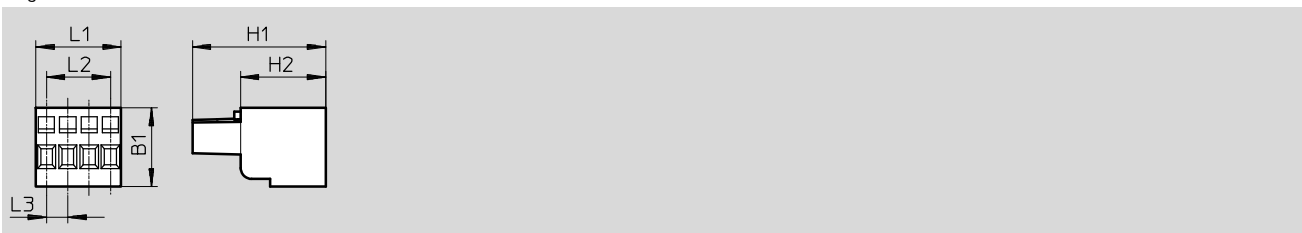
1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Dimensions

Download CAD data → www.festo.com

Plug

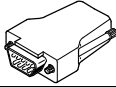
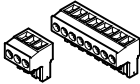
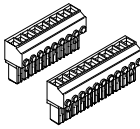
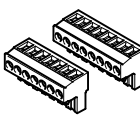
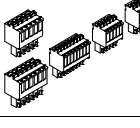
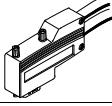
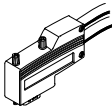
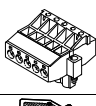
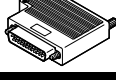


Type	B1	H1	H2	L1	L2	L3
NECC-L2G4-C1	13	21.9	14	14	10.5	3.5

Plug connectors for control systems

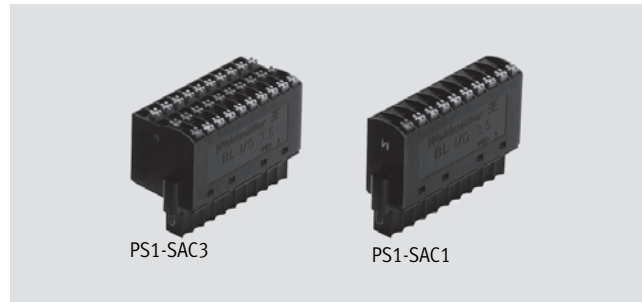
NECC/NEKM/FBS-SUB/FBSD for motor controllers

FESTO

Ordering data		for motor controller					Part No.	Type
		CMMP-AS	CMMS-AS	CMMD-AS	CMMO-ST	CMMS-ST		
	Encoder plug	■	■	■	–	■	564264	NECC-A-S-S1G9-C2M
	Assortment of plugs, comprising plug for power supply and plug for motor connection. The assortment of plugs is included in the scope of delivery of the motor controller.	–	–	–	–	■	547452	NEKM-C-1
	Assortment of plugs for CMMP-AS-...-11A-P3	■	–	–	–	–	552256	NEKM-C-3
	Assortments of plugs interface CAMC-D-8E8A	■	–	■	–	–	569959	NEKM-C-5
	Assortment of plugs for CMMP-AS-C20-11A-P3	■	–	–	–	–	1425453	NEKM-C-6
	Assortment of plugs for CMMP-AS-C2/-C5-3A-M0, CMMP-AS-C2/-C5-3A-M3	■	–	–	–	–	1659228 1660640	NEKM-C-7 NEKM-C-8
	Assortment of plugs, comprising plug for power supply and plug for motor connection. The assortment of plugs is included in the scope of delivery	–	■	■	–	–	560504	NEKM-C-4
	Plug assortment for motor cable, encoder cable, power supply, reference switch, STO safety function	–	–	–	■	–	576005	NEKM-C-10
	Plug for CANopen interface	■	–	■	–	■	533783	FBS-SUB-9-WS-CO-K
	Plug for PROFIBUS interface	■	■	■	–	■	533780	FBS-SUB-9-WS-PB-K
	Plug for DeviceNet interface	■	■	■	–	■	525635	FBSD-KL-2X5POL
	25-pin Sub-D plug. Each wire can be individually assembled using screw terminals	■	■	–	■	■	8001372	NEFC-S1G25-C2W25-S6

Plug connector PS1-SAC
Connection set SEA-KL

- Plug connector for power supply, 10-pin or 30-pin
- Individually or as a set
- Simple cable connection using clamping technology



General technical data

Type	PS1-SAC1...	PS1-SAC3...	SEA-KL-SAC10/30
Electrical connection	10-pin socket, 10-pin terminal strip	10-pin socket, 30-pin terminal strip	10-pin socket, 10/30-pin terminal strip
Operating voltage range [V AC]	Max. 50		
Mounting components	2 M2x7 screws		
Max. wire cross section [mm ²]	0.08 ... 0.75		
Mounting	Via through-hole		

Materials

Housing	PBT
---------	-----

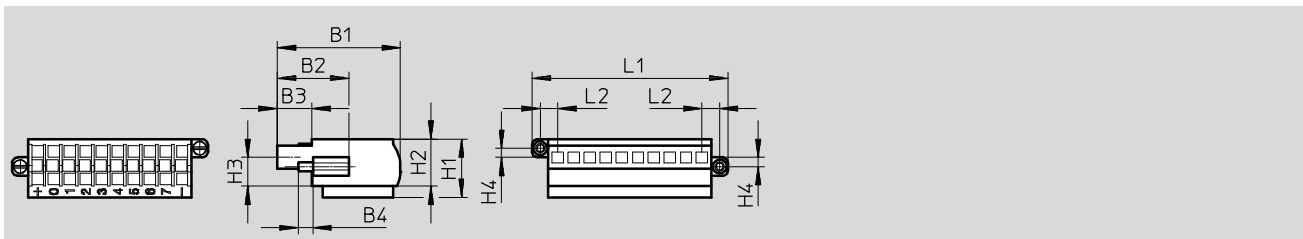
Operating and environmental conditions

Ambient temperature [°C]	-20 ... +100
--------------------------	--------------

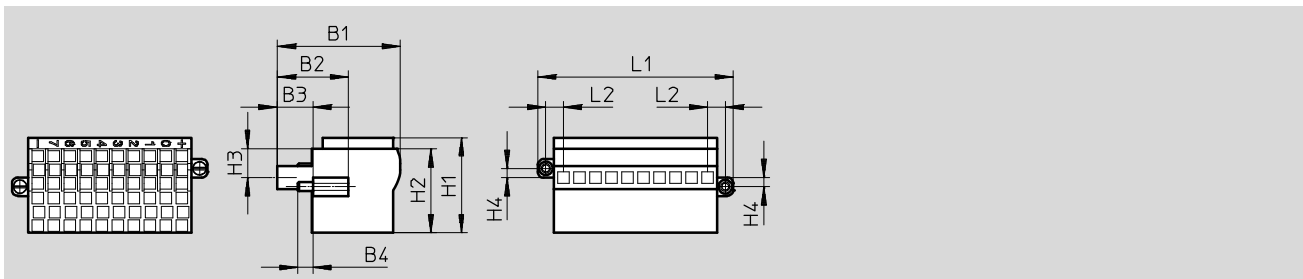
Dimensions

Download CAD data → www.festo.com

PS1-SAC1...



PS1-SAC3...





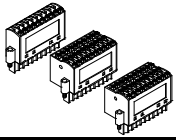
	B1	B2	B3	B4	H1	H2	H3	H4	L1	L2
PS1-SAC1...	26.9	15.6	7.6	3.3 ... 3.9	12.7	10.3	6.3	2	42.7	3.9
PS1-SAC3...	26.9	15.6	7.6	3.3 ... 3.9	20.8	18.4	6.3	2	42.7	3.9

Plug connectors for control systems

PS1-SAC/SEA-KL – Technical data

FESTO

Ordering data

	Electrical connection	Acceptable current load [A]	Weight [g]	Part No.	Type
	10-pin socket, 10-pin terminal strip	4	14	197159	PS1-SAC10-10POL
	10-pin socket, 10-pin terminal strip	4	40	197160	PS1-SAC11-10POL+LED
	10-pin socket, 30-pin terminal strip	0.5	25	197161	PS1-SAC30-30POL
	10-pin socket, 30-pin terminal strip	0.5	25	197162	PS1-SAC31-30POL+LED
	10-pin socket, 10/30-pin terminal strip	0.5/4	71	526256	SEA-KL-SAC10/30

Plug FBS-RJ45

- Ethernet plug with 8-pin RJ45 connection
- Reverse polarity protected
- High transmission quality
- Detachable connection



General technical data

Type	FBS-RJ45-8-GS	FBS-RJ45-PP-GS
Permissible cable diameter [mm]	4 ... 5.4	5 ... 8
Protection class to EN 60529	IP65/IP67	IP65/IP67
Protection against direct and indirect contact	PELV (Protective Extra-Low Voltage)	PELV (Protective Extra-Low Voltage)
Ethernet cable specification	Type: CAT.5	Type: CAT.5
	Individual wire diameter: 0.89 ... 0.99 mm	Individual wire diameter: max. 1.6 mm
	AWG 24-26 fine wire	0.13 ... 0.36 mm ² , 1-wire
	–	0.13 ... 0.36 mm ² , 7-wire
–	PROFINET	
Product weight [g]	15	60

Materials

Type	FBS-RJ45-8-GS	FBS-RJ45-PP-GS
Housing	Reinforced PA	Nickel-plated die-cast zinc
Screws	Steel	–
Seals	NBR	NBR
Pin contacts	–	Nickel-plated and gold-plated copper alloy
Note on materials	–	RoHS-compliant

Operating and environmental conditions

Type	FBS-RJ45-8-GS	FBS-RJ45-PP-GS
Ambient temperature [°C]	–5 ... +60	–40 ... +70
Storage temperature [°C]	–20 ... +70	–40 ... +70
Relative air humidity [%]	0 ... 90, non-condensing, in assembled state	–

Plug connectors for control systems

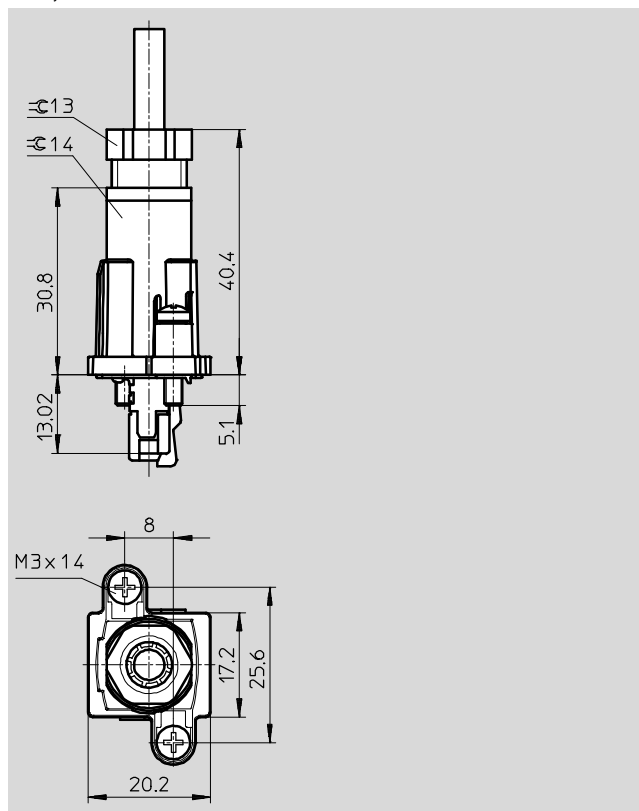
FBS-RJ45, for Ethernet – Technical data

FESTO

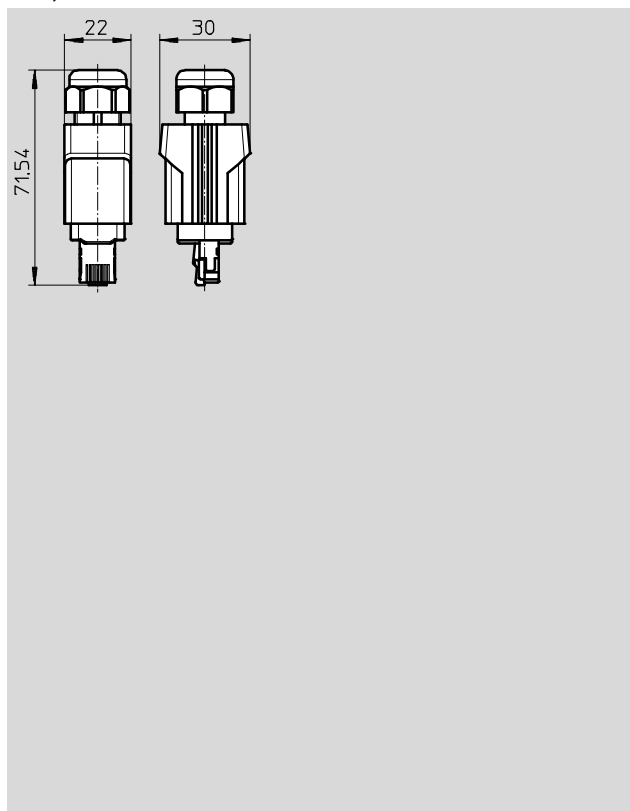
Dimensions

Download CAD data → www.festo.com

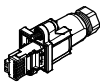
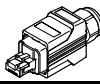
FBS-RJ45-8-GS

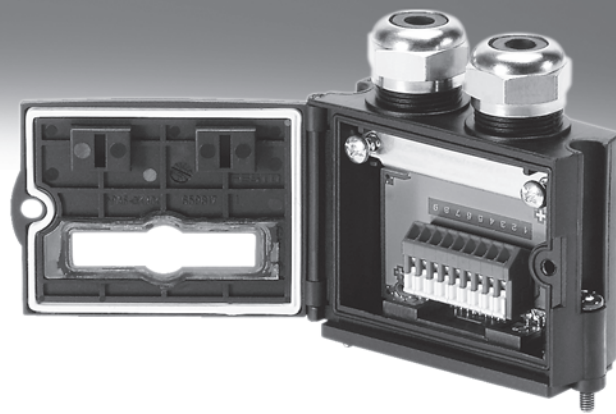


FBS-RJ45-PP-GS



Ordering data

































	Electrical connection	Part No.	Type
	Straight plug, 8-pin	534494	FBS-RJ45-8-GS
	Straight plug, push-pull, 8-pin	552000	FBS-RJ45-PP-GS




















Plug connectors for fieldbuses

Selection aid

FESTO

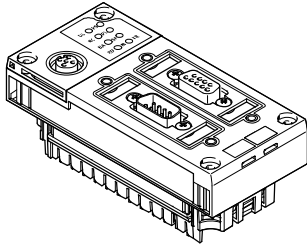
Version	Type	Fieldbus protocols						EtherNet protocols					Page/Internet ➔
		CPX-FEC-1-IE	Interbus	DeviceNet	Profibus-DP	CanOpen	CC-Link	EtherCat	EtherNet	ProfiNet	Profinet CPX-M-FB34-RJ45	PROFINET RT CPX-M-FB35-LWL	
	NECU-M-S-D12G4-C2-ET							■	■	■			190
	FBS-RJ45-8-GS	■											251
	NECU-S1W9-C2-APB				■								263
	NECU-S1W9-C2-ACO					■							265
	FBSD-GD-9-5POL			■		■							269
	FBS-M12-5GS-PG9			■		■							269
	FBSD-KL-2x5POL			■		■							272
	NECU-M-S-B12G5-C2-PB				■								273
	NECU-M-B12G5-C2-PB				■								275
	CACR-B12G5-220-PB				■								277
	FBS-SUB-9-BU-2x5POL-B			■		■							278
	FBS-SUB-9-BU-IB-B	■											278
	FBS-SUB-9-GS-DP-B				■								280
	FBS-SUB-9-WS-PB-K				■								280
	FBS-SUB-9-WS-CO-K					■							280
	FBS-SUB-9-GS-IB-B	■											280
	FBS-SUB-9-GS-2x4POL-B						■						280
	FBS-SUB-9-GS-1x9POL-B	■											280
	FBA-2-M12-5POL-RK				■								282
	FBA-2-M12-5POL			■		■							282
	FBA-1-SL-5POL					■							282
	FBA-1-SL-5POL			■									282
	FBA-1-KL-5POL						■						282
	CPX-SK-2									■	■	■	298
	CPX-M-AK-C										■	■	298
	NEFC-M12G5-0.3-U1G5		■	■	■		■			■	■		298
	FBS-RJ45-PP-GS										■		298
	FBS-SCRJ-PP-GS											■	299
	CPX-AB-2-M12-RK-IB	■											300
	CPX-AB-2-M12-RK-DP				■								301
	CPX-AB-1-7/8-DN			CPX									301
	NECC-S1G9-C2-M					■							302

Version	Type	Technological modules								Page/Internet
		CPX-CMXX-T30	CPX-CM-HPP-T31	CPX-CMAX-C1-1-T21	CPX-CMPX-C-1-H1-T20	CPX-CMIX-M1-1-T23	CPX-CEC-XX CODESYS T06-T08	CPX-FEC-1-IE-Modbus T05	CP-Installationssystem CTEC	
	FBS-RJ45-8-GS						■	■		251
	FBSD-GD-9-5POL	■					■			269
	FBS-M12-5GS-PG9	■					■			269
	FBSD-KL-2x5POL	■					■			272
	FBS-SUB-9-BU-2x5POL-B						■			278
	FBS-SUB-9-WS-CO-K		■							280
	FBS-SUB-9-GS-1x9POL-B							■		280
	FBA-2-M12-5POL	■					■			282
	FBA-1-SL-5POL	■					■			282
	KVI-CP-3-SSD			■	■	■			■	287
	FBS-SCRJ-PP-GS	■								299

Version	Type	IO-Link/I-Port-compatible			AS-interface			Page/Internet
		CPX-CTEL-4-M12-5POL T40-T44	CPX-IO-Link Master T46-T48	CECC-LK CECC-S IO-Link-compatible	ASI-4DI3DO- M12x2-5POL-Z ASI-8DI-M8-3POL	AS-interface Valve terminal with M12 bus connection	AS-interface flat cable bus connection	
	SEA-GS-11-DUO					■		233
	SEA-5GS-11-DUO					■		235
	NEDU-L2R1-V10-M12G5-M12G5	■	■					259
	NEDU-L2R1-V8-M12G5-M12G5	■	■					259
	NEFU-X24F-M12G4					■		267
	NEFU-X22F-M12G4					■		267
	NEFU-X24F-1-M12G4				■	■		267
	FBSD-GD-9-5POL				■	■		269
	ASI-SD-PG-M12				■	■		292
	ASI-SD-FK-M12					■		292
	ASI-SD-FK						■	294
	ASI-SD-FK180						■	294
	ASI-SD-FK-BL						■	294
	NECC-S1G9-C2-M			■				302
	NECC-L2G2-C1			■				302
	NECC-L2G4-C1			■				302
	NECC-L2G5-C1			■				302
	NECC-L2G6-C1			■				302
	NECC-L2G8-C1			■				302

Individual overview of modules

Bus node

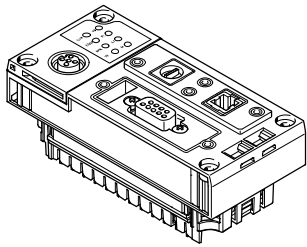


- Bus node for
- PROFIBUS DP
 - INTERBUS
 - DeviceNet
 - CANopen
 - CC-LINK

- Ethernet/IP (integrated web server)
- PROFINET (integrated web server)
- POWERLINK
- EtherCAT

→ cpx

Control block

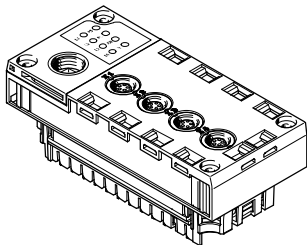


- CPX-FEC
- Programming with FST
 - Ethernet interface
 - Modbus/TCP
 - EasyIP
 - Integrated web server
 - Sub-D programming interface

- CPX-CEC
- Programming with CODESYS
 - Ethernet interface
 - Modbus/TCP
 - EasyIP
 - CANopen master

→ cpx-fec

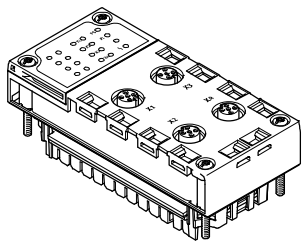
CP interface



- Interface CPX-CP
- 4 CP strings
 - Max. 4 modules per string
 - 32 inputs/32 outputs per string
 - CPI functionality

→ cpx-cp

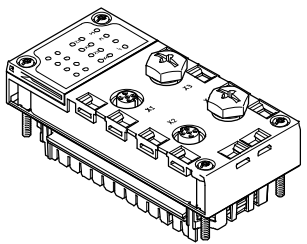
CTEL interface



- CPX-CTEL interface
- CTEL master
 - Max. 4 devices with individual electronic fuse protection
 - Max. 64 inputs/64 outputs per I-Port interface
 - The maximum length of a string is 20 m

→ cpx-ctel

Electrical interface CPX-CTEL-2

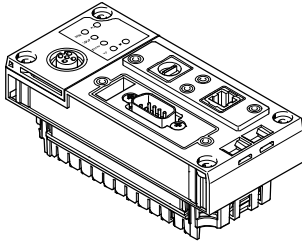


- Interface CPX-CTEL-2
- Master for IO-Link
 - Max. 2 devices with individual electronic protection
 - Process data length of the inputs and outputs is limited to 16 bytes for inputs and 16 bytes for outputs per port
 - The maximum length of a string is 20 m

→ cpx-ctel

Individual overview of modules

Modules for actuating electric drive units



CPX-CMXX

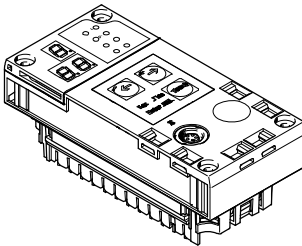
- Multi-axis interface
- Ethernet interface
- 2 axis groups with max. 4 axes per group
- Max. 1024 positioning records per axis group

CPX-CM-HPP

- Axis interface
- CAN bus for up to 4 individual electric axes

→ cpx-cmxx

Modules for controlling pneumatic drive units



CPX-CMAX

- Axis controller
- Position and force control
- 64 configurable positioning records
- Auto-identification
- Control of a brake or clamping unit via the proportional directional control valve VPWP

CPX-CMPX

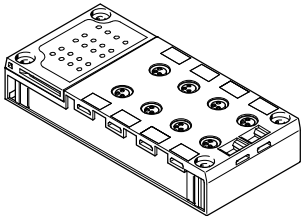
- End-position controller
- Fast travel between the mechanical end stops of the cylinder
- Smooth travel into the end position
- Improved control of downtime
- Control of a brake via the proportional directional control valve VPWP

→ cpx-cax

CPX-CMIX

- Measuring module
- CAN input (Festo specification) for measuring signal
- Recording of the absolute position values or speed values of the connected drive

Plastic connection block



Direct machine mounting
(protection class IP65, IP67)

- M8-3POL
- M8-4POL
- M12-5POL
- M12-5POL quick lock, metal thread screened
- M12-8POL
- Sub-D
- Quick connector
- Spring-loaded terminal with cover

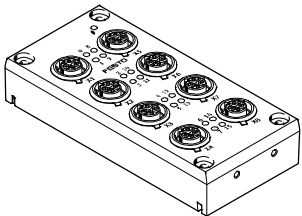
Protected fitting space
(protection class IP20)

