

Datasheet

Encoder RSA 58E absolute SSI magnetic



RS Stock No. 7951220
RS Stock No. 7951223
RS Stock No. 7951227
RS Stock No. 7951236
RS Stock No. 7951239
RS Stock No. 7951233

Mechanical Data

Housing

Flange	hollow shaft (blind-bored)
Flange material	aluminium
Housing cap	steel case chrome-plated, magnetic shielding
Torque supports	incl. 1 torque support WDGDS10001
- 1. Spring plate compensation	axial: ± 0.8 mm, radial: ± 0.2 mm
- Max. operating speed	6000 rpm up to max. protection rating +60 °C
Housing	\varnothing 58 mm

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm at ambient temperature
Fixing	permanently attached clamping ring
Shaft	\varnothing 10 mm
Advice	with adapter sleeve
Insertion depth min.	11 mm
Insertion depth max.	16 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	\varnothing 12 mm
Insertion depth min.	11 mm
Insertion depth max.	16 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N
Shaft	\varnothing 14 mm
Insertion depth min.	11 mm
Insertion depth max.	16 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

- Maintenance-free and environmentally friendly
- SSI, gray
- Single-/multiturn (13 bit / 13 bit)
- Forward-looking technology with 32 bit processor

Bearings

Bearings type	2 precision ball bearings
Nominale service life	1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	6000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	1000 a
Mission time (TM)	20 a
Nominale service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: max. 80 mA
Power consumption	max. 0.8 W; max. 0.8 W

Sensor data

Singleturn technology	innovative hall sensor technology
Singleturn resolution	up to 8,192 steps/360° (13 bit)
Singleturn accuracy	< $\pm 0.35^\circ$
Singleturn repeat accuracy	< $\pm 0.20^\circ$
Intern cycle time	$\leq 600 \mu\text{s}$
Multiturn technology	no battery, no gear.
Multiturn resolution	up to 13 bit.

Environmental data

ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	appropriate DIN VDE 0160
Turn on time:	<1,5 s

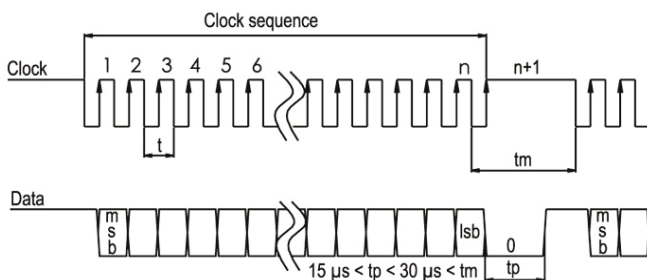
General Data

Weight	approx. 220 g
Connections	connector, radial
Protection rating (EN 60529)	IP67, shaft sealed to IP65
Operating temperature	-40 °C up to +80 °C
Storage temperature	-40 °C up to +100 °C

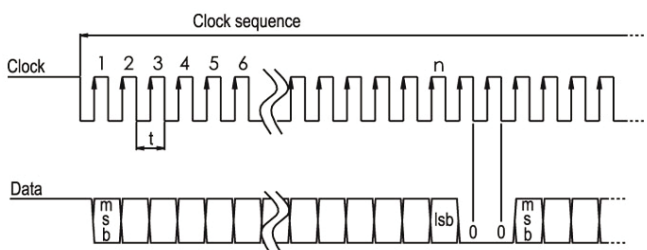
Interface

Interface:	SSI
Clock input:	via opto-coupler
Clock frequency:	100 kHz up to 500 kHz, up to 2 MHz on request
Data output:	RS485/RS422 compatible
Output code:	gray
SSI output:	Angular-/position value
Parity bit:	optional (even/odd)
Error bit:	optional
Turn on time:	<1,5 s
Configuration inputs	DIR = GND -> cw
Positive direction of counting: (View on shaft)	DIR = +UB -> ccw
Set to zero:	Set: Preset = +UB for 2 s Deactivate: Preset = GND

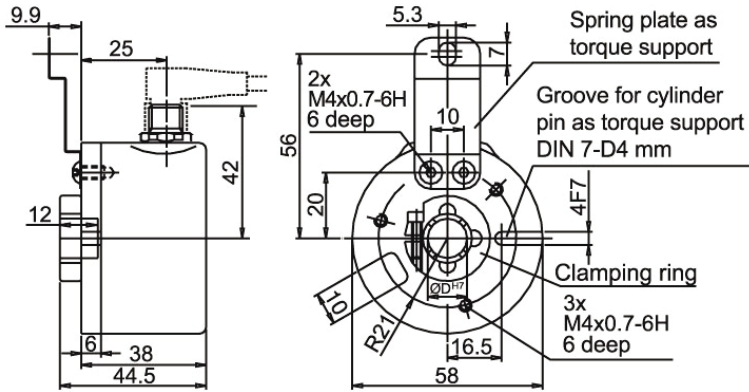
Transmission protocol SSI Single transmission:



Transmission protocol SSI Multipath transmission:

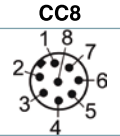


Connector, M12x1, CC8, radial, 8-pin



Description

CC8 radial, 8-pin, shield connected to encoder housing

Assignments	
	
GND	1
+UB	2
SSI CLK+	3
SSI CLK-	4
SSI DATA+	5
SSI DATA-	6
PRESET	7
DIR	8
Shield	housing



ENGLISH

RS Stock No.	Ø Shaft	Single-/Multiturn	Code	Power supply	Connector
7951220	10 mm	12 bit / 13 bit	gray	10 VDC up to 32 VDC	CC8 (radial)
7951223	10 mm	13 bit / 12 bit	gray	10 VDC up to 32 VDC	CC8 (radial)
7951227	12 mm	12 bit / 13 bit	gray	10 VDC up to 32 VDC	CC8 (radial)
7951236	12 mm	13 bit / 12 bit	gray	10 VDC up to 32 VDC	CC8 (radial)
7951239	14 mm	12 bit / 13 bit	gray	10 VDC up to 32 VDC	CC8 (radial)
7951233	14 mm	13 bit / 12 bit	gray	10 VDC up to 32 VDC	CC8 (radial)