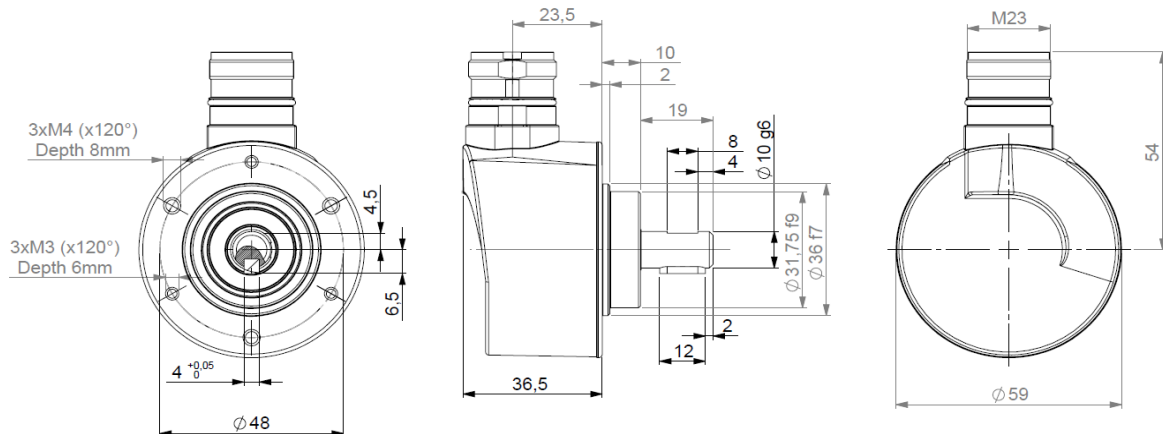


## SIL3 Ple - INCREMENTAL ENCODERS - DSM5H RANGE

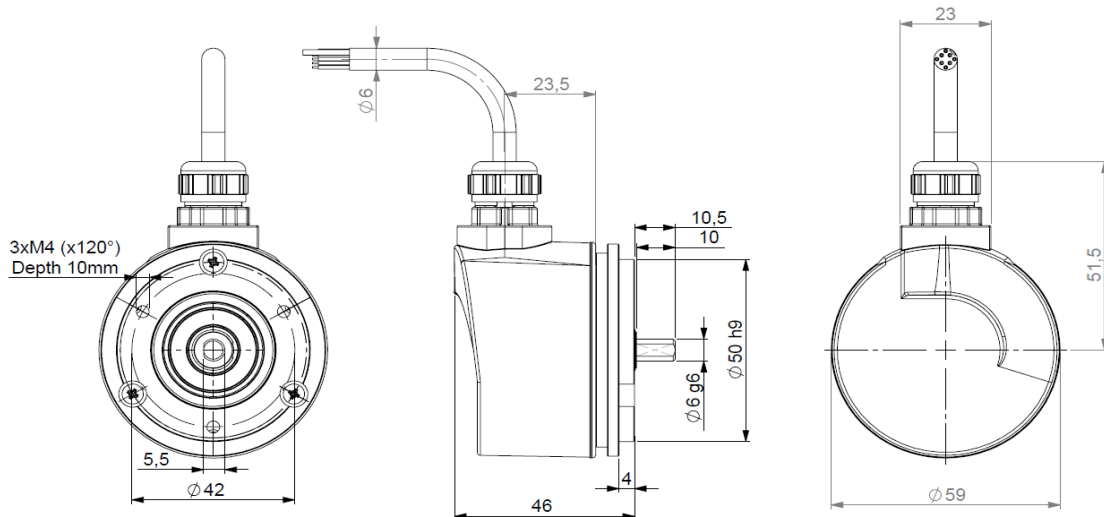
- Usable up to SIL 3 / Ple according to IEC 61508 / IEC 13849.
- Suitable for safe motor feedback according to IEC 61800-5-2.
- Robustness and excellent resistance to shocks / vibrations.
- 58mm encoder, solid shaft 6mm, 9.52mm or 10mm.
- High protection level: IP65.
- High performances in temperature  $-20^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Power supply 5Vdc or 11/30Vdc.
- Digital TTL/RS422 or HTL or sine/cosine 1Vpp output.
- Resolution up to 2500ppr.
- Connector or cable output – side or end orientation.
- Stainless steel version available in option.