- Spring-loaded terminal

Screening concept

- Optional screening plate for connection blocks with M12 connection technology

Metal manifold block

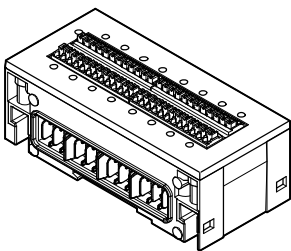


Direct machine mounting
(protection class IP65, IP67)

- M12-5POL

8

Connection block including electronics module and interlinking block



Installation in the control cabinet
(protection class IP20)

- Plastic connection block
- Spring-loaded terminal
- Digital input module with 16 inputs
- Digital I/O module with 8 inputs and 8 outputs

T-adapter
FB-TA
NEDU-L2R1-V10

- T-adapter
- Branch line for connecting and disconnecting fieldbus components
- Connected fieldbus components can be disconnected without interrupting signal transmission (to other components)



General technical data

Type	FB-TA	NEDU-L2R1-V10
Electrical connection 3	Plug, M12, 5-pin	Straight plug, M12, 5-pin, A-coded
Electrical connection 1	Socket, M8, 5-pin	Straight socket, M12, 5-pin, A-coded
Electrical connection 2	Socket, M8, 5-pin	Straight socket, M12, 5-pin, A-coded
Type of mounting	Via through-hole	Screw-in
Max. tightening torque [Nm]	–	0.6
Operating voltage range [V DC]	10 ... 30	0 ... 30
Surge strength [kV]	–	1.5
Acceptable current load [A]	4	4
Protection class to EN 60529	IP67, in assembled state	IP65, IP67, in assembled state

Materials

Type	FB-TA	NEDU-L2R1-V10
Housing	–	TPE-U(PUR)
Housing colour	–	Black
Union nut	–	Die-cast zinc, nickel plated
Seals	–	FPM
Pin contacts	–	Gold-plated copper alloy
Note on materials	–	RoHS-compliant

Operating and environmental conditions

Type	FB-TA	NEDU-L2R1-V10
Ambient temperature [°C]	–25 ... +90	–25 ... +85
Corrosion resistance class CRC ¹⁾	–	2
Degree of contamination	–	3

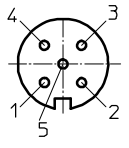
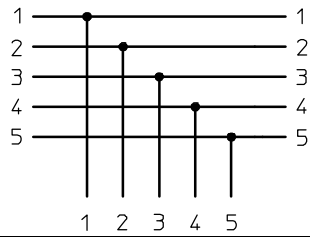
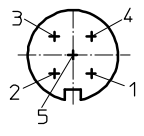
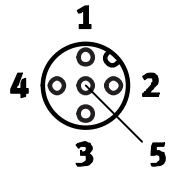
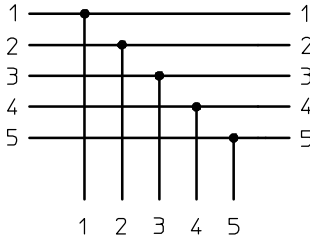
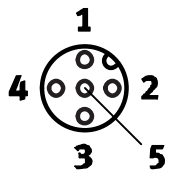
1) Corrosion resistance class 2 according to Festo standard 940 070
 Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Plug connectors for fieldbuses

NEDU-L2R1-V10, M12, 5-pin – Technical data

FESTO

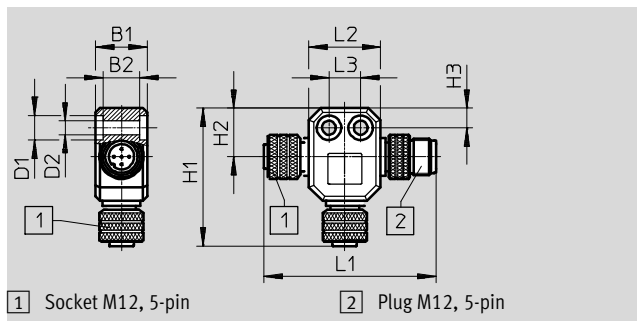
Circuitry (socket/plug view)

Socket	Circuitry	Plug
<p>FB-TA</p> 		
<p>NEDU-L2R1-V10</p> 		

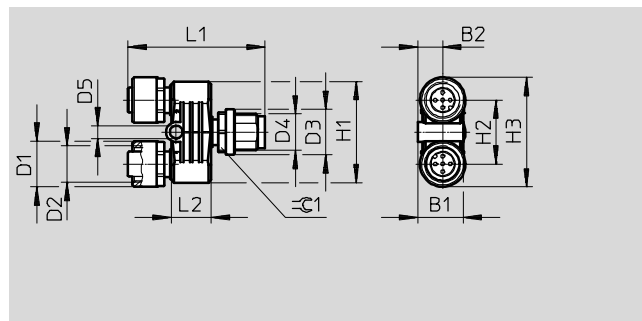
Dimensions

Download CAD data → www.festo.com

FB-TA



NEDU-L2R1-V10



8

Type	B1	B2	D1	D2	D3	D4	D5	H1	H2	H3	L1	L2	L3	⌀1
FB-TA	17	12	8	4.5	–	–	–	45.2	16	6.5	57	23.5	10.4	–
NEDU-L2R1-V10	15	8.3	15	M12	15	M12	4.2	33.3	21	36	45	13.2	–	13

Ordering data

Electrical connection	Product weight [g]	Part No.	Type
Plug M12, 5 pin	–	171175	FB-TA-M12-5POL
2x socket, M8, 5-pin	25	2839867	NEDU-L2R1-V10-M12G5-M12G5
2x socket, M12, 5-pin			

T-adapter FB-TA

- Branch line for connecting and disconnecting fieldbus components
- Connected fieldbus components can be disconnected without interrupting signal transmission (to other components)



General technical data

Type of mounting		Via union nut
Mounting position		Any
Operating voltage range	[V AC]	Max. 10
	[V DC]	Max. 30
Acceptable current load	[A]	4
Cable composition	[mm ²]	2x 0.25
Cable diameter	[mm]	5
Protection class to EN 60529		IP67

Materials

Housing		PA
Cable sheath		PVC
Pin contacts		Nickel-plated/tin-plated brass

Operating and environmental conditions

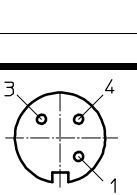
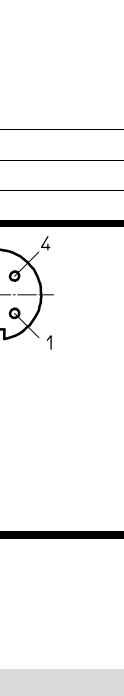

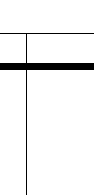
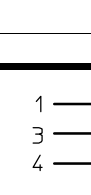
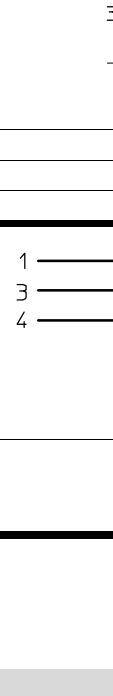

Ambient temperature	[°C]	-25 ... +90
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Plug connectors for fieldbuses

FB-TA, M12, 5-pin – Technical data

FESTO

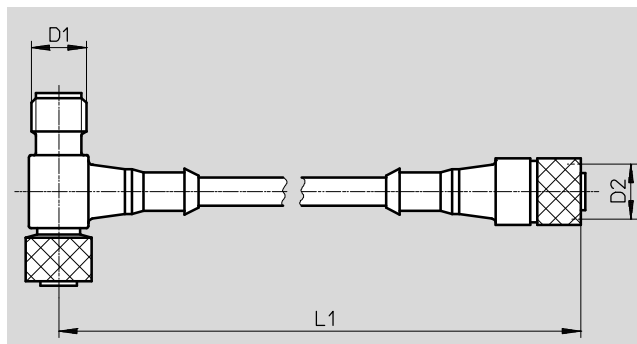
Circuitry (socket/plug view)

FB-TA		
Socket	Circuitry	Plug
		
		
Socket	Circuitry	Plug
		
<ul style="list-style-type: none"> 1 White 2 Black 3 Screening 		

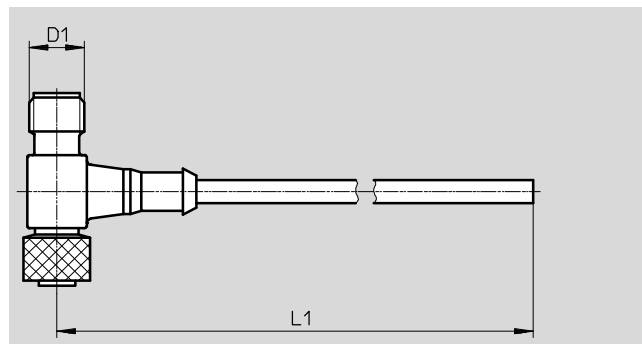
Dimensions

Download CAD data → www.festo.com

FB-TA



FB-TA-1



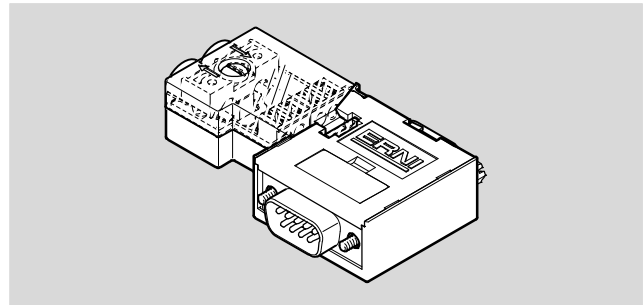
Type	D1	D2	L1
FB-TA	M12	M12	150
FB-TA-1	M12	-	140

Ordering data

Electrical connection	Weight [g]	Part No.	Type
Plug M12, 5 pin	37	18498	FB-TA
Open cable end, 2-wire	23	18499	FB-TA-1

Plug
NECU-S1W9

- Plug
- 9-pin
- Can be assembled with any cable lengths
- Plug for PROFIBUS with terminating resistor and programming interface



General technical data

Electrical connection	Sub-D plug
	9-pin
	IDC terminal
Programming interface	Sub-D socket
	9-pin
Baud rate [Mbps]	12
Permissible cable Ø [mm]	8
Connection cross section [mm ²]	0.08 ... 0.5
Type of mounting	4-40UNC
Protection class	IP20

Materials

Housing	Reinforced polycarbonate
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-20 ... +70
Corrosion resistance class CRC ¹⁾	1
Relative air humidity [%]	75 at 25 °C

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Plug connectors for fieldbuses

NECU-S1W9, Plug, Sub-D, 9-pin – Technical data

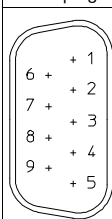
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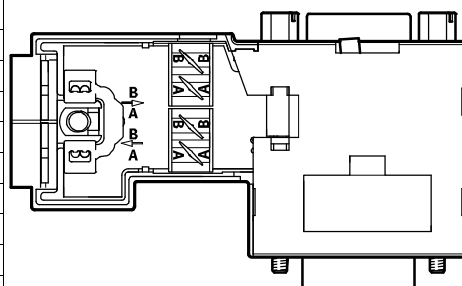
Pin allocation

Sub-D

9-pin	Pin	Wire colour	Signal	Terminal
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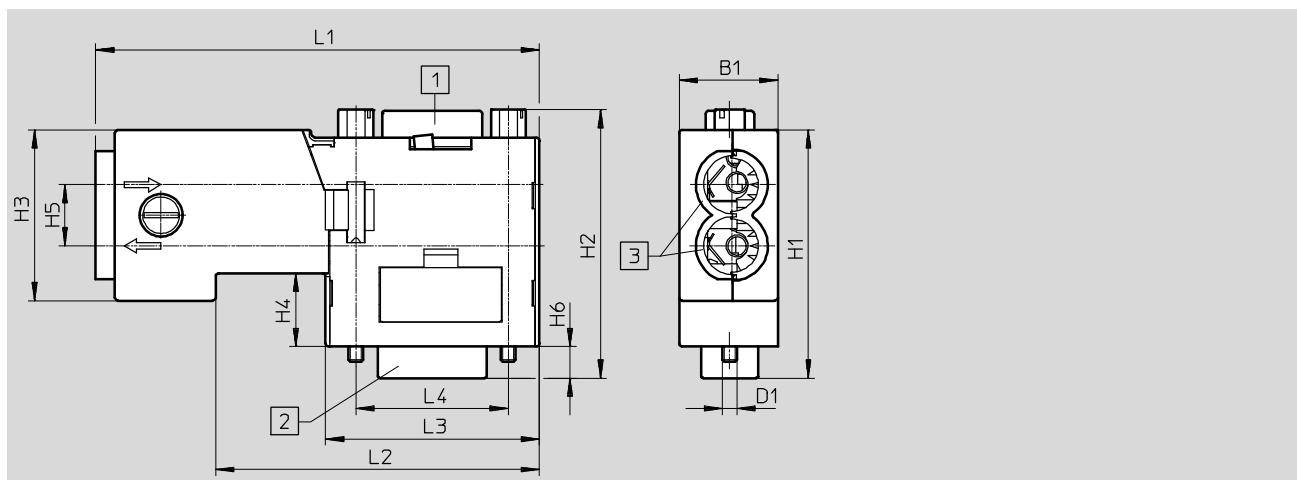
Sub-D plug

	1	–	–	–
	2	–	–	–
	3	Red	RxD/TxD-P	B
	4	–	–	–
	5	–	CAN	–
	6	–	VP (supply voltage)	–
	7	–	–	–
	8	Green	RxD/TxD-N	A
	9	–	–	–
	Hous- ing	–	–	–



Dimensions

Download CAD data → www.festo.com



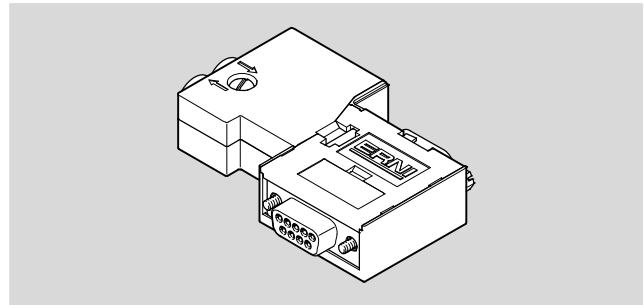
Type	B1	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4
NECU-S1W9-C2-APB	16.2	4-40UNC	40.7	44.2	28	12	10	5.2	72.8	53.1	35.1	25

Ordering data

Electrical connection	Connection cross section [mm]	Part No.	Type
Sub-D plug, 9-pin	IDC terminal	0.08 ... 0.5	574589 NECU-S1W9-C2-APB

**Socket
NECU-S1W9**

- Socket
- 9-pin
- Can be assembled with any cable lengths
- Socket for CANopen with terminating resistor and programming interface



General technical data

Electrical connection	Sub-D socket
	9-pin
	Screw terminal, can be screened
Programming interface	Sub-D plug
	9-pin
Baud rate	[Mbps] 1
Permissible cable Ø	[mm] 8
Connection cross section	[mm ²] 0.14 ... 0.5
Type of mounting	4-40UNC
Protection class	IP20

Materials

Housing	Reinforced polycarbonate
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C] -20 ... +70
Corrosion resistance class CRC ¹⁾	1
Relative air humidity	[%] 75 at 25 °C

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Plug connectors for fieldbuses

NECU-S1W9, Sub-D, 9-pin – Technical data

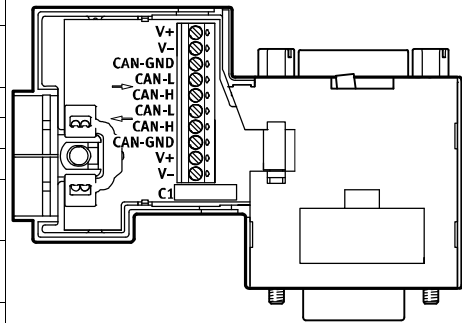
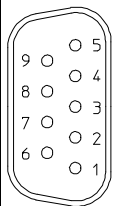
FESTO

Pin allocation

Sub-D

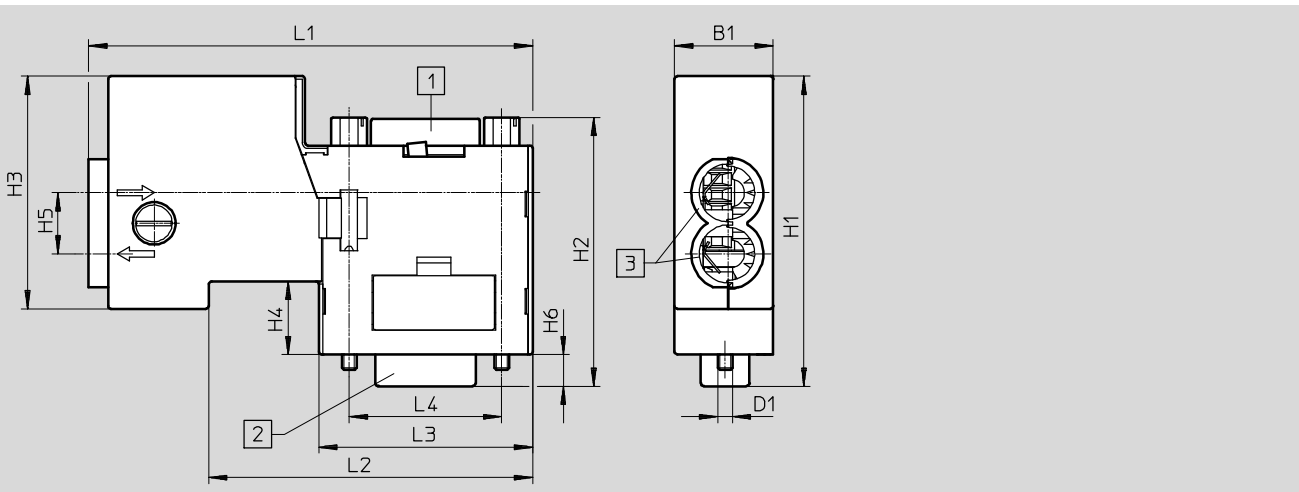
9-pin

Pin	Wire colour	Signal	Terminal
1	–	–	–
2	White	Received/transmitted data low	C-L
3	Screening	0 V CAN interface	GND
4	–	–	–
5	–	–	–
6	Optional	Optional screened connection	V–
7	Brown	Received/transmitted data high	C-H
8	–	–	–
9	Optional	24 V DC supply CAN interface	V+
Housing	–	–	–



Dimensions

Download CAD data → www.festo.com



Type	B1	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4
NECU-S1W9-C2-ACO	16.2	4-40UNC	50.8	43.8	38.1	12	10	5.2	72.8	53.1	35.1	25

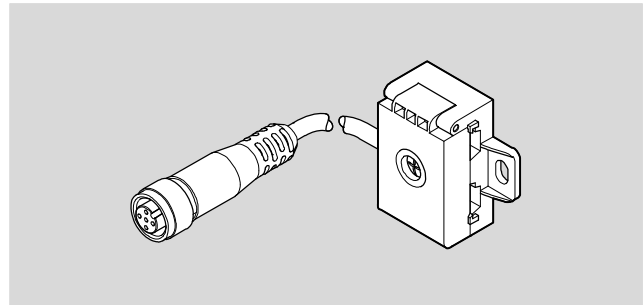
8

Ordering data

Electrical connection	Connection cross section [mm]	Part No.	Type
Sub-D socket, 9-pin	Screw terminal, can be screened 0.14 ... 0.5	574588	NECU-S1W9-C2-ACO

Cable socket NEFU-X2

- Cable socket for branching the AS-interface network at any desired point
- Reconnection from AS-interface flat cable to 5-pin M12 socket
- Reverse polarity protected



General technical data

Type	NEFU-X22F-M12G4	NEFU-X24F-1-M12G4	NEFU-X24F-M12G4
Fieldbus interface	Socket, 4-pin, M12x1, A-coded		
Nominal operating voltage, [V DC] AS-interface	26.5		
Operating voltage, [V DC] AS-interface	26.5 ... 31.6		
Nominal operating voltage, [V DC] load voltage	–	24	24
Operating voltage, [V DC] load voltage	–	20.4 ... 26.4	20.4 ... 26.4
Type of mounting	Via through-hole		
Max. tightening torque [Nm]	1.65		
Protection class to EN 60529	IP65 (assembled)		

Materials

Housing	PA
Cover	PA
Note on materials	RoHS-compliant

Operating and environmental conditions

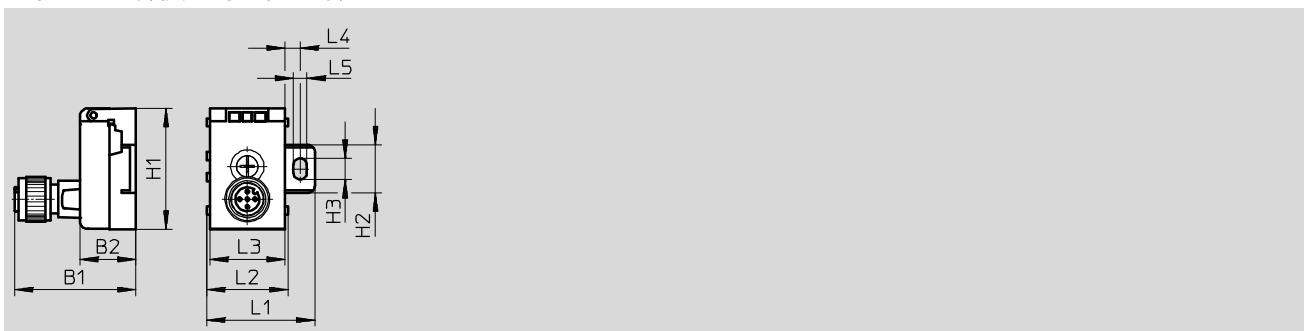
Ambient temperature [°C]	–25 ... +75
Storage temperature [°C]	–25 ... +85
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Dimensions

Download CAD data → www.festo.com

NEFU-X22F-M12G4 and NEFU-X24F-M12G4

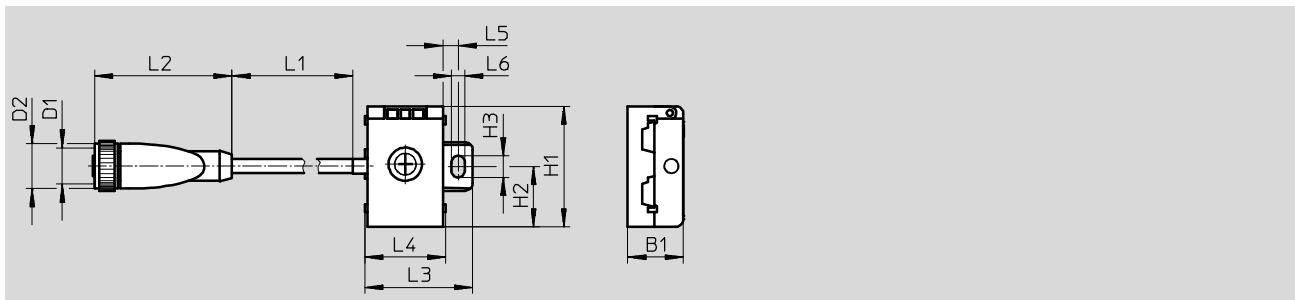


Type	B1	B2	H1	H2	H3	L1	L2	L3	L4	L5
NEFU-X22F-M12G4	40	19	40	16	7	36	26	25	5	4
NEFU-X24F-M12G4										

Dimensions

Download CAD data → www.festo.com

NEFU-X24F-1-M12G4



Type	B1	D1	D2	H1	H2	H3	L1	L2	L3	L4	L5	L6
NEFU-X24F-1-M12G4	19	M12	15	40	20	7	1000	45	36	26	5	4

Ordering data

	AS-interface connection	Weight	Cable length	Part No.	Type
	Without load voltage supply	30 g	–	572225	NEFU-X22F-M12G4
	With load voltage supply	30 g	–	572226	NEFU-X24F-M12G4
	With load voltage supply	60 g	1 m	572227	NEFU-X24F-1-M12G4

