

SIRIUS Compact load feeder DOL starter for IO-Link 690 V 24 V DC
3...12 A IP20 Connection main circuit: plug-in, without terminals
Connection control circuit: screw terminal

Product brand name	SIRIUS
Product designation	Compact starter for IO-Link
Design of the product	direct starter
Product type designation	3RA64

General technical data

Product function	
• Control circuit interface to parallel wiring	No
Product extension	
• Auxiliary switch	Yes
Power loss [W] for rated value of the current	
• at AC in hot operating state	1.8 W
• at AC in hot operating state per pole	0.6 W
Power loss [W] for rated value of the current without load current share typical	2.9 W
Insulation voltage	
• rated value	690 V
Degree of pollution	3
Surge voltage resistance rated value	6 000 V
Protection class IP	IP20
Shock resistance	a=60 m/s ² (6g) with 10 ms per 3 shocks in all axes
Vibration resistance	f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s ² ; 10 cycles
Mechanical service life (switching cycles)	
• of the main contacts typical	10 000 000
• of auxiliary contacts typical	10 000 000
• of the signaling contacts typical	10 000 000
Electrical endurance (switching cycles) of auxiliary contacts	
• at DC-13 at 6 A at 24 V typical	30 000
• at AC-15 at 6 A at 230 V typical	200 000
Type of assignment	continuous operation according to IEC 60947-6-2
Reference code acc. to DIN EN 81346-2	Q
Reference code acc. to DIN EN 61346-2	Q

Ambient conditions

Installation altitude at height above sea level	
• maximum	2 000 m

Ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C
Relative humidity during operation	10 ... 90 %

Main circuit

Number of poles for main current circuit	3
Adjustable pick-up value current of the current-dependent overload release	3 ... 12 A
Formula for making capacity limit current	12 x I _e
Formula for interruption capacity limit current	10 x I _e
Mechanical power output for 4-pole AC motor	
• at 400 V rated value	5.5 kW
• at 500 V rated value	5.5 kW
• at 690 V rated value	7.5 kW
Operating voltage	
• at AC-3 rated value maximum	690 V
Operating current	
• at AC at 400 V rated value	12 A
• at AC-43	
— at 400 V rated value	11.5 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
Operating power	
• at AC-3	
— at 400 V rated value	5.5 kW
• at AC-43	
— at 400 V rated value	5 500 W
— at 500 V rated value	5 500 W
— at 690 V rated value	7 500 W
No-load switching frequency	3 600 1/h
Operating frequency	
• at AC-41 acc. to IEC 60947-6-2 maximum	750 1/h
• at AC-43 acc. to IEC 60947-6-2 maximum	250 1/h

Control circuit/ Control

Type of voltage	DC
Holding power	
• at DC maximum	2.9 W

Auxiliary circuit

Number of NC contacts for auxiliary contacts	0
Number of NO contacts for auxiliary contacts	0

Number of NO contacts	
• of instantaneous short-circuit trip unit for signaling contact	0
Number of CO contacts	
• of the current-dependent overload release for signaling contact	0
Operating current of auxiliary contacts at AC-12 maximum	10 A
Operating current of auxiliary contacts at DC-13	
• at 250 V	0.27 A

Protective and monitoring functions

Trip class	CLASS 10 and 20 adjustable
Operational short-circuit current breaking capacity (Ics)	
• at 400 V	53 kA
• at 500 V rated value	3 kA
• at 690 V rated value	3 kA

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	12 A
• at 600 V rated value	12 A
Yielded mechanical performance [hp]	
• for three-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 hp

Short-circuit protection

Product function Short circuit protection	Yes
Design of short-circuit protection	electromagnetic
Design of the fuse link	
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A

Installation/ mounting/ dimensions

Mounting position	any
• recommended	vertical, on horizontal standard mounting rail
Mounting type	screw and snap-on mounting
Height	170 mm
Width	45 mm
Depth	165 mm

Connections/ Terminals

Product function - removable terminal for main circuit - removable terminal for auxiliary and control circuit	Yes Yes
Type of electrical connection - for main current circuit - for auxiliary and control current circuit	plug-in without terminals screw-type terminals
Type of connectable conductor cross-sections - for main contacts — solid — finely stranded with core end processing - at AWG conductors for main contacts	2x (1.5 ... 6 mm ²), 1x 10 mm ² 2x (1.5 ... 6 mm ²) 2x (16 ... 10), 1x 8
Type of connectable conductor cross-sections - for auxiliary contacts — solid — finely stranded with core end processing - at AWG conductors for auxiliary contacts	0.5 ... 4 mm ² , 2x (0.5 ... 2.5 mm ²) 0.5 ... 2.5 mm ² , 2x (0.5 ... 1.5 mm ²) 2x (20 ... 14)

Safety related data

B10 value with high demand rate acc. to SN 31920	3 000 000
Proportion of dangerous failures with high demand rate acc. to SN 31920	50 %

Communication/ Protocol

Product function Bus communication	Yes
Protocol is supported IO-Link protocol	Yes
Product function Control circuit interface with IO link	Yes
IO-Link transfer rate	COM2 (38,4 kBaud)
Point-to-point cycle time between master and IO-Link device minimum	2.5 ms
Type of voltage supply via input/output link master	No
Amount of data - of the address area of the inputs with cyclical transfer total - of the address area of the outputs with cyclical transfer total	2 byte 2 byte

Electromagnetic compatibility

Conducted interference - due to burst acc. to IEC 61000-4-4 - due to conductor-earth surge acc. to IEC 61000-4-5	4 kV main circuits, 2 kV auxiliary circuits, 2 kV IO-Link, 2 kV limit switches, 2 kV line hand-held device 4 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection
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- due to conductor-conductor surge acc. to IEC 61000-4-5
- due to high-frequency radiation acc. to IEC 61000-4-6

2 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection
0.15-80MHz at 10V

Field-bound parasitic coupling acc. to IEC 61000-4-3

80 ... 3000 MHz at 10V/m

Electrostatic discharge acc. to IEC 61000-4-2

8 kV

Conducted HF-interference emissions acc. to CISPR11

150 kHz ... 30 MHz Class A

Field-bound HF-interference emission acc. to CISPR11

30 ... 1000 MHz Class A

Supply voltage

Supply voltage required Auxiliary voltage

Yes

Display

Display version

- as status display of the input/output link device

green/red dual LED

Certificates/ approvals

General Product Approval

EMC

Functional
Safety/Safety
of Machinery



CCC



CSA



UL



RCM



VDE

Declaration of Conformity

Test Certificates

Marine / Shipping



EG-Konf.

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



ABS



BUREAU
VERITAS



LRS

Marine / Shipping

other



PRS



RINA



RMRS

[Confirmation](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RA6400-1DB43>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6400-1DB43>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6400-1DB43>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6400-1DB43&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6400-1DB43/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6400-1DB43&objecttype=14&gridview=view1>

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