Datasheet
Encoder RSA 58B absolute CANopen magnetic

RS Stock No. 7951198
RS Stock No. 7951208

- Maintenance-free and environmentally friendly
- CANopen, Multiturn
- Communication Profile according to CiA 301
- Device Profile for encoder CiA 406 V3.2 class C2
- Single-/Multiturn (12 bit/18 bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition and error message appropriate CiA 303-3
- High shaft load up to 220 N radial, 120 N axial

Mechanical Data

Housing

Flange	clamping flange
Flange material	aluminium
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm
Cam mounting	pitch 69 mm

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature
Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

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	8000 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 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: max. 50 mA
Power consumption	max. 0.5 W

Sensor data

Singleturn technology	innovative hall sensor technology
Singleturn resolution	4,096 steps/360° (12 bit)
Singleturn accuracy	< ±0.35°
Singleturn repeat accuracy	< ±0.20°
Intern cycle time	≤ 600 μs
Multiturn technology	no battery and no gear.
Multiturn resolution	up to 262,144 revolutions (18 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/s² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s² (6 ms)
Design:	appropriate DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	CAN
Protocol:	CANopen • Communication profil CiA 301 • Device Profile for encoder CiA 406 V3.2 class C2
Node number:	0 up to 127 (default 127)
Baud rate:	10 kBaud up to 1 MBaud with automatic bit rate detection.
Advice:	The standard settings as well as any customization in the software can be changed via LSS (CiA 305) and the SDO protocol, e. g. PDOs, Scaling, Heartbeat, Node-ID, Baud rate, etc.

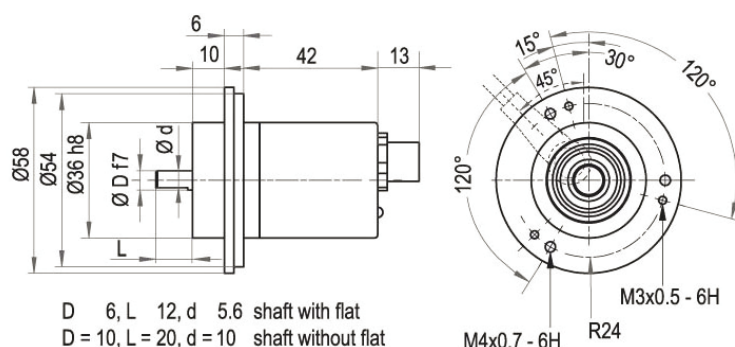| Programmable CAN transmission modes: | **Sychronous mode:** when a synchronisation telegram (SYNC) is received from another bus node, PDOs are transmitted independently. **Asynchronous mode:** a PDO message is triggered by an internal event. (e.g. change of measured valued, internal timer, etc.) |

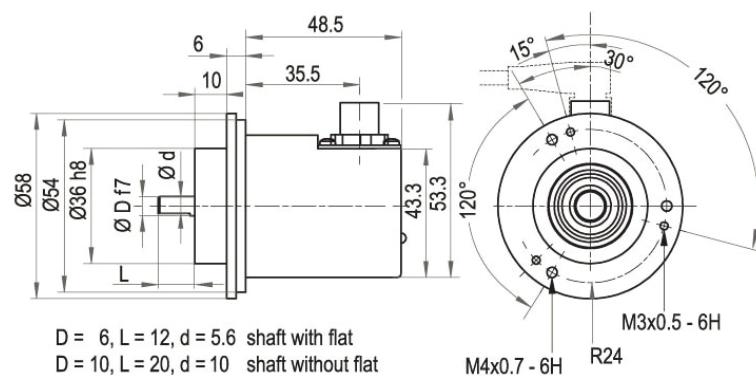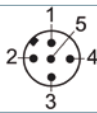| General Data	
Weight	approx. 202 g
Connections	connector outlet
Protection rating (EN 60529)	IP67, shaft sealed to IP65
Operating temperature	-40 °C up to +80 °C
Storage temperature	-40 °C up to +100 °C

Connector, M12x1 CB5, 5-pin

D   6, L   12, d   5.6 shaft with flat
D = 10, L = 20, d = 10   shaft without flat

M3x0.5 - 6H
M4x0.7 - 6H   R24

Description

CB5   axial, 5-pin, shield connected to encoder housing

Assignments	
	CB5
+UB	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Connector, M12x1 CC5, 5-pin

D = 6, L = 12, d = 5.6 shaft with flat
D = 10, L = 20, d = 10 shaft without flat

M3x0.5 - 6H

M4x0.7 - 6H   R24

Description

CC5   radial, 5-pin, shield connected to encoder housing

Assignments	
	CC5
+UB	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

RS Stock No.	Ø Shaft	Single-/Multiturn	Code	Power supply	Connector
7951198	10 mm	12 bit / 18 bit	binary	10 VDC up to 32 VDC	CB5 (axial)
7951208	10 mm	12 bit / 18 bit	binary	10 VDC up to 32 VDC	CC5 (radial)