Ordering data – Accessories

	Designation		Part No.	Type
	Straight sensor plug for cable Ø 2.5 mm	M12, 4-pin	192008	SEA-4GS-7-2,5
	Straight sensor plug	M12, 4-pin, PG7	18666	SEA-GS-7
		M12, PG9, 4-pin	18778	SEA-GS-9
	Plug M12 for 2 connecting cables	4-pin, PG11	18779	SEA-GS-11-DUO
	Connecting cable, straight plug, straight socket	M12, 4-pin/5-pin, 0.2 m	542129	NEBU-M12G5-F-0.2-M12G4
		M12, 4-pin, 2.5 m	18684	KM12-M12-GSGD-2,5
		M12, 4-pin, 5 m	18686	KM12-M12-GSGD-5
	Connecting cable, straight plug, angled socket	M12, 4-pin, 1 m	185499	KM12 M12-GSWD-1-4

**Plug/plug socket
FBS/FBSD**

- Plug/plug socket for fieldbus connection
- Can be assembled with any cable length
- 5-pin plug/4-pin or 5-pin socket
- With screw terminals
- Wire cross section of up to 0.75 mm²






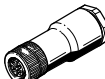

General technical data

Type	FBSD...	FBS...	
Type of mounting	Union nut M12		
Mounting position	Any		
Electrical connection	Type A		
Based on standard	EN 61076-2-101, EN 61984		
Connection cross section	[mm ²]	0.25 ... 0.75	
Max. tightening torque for locking	[Nm]	0.5	
Acceptable current load at 40 °C	[A]	4	
Protection class to EN 60529	IP67 (assembled)		
Material	of housing	Reinforced polyamide	
	of contacts	Brass, coated with white bronze	Nickel-plated and gold-plated brass
		FBSD-GD-9-5POL: nickel-plated and gold-plated brass	
	of union nut	Nickel-plated die-cast zinc	
of seals	Nitrile rubber		
Note on materials	Conforms to RoHS		
Fire protection classification to UL94	HB, V2		
CE mark (see declaration of conformity)	To EU Low Voltage Directive		
Degree of contamination	3		
Ambient temperature	[°C]	-40 ... +85	

Plug connectors for fieldbuses

FBS/FBSD – Technical data

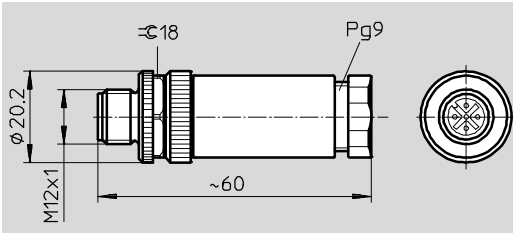
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Ordering data								
	Electrical connection	Operating voltage range		Cable connection	Permitted cable Ø [mm]	Product weight [g]	Part No.	Type
		[V AC]	[V DC]					
	Straight plug, 5-pin, screw terminal	60	60	Pg9	6 ... 8	23.5	175380	FBS-M12-5GS-PG9
	Straight socket, 4-pin, screw terminal	250	250	Pg7	4 ... 6	28	18497	FBSD-GD-7
	Straight socket, 4-pin, screw terminal	250	250	Pg9	8 ... 9.5	29	18495	FBSD-GD-9
	Straight socket, 5-pin, screw terminal (DeviceNet)	60	60	Pg9	6 ... 8	33	18324	FBSD-GD-9-5POL
	Straight socket, 4-pin, screw terminal	250	250	Pg13.5	10 ... 12	40	18496	FBSD-GD-13,5
	Angled socket, 4-pin, screw terminal	250	250	Pg7	4 ... 6	25	18524	FBSD-WD-7
	Angled socket, 4-pin, screw terminal	250	250	Pg9	6 ... 8	30	18525	FBSD-WD-9

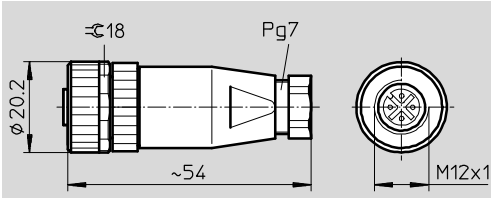
Dimensions

Download CAD data → www.festo.com

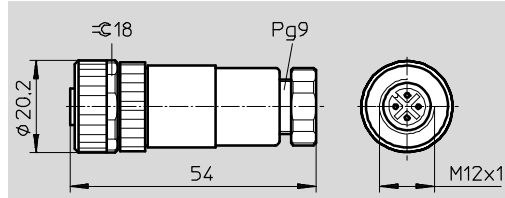
FBS-M12-5GS-PG9



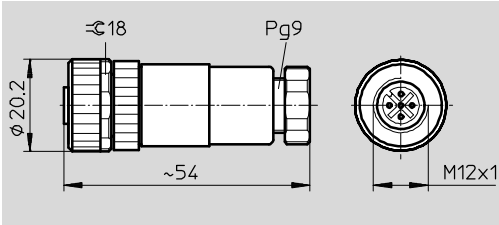
FBSD-GD-7



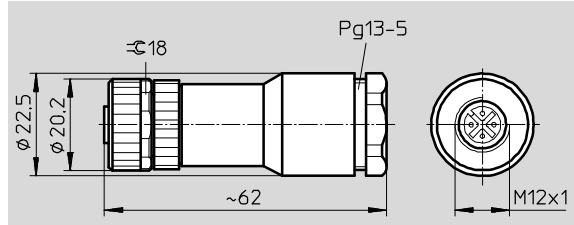
FBSD-GD-9



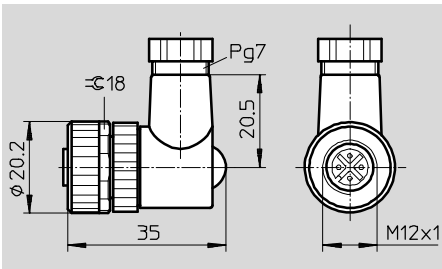
FBSD-GD-9-5POL



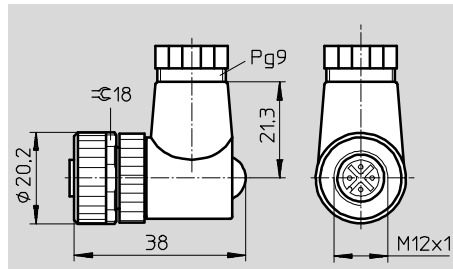
FBSD-GD-13,5



FBSD-WD-7



FBSD-WD-9



Bus connection FBSD-KL

- Plug socket for fieldbus connection



General technical data

Electrical connection	Angled socket, 5-pin; screw terminal, 5-pin
Operating voltage range [V DC]	24
Acceptable current load [A]	12
Connection cross section [mm ²]	0.2 ... 2.5
Type of mounting	2x M2.5x12 screws
Mounting position	Any
Protection class	IP20

Materials

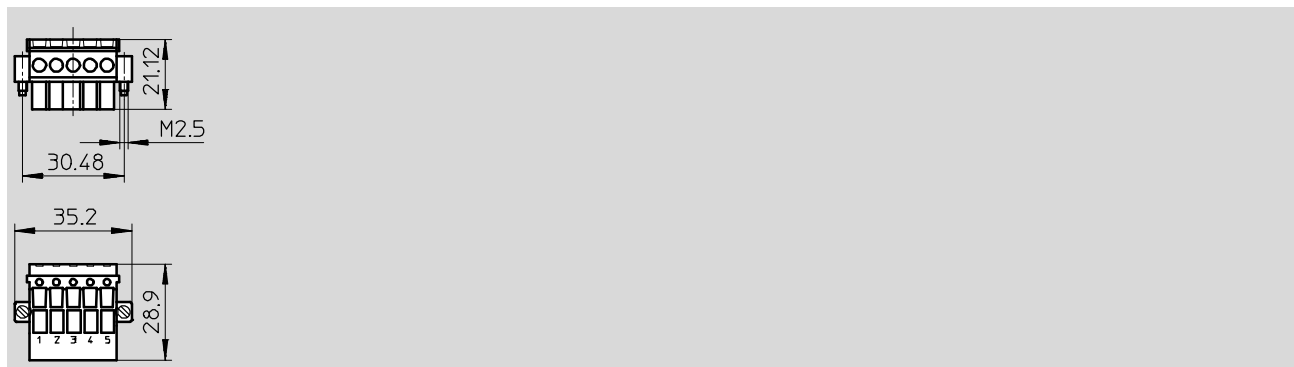
Pin contact	Gold-plated bronze
Housing	Polyamide (colour: black)

Operating and environmental conditions

Ambient temperature [°C]	-5 ... +50
Storage temperature [°C]	-20 ... +70

Dimensions

Download CAD data → www.festo.com



Ordering data

Electrical connection	Weight [g]	Part No.	Type
Angled socket, 5-pin; screw terminal, 5-pin	20	525635	FBSD-KL-2x5POL

Plug
NECU-M-S-B12G5

- Plug
- 5-pin
- B-coded for PROFIBUS
- Can be assembled with any cable lengths



General technical data

Electrical connection	Straight plug, M12x1	
	5-pin	
	Screw terminal, can be screened	
Plug coding	B-coded	
Operating voltage range	[V DC]	0 ... 60
	[V AC]	0 ... 60
Surge resistance	[kV]	1.5
Acceptable current load at 40 °C	[A]	4
Based on standard	EN 61076-2-101	
	EN 61984	
Transmission characteristics	DIN EN 50173/CAT 5	
Permissible cable Ø	[mm]	6 ... 8
Connection cross section	[mm ²]	0.14 ... 0.75
Protection class	IP67	

Materials

Housing	Nickel-plated die-cast zinc
Pin contact	Gold-plated brass
Note on materials	Free of copper and PTFE
	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +85
Corrosion resistance class CRC ¹⁾		1
Degree of contamination		3
CE marking (see declaration of conformity)	To EU Low Voltage Directive	

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

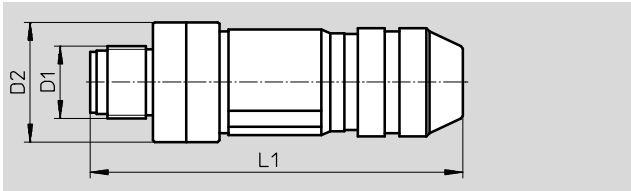
Plug connectors for fieldbuses

NECU-M-S-B12G5, M12, 5-pin – Technical data

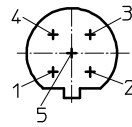
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Dimensions

NECU-M-S-B12G5



Pin allocation



Download CAD data → www.festo.com

Type	D1	D2	L1
NECU-M-S-B12G5	M12	20	62.5

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Plug M12x1, 5-pin, straight	Screw terminal, can be screened	0.14 ... 0.75	46	1066354	NECU-M-S-B12G5-C2-PB

Socket
NECU-M-B12G5

- Socket
- 5-pin
- Can be assembled with any cable lengths



General technical data

Electrical connection	Straight socket, M12x1	
	5-pin	
	Screw terminal, can be screened	
Plug coding	B-coded	
Operating voltage range	[V DC]	0 ... 125
	[V AC]	0 ... 125
Surge resistance	[kV]	1.25
Acceptable current load at 40 °C	[A]	4
Based on standard	EN 61076-2-101	
	EN 61984	
Transmission characteristics	DIN EN 50173/CAT 5	
Permissible cable Ø	[mm]	6 ... 8
Connection cross section	[mm ²]	0.14 ... 0.75
Protection class	IP67	

Materials

Housing	Nickel-plated die-cast zinc
Pin contact	Gold-plated brass
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +85
Corrosion resistance class CRC ¹⁾		1
Degree of contamination		3
CE marking (see declaration of conformity)	To EU Low Voltage Directive	

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

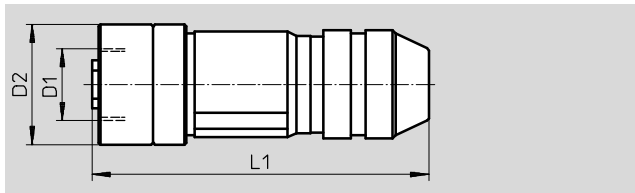
Plug connectors for fieldbuses

NECU-M-B12G5, M12, 5-pin – Technical data

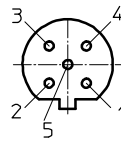
FESTO

Dimensions

NECU-M-B12G5



Pin allocation



Download CAD data → www.festo.com

Type	D1	D2	L1
NECU-M-B12G5	M12	20	56

Ordering data

Electrical connection	Connection cross section [mm ²]	Part No.	Type
Socket M12x1, 5-pin, straight	0.14 ... 0.75	1067905	NECU-M-B12G5-C2-PB

Terminating resistor CACR-B12G5

- Terminating resistor for PROFIBUS



General technical data

Electrical connection	Straight plug
	4-pin
	M12x1
Plug coding	B (for PROFIBUS)
Operating voltage range [V DC]	0 ... 5
Degree of contamination	3
Protection class to EN 60529	IP67

Materials

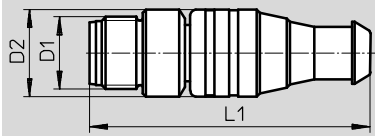
Housing	TPE-U(PU)
Pin contact	Gold-plated brass
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-25 ... +80
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Dimensions

Download CAD data → www.festo.com



Type	D1	D2	L1
CACR-S-B12G5	M12	14.5	46.75

Ordering data

	Part No.	Type
Terminating resistor for PROFIBUS	1072128	CACR-S-B12G5-220-PB

Plug connectors for fieldbuses

FBS-SUB-9-BU-...-B – Technical data

FESTO

Plug FBS-SUB-9-BU

- Fieldbus socket with 9-pin Sub-D connection
- Variants for different fieldbus systems
- Position of DIL switches can be read externally
- Easy to assemble



General technical data

Type of mounting	2 M3x20 screws	
Cable connector	Pg9	
Electrical connection	9-pin socket, Sub-D	
Permissible cable diameter	[mm]	5 ... 10
Protection class to EN 60529	IP65/67 (assembled)	
Material	Housing	Reinforced polyamide
	Seal	Nitrile rubber
	Union nut	Nickel-plated brass
	Screws	Steel
Material note	RoHS-compliant	
Height/length/width	[mm]	62/61/20

Operating and environmental conditions

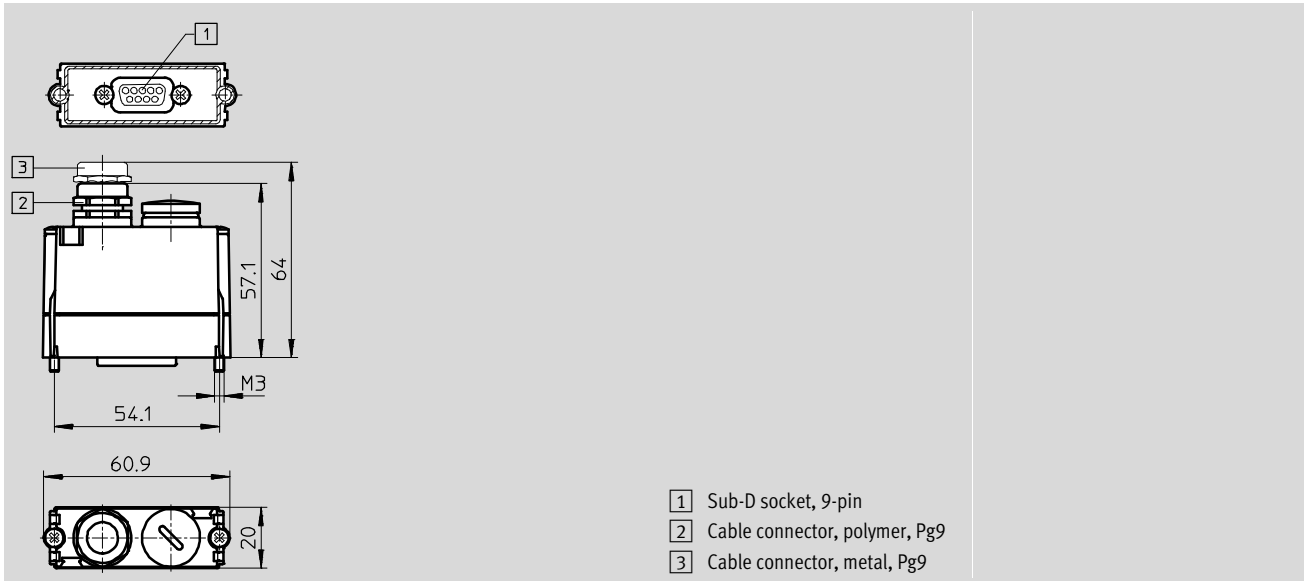
Ambient temperature	[°C]	0 ... +50
Storage temperature	[°C]	-20 ... +70
Relative air humidity	95%, non-condensing	

Ordering data

	Additional functions	Fieldbus interface	Product weight [g]	Type	Part No.
	Integrated RBST bridge	INTERBUS nodes CPX and CPV 1x 5 spring-loaded terminals	60	FBS-SUB-9-BU-IB-B	532218
	-	DeviceNet/Can CPX and CPV 2x 5 spring-loaded terminals BUS In - BUS Out looped through	60	FBS-SUB-9-BU-2x5POL-B	532219

Dimensions

Download CAD data → www.festo.com



Plug connectors for fieldbuses

FBS-SUB-9, Sub-D, 9-pin – Technical data

FESTO

Plug FBS-SUB-9

- Fieldbus plug with 9-pin Sub-D connection
- Variants for different fieldbus systems
- Position of DIL switches can be read externally
- Easy assembly



General technical data

Type	FBS-SUB-9-GS-DB-B	FBS-SUB-9-GS-IB-B	FBS-SUB-9-GS-2X4POL-B	FBS-SUB-9-GS-1X9POL-B
Electrical connection	Plug, 9-pin, Sub-D			
Control elements	DIL switches	–	–	–
Note for fieldbus interface	–	–	BUS In - BUS Out looped through	–
Additional functions	Switching off of outgoing fieldbus segment	Integrated RBST bridge	–	–
Permissible cable diameter [mm]	5 ... 10			
Degree of protection to EN 60529	IP65, IP67 (assembled)			
Height/length/width [mm]	62/61/20			

General technical data

Type	FBS-SUB-9-WS...
Electrical connection	Plug, 9-pin, Sub-D
Permissible cable diameter [mm]	4.5 ... 8
Degree of protection to EN 60529	IP40

Materials

Type	FBS-SUB-9-GS...	FBS-SUB-9-GS-1X9POL-B	FBS-SUB-9-WS...
Housing	PA reinforced	PA reinforced	Thermoplastic
Seals	NBR	NBR	–
Screws	Steel	Steel	–
Union nut	Brass	Brass	–
Note on materials	RoHS-compliant	–	–

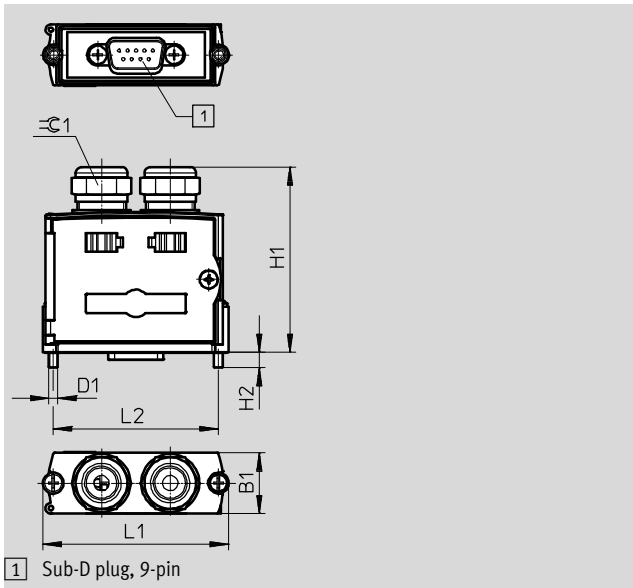
Operating and environmental conditions

Type	FBS-SUB-9-GS...	FBS-SUB-9-GS-1X9POL-B	FBS-SUB-9-WS...
Ambient temperature [°C]	0 ... +50	0 ... +50	–20 ... +70
Storage temperature [°C]	–20 ... +70	–20 ... +70	–
Relative air humidity [%]	95, non-condensing	95, non-condensing	–
CE marking	–	To EU EMC Directive ¹⁾	–
(see declaration of conformity)	–	To EU Low Voltage Directive	–

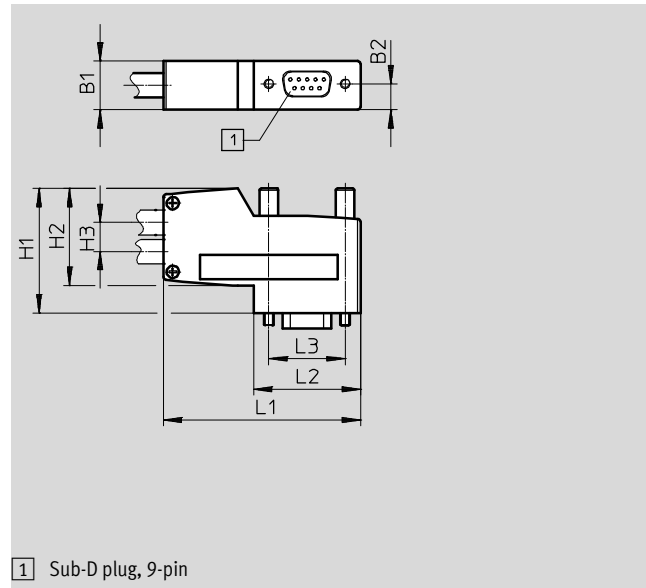
1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Dimensions

FBS-SUB-9-GS...



FBS-SUB-9-WS...



