

Functional safety integrated encoder, Incremental

- Functionally safe high-current HTL signal for transmission over long cables
- Electrically insulated shaft; up to 2.5kV
- Hybrid bearings for extended lifetime
- Certified according to SIL2/PLd, cat. 3



Mechanical data

Operating temperature	-40 °C...+80 °C
Ingress protection class [IEC 60529]	IP66 and IP67 (IP66 at shaft inlet)
Vibration [IEC 60068-2-64]	≤ 20 g, 55-2000 Hz
Shock [IEC 60068-2-27]	≤ 400 g, 3.5 ms
Shaft load max (axial/radial)	100 N / 300 N
Rotational speed max	6000 rpm
Shaft material	Stainless steel
Cover material	Anodized aluminium
Weight	Approx. 1500 g
Cable gland dimension	M20 for Ø8-11 mm cables
Max angular acceleration	1000 rad/s ²
Torque bracket	120° orientation

Encoder configuration

Code key	862189560
Type	FSI
Model	862 Extra Robust
Shaft type	Ø16 mm blind hollow shaft with key nut
Flange type	86-flange
Resolution	2048 ppr
Power supply	9-30 Vdc
Output signal	High Current HTL (HCHTL)
Connection type	Cable
Connecting direction	Radial
Cable length	3.00 m
Number of channels	6 (S00, S00\, S90, S90\, Sref, Sref\)



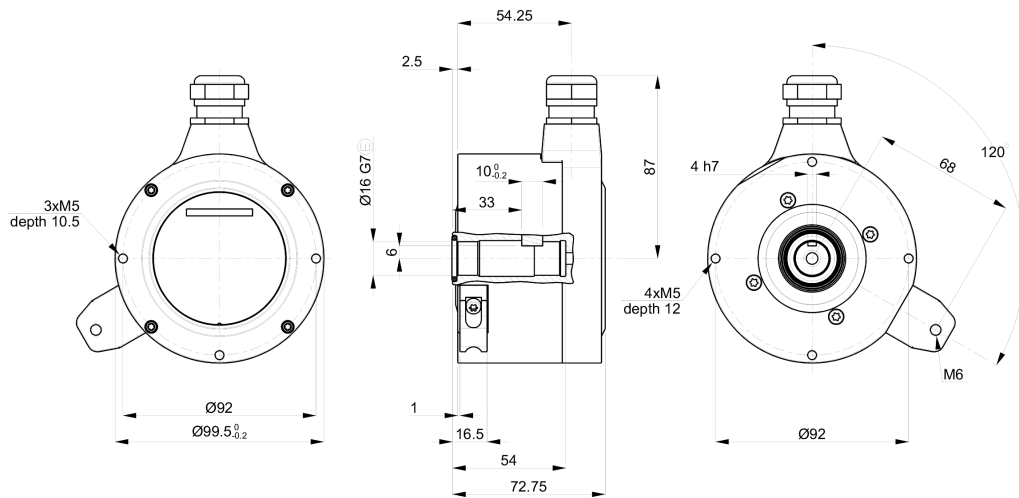
Electrical data

Polarity protected	Yes
Short circuit protected incremental outputs	Yes
Current consumption (No load)	60 mA at 24 Vdc (Max. 80 mA)
Incremental output load (max)	± 40 mA
Output frequency max	100 kHz
Cable length max	350 m at 100 kHz
Channel separation	90 °el ± 25 °el
Dividing error	± 50 °el
MTTFd value [Years]	3243 years
Mission Time	20 years
PFH [1/h]	3.5E-8 Failures / hour
Startup delay	< 10 Seconds

Functional safety information

Proof test interval	Annual, test by power cycling
Safety certification	EN ISO 13849-1, IEC 61800-5-2, IEC 61508, IEC 62061
Safety level	SIL2/PLd, category 3
Applicability	For further details and specific conditions of use, consult the safety manual(s)

Dimensions

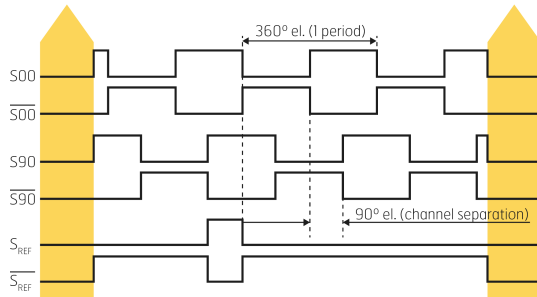


Pin Configuration

Function	Colour
+E volt	Red
0 Volt	Blue
0 (Sref)	Brown
0 inverted (Sref\)	Violet
1 (S90)	Green
1 inverted (S90\)	White
2 (S00)	Yellow
2 inverted (S00\)	Black
Chassis	Shield

Output signal

Start up time of the encoder = safe state Safe state = All channels low level



Safe signals: S00, S00\, S90, S90\
 Safe state output signal < 2.4V
 High signal output level > +Ev - 4.0V

Clockwise, seen from shaft side



Order information

Part number	1212923-02
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