### DSM5H10 – radial M23 connector



### DSM5H06 radial cable - with 9500/003 flange



### MECHANICAL CHARACTERISTICS

Material	Cover : powder coated zinc alloy	Shaft inertia	< 2 800 g.mm <sup>2</sup>
	Body : aluminum	Static/Dynamic torque	5 / 35 mN.m
	Shaft : AISI 303 stainless steel	Permissible max. speed	9 000 min <sup>-1</sup>
Bearings	6 000 serie - sealed	Continuous max. speed	6 000 min <sup>-1</sup>
Maximum loads	Axial : 40 N	Theoretical mechanical lifetime L <sub>10h</sub> *	29,7.10 <sup>9</sup> turns / 82 365 hours
	Radial : 80 N	Encoder weight (approx.)	0,300 kg

\* continuous max. speed – ½ max. load – according to ISO 281 : 1990, L<sub>10</sub>

### TEMPERATURE CONDITIONS

Operating temperature	-20 ... + 85 °C (encoder T°)	Storage temperature	-20 ... + 85 °C
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## SIL3 PLe - INCREMENTAL ENCODERS - DSM5H RANGE

### ELECTRICAL CHARACTERISTICS / FUNCTIONAL SAFETY PARAMETERS

Electronic Version	Output signals	Operating Voltage +V	Supply current	Current per channel pair	Short circuits proof	Reverse polarity protected	PFD	PFH	MTTFd	DC
2G2	Digital	5V +/-5%	100mA with no load	40mA	Yes	Yes	7,51E-05	8,58E-10	1331	HIGH
5G2	TTL RS422	11-30V			Not to +V		9,52E-05	1,09E-09	1050	
5G5	Digital HTL				Yes		9,52E-05	1,09E-09	1050	
2WT	Sine Cosine	5V +/-5%	70mA with no load	10mA	Yes		4,29E-05	4,90E-10	2328	
5WT	1Vpp	11-30V			Not to +V		6,60E-05	7,53E-10	1515	

Safety mission time: 20 years

### STANDARDS CONFORMITY

Protection(EN 60529)	IP 65
Humidity (EN 60068-2-38)	93% @ 65°C
Shock (EN60068-2-27)	≤ 500m.s <sup>2</sup> (during 6 ms)
Vibration (EN60068-2-6)	≤ 200m.s <sup>2</sup> (10 ... 2 000 Hz)
EMC Immunity Test	EN 61000-6-2,increased levels
EMC Emission Test	EN 61000-6-4,increased levels
Isolation	1000 Veff
Salt Spray (EN 60068-2-11 part 2)	96h

Functional safety	IEC 61508
	IEC 62061
	ISO 13849-1
	IEC 61800-5-2
	IEC 62061
Encoders usable up to SIL3 / PLe with external specific requirements, see safety user manual for details.	
ZZ/ are not safety signals.	

### ELECTRICAL CONNECTIONS

		0V	+V	A or S	B or C	Z	A/ or S/	B/ or C/	Z/	Ground
G6	M23 - 12 pins CW	1	2	3	4	5	6	7	8	Connector Body
G8	M23 - 12 pins CCW	10 + 11	2 + 12	8	5	3	1	6	4	Connector Body
G3	PVC cable 8 wires 8230/020	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	General shielding
GP	PUR cable 12 wires 8230/050	WH white + WH/GN white/green	BU blue + BN/GN brown / green	GY grey	BN brown	RD red	PK pink	GN green	BK black	General shielding

### AVAILABLE RESOLUTION

250 256 360 500 512 1000 1024 2048 2500

### ORDERING REFERENCE (Contact the factory for special versions, ex: resolution, connection, flange)

	Shaft Ø	Supply	Output stage	Output signals	Resolution	Connection	Orientation	Cover	Flange
DSM5H	06: 6mm	Digital signals: 2G2, 5G2, 5G5			2500 max	G6: M23 12 pins CW G8: M23 12 pins CCW	A : axial R : radial	1J Zinc alloy cover	**03** Servo flange
		2:5Vdc 5: 11- 30Vdc	G2:TTL RS422 G5:HTL	9: AA/ BB/ ZZ/					
	10: 10mm	Analog Sine Cosine signals: 2WT, 5WT				GP: PUR cable 12 wires G3: PVC cable 8 wires	Example : R050 : radial cable 5m		
		2: 5Vdc 5: 11- 30Vdc	WT: sine 1Vpp	N: SS/ CC/ ZZ/					
09: 9.52mm									
Ex: DSM5H	06 //	5	G2	9 //	01024 //	GP	R050 /	1J /	**03**

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