Type	B1	B2	D1	H1	H2	H3	L1	L2	L3	⌀C1
FBS-SUB-9-GS...	20	–	M3x20	60.5	5	–	60.9	54.1	–	17
FBS-SUB-9-WS...	16	8.5	–	40.8	31.8	9.5	64.6	35	25	–

Ordering data

	Electrical connection	Protocol	Fieldbus interface	Product weight [g]	Part No.	Type
	Straight plug	PROFIBUS	2x 2 spring-loaded terminals	60	532216	FBS-SUB-9-GS-DP-B
		INTERBUS	1x 5 spring-loaded terminals	60	532217	FBS-SUB-9-GS-IB-B
		CC-Link	2x 4 spring-loaded terminals	60	532220	FBS-SUB-9-GS-2x4POL-B
		RS232	1x 9 spring-loaded terminals	60	534497	FBS-SUB-9-GS-1x9POL-B
	Angled plug	PROFIBUS	–	43	533780	FBS-SUB-9-WS-PB-K
		CANopen	–	45.9	533783	FBS-SUB-9-WS-CO-K

Plug connectors for fieldbuses

FBA-2/FBA-1 – Technical data

FESTO

Bus connection FBA

- Sub-D 9-pin adapter
- Can be assembled with any cable length
- Protection class IP20 to IP65



General technical data

Type	FBA-2-M12-5POL	FBA-2-M12-5POL-RK	FBA-1-SL	FBA-1-KL
Electrical connection	Sub-D straight socket, 9-pin; M12 plug/socket, 5-pin	Sub-D straight plug, 9-pin; M12 plug/socket, 5-pin	Sub-D straight socket, 9-pin; plug, 5-pin	M8x1 plug, 4-pin, straight, screw terminal
Operating voltage range [V DC]	24			
Acceptable current load [A]	4	4	4	7.5
Connection cross section [mm ²]	–			
Type of mounting	2x M3x20 screws			
Mounting position	Any			
Protection class	IP65	IP65	IP40	IP20

Materials

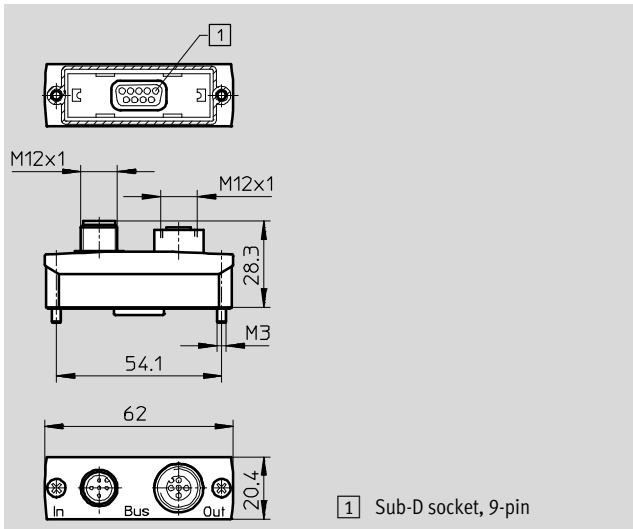
Pin contact	Gold-plated bronze
Housing	Polyamide
Note on materials	RoHS-compliant

Operating and environmental conditions

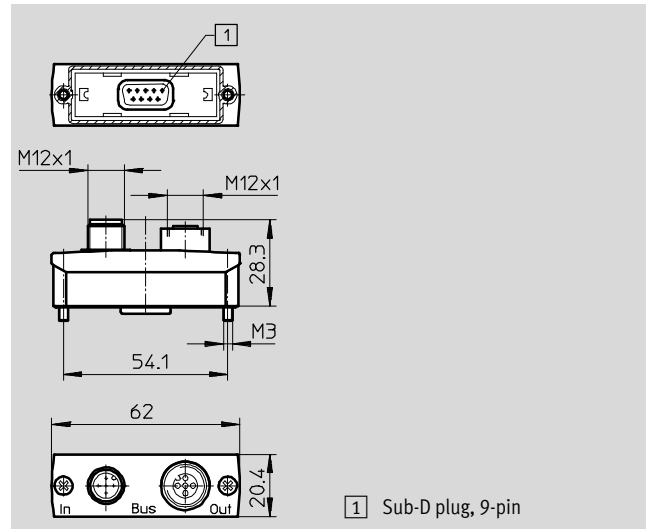
Ambient temperature [°C]	–5 ... +50
Storage temperature [°C]	–20 ... +70

Dimensions

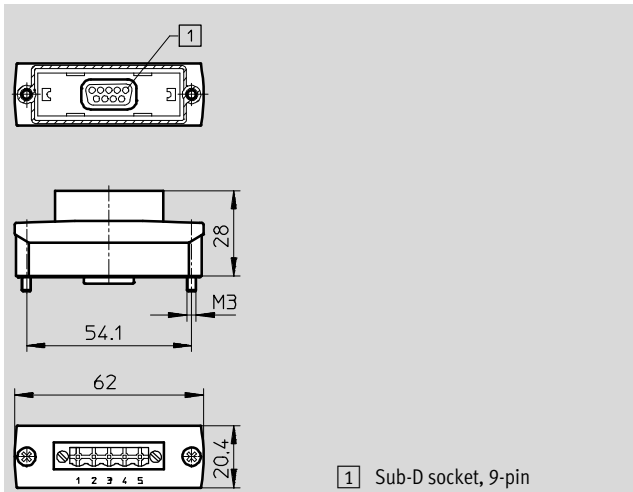
FBA-2-M12-5POL



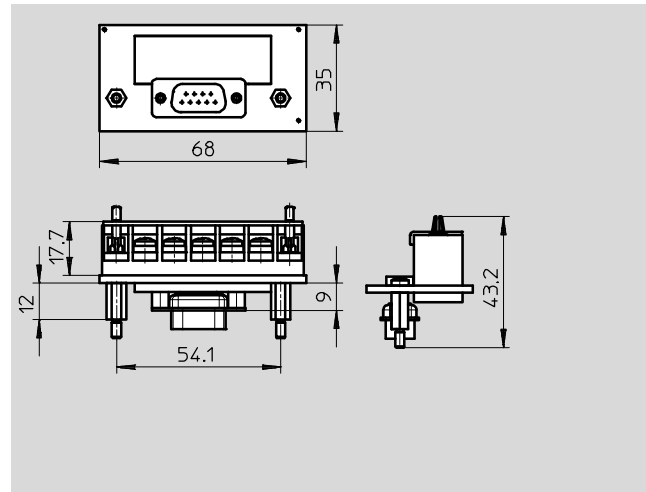
FBA-2-M12-5POL-RK



FBA-1-SL...



FBA-1-KL...



Pin allocation – Sub-D/opposite side

FBA-2-M12-5POL			
Sub-D connection	Pin	Pin	Plug
	1	-	
	2	5	
	3	3	
	4	-	
	5	1	
	6	-	
	7	4	
	8	-	
	9	2	
	Housing	1	
FBA-2-M12-5POL-RK			
Sub-D connection	Pin	Pin	Plug
	1	5	
	2	-	
	3	4	
	4	-	
	5	-	
	6	-	
	7	-	
	8	2	
	9	-	
	Housing	Housing	
FBA-1-SL-5POL			
Sub-D connection	Pin	Pin	Plug
	1	-	
	2	2	
	3	1	
	4	-	
	5	3	
	6	-	
	7	4	
	8	-	
	9	5	
	Housing	3	
FBA-1-KL-5POL			
Sub-D connection	Pin	Pin	Terminal strip
	1	-	
	2	DA	
	3	DG	
	4	-	
	5	FG	
	6	-	
	7	DB	
	8	-	
	9	-	
	Housing	SLD	

Ordering data				
	Electrical connection	Weight [g]	Part No.	Type
	Sub-D straight socket, 9-pin; M12 plug/socket, 5-pin	28	525632	FBA-2-M12-5POL
	Sub-D straight plug, 9-pin; M12 plug/socket, 5-pin	37	533118	FBA-2-M12-5POL-RK
	Sub-D straight socket, 9-pin; plug, 5-pin	26	525634	FBA-1-SL-5POL
	Sub-D straight plug, 9-pin; screw terminal, 5-pin	47	197962	FBA-1-KL-5POL

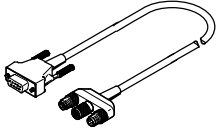
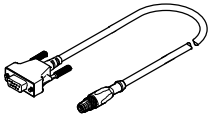
Ordering data – Accessories				
	Electrical connection	Weight [g]	Part No.	Type
For FBA-2-M12-5POL				
	Socket M12x1, 5-pin, straight	33	18324	FBSD-GD-9-5POL
	Plug M12x1, 5-pin, straight	23.5	175380	FBS-M12-5GS-PG9
For FBA-2-M12-5POL-RK				
	Socket M12x1, 5-pin, straight	48	1067905	NECU-M-B12G5-C2-PB
	Plug M12x1, 5-pin, straight	46	1066354	NECU-M-S-B12G5-C2-PB
For FBA-1-SL-5POL				
	<ul style="list-style-type: none"> • Socket, 5-pin, angled • Screw terminal, 5-pin • Protection class IP20 	20	525635	FBSD-KL-2x5POL

Plug connectors for fieldbuses

FBA-PB/FBA-CO, for Motor units MTR-DCI – Technical data

FESTO

Ordering data – Plugs

	Brief description	Part No.	Type
Fieldbus adapter for Profibus			
	<ul style="list-style-type: none"> – 9-pin Sub-D plug to 5-pin round M12 plug/socket, plus round M12 plug for logic voltage supply – Bus terminating resistor must be connected externally 	537 934	FBA-PB-SUB-9-3XM12
Fieldbus adapter for CANopen and DeviceNet			
	<ul style="list-style-type: none"> – 9-pin Sub-D plug to 5-pin round M12 plug – Bus terminating resistor must be connected externally 	540 324	FBA-CO-SUB-9-M12

Connecting piece
KVI-CP-3-SSD

- Connector for fieldbus connection (CP bus valve terminal type 04, CPV, type 03 and CPI installation system)
- 5-pin
- Straight socket/straight plug



General technical data

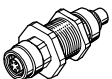
Type	KVI-...-SSD
Type of mounting	Via external thread
Mounting position	Any
Nominal operating voltage [V]	24 DC
Protection class to EN 60529	IP65/67
Material of casing	Nickel-plated brass
Material of contacts	Copper alloy, gold plated
Material of union nut	Nickel-plated brass
Note on materials	Free of copper and PTFE

Operating and environmental conditions

Ambient temperature [°C]	-20 ... +80
Corrosion resistance class CRC ¹⁾	2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

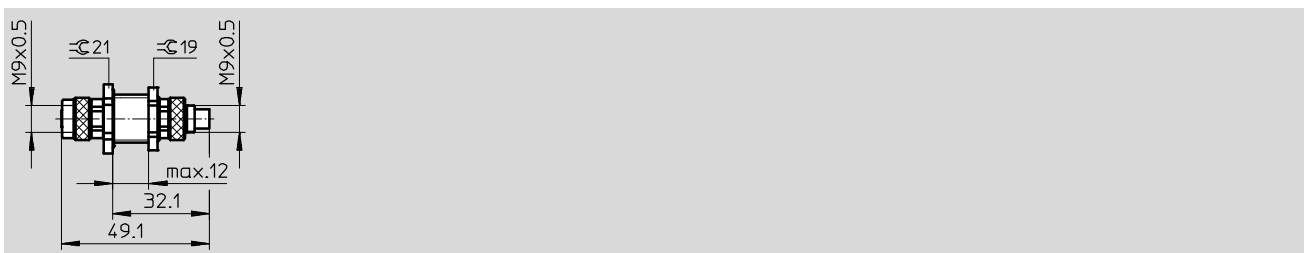
Ordering data

	Electrical connection	Product weight [g]	Type	Part No.
	Straight plug, 5-pin, M9 Straight socket, 5-pin, M9	48	KVI-CP-3-SSD	543 252

Dimensions

Download CAD data → www.festo.com

KVI-...-SSD



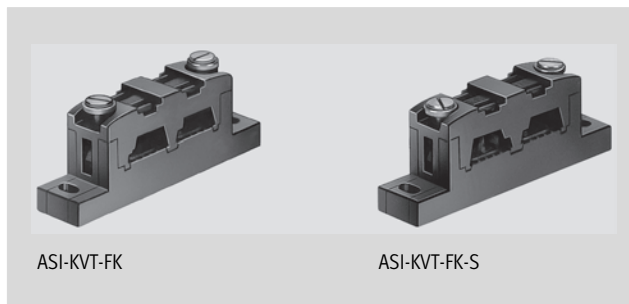
Plug connectors for fieldbuses

ASI-KVT, for AS-interface – Technical data

FESTO

Cable distributor ASI-KVT-FK

- Flat cable distributor for branching the AS-interface network at any desired point
- For parallel or symmetrical cable installation
- Reverse polarity protected



ASI-KVT-FK

ASI-KVT-FK-S

General technical data

Mounting position		Any
Type of mounting		Via through-hole
Operating voltage range	[V AC]	0 ... 60
	[V DC]	0 ... 75
Acceptable current load	[A]	3
Connection type		Insulation displacement technology
Connection cross section	[mm ²]	1.5
Protection class		IP65 (fully assembled)
Product weight	[g]	7.2

Materials

Housing		PA
Pin contacts		Bronze

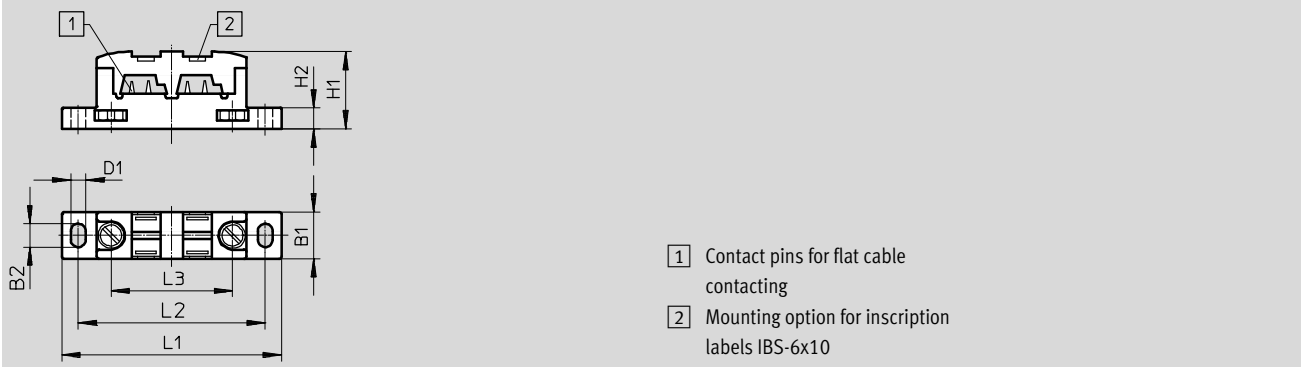
Operating and environmental conditions

Ambient temperature with flexible cable installation	[°C]	-5 ... +50
Storage temperature	[°C]	-30 ... +85

Dimensions

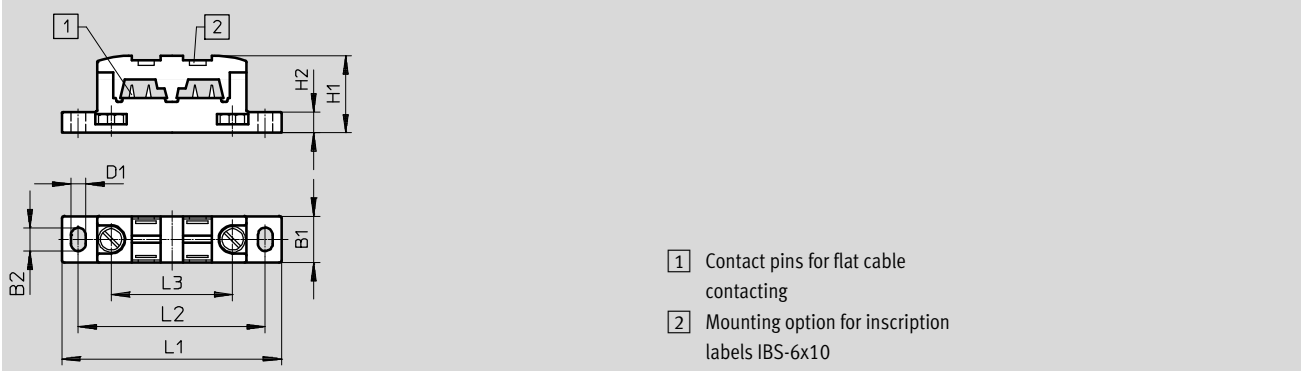
Download CAD data → www.festo.com

ASI-KVT-FK



Type	B1	B2	D1	H1	H2	L1	L2	L3
ASI-KVT-FK	10	5	3.2	16.5	4.5	47	40	26

ASI-KVT-FK-S



Type	B1	B2	D1	H1	H2	L1	L2	L3
ASI-KVT-FK-S	10	5	3.2	16.5	4.5	47	40	26

Ordering data

	Part No.	Type
Parallel cable throughfeed	18786	ASI-KVT-FK
Symmetrical cable throughfeed	18797	ASI-KVT-FK-S

Ordering data – Accessories

	Description	Part No.	Type
	Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10

Plug connectors for fieldbuses

ASI-KVT-FKx2, for AS-interface – Technical data



Cable distributor ASI-KVT-FKx2

- Flat cable distributor for reconnecting from AS-interface flat cable to 4-pin M12 socket
- 2 connections: M12 socket with permanently attached cable (1 m long) and M12 socket integrated in housing
- Reverse polarity protected



General technical data

Mounting position	Any
Type of mounting	Via through-hole Optionally via H-rail
AS-interface connection	AS-interface flat cable plug (must be ordered separately) M12x1 socket, 4-pin, A-coded
Nominal operating voltage for AS-interface [V DC]	26.5
Operating voltage range for AS-interface [V DC]	26.5 ... 31.6
Nominal operating voltage for load voltage [V DC]	24
Operating voltage range for load voltage [V DC]	20.4 ... 26.4
Protection class to EN 60529	IP65 (fully assembled)
Cable length [mm]	1,000

Materials

Housing	Reinforced PA
Cover	Reinforced PA
Seals	PUR
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-5 ... +50
Storage temperature [°C]	-20 ... +70
Relative air humidity [%]	5 ... 90, non-condensing, in assembled state
CE marking (see declaration of conformity)	To EU EMC Directive

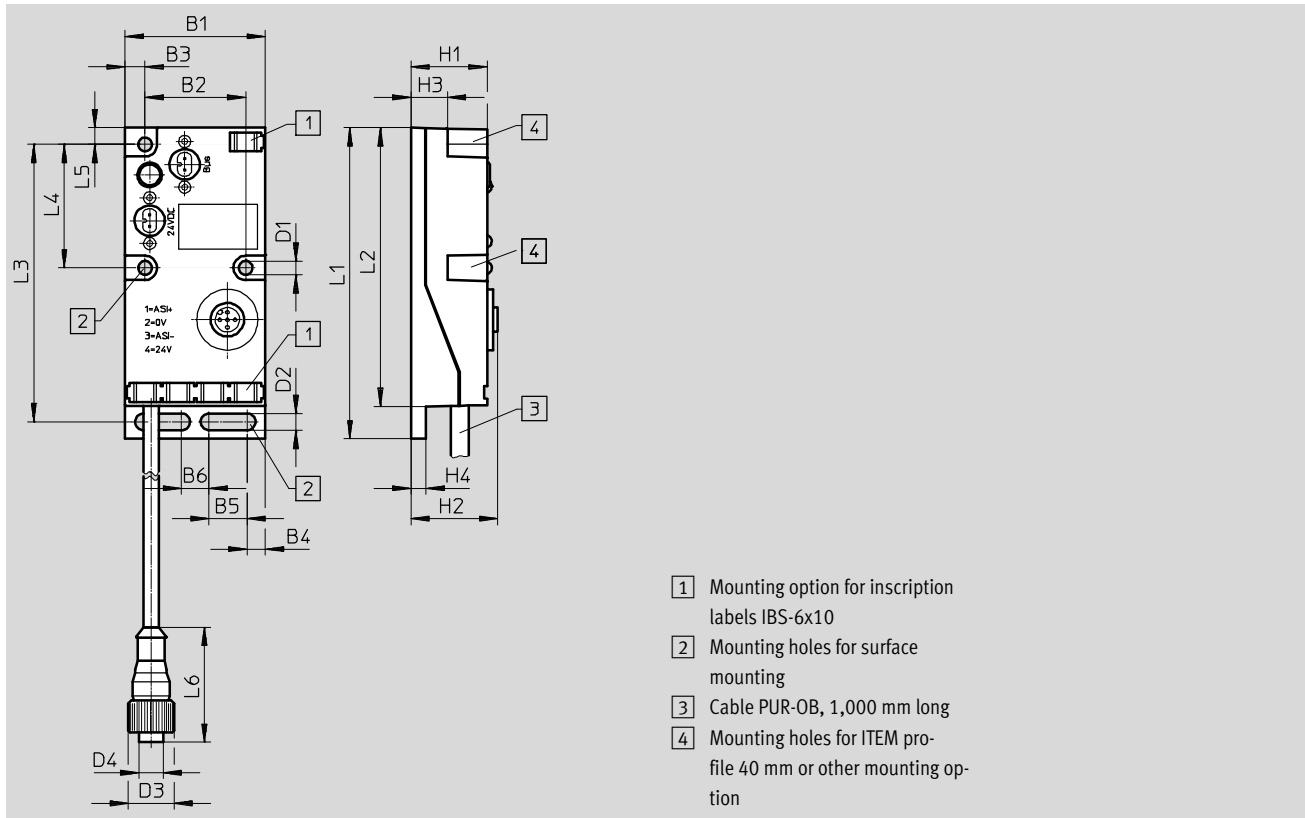
8

Pin allocation

AS-interface and auxiliary power supply	Pin	Signal	Pin	5-pin M12 socket and socket at the cable
	1	AS-interface +	1	
	2	AS-interface -	3	
	1	0 V (additional supply)	2	
	2	+24 V (additional supply)	4	
		Unused	5	

Dimensions

ASI-KVT-FKx2-M12



Type	B1	B2	B3	B4	B5	B6	D1 ∅	D2	D3 ∅	D4	H1 +0.3	H2	H3	H4	L1	L2	L3	L4	L5	L6
ASI-KVT-FKx2-M12	46	33	6.5	6	12.5	9	4.5	5.5	15	M12	25	28.5	12	5	102	91.4	91	40.5	5.5	38

Ordering data

	Product weight [g]	Part No.	Type
<p>Flat cable distributor for reconnecting from AS-interface flat cable to 4-pin M12 socket</p>	190	527474	ASI-KVT-FKx2-M12

Ordering data – Accessories

	Description	Part No.	Type
	Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10
	10 plugs for (non-pressure-tight) sealing of openings with M12 female thread	165592	ISK-M12
	Mounted using 2x M2.5x6 screws For sealing unused flat cable connections	196090	ASI-SD-FK-BL

Plug connectors for fieldbuses

ASI-SD, for AS-interface – Technical data

FESTO

Cable socket ASI-SD-...-M12

- Flat cable socket for connecting AS-interface stations to the AS-interface bus system
- M12 connection
- Reverse polarity protected
- Detachable connection



General technical data

Type	ASI-SD-FK-M12	ASI-SD-PG-M12
Mounting position	Any	
Type of mounting	Via union nut	
Electrical connection	Straight socket	Straight socket
	5-pin	4-pin
	Insulation displacement technology	Screw terminal
Connection cross section [mm ²]	1.5	0.75
Cable connector	–	Pg9
Operating voltage range [V AC]	0 ... 40	0 ... 125
Acceptable current load [A]	2	3
Protection class	IP65/IP67 (assembled)	
Product weight [g]	16.8	27.6

Materials

Type	ASI-SD-FK-M12	ASI-SD-PG-M12
Housing	PA	PA
Pin contacts	Gold-plated copper alloy	Bronze
Union nut	Nickel-plated	Nickel-plated
Housing colour	Black	Black
Note on materials	–	RoHS-compliant

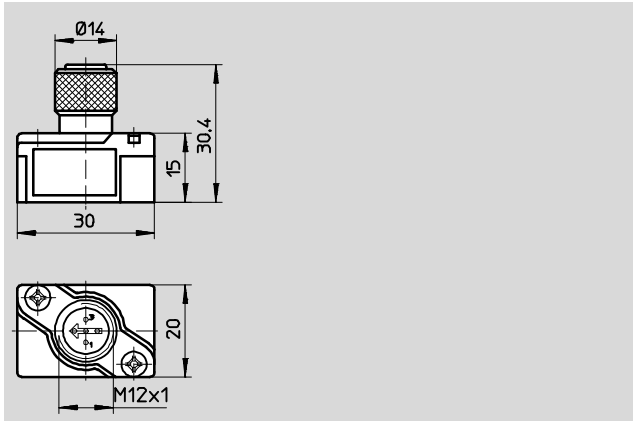
Operating and environmental conditions

Type	ASI-SD-FK-M12	ASI-SD-PG-M12
Ambient temperature [°C]	–25 ... +60	–40 ... +85

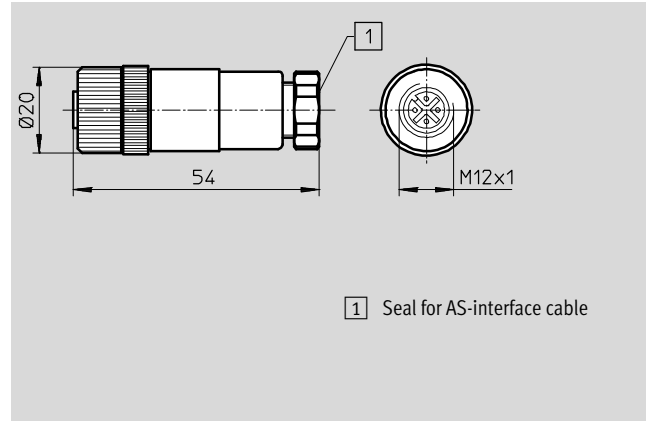
Dimensions

Download CAD data → www.festo.com

ASI-SD-FK-M12



ASI-SD-PG-M12



Ordering data

	Electrical connection	Part No.	Type
	Straight socket, 5-pin, insulation displacement technology	18788	ASI-SD-FK-M12
	Straight socket, 4-pin, screw terminal	18789	ASI-SD-PG-M12

Plug connectors for fieldbuses

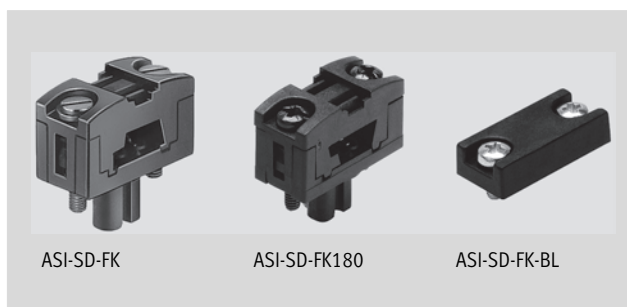
ASI-SD-FK, for AS-interface – Technical data

FESTO

Cable socket ASI-SD-FK

Blanking plug ASI-SD-FK-BL

- Flat cable socket for connecting AS-interface stations to the AS-interface bus system
- 0° and 180° version
- Reverse polarity protected
- Detachable connection
- 2-pin
- Blanking plugs for sealing unused connections



ASI-SD-FK

ASI-SD-FK180

ASI-SD-FK-BL

General technical data

Type	ASI-SD-FK	ASI-SD-FK180	ASI-SD-FK-BL
Mounting position	Any		
Type of mounting	Via through-hole		
Electrical connection	Straight socket, 2-pin	Straight socket, 2-pin	–
Operating voltage range	[V AC]	0 ... 60	–
	[V DC]	0 ... 75	–
Acceptable current load [A]	3	3	–
Connection type	Insulation displacement technology	Insulation displacement technology	–
Connection cross section [mm ²]	1.5	1.5	–
Protection class	IP65 (in assembled state)		
Product weight [g]	6.8	6.2	3

Materials

Type	ASI-SD-FK	ASI-SD-FK180	ASI-SD-FK-BL
Housing	PA	PA	–
Pin contacts	Bronze	Bronze	–
Note on materials	RoHS-compliant	RoHS-compliant	RoHS-compliant

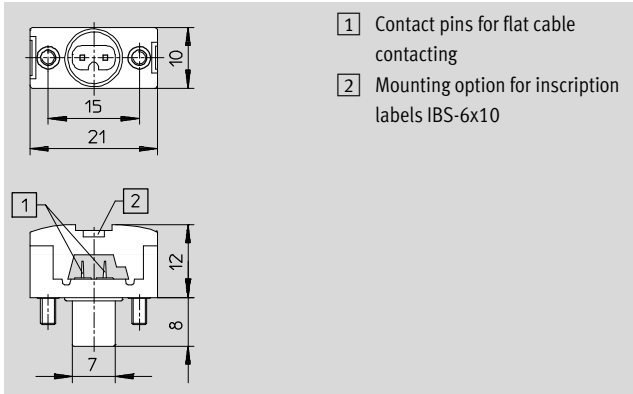
Operating and environmental conditions

Type	ASI-SD-FK	ASI-SD-FK180	ASI-SD-FK-BL
Ambient temperature [°C]	–5 ... +50	–5 ... +50	–20 ... +70
Storage temperature [°C]	–30 ... +85	–30 ... +85	–20 ... +70

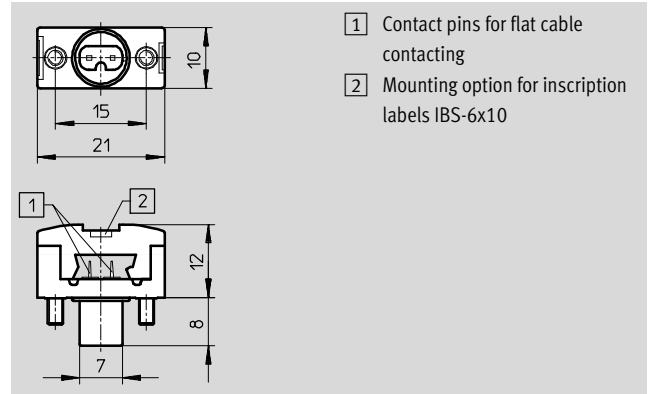
Download CAD data → www.festo.com

Dimensions

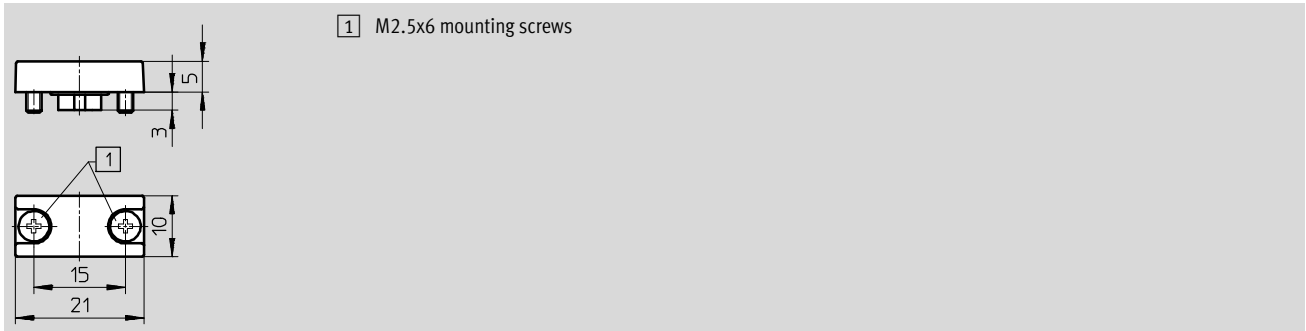
ASI-SD-FK



ASI-SD-FK180



ASI-SD-FK-BL



Ordering data

	Part No.	Type
Flat cable socket for connecting AS-interface stations	18785	ASI-SD-FK
Flat cable socket for connecting AS-interface stations, flat cable turned by 180°	196089	ASI-SD-FK180
Blanking plate for sealing unused AS-interface flat cable connections	196090	ASI-SD-FK-BL

Inspection cover AK-SUB

Cover AK-RJ45

Cover cap ISK

Cable cap ASI-KK-FK

Covers are inserted/screwed into or placed/screwed onto unused connections/openings in order to seal them.

They ensure:

- Reliable operation of the respective component
- Attainment of a protection class
- Hazard prevention (e.g. by covering current carrying parts)



General technical data

Type	AK-SUB	AK-RJ45	ISK-M8	ISK-M12	ASI-KK-FK
Mounting position	–	–	–	–	Any
Width [mm]	–	33	–	–	–
Height [mm]	–	8	–	–	–
Length [mm]	–	20	–	–	–
Protection class to EN 60529	IP65, IP67 (assembled)	IP65, IP67 (assembled)	IP65	–	–
Product weight [g]	20	10	5	5	–

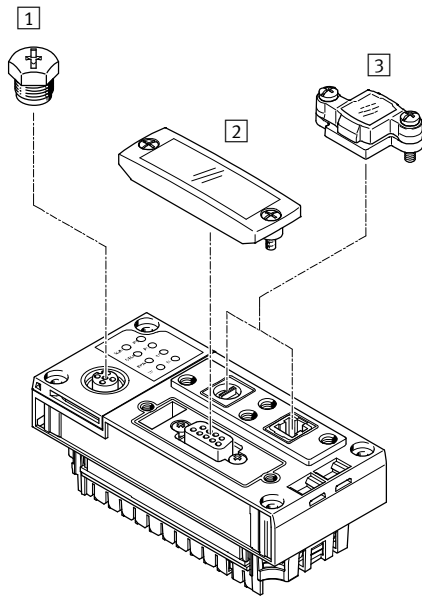
Materials

Type	AK-SUB-9/15	AK-SUB-9/15-B	AK-RJ45	ISK-M8	ISK-M12	ASI-KK-FK
Housing	–	–	–	PA, reinforced	PA, reinforced	PA
Cap	PA	–	PA	–	–	–
Screws	Galvanised steel	–	Steel	–	–	–
Seal	NBR	–	NBR	–	–	–
Note on materials	RoHS-compliant	–	–	RoHS-compliant	–	RoHS-compliant

Operating and environmental conditions

Type	AK-SUB	AK-RJ45	ISK-M8	ISK-M12	ASI-KK-FK
Ambient temperature [°C]	–5 ... +50	–5 ... +50	–10 ... +50	–	–

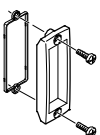




Examples for attaching covers



Covers are inserted/screwed into or placed/screwed onto unused connections/openings.

- 1 ISK-M12
- 2 AK-SUB-9/15-B
- 3 AK-RJ45

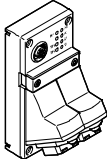
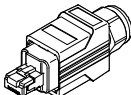
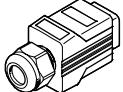

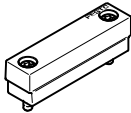
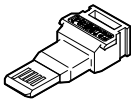

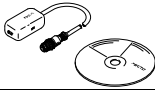

Ordering data

	Description	Mounting	Part No.	Type
	Transparent cover for sealing switches and unused connections (on components of the CPX terminal)	2 screws, M3x10	533334	AK-SUB-9/15-B
	Cover for sealing switches and unused connections (on components of the CPX terminal)	2 screws, M3x16	557010	AK-SUB-9/15
	Cover for sealing switches and unused RJ45 connections (on components of the CPX terminal)	2 screws, M3x14	534496	AK-RJ45
	10 cover cups for sealing openings (not pressure-tight) with M8 or M12 female thread (particularly unused electrical connections)	Thread M8	177672	ISK-M8
		Thread M12	165592	ISK-M12
	Plug for sealing the open end of an AS-interface cable	Pushed in by hand	18787	ASI-KK-FK

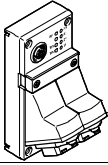

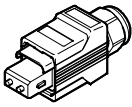
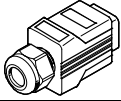

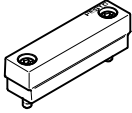
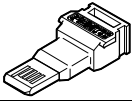

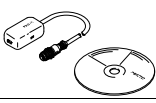

Plug connectors for fieldbuses

Accessories – Bus node CPX-M-FB34

FESTO

Ordering data		Part No.	Type
Designation			
Bus node			
	PROFINET bus node	548751	CPX-M-FB34
Bus connection			
	RJ45 plug, 8-pin, push-pull	552000	FBS-RJ45-PP-GS
	Cover cap for bus connection	548753	CPX-M-AK-C
	Cover cap for bus connection	2873540	CPX-M-AK-D
	Cover for DIL switch and memory card	548754	CPX-M-AK-M
	Memory card for PROFINET bus node, 2 MB	568647	CPX-SK-2
	Screws for attaching an inscription label holder to the bus node (12 pieces)	550222	CPX-M-M2,5X8-12X
	Adapter from 5-pin M12 to mini USB socket and controller software	547432	NEFC-M12G5-0.3-U1G5
User manual			
	Electronics manual, CPX bus node, type CPX-M-FB34	German	548759 P.BE-CPX-PNIO-DE
		English	548760 P.BE-CPX-PNIO-EN
		Spanish	548761 P.BE-CPX-PNIO-ES
		French	548762 P.BE-CPX-PNIO-FR
		Italian	548763 P.BE-CPX-PNIO-IT
		Swedish	548764 P.BE-CPX-PNIO-SV

Ordering data

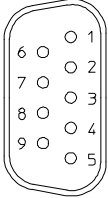
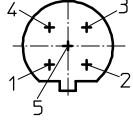
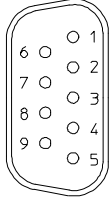
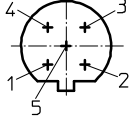
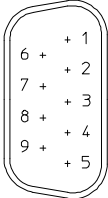
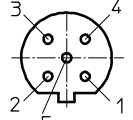

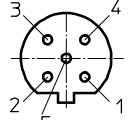
Description		Part No.	Type
Bus node			
	PROFINET bus node	2x SCRJ push-pull socket, AIDA	548749 CPX-M-FB35
		1x SCRJ push-pull socket, AIDA	3228960 CPX-M-FB41 
Bus connection			
	SCRJ plug, 2-pin, push-pull		571017 FBS-SCRJ-PP-GS
	Cover cap for bus connection		548753 CPX-M-AK-C
	Cover cap for bus connection		2873540 CPX-M-AK-D
	Cover for DIL switch and memory card		548754 CPX-M-AK-M
	Memory card for PROFINET bus node, 2MB		568647 CPX-SK-2
	Screws for attaching an inscription label to the bus node (12 pieces)		550222 CPX-M-M2,5X8-12X
	5-pin M12 adapter for mini USB socket and controller software		547432 NEFC-M12G5-0.3-U1G5
User documentation			
	Electronics manual, CPX bus node, type CPX-M-FB35/CPX-M-FB41	German	548759 P.BE-CPX-PNIO-DE
		English	548760 P.BE-CPX-PNIO-EN
		Spanish	548761 P.BE-CPX-PNIO-ES
		French	548762 P.BE-CPX-PNIO-FR
		Italian	548763 P.BE-CPX-PNIO-IT
		Swedish	548764 P.BE-CPX-PNIO-SV

Plug connectors for fieldbuses

CMT, Extension modules for electrical terminals – Technical data

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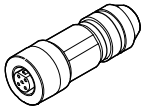
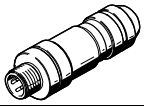
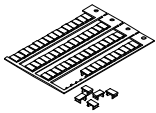
Pin allocation – Sub-D/M12

CPX-AB-2-M12-RK-IB				CPX-AB-2-M12-RK-DP			
Sub-D connection	Pin	Pin	M12 connection	Sub-D connection	Pin	Pin	M12 connections
Sub-D socket	Sub-D	M12	M12 plug	Sub-D socket	Sub-D	M12	M12 plug
	1	1			1	-	
	2	3			2	-	
	3	5			3	4	
	4	-			4	-	
	5	-			5	-	
	6	2			6	-	
	7	4			7	-	
	8	-			8	2	
	9	-			9	-	
	Housing	Housing			Housing	Housing	
Sub-D plug	Sub-D	M12	M12 socket	Sub-D plug	Sub-D	M12	M12 socket
	1	1			1	-	
	2	3			2	-	
	3	5			3	4	
	4	-			4	-	
	5	-			5	3	
	6	2			6	1	
	7	4			7	-	
	8	-			8	2	
	9	-			9	-	
	Housing	Housing			Housing	Housing	


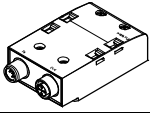
Ordering data

Electrical connection	Protocol	Weight [g]	Part No.	Type
Sub-D straight plug/socket, 9-pin; M12 plug/socket, 5-pin	INTERBUS	140	534505	CPX-AB-2-M12-RK-IB
Sub-D straight socket, 9-pin; M12 plug/socket, 5-pin	PROFIBUS	85	541519	CPX-AB-2-M12-RK-DP

Ordering data – Accessories

	Description	Part No.	Type
	Socket M12x1, 5-pin, straight, for self-assembly of a connecting cable	1067905	NECU-M-B12G5-C2-PB
	Plug M12x1, 5-pin, straight, for self-assembly of a connecting cable	1066354	NECU-M-S-B12G5-C2-PB
	Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10

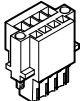
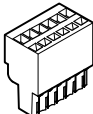

Ordering data – Accessories

Designation				Part No.	Type
Plug connectors					
	Connection block, adapter to 5-pin 7/8" plug	Sub-D socket, 9-pin	–	For DeviceNet	571052 CPX-AB-1-7/8-DN
	Connection block, adapter to M12 plug/socket	Sub-D plug, 9-pin	B-coded	For PROFIBUS-DP	541519 CPX-AB-2-M12-RK-DP

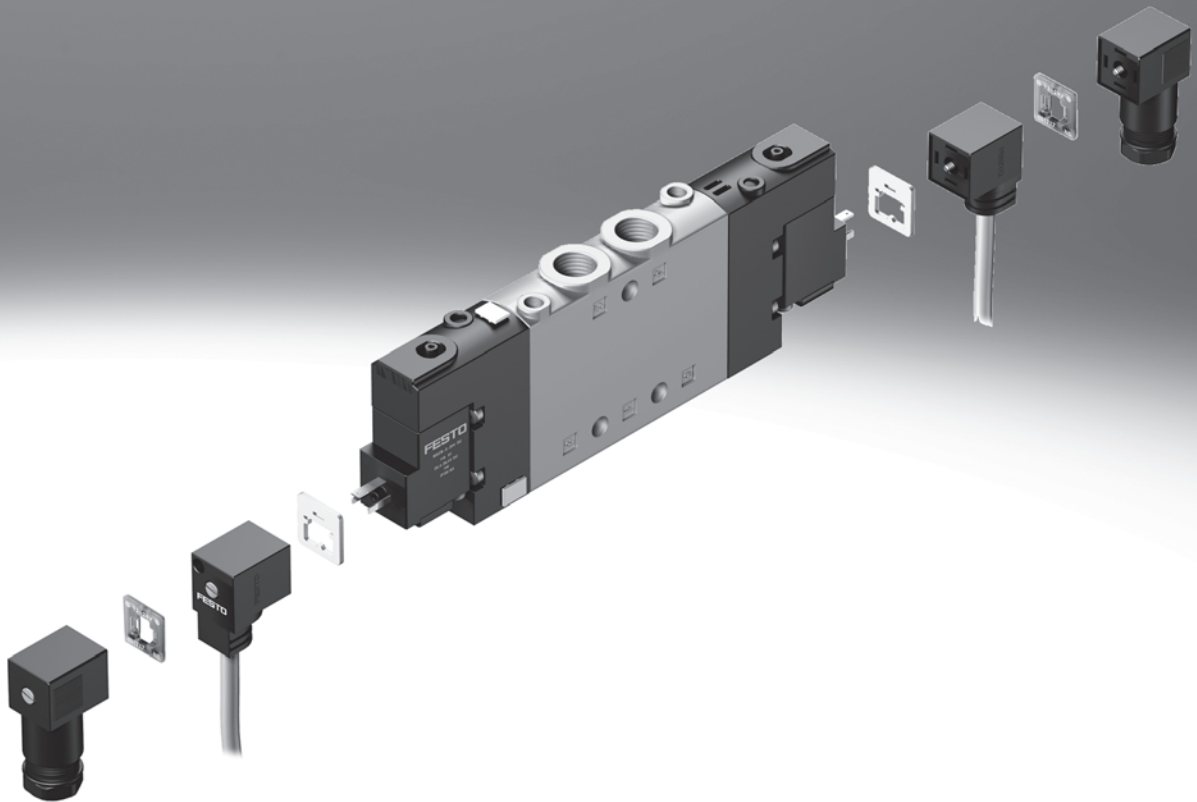
Plug connectors for fieldbuses

NECC, for Controllers CECC – Datenblatt

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Ordering data		Description	PJ ²⁾	Part No.	Type
Plug					
		Plug connector for self-assembly	1	575303	NECC-L2G4-C1-M
		Plug connector for self-assembly, 2-pin	1	575302	NECC-L2G2-C1
		Plug connector for self-assembly, 4-pin	1	8024782	NECC-L2G4-C1
		Plug connector for self-assembly, 5-pin	1	575304	NECC-L2G5-C1
		Plug connector for self-assembly, 6-pin	1	575305	NECC-L2G6-C1
		Plug connector for self-assembly, 8-pin	1	575306	NECC-L2G8-C1
		Plug connector for self-assembly, 24-pin	1	575307	NECC-L2G24-C1
		Sub-D plug, 9-pin with screw terminal, protection class IP40	1	576031	NECC-S1G9-C2-M

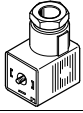
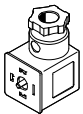
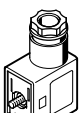
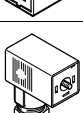
2) Packaging unit



Plug connectors for valves

Selection aid

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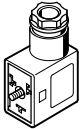
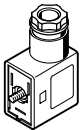
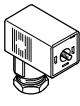
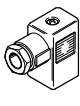
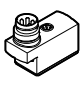
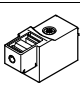

Version	Type	Electrical connection	for solenoid coil			→ Page/ Internet
			MD/MH MSG/MSW MSN1 VACC-...-A1 VACN-...-A1	MSFG/MSFW VACF-...-B2	VACS-...-C1 VACF-...-C1	
	MSSD-C	Pin allocations type A, to EN 175301-803	■	-	-	313
	MSSD-N	Pin allocations type A, to EN 175301-803	■	-	-	315
	MSSD-F	Pin allocations type B, industrial standard	-	■	-	318
	MSSD-EB	Pin allocations type C, to EN 175301-803	-	-	■	321






Version	Type	Electrical connection	for standard valves														→ Page/ Internet			
			Namur (VDI/VDE 3845)					ISO 15407-1			ISO 5599-1				ISO 15218					
			VSNB	VSNC...-A1	VSNC...-B2	MN1H	NVF3	MFH	VSVA...-C1	VSVA...-R2	VSVA...-R3/-...-R5	VSVA...-R5	MN1H	MFH	MEBH	MDH		VSCS...-C1	VSCS...-R3	MD
	MSSD-C	Pin allocations type A, to EN 175301-803	■	■	-	■	-	-	-	-	-	-	■	-	-	■	-	-	■	313
	MSSD-N	Pin allocations type A, to EN 175301-803	■	■	-	■	-	-	-	-	-	-	■	-	-	■	-	-	■	315
	MSSD-F	Pin allocations type B, industrial standard	-	-	■	-	■	■	-	-	-	-	■	-	-	-	-	-	-	318
	MSSD-EB	Pin allocations type C, to EN 175301-803, 2-pin	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	320
	MSSD-EB	Pin allocations type C, to EN 175301-803, 3-pin/4-pin	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	321
	NECU-M8G4	M8x1, 4-pin	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	199
	SIE...D	M12x1, 4-pin	-	-	-	-	-	-	-	-	■	■	-	-	■	■	-	■	-	201
	SEA-M12-4	M12x1, 4-pin	-	-	-	-	-	-	-	-	■	■	-	-	■	■	-	■	-	237
	FBSD...D	M12x1, 4-pin	-	-	-	-	-	-	-	-	■	■	-	-	■	■	-	■	-	269
	FBSD...D...-5	M12x1, 5-pin	-	-	-	-	-	-	-	■	■	-	-	-	-	-	-	-	-	269

Plug connectors for valves

Selection aid

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





Version	Type	Electrical connection	for universal directional control valves													→ Page/ Internet			
			VUYS-...C1	VUYS-...B2	VUVG-...R1	VUVB-...C1	CPV10/CPV14	CPV18	CPE10/CPE14-M1BH	CPE10/CPE14-M1CH	CPE18/CPE24-M...H	VMPA	MFH (Tiger 2000)	MVH (Tiger 2000)	MFH (Tiger Classic)		MEBH (Midi pneumatic)	MEH (Midi pneumatic)	
	MSSD-V	Pin allocations type B, to EN 175301-803	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	316	
	MSSD-F	Pin allocations type B, industrial standard	-	■	-	-	-	-	-	-	-	-	-	■	-	■	-	-	318
	MSSD-EB	Pin allocations type C, to EN 175301-803	■	-	-	■	-	■	-	-	■	-	-	-	-	■	-	321	
	MSSD-E	Pin allocations type C, industrial standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	323	
	VAVE-C8	Pin allocations ZC, metric screw	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	325	
	MSSD-ZBZC	Pin allocations ZB/ZC, self-tapping screw	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	327	
	NECU-M8G4	M8x1, 4-pin	-	-	■	-	-	-	-	■	-	■	-	-	-	-	-	199	







Version	Type	Electrical connection	for application-specific valves						→ Page/ Internet
			VOFA...C1-APP/-ANP	MHA1/MHP1...-PI	MHE2/MHP2/MHA2	MHE3/MHP3/MHA3	MHE4/MHP4/MHA4	MFH (M5 Compact System)	
	MSSD-F	Pin allocations type B, industrial standard	-	-	-	-	-	■	318
	MSSD-EB	Pin allocations type C, to EN 175301-803	■	-	-	-	■	-	321
	VAVE-C8	Pin allocations ZC, metric screw	-	-	■	■	-	-	325
	PCBC	Pin allocations H, Plug-In	-	■	-	-	-	-	328
	NECU-M8G4	M8x1, 4-pin	-	-	-	-	-	■	199

Plug connectors for valves

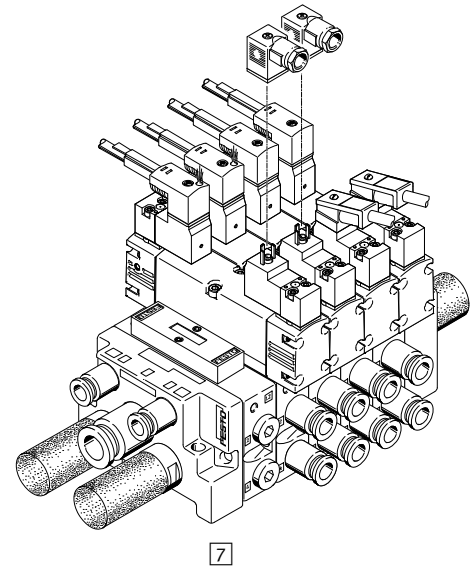
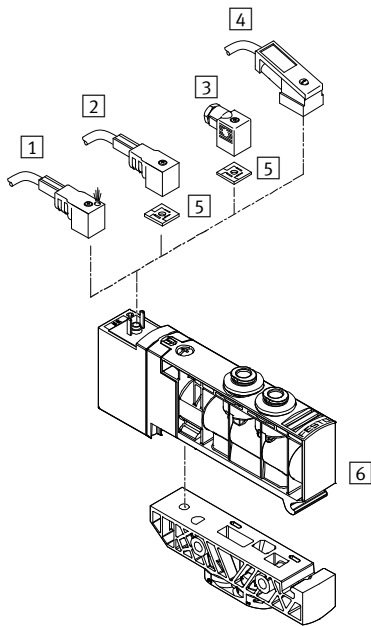
Selection aid

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Version	Type	Electrical connection	for application-specific valves						→ Page/ Internet
			VPWP	MPPE	MPPE-S	VPPE	VPPE...E1	MPYE	
	SIE-...D	M12x1, 4-pin	-	-	-	■	-	■	201
	SEA-M12-4	M12x1, 4-pin	-	-	-	■	-	■	237
	FBSD-...D	M12x1, 4-pin	-	-	-	■	-	■	269
	FBSD-...D-...-5	M12x1, 5-pin	-	-	-	-	■	-	269
	MPPE	M16x0,75, 8-pin	-	■	■	-	-	-	331
	NECU-S-M8G4	M8x1, 4-pin	■	-	-	-	-	-	186

Version	Type	Electrical connection	for on-off valves	soft-start valves	for soft-start valves and exhaust valves				for vacuum generators				→ Page/ Internet			
			(Wartungsgeräte Baureihe MS)													
			MS4/MS6-EE	MS9/MS12-EE	MS4/MS6-DE	MS12-DE	MS6-SV-C	MS6-SV-D	MS6-SV-E	MS9-SV-C	VAD-MYB	VAD-ME		VADM/VADMI-45/-70	VADM/VADMI-95/-140/-200/-300	
	MSSD-C	Pin allocations type A, to EN 175301-803	-	■	-	■	-	-	-	-	■	-	-	-	-	313
	MSSD-EB	Pin allocations type C, to EN 175301-803	■	-	■	-	■	■	-	-	-	-	-	■	-	321
	MSSD-E	Pin allocations type C, industrial standard	-	-	-	-	-	-	-	-	-	■	-	-	-	323
	MSSD-ZBZC	Pin allocations ZB/ZC, self-tapping screw	-	-	-	-	-	-	-	-	■	-	■	-	-	327
	NECA-S1G9	Sub-D, 9-pin	-	-	-	-	-	-	-	■	-	-	-	-	-	329
	SIE-...D	M12x1, 4-pin	-	■	-	■	-	-	-	-	■	-	-	-	-	201

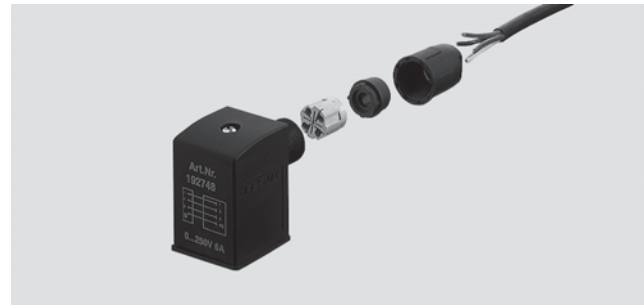
Solenoid valves VSVA, to ISO 15407-1



	Type	Brief description	→ Page/Internet	
1	Connecting cable	KMEB-1-24-...-LED	For valves with EB solenoid coil, with LEDs and protective circuit	108
2	Connecting cable	KMEB-1-24-...	For valves with EB solenoid coil, with protective circuit	108
3	Plug socket	MSSD-EB	For valves with EB and N2 solenoid coil	321
4	Connecting cable	KMEB-2-24-2,5-LED	For valves with EB solenoid coil, with LEDs and protective circuit	108
		KMEB-2-230AC-...	For valves with EB solenoid coil	108
5	Illuminating seal	MEB-LD	For indicating the signal status	332
6	Solenoid valve	VUVB-S-...-M-...	Monostable, semi in-line valve	vuvb
7	Valve terminal	Type 44, VTSA	ISO 15407-2/ISO 5599-2	vtsa

**Plug socket
MSSD-C**

- For valves with D and N1 solenoid coils
- Cable connection via clamping screws or insulation displacement technology



Special features of insulation displacement technology (MSSD-C-S-M16)

With these plug sockets, instead of the cable being connected using individual clamping screws, the flying

leads are pressed into the patented insulation displacement contact when the screw is tightened.

- Strip the cable sheath
- Push it in
- Screw it in tightly
- And you're done!

General technical data

Type	MSSD-C	MSSD-C-M16	MSSD-C-TY-24DC	MSSD-C-4P	MSSD-C-S-M16
Electrical connection 1	Angled socket	Angled socket	Angled socket	Angled socket	Angled socket
	3-pin	3-pin	3-pin	4-pin	4-pin
	Square design	Square design	Square design	Square design	Square design
	Type A	Type A	Type A	Type A	Type A
	To EN 175301-803	To EN 175301-803	To EN 175301-803	To EN 175301-803	To EN 175301-803
Electrical connection 2	Screw terminal	Screw terminal	–	–	Schneidklemme
Switching position display	–	–	LED	–	–
Nominal operating voltage [V DC]	–	–	24	–	–
Cable connector	Pg9	M16x1	Pg11	Pg9	M16x1
Permissible cable diameter [mm]	6 ... 8	6 ... 8	8 ... 10	6 ... 8	5.5 ... 8
Connection cross section [mm ²]	max. 1.5	max. 1.5	max. 1.5	max. 1.5	0.5 ... 1
Connection frequency	–	50	–	–	10
Type of mounting	Central screw M3	Central screw M3	Central screw M3	Central screw M3	Central screw M3
Mounting position	Any	Any	Any	Any	Any
Protection class to EN 60529	IP65 (assembled)	IP65 (assembled)	IP65 (assembled)	IP65 (assembled)	IP67 (assembled)
Product weight [g]	22	38	–	22	38

Materials

Type	MSSD-C	MSSD-C-M16	MSSD-C-TY-24DC	MSSD-C-4P	MSSD-C-S-M16
Housing	Plastic	Reinforced PA	PA	Plastic	PA
Housing colour	Black	–	Transparent	Black	Black
Seals	–	HNBR	–	–	–
Note on materials	RoHS-compliant	–	–	RoHS-compliant	–

Operating and environmental conditions

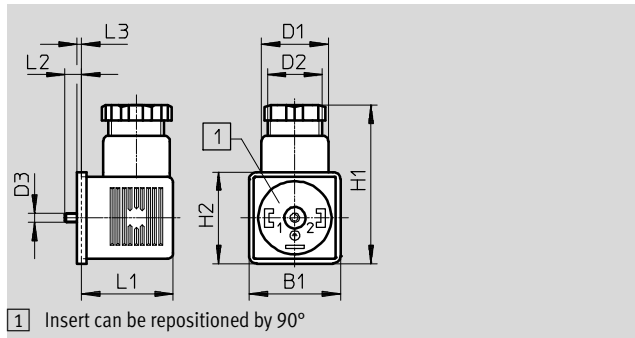
Type	MSSD-C	MSSD-C-M16	MSSD-C-TY-24DC	MSSD-C-4P	MSSD-C-S-M16
Ambient temperature [°C]	–25 ... +90	–20 ... +115	–40 ... +90	–20 ... +90	–25 ... +90
CE marking (see declaration of conformity)	To EU Low Voltage Directive ¹⁾	–	–	–	–
Certification	Germanischer Lloyd	–	–	–	–

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

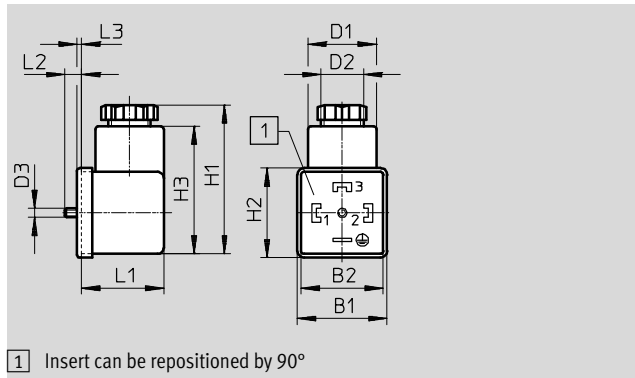
Dimensions

Download CAD data → www.festo.com

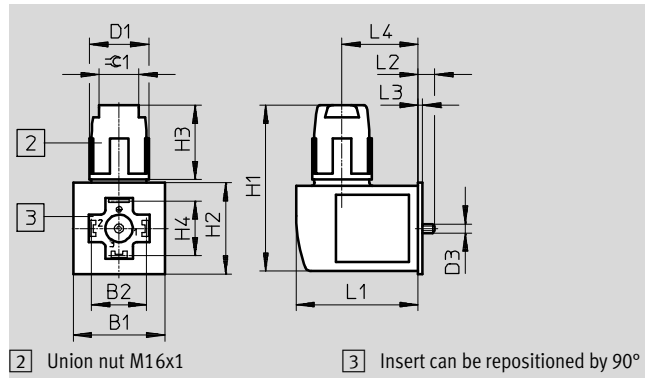
MSSD-C/MSSD-C-M16/MSSD-C-TY-24DC



MSSD-C-4P



MSSD-C-S-M16



Type	B1	B2	D1 ∅	D2 ∅	D3 ∅	H1	H2	H3	H4	L1	L2	L3	L4	≈C1
MSSD-C	28	–	22	Pg9	M3	52	28	–	–	26.5	5.5	1.5	–	–
MSSD-C-M16	27	–	22	M16x 1.5	M3	52	27	–	–	27	5.5	1.5	–	–
MSSD-C-TY-24DC	30	–	22	Pg11	M3	52	30	–	–	30	5.5	1.5	–	–
MSSD-C-4P	29.5	27	22.5	Pg9	M3	49	29.5	42	–	27	5.5	1.5	–	–
MSSD-C-S-M16	30	18	19.5	–	M3	54.5	30	24.5	18	40	5.5	1.5	25	13

Ordering data

Description	Switching status display	Nominal operating voltage	Cable connector	Cable connection	Part No.	Type
Plug socket , 3-pin	–	–	Pg9	Screw terminal	34583	MSSD-C
	–	–	M16x1	Screw terminal	539709	MSSD-C-M16
	LED	24 V DC	Pg11	–	177617	MSSD-C-TY-24DC
Plug socket , 4-pin	–	–	Pg9	–	171157	MSSD-C-4P
	–	–	M16x1	Insulation displacement connector	192748	MSSD-C-S-M16

Plug socket MSSD-N

- For valves with MD-2 and MH-2 solenoid coils



General technical data

Electrical connection	Angled socket
	3-pin
	Screw terminal
	Square design MSF
	To EN 175301-803
Cable connector	M20
Permissible cable diameter [mm]	8 ... 10
Connection cross section [mm ²]	Max. 1.5
Type of mounting	M3 central screw
Mounting position	Any
Protection class to EN 60529	IP65 (assembled)

Materials

Housing	PA reinforced
Housing colour	Black
Screws	Steel
Seals	VMQ
Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-20 ... +80
--------------------------	-------------

Dimensions

Download CAD data → www.festo.com

1 Plug pattern to EN 175301-803, type A

Ordering data

Description	Weight	Part No.	Type
Angled socket, 3-pin, square design MSF	30 g	550067	MSSD-N

Plug socket MSSD-V

- For valves with V solenoid coils



General technical data

Type	MSSD-V	MSSD-V-M16
Electrical connection	Angled socket	Angled socket
	3-pin	3-pin
	–	Screw terminal
	Square design MSV	Square design
	Type B	Type B
	To EN 175301-803	To EN 175301-803
Cable connector	Pg9	M16
Permissible cable diameter [mm]	6 ... 8	6 ... 8
Connection cross section [mm ²]	Max. 1.5	0.75
Connection frequency	–	50
Type of mounting	M3 central screw	M3 central screw
Mounting position	Any	Any
Protection class to EN 60529	IP65 (assembled)	IP65 (assembled)

Materials

Type	MSSD-V	MSSD-V-M16
Housing	Plastic	PA reinforced
Housing colour	Black	–
Seals	–	HNBR

Operating and environmental conditions

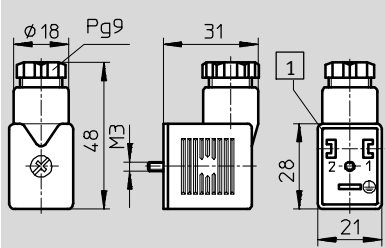
Type	MSSD-V	MSSD-V-M16
Ambient temperature [°C]	–25 ... +90	–20 ... +115
CE marking (see declaration of conformity)	To EU Low Voltage Directive ¹⁾	–

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Dimensions

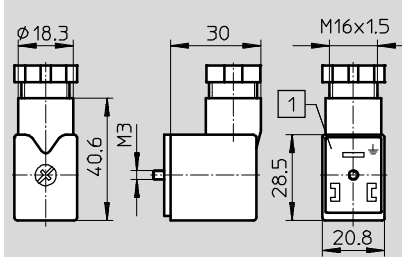
Download CAD data → www.festo.com

MSSD-V



1 Insert can be repositioned by 180°

MSSD-V-M16



1 Insert can be repositioned by 180°

Ordering data

Description	Cable connector	Weight	Part No.	Type
Plug socket for valves with V solenoid coils	Pg9	18 g	33295	MSSD-V
	M16	35 g	539713	MSSD-V-M16

Plug socket MSSD-F

- For valves with F solenoid coils
- Cable connection via clamping screws or insulation displacement technology



General technical data

Type	MSSD-F	MSSD-F-M16	MSSD-F-S-M16
Electrical connection	Angled socket	Angled socket	Socket
	3-pin	3-pin	3-pin
	Screw terminal	Screw terminal	Insulation displacement connector
	Square design MSF	Square design	–
	–	Type B	Type B
Electrical connection	–	To EN 175301-803	–
Cable connector	Pg9	M16	–
Permissible cable diameter [mm]	6 ... 8	6 ... 8	5.5 ... 8
Connection cross section [mm ²]	Max. 1.5	0.75	0.5 ... 1
Connection frequency	–	50	10
Type of mounting	M3 central screw	M3 central screw	M3 central screw
Mounting position	Any	Any	Any
Protection class to EN 60529	IP65 (assembled)	IP65 (assembled)	IP67 (assembled)

Materials

Type	MSSD-F	MSSD-F-M16	MSSD-F-S-M16
Housing	Plastic	PA reinforced	PA
Housing colour	Black	–	Black
Seals	–	HNBR	–

Operating and environmental conditions

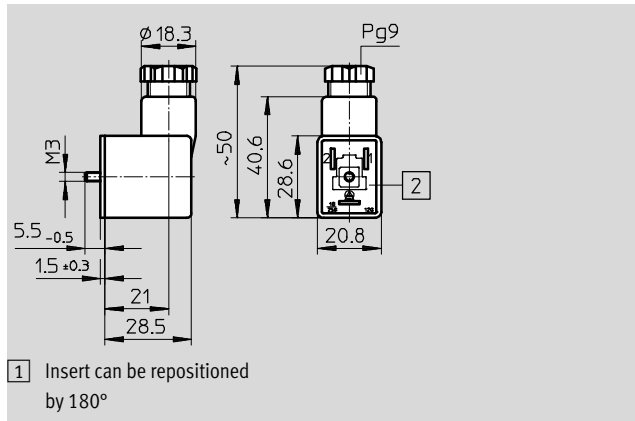
Type	MSSD-F	MSSD-F-M16	MSSD-F-S-M16
Ambient temperature [°C]	–25 ... +90	–20 ... +115	–25 ... +90
CE marking (see declaration of conformity)	To EU Low Voltage Directive ¹⁾	–	–

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

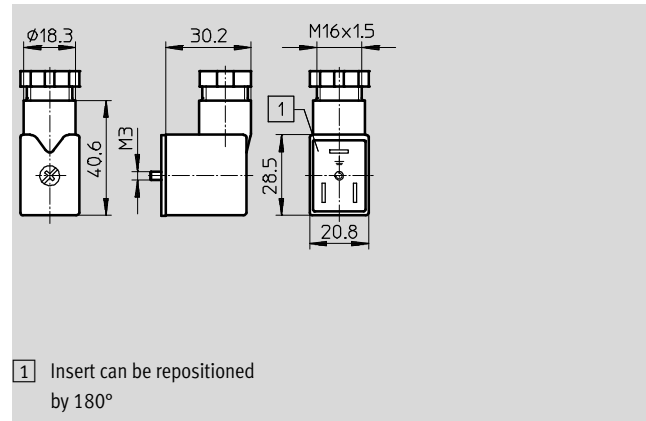
Dimensions

Download CAD data → www.festo.com

MSSD-F



MSSD-F-M16



MSSD-F-S-M16

2 M16x1 union nut
3 Connection side can be repositioned by 90°

With these plug sockets, instead of the cable being connected using individual clamping screws, the stranded wires are pressed into the patented insulation displacement contact when the screw is tightened.

- Strip the cable sheath
- Push it in
- Screw it in tightly
- And you're done!

Ordering data

Description	Cable connection	Weight	Part No.	Type
Plug socket for valves with F solenoid coils	Screw terminal	17 g	34431	MSSD-F
		35 g	539710	MSSD-F-M16
	Insulation displacement connector	35 g	192746	MSSD-F-S-M16

Plug connectors for valves

MSSD-EB-M12-MONO – Technical data

FESTO

Plug socket MSSD-EB

- Plug socket for connecting individual valves
- M12 plug connector for pre-assembled cable
- Socket, 2-pin
- With LED



General technical data

Electrical connection	1	Socket, to EN 175301-803 type C
	2	Straight plug, M12, 2-pin, A-coded
Based on standard		EN 61984, EN 175301-803, EN 61076-2-101
Type of mounting		M2.5 central screw
Operating voltage range	[V DC]	12 ... 24
	[V AC]	12 ... 24
Surge strength	[kV]	2.5
Acceptable current load	[A]	0.12
Signal status display		LED
Max. tightening torque	[Nm]	0.4
Protection class to EN 60529		IP65 (assembled)

Materials

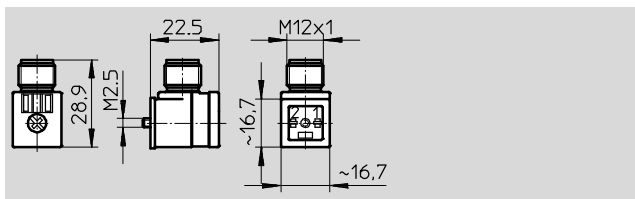
Housing	PA
Contacts	Brass
Seal	Nitrile rubber

Operating and environmental conditions

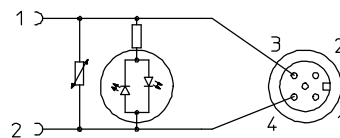
Ambient temperature	[°C]	-10 ... +50
Degree of contamination		3

Dimensions

Download CAD data → www.festo.com



Circuitry



Ordering data

Electrical connection	Part No.	Type
Angled socket, 2-pin; straight plug, 2-pin, M12	188024	MSSD-EB-M12-MONO

Ordering data – Accessories

Description	Part No.	Type
Inscription labels 6x10 mm, 64 pieces, in frames	18576	IBS-6x10

Plug socket MSSD-EB

- For valves with EB and N2 solenoid coils



General technical data

Type	MSSD-EB	MSSD-EB-M12	MSSD-EB-M12-24VDC-SD-EX	MSSD-EB-S-M14
Electrical connection	Angled socket	Angled socket	Angled socket	Socket
	3-pin	3-pin	3-pin	4-pin
	Screw terminal	Screw terminal	Screw terminal	Insulation displacement connector
	Square design MSEB/MSN2	Square design	Square design	–
	Type C	Type C	Type C	Type C
	To EN 175301-803	To EN 175301-803	To EN 175301-803	–
	To DIN EN 61984	–	–	–
Nominal operating voltage	[V AC]	250	–	0 ... 24
	[V DC]	300	–	0 ... 30
Surge resistance	[kV]	4	–	0.8
Acceptable current load	[A]	6	–	6 (at 40 °C)
Cable connector	Pg7	M12	M12	M14
Permissible cable diameter	[mm]	6 ... 8	4 ... 6	4 ... 6
Connection cross section	[mm ²]	0.75	1.5	0.25 ... 0.5
Connection frequency	–	50	–	10
Type of mounting	Central screw M2.5	Central screw M2.5	Central screw M2.5	Central screw M2.5
Max. tightening torque, plug	[Nm]	0.25	–	0.5
Mounting position	Any	Any	–	Any
Protection class to EN 60529	IP65 (assembled)	IP65 (assembled)	IP65 (assembled)	IP67 (assembled)

Materials

Type	MSSD-EB	MSSD-EB-M12	MSSD-EB-M12-24VDC-SD-EX	MSSD-EB-S-M14
Housing	Plastic	PA reinforced	PA reinforced	PA
Housing colour	Black	–	–	Black
Seals	Nitrile rubber	HNBR	HNBR	–
Note on materials	–	–	RoHS-compliant	–

Operating and environmental conditions

Type	MSSD-EB	MSSD-EB-M12	MSSD-EB-M12-24VDC-SD-EX	MSSD-EB-S-M14
Ambient temperature	[°C]	–45 ... +90	–40 ... +125	–25 ... +125
CE marking (see declaration of conformity)	To EU Low Voltage Directive ¹⁾	–	–	–
Degree of contamination	3	–	3	–

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Plug connectors for valves

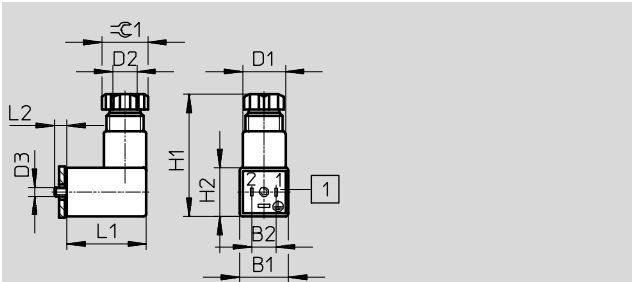
MSSD-EB, square plug, type C – Technical data

FESTO

Dimensions

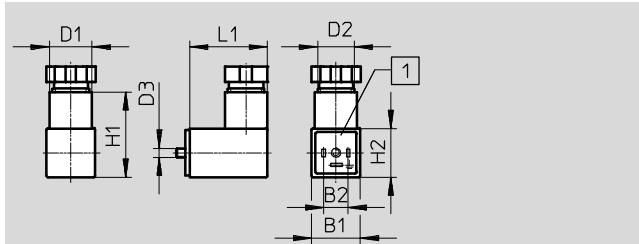
Download CAD data → www.festo.com

MSSD-EB



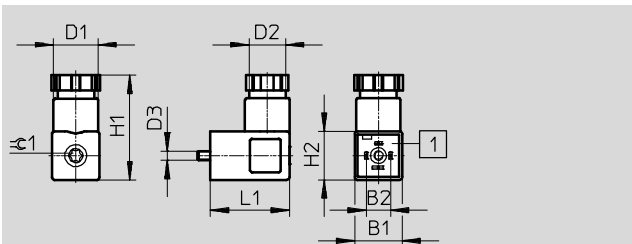
1 Insert can be repositioned by 90°

MSSD-EB-M12



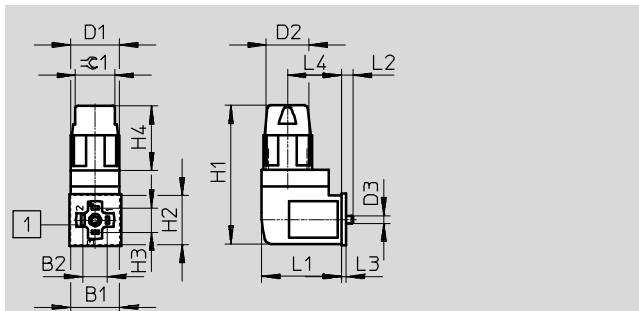
1 Insert can be repositioned by 90°

MSSD-EB-M12-24VDC-SD-EX



1 Insert can be repositioned by 90°

MSSD-EB-S-M14



1 Insert can be repositioned by 90°

insulation displacement contact when the screw is tightened.

- Strip the cable sheath
- Push it in
- Screw it in tightly
- And you're done!

With these plug sockets, instead of the cable being connected using individual clamping screws, the flying leads are pressed into the patented

Type	B1	B2	D1 ∅	D2 ∅	D3 ∅	H1	H2	H3	H4	L1	L2	L3	L4	±∅ 1
MSSD-EB	15.5	8	15	7.5	2.5	34	15.5	-	-	26	4	-	-	13
MSSD-EB-M12	16	8	14	M12	2.5	28	16	-	-	25.5	-	-	-	-
MSSD-EB-M12-24VDC-SD-EX	15.6	8	14.6	M12x 1.5	2.5	34.5	16	-	-	26	-	-	-	T8
MSSD-EB-S-M14	16	8	16	13	2.5	45	16	8	21.2	26	4	1.5	17.6	13

Ordering data

Description	Cable connection	Cable connector	Weight	Part No.	Type
Plug socket for valves with EB and N2-Ma solenoid coils	Screw terminal	Pg7	11 g	151687	MSSD-EB
		M12	11 g	539712	MSSD-EB-M12
		-	-	570367	MSSD-EB-M12-24VDC-SD-EX
	Insulation displacement connector	M14	17 g	192745	MSSD-EB-S-M14

Plug socket MSSD-E

- For valves with E solenoid coils



General technical data

Type	MSSD-E	MSSD-E-M12
Electrical connection 1	Angled socket	Angled socket
	3-pin	3-pin
	Square design	Square design
	Type C	Type C
	Industrial design	To EN 175301-803
Electrical connection 2	Screw terminal	Screw terminal
Operating voltage range	[V DC] 0 ... 300	0 ... 300
	[V AC] 0 ... 250	0 ... 250
Current-carrying capacity	[A] 6	6
Cable connector	Pg7	M12
Max. tightening torque of locking clip	[Nm] 0.35	0.5
Permissible cable diameter	[mm] 6 ... 8	4 ... 6
Connection cross section	[mm ²] 0.75	0.75
Connection frequency	–	50
Type of mounting	M3 central screw	M3 central screw
Mounting position	Any	Any
Protection class to EN 60529	IP65 (assembled)	IP65 (assembled)

Materials

Type	MSSD-E	MSSD-E-M12
Housing	PA reinforced	PA reinforced
Housing colour	Black	Black
Seals	NBR	HNBR
Note on materials	–	Conforms to RoHS

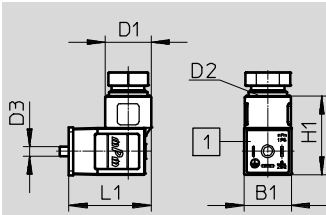
Operating and environmental conditions

Type	MSSD-E	MSSD-E-M12
Ambient temperature	[°C] –25 ... +90	–20 ... +115
Degree of contamination	3	3

Dimensions

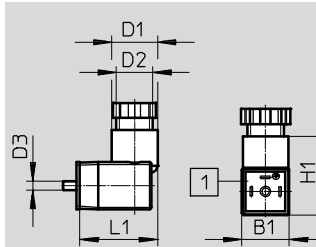
Download CAD data → www.festo.com

MSSD-E



1 Insert can be repositioned by 90°

MSSD-E-M12



1 Insert can be repositioned by 90°

Type	B1	D1	D2	D3	H1	L1
MSSD-E	15.5	14	Pg7	M3	24.5	25
MSSD-E-M12	15.5	15	M12x 1.5	M3	26	25.5

Ordering data

Description	Cable connector	Weight	Part No.	Type
Plug socket for valves with E solenoid coils	Pg7	8 g	14098	MSSD-E
	M12	11 g	539711	MSSD-E-M12

Adapter VAVE-C8

- Pin allocations ZC, metric screw, to M8x1



General technical data

Type	VAVE-C8-1R8	VAVE-C8-1R1
Type of mounting	On solenoid valve via M2 central screw	
Electrical connection 1	Angled socket	
	2-pin	
	square design	
	Pin allocations ZC, metric screw	
Electrical connection 2	Plug	Plug
	M8x1	M8x1
	3-pin	4-pin
Switching position display	LED	
Nominal operating voltage [V DC]	24	
Protective earth connection	No	
Tightening torque [Nm]	0.25	
Mounting position	Any	
Protection class to IEC 60529	IP65	

Operating and environmental conditions

Ambient temperature [°C]	-5 ... +60
Korrosionsbeständigkeit CRC ¹⁾	2

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Materials

Housing	PA
Pin contacts	Bronze
Note on materials	RoHS-compliant

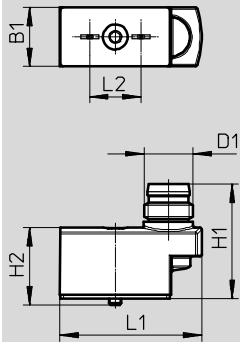
Pin allocation

M8x1

3-pin	Pin	Signal	4-pin	Pin	Signal
	1	Not used		1	Not used
	3	0 V		2	Not used
	4	24 V DC		3	0 V
				4	24 V DC

Dimensions

Download CAD data → www.festo.com



B1	D1	H1	H2	L1	L2
9.7	M8x1	18.8	12.7	23.3	8.4

Ordering data

Electrical connection 1	Electrical connection 2	Weight [g]	Part No.	Type
Socket, square design, pin allocations ZC, metric screw, 2-pin	Plug M8x1, 3-pin	3.5	571686	VAVE-C8-1R8
	Plug M8x1, 4-pin	3.5	573194	VAVE-C8-1R1

Plug socket MSSD-ZBZC

- For valves with ZB and ZC solenoid coils



General technical data

Electrical connection	Socket
	2-pin
	Square design
	Pin allocations ZB/ZC, self-tapping screw
Nominal operating voltage [V DC]	24
Operating voltage range [V DC]	3 ... 36
Connection cross section [mm ²]	0.22 ... 0.34
Type of mounting	Self-tapping central screw
Mounting position	Any
Protection class to EN 60529	IP40 (assembled)

Materials

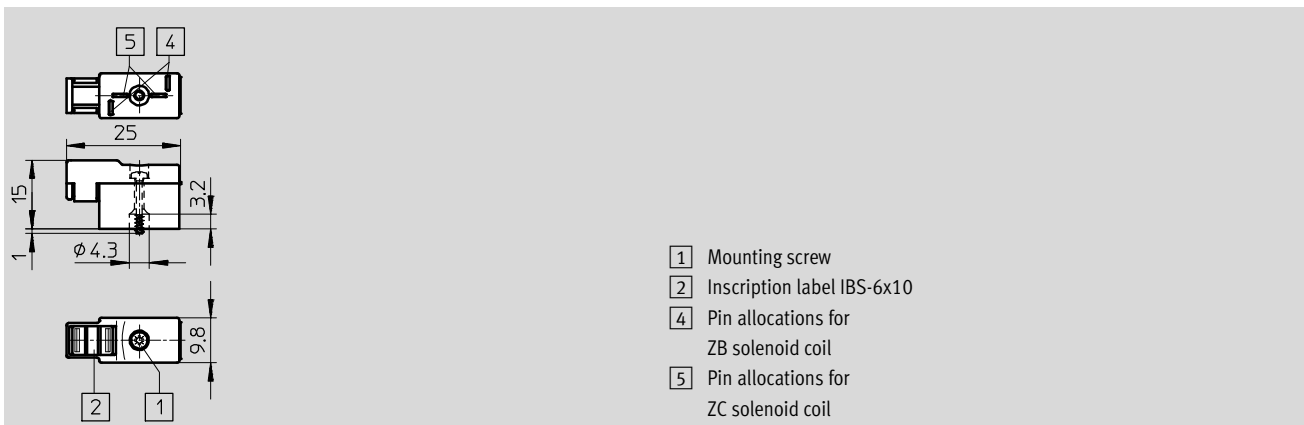
Housing	PA
Note on materials	RoHS-compliant

Operating and environmental conditions

Ambient temperature [°C]	-10 ... +50
Certification	Germanischer Lloyd

Dimensions

Download CAD data → www.festo.com



Ordering data

Description	Weight	Part No.	Type
Plug socket for valves with ZB and ZC solenoid coils	11 g	185521	MSSD-ZBZC

Plug connectors for valves

PCBC – Technical data

FESTO

Soldering base PCBC

- For mounting miniature valves MHA1 and MHP1 on a PCB with plug connection underneath (-PI)



General technical data

Electrical connection	Angled socket
	2-pin
	Square design
	Pin allocations H, plug-in
Type of mounting	Soldering base
Mounting position	Any
Protection class to EN 60529	IP40 (assembled)
Weight [g]	5

Materials

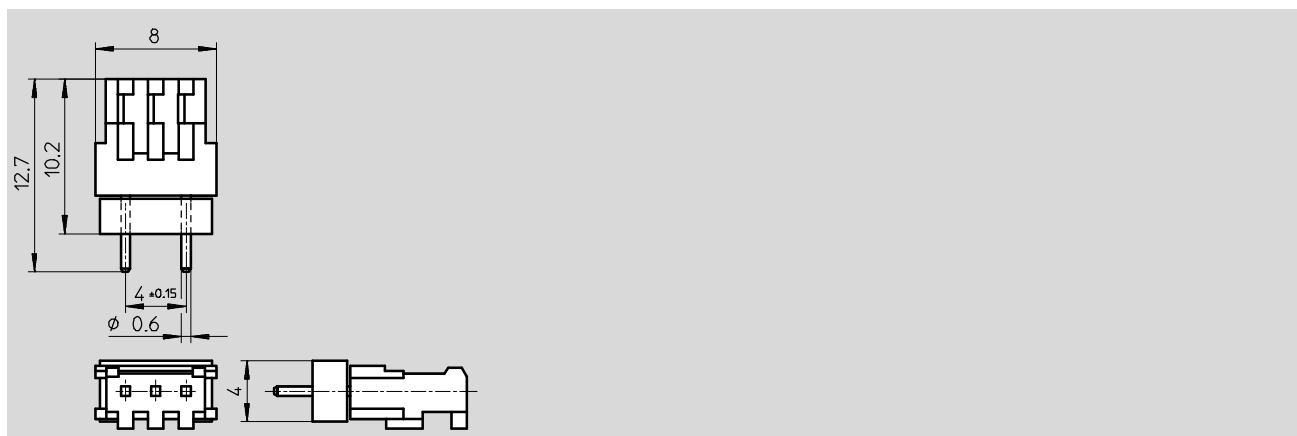
Housing	PA
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Operating and environmental conditions

Ambient temperature [°C]	-40 ... +115
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Dimensions

Download CAD data → www.festo.com



Ordering data

Soldering base	Electrical connection	Packaging unit	Part No.	Type
	2-pin, for miniature valves	10 pieces	197261	PCBC-A-10
		100 pieces	197262	PCBC-A-100

Multi-pin plug socket NECA

- For soft-start and quick exhaust valve MS6-SV-E-10V24



Technical data

Type of mounting		Via through-hole
Electrical connection 1		Sub-D 9-pin
Electrical connection 2		Screw terminal 9-pin
Operating voltage range	[V DC]	21.6 ... 26.4
Nominal operating voltage	[V DC]	24
Acceptable current load	[A]	1.0
Connection cross section	[mm ²]	0.34 ... 1.0 without wire end sleeves
	[mm ²]	0.34 ... 0.5 with wire end sleeves
Permissible cable diameter	[mm]	5.0 ... 10.0
Protection class to IEC 60529		IP65

Operating and environmental conditions

Relative air humidity		95%, non-condensing
Ambient temperature	[°C]	0 ... +50
Storage temperature	[°C]	-20 ... +70
Corrosion resistance class CRC ¹⁾		2

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Materials

Housing		PA reinforced
Screws		Steel
Union nut		Brass
Seals		NBR

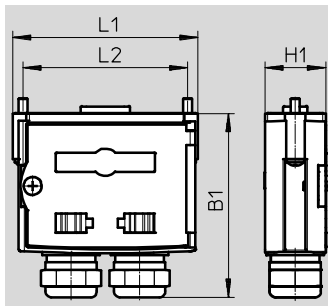
Plug connectors for valves

Soft-start and quick exhaust valves MS-SV-E – Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



B1	H1	L1	L2
61	20	61	54.1

Ordering data

Description	Connection	Weight [g]	Part No.	Type
For MS6-SV-E-10V24	Without cable, static enable signals (EN1 = 24 V, EN2 = 24 V)	60	548719	NECA-S1G9-P9-MP1
	Without cable, static enable signals (EN1 = 0 V, EN2 = 24 V), cross-circuit detection possible	60	552703	NECA-S1G9-P9-MP3
	Without cable, static enable signals (EN1 = 0 V, EN2 = 24 V), galvanic isolation of the enable signals from the supply voltage	60	573695	NECA-S1G9-P9-MP5

Plug socket MPPE

- For proportional pressure regulators MPPE and MPPES



General technical data

Electrical connection	Angled socket
	8-pin
	Solderable
Operating voltage range [V DC]	Max. 60
Acceptable current load [A]	5
Cable connector	Pg9
Permissible cable diameter [mm]	6 ... 8
Connection cross section [mm ²]	Max. 0.75
Connection frequency	500
Type of mounting	M16x0.75 union nut
Mounting position	Any
Protection class to EN 60529	IP67 (assembled)

Materials

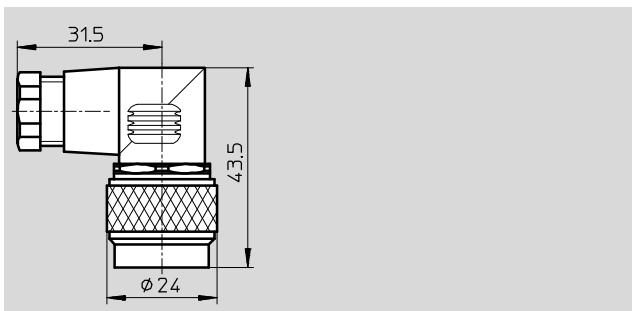
Housing	PA
Housing colour	Black
Union nut	PA
Pin contacts	Tin-plated copper

Operating and environmental conditions

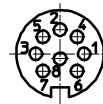
Ambient temperature [°C]	-30 ... +95
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Dimensions

MPPE-3-B



Pin allocation



Download CAD data → www.festo.com






Ordering data

Description	Weight	Part No.	Type
Plug socket for proportional pressure regulators MPPE and MPPES	65 g	161839	MPPE-3-B

Plug connectors for valves

Illuminating seals, square design – Product range overview

FESTO

Illuminating sealM...-LD							
Version	Type	Electrical connection	for connecting cable	for plug connector	for solenoid coil	→ Page/ Internet	
	MC-LD	Pin allocations type A, to EN 175301-803	KMC	MSSD-C MSSD-N	Solenoid coils <ul style="list-style-type: none"> • MD/MH • MSG/MSW • MSN1 • VACC-...-A1 • VACN-...-A1 Standard Namur valves <ul style="list-style-type: none"> • VSNB • VSNC-...-A1 Standard valves to ISO 5599-1 <ul style="list-style-type: none"> • MN1H • MDH 	Standard valves to ISO 15218 <ul style="list-style-type: none"> • MD On-off valve <ul style="list-style-type: none"> • MS9/MS12-EE Soft-start valve <ul style="list-style-type: none"> • MS12-DE Soft-start/quick exhaust valves <ul style="list-style-type: none"> • MS9-SV-C 	333
	MV-LD	Pin allocations type B, to EN 175301-803	KMV	MSSD-V	Universal directional control valves <ul style="list-style-type: none"> • MVH (Tiger 2000) 		333
	MF-LD	Pin allocations type B, industrial standard	KMF	MSSD-F	Solenoid coils <ul style="list-style-type: none"> • MSF • VACF-...-B2 Standard Namur valves <ul style="list-style-type: none"> • VSNC-...-B2 • NVF3 • MFH Standard valves to ISO 5599-1	<ul style="list-style-type: none"> • MFH Universal directional control valves <ul style="list-style-type: none"> • VUVS-...-B2 • MFH (Tiger 2000) • MFH (Tiger Classic) Application-specific valves <ul style="list-style-type: none"> • MFH (M5 Compact System) 	333
	MEB-LD	Pin allocations type C, to EN 175301-803	KMEB	MSSD-EB	Solenoid coils <ul style="list-style-type: none"> • VACS-...-C1 • VACF-...-C1 Standard valves to ISO 15407-1 <ul style="list-style-type: none"> • VSVA-...-C1 Standard valves to ISO 15218 <ul style="list-style-type: none"> • VSCS-...-C1 Universal directional control valves <ul style="list-style-type: none"> • VUVS-...-C1 • VUVB-...-C1 • CPV18 • CPE18/CPE24-M...H • MEBH (Midi pneumatic) 	Application-specific valves <ul style="list-style-type: none"> • VOFA-...-C1-APP/-APN • MHE4/MHP4/MHA4 On-off valve <ul style="list-style-type: none"> • MS4/MS6-EE Soft-start valve <ul style="list-style-type: none"> • MS4/MS6-DE Soft-start/quick exhaust valves <ul style="list-style-type: none"> • MS6-SV-C • MS6-SV-D Vacuum generators <ul style="list-style-type: none"> • VADM-95/-140/-200/300 • VADMI-95/-140/-200/-300 	333
	ME-LD-12-24DC	Pin allocations type C, industrial standard	KME	MSSD-E	Universal directional control valves <ul style="list-style-type: none"> • MEH (Midi Pneumatik) Vacuum generators <ul style="list-style-type: none"> • VAD-ME 		333

Illuminating seal

MF-LD

MC-LD

MV-LD

ME-LD

MEB-LD

Illuminating seals are mounted between the plug socket and solenoid coil. The sealing lip points to the coil side, the label to the device socket. The seal is illuminated yellow after the power is switched on.



General technical data

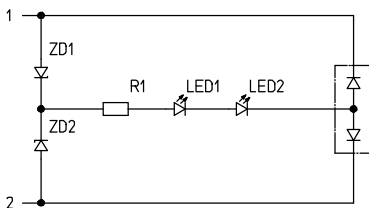
Operating voltage		12 ... 24 V DC	230 V AC
Operating voltage range	[V DC]	12 ... 24	–
Nominal operating voltage AC	[V AC]	–	230±10%
Protective circuit, max. switch-off voltage	[V DC]	yes, 50	–
Degree of contamination		–	3
Switching position display		LED (yellow)	LED (yellow)
Rated output of illuminating seal	[mW]	50	330
Impulse withstand voltage	MF-LD [kV]	–	4
	MC-LD [kV]	–	4
	MV-LD [kV]	–	2.5
	MEB-LD [kV]	–	2.5
Electrical connection		To EN 175301-803	
Protective earth conductor connection		Yes	
Type of mounting	MF-LD	On solenoid valve via M3 central screw	
	MC-LD	On solenoid valve via M3 central screw	
	MV-LD	On solenoid valve via M3 central screw	
	ME-LD	On solenoid valve via M3 central screw	
	MEB-LD	On solenoid valve via M2.5 central screw	
Housing material		TPE-U (PU)	
Protection class to EN 60529		IP65 (in assembled state)	

Operating and environmental conditions

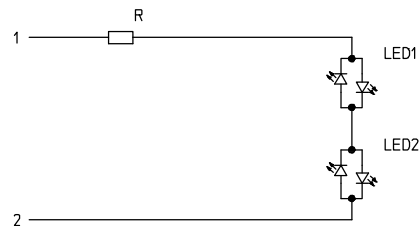
Operating voltage		12 ... 24 V DC	230 V AC
Ambient temperature	[°C]	–25 ... +85	–25 ... +85
CE marking (see declaration of conformity)		–	In accordance with EU Low Voltage Directive

Circuit diagram

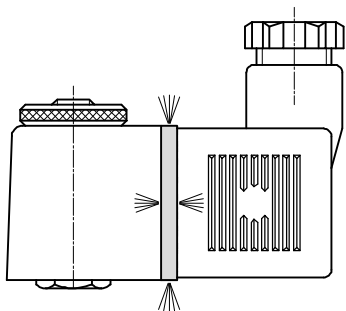
12 ... 24 V DC



230 V AC



Installation of the illuminating seal








Note

The original seal must be removed before the illuminating seal is installed.
The sealing surface of the illuminating seal must point towards the plug socket, and the sealing rim towards the solenoid coil.

The illuminating seal is intended to be installed once.
Reusing illuminating seals can impair their function.

Ordering data

Illuminating seal for	Electrical connection to EN 175301-803	Product weight [g]	Max. tightening torque [Nm]	Operating voltage [V]	Part No.	Type
	D and N1 solenoid coils	Pin allocations type A, to EN 175301-803	1.6	0.6	12 ... 24 DC	19145 MC-LD-12-24DC
					230 AC	19146 MC-LD-230AC
	V solenoid coils	Pin allocations type B, to EN 175301-803	1.6	0.35	12 ... 24 DC	35558 MV-LD-12-24DC
					230 AC	151716 MV-LD-230AC
	F solenoid coils	Pin allocations type B, industrial standard	1.6	0.6	12 ... 24 DC	19143 MF-LD-12-24DC
					230 AC	19144 MF-LD-230AC
	EB solenoid coils	Pin allocations type C, to EN 175301-803	0.6	0.5	12 ... 24 DC	151717 MEB-LD-12-24DC
					230 AC	151718 MEB-LD-230AC
	E solenoid coils	Pin allocations type C, industrial standard	0.6	0.35	12 ... 24 DC	19141 ME-LD-12-24DC

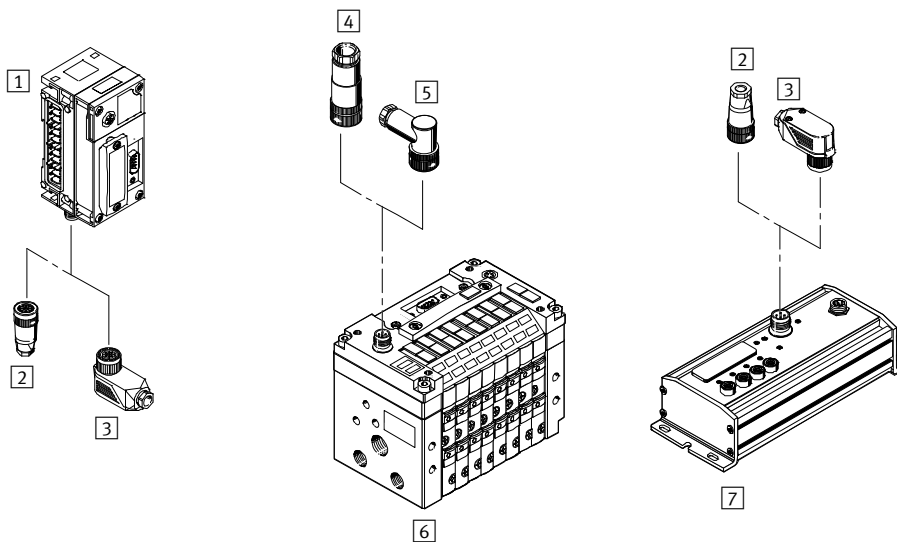


Plug connectors for valve terminals

Peripherals overview

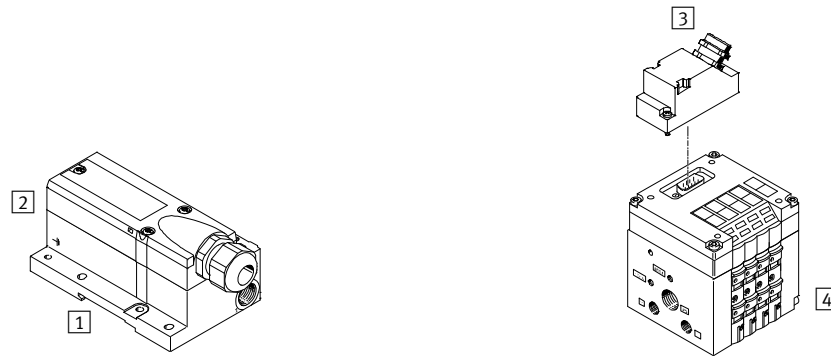
FESTO

Power supply



	Type	→ Page/Internet
1	Fieldbus node	CPX-FB-...
2	Power supply socket	NTSD-GD-...
		NECU-G78G4-C2
		NECU-G78G5-C2
3	Power supply socket	NTSD-WD-9
		NTSD-WD-11
4	Fieldbus connection	FBSD-GD-...
5	Fieldbus connection	FBSD-WD-7
		FBSD-WD-9
6	Valve terminal	CPV
7	Fieldbus node	CP-FB05-E

Multi-pin plug connection



	Type	→ Page/Internet
1	Valve terminal	MPA
	Valve terminal	MPA-F
	Valve terminal	VTSA
2	Cover	VMPA-KMS-H
		NECV-IS1W37
3	Plug socket	SD-SUB-D-BU9
		SD-SUB-D-BU25
4	Valve terminal	CPV

Plug connectors for valve terminals

NTSD, for power supply – Technical data

FESTO

Power supply socket NTSD

- Plug/socket for power supply
- Can be fabricated with any cable lengths
- 4-pin plug socket
- With screw terminals
- Wire cross section of up to 2.5 mm²



General technical data

Type	NTSD-...	
Type of mounting	M18 union nut	
Mounting position	Any	
Operating voltage range	[V]	250 AC
Current-carrying capacity	[A]	16
Protection class to EN 60 529	IP67 (assembled)	
Material of housing	Polybuteneterephthalate	
Material of contacts	Brass/copper base alloy	
Storage temperature	[°C]	-20 ... +70
Ambient temperature	[°C]	-5 ... +50

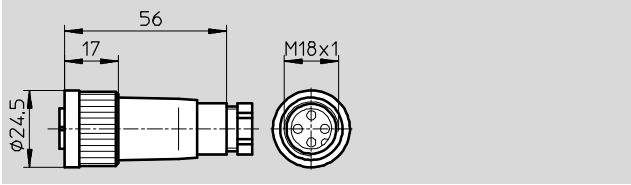
Ordering data

	Electrical connection	Cable gland fitting	Permissible cable diameter [mm]	Max. wire cross section [mm ²]	Product weight [g]	Type	Part No.
	Socket, straight, 4-pin, screw terminal	Pg9	6 ... 8	1.5	25	NTSD-GD-9	18 493
	Socket, straight, 5-pin, screw terminal, B-coded	Pg9	6 ... 8	0.75	25	NTSD-GD-9-M12-5POL-RK	538 999
	Socket, straight, 4-pin, screw terminal	Pg13.5	10 ... 12	2.5	31	NTSD-GD-13,5	18 526
	Socket, angled, 4-pin, screw terminal	Pg9	6 ... 8	1.5	30	NTSD-WD-9	18 527
	Socket, angled, 4-pin, screw terminal	Pg11	5 ... 11	2.5	34	NTSD-WD-11	533 119

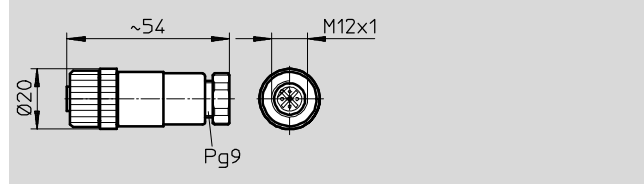
Dimensions

Download CAD data → www.festo.com

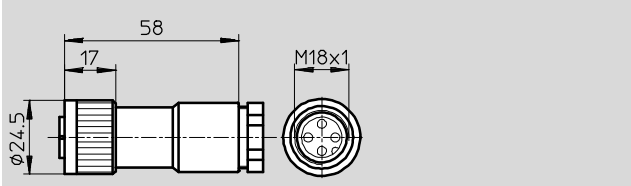
NTSD-GD-9



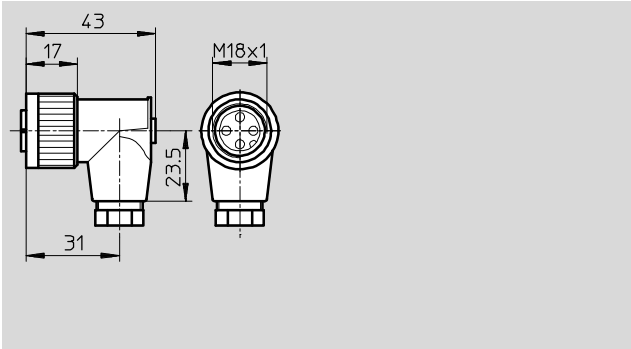
NTSD-GD-9-M12-5POL-RK



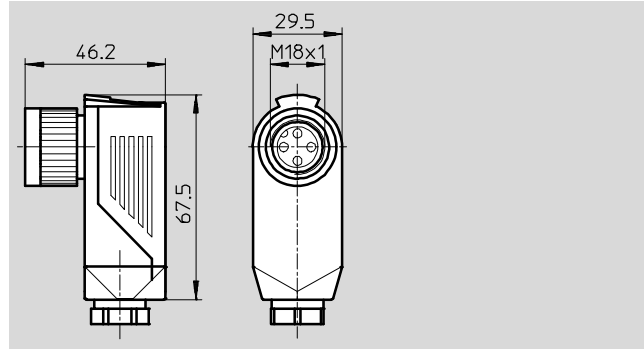
NTSD-GD-13,5



NTSD-WD-9



NTSD-WD-11



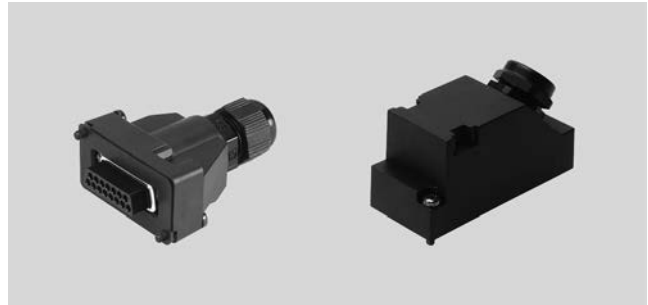
Plug connectors for valve terminals

SD-SUB-...-BU, Sub-D socket – Technical data

FESTO

Plug connector SD-SUB-...-BU

- Socket for multi-pin plug connection
- Can be assembled with any cable lengths
- 9-pin, 15-pin or 25-pin
- Sub-D



General technical data

Type of mounting	Two M3x16 screws
Mounting position	Any
Nominal operating voltage [V DC]	24
Acceptable current load [A]	5
Protection class to EN 60529	IP65 (assembled)

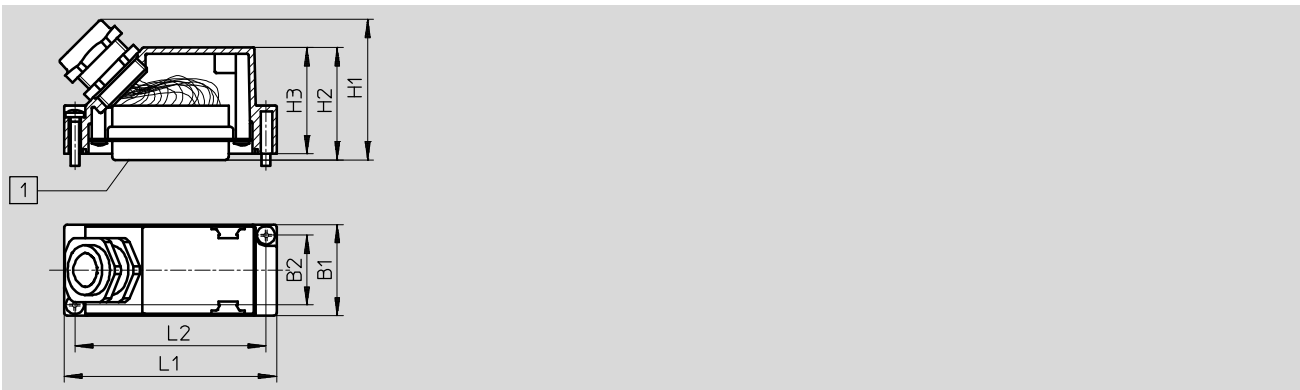
Materials

Type	SD-SUB-D-BU9	SD-SUB-D-BU25	SD-SUB-D-BU15
Housing	PA		
Pin contact	Nickel-plated and gold-plated copper base alloy		
Seals	NBR	NBR	CR

Dimensions

Download CAD data → www.festo.com

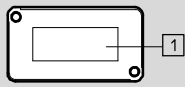
SD-SUB-D-BU...



Type	1	B1	B2	H1	H2	H3	L1	L2
SD-SUB-D-BU9	Sub-D socket, 9-pin	30	23	43	37	35	50	43
SD-SUB-D-BU25	Sub-D socket, 25-pin	30	23	47	37	35	70	63

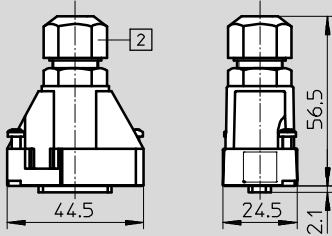
Dimensions

SD-SUB-D-BU15



1 Sub-D socket, 15-pin

2 Cable connector PG9



Ordering data

	Electrical connection	Cable connector	Perm. cable Ø [mm]	Product weight [g]	Part No.	Type
	Socket, 9-pin, Sub-D	Pg9	6 ... 9	38	18708	SD-SUB-D-BU9
	Socket, 25-pin, Sub-D	Pg11	7 ... 12	53	18709	SD-SUB-D-BU25
	Socket, 15-pin, Sub-D	Pg9	3 ... 8	33	177675	SD-SUB-D-BU15

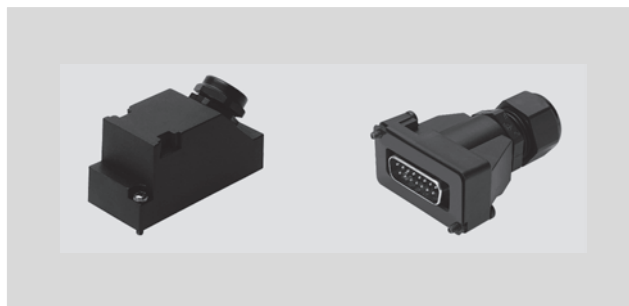
Plug connectors for valve terminals

SD-SUB-D-ST for inputs/outputs – Technical data

FESTO

Plug connector SD-SUB-D-ST

- Plug for inputs/outputs
- Can be assembled with any cable lengths
- 15-pin or 25-pin
- Sub-D



General technical data

Type	SD-SUB-D-ST	
Type of mounting	2x M3x16 screws	
Mounting position	Any	
Operating voltage range	[V AC]	Max. 250
	[V DC]	Max. 250
Acceptable current load	[A]	5
Protection class to EN 60529	IP65 (assembled)	

Materials

Type	SD-SUB-D-ST-15	SD-SUB-D-ST-25
Housing	PA	
Seals	Neoprene	NBR
Note on materials	RoHS-compliant	
Pin contact	Gold-plated copper base alloy	

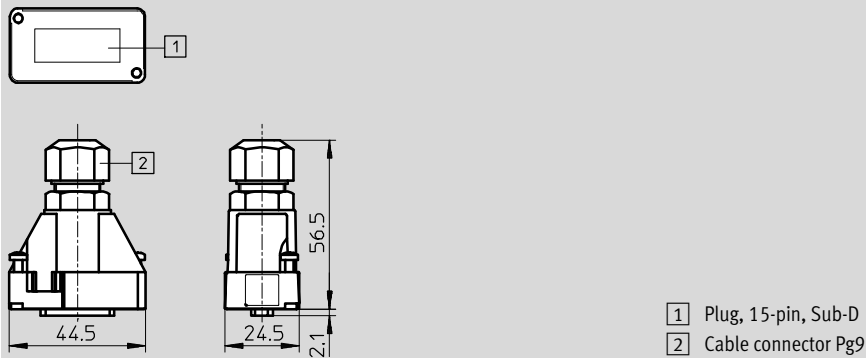
Operating and environmental conditions

Ambient temperature	[°C]	-20 ... +80
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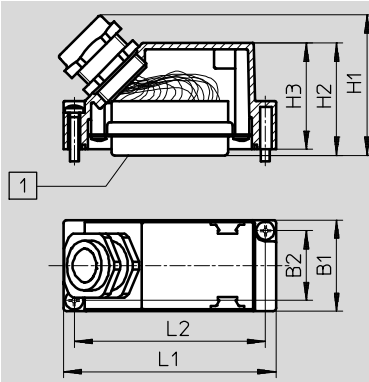
Dimensions

Download CAD data → www.festo.com

SD-SUB-D-ST-15



SD-SUB-D-ST-25



Type	(1)	B1	B2	H1	H2	H3	L1	L2
SD-SUB-D-ST25	Plug, 25-pin, Sub-D	30	23	47	37	35	70	63

Ordering data

	Electrical connection	Cable connector	Perm. cable Ø [mm]	Weight [g]	Part No.	Type
	Plug, 15-pin, Sub-D	Pg9	6 ... 9	37	192768	SD-SUB-D-ST15
	Plug, 25-pin, Sub-D	Pg11	7 ... 12	51	527522	SD-SUB-D-ST25

Plug connectors for valve terminals

VMPA-KMS-H, for multi-pin plug connection – Technical data

FESTO

Hood VMPA-KMS-H

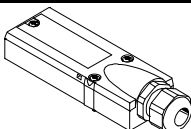
- Plug socket for multi-pin connection (to valve terminal MPA-S)
- Can be fabricated with any cable lengths
- 25-pin
- Sub-D



General technical data

Type	VMPA-KMS-H
Type of mounting	3 M3x22 screws
Mounting position	Any
Cable gland connection	M20x1.5
Operating voltage range [V DC]	24
Current-carrying capacity [A]	3
Protection class to EN 60 529	IP65 (assembled)
Material of housing	Fibreglass reinforced polyamide
Material of contacts	Gold-plated copper base alloy
Material of seal	Polyurethane
Ambient temperature [°C]	-30 ... +80

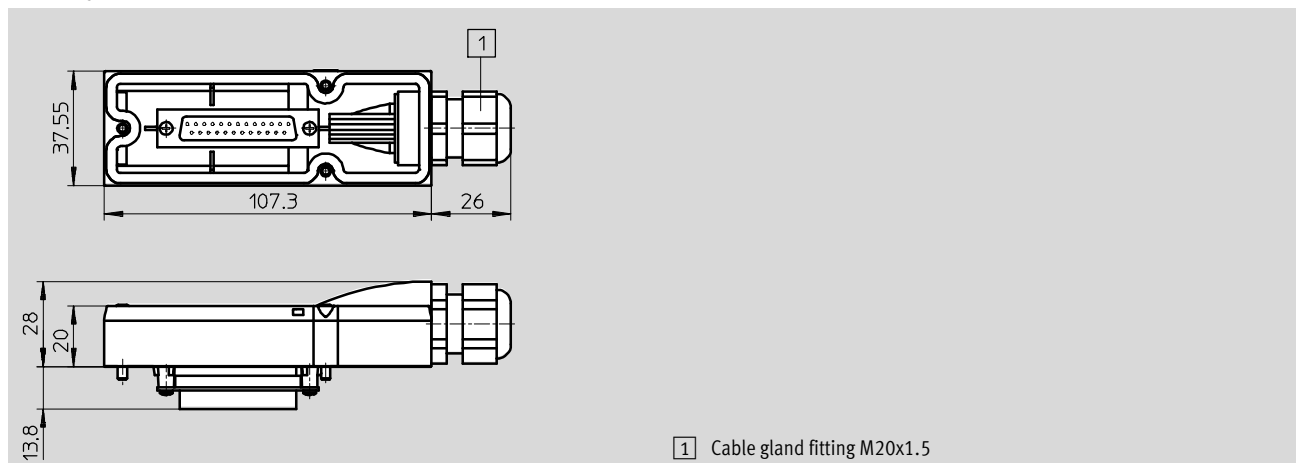
Ordering data

	Electrical connection	Perm. cable diameter [mm]	Type	Part No.
	25-pin Sub-D socket	6 ... 12	VMPA-KMS-H	533 198

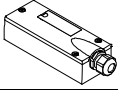



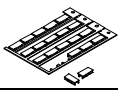
Dimensions

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VMPA-KMS-H



Ordering data

Designation	Description	Type	Part No.
Cover for multi-pin plug			
	For user configuration	NECV-S1W37	545974
Cover			
	End cap for electrical manifold module, size 18 mm and 26 mm	10 pieces	VABD-S4-E-C 547713
Inscription label holder/inscription labels			
	Clip-on inscription label holder for valve cap	5 pieces	ASCF-T-S6 540888
	Inscription label holder for manifold blocks	5 pieces	ASCF-M-S6 540889
	Inscription label holder for manifold blocks, size 52 mm	5 pieces	ASCF-M-S2-2 562577
	Inscription label (20 labels in frames)	20 pieces	IBS-9x20 18182

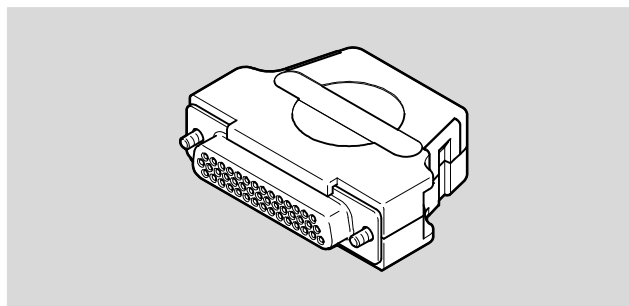
Plug connectors for valve terminals

NEFF-S1G44LB – Technical data

FESTO

Plug socket NEFF-S1G44LB

- Plug socket for operating an interlock-capable valve terminal interface in I-Port operation only



General technical data

Max. tightening torque [Nm]	0.24
Degree of protection EN 60529	IP40 (assembled)

Materials

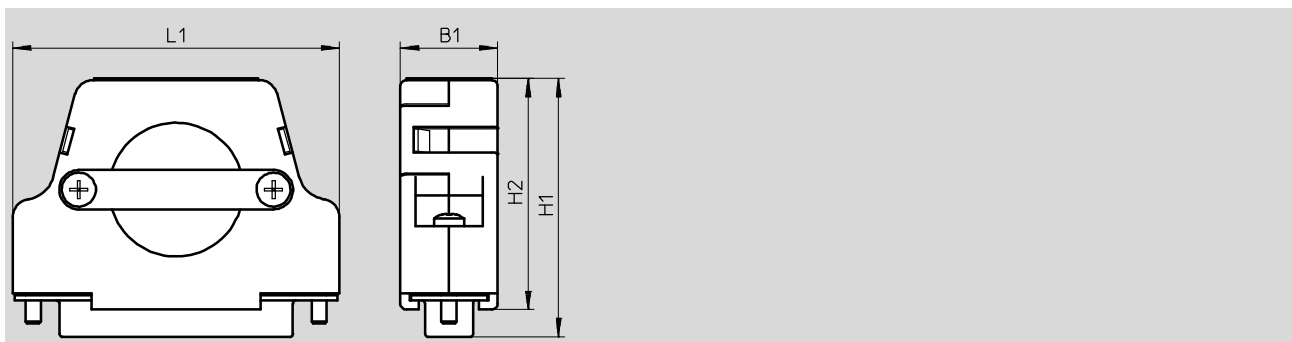
Note on materials	RoHS-compliant
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Operating and environmental conditions

Ambient temperature [°C]	-5 ... +50
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Dimensions

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Type	B1	H1	H2	L1
NEFF-S1G44LB	16	42.5	38	53.7

Ordering data

	Part No.	Type
Plug socket	1589339	NEFF-S1G44LB

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