



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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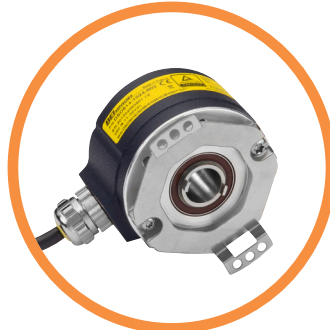


DSM5H & DSO5H MODELS

SIL3 PLe INCREMENTAL ENCODERS



DSM5H



DSO5H



Features

- Usable up to SIL3 and Cat.4 / PLe according to IEC 61508 / EN ISO 13849
- Suitable for safe motor feedback according to IEC 61800-5-2
- Robustness and excellent resistance to shock and vibration
- High protection level: IP65
- High temperature performance -20°C to +85°C
- Power supply 5Vdc or 11/30Vdc
- Digital TTL/RS422 or HTL or sine/cosine 1Vpp output
- Resolutions up to 2500ppr
- 58mm encoder, solid shaft 6mm, 9.52mm or 10mm (DSM5H), and through shaft, standard 14mm (DSO5H)
- Connector or cable output (DSM5, side output only for DSO5)
- Stainless steel version available as an option (DSM5X) - consult factory
- Adapted anti-rotation system (DSO5H)



SPECIFICATIONS

Mechanical

	DSM5H	DSO5H
Material	Cover: powder coated zinc alloy Body: aluminum Shaft: AISI 303 stainless steel	Cover: powder coated zinc alloy Body: aluminum Shaft: AISI 303 stainless steel
Bearings	6000 series - sealed	6803 series - sealed
Maximum Loads	Axial: 40 N	Axial: 20 N
	Radial: 80 N	Radial: 40 N
Shaft Inertia	< 2,800 g.mm ²	< 9,500 g.mm ²
Static/Dynamic torque	5 / 35 mN.m	10 / 85 mN.m
Permissible max. speed	9,000 RPM	
Continuous max. speed	6,000 RPM	4,000 RPM
Theoretical mechanical lifetime L_{10h}^(A)	> 29.7 X 10 ⁹ turns / 82,365 hours	> 24 X 10 ⁹ turns / 100,000 hours
Encoder weight (approx.)	0.30 kg	0.28 kg

^(A) *Continuous max. speed – ½ max. load – according to ISO 281: 1990, L₁₀*

Temperature Conditions

Operating temperature	- 20 ... + 85 °C (encoder T°)
Storage temperature	- 20 ... + 85 °C

Electrical Characteristics / Functional Safety Parameters ^(B)

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 TTL RS422	5V +/-5%	100mA with no load	40mA	Yes	Yes	7.51E-05	8.58E-10	1331	HIGH
5G2		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 1Vpp	5V +/-5%	70mA with no load	10mA	Yes		4.29E-05	4.90E-10	2328	
5WT		11-30V			Not to +V		6.60E-05	7.53E-10	1515	

^(B) **Safety mission time:** 20 years

Standards Conformity

Protection(EN 60529)	IP65
Humidity (EN 60068-2-38)	93% @ 65°C
Shock (EN60068-2-27)	≤ 500m.s ⁻² (during 6 ms)
Vibration (EN60068-2-6)	≤ 200m.s ⁻² (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.	
Z and Z/ 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

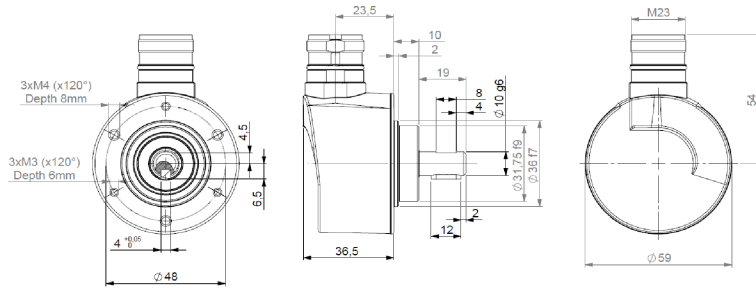
Available Resolutions

250 256 360 500 512 1000 1024 2048 2500



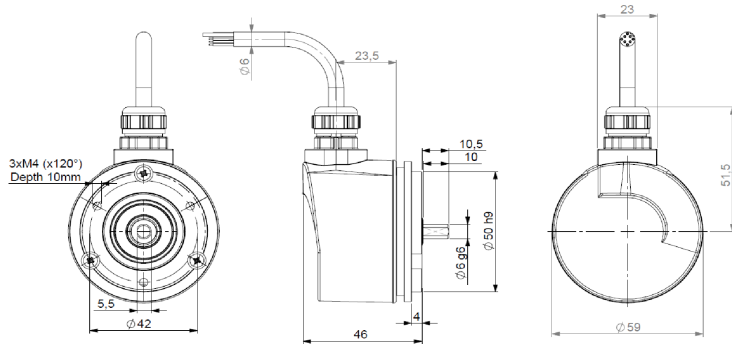
DIMENSIONS

DSM5H10 – radial M23 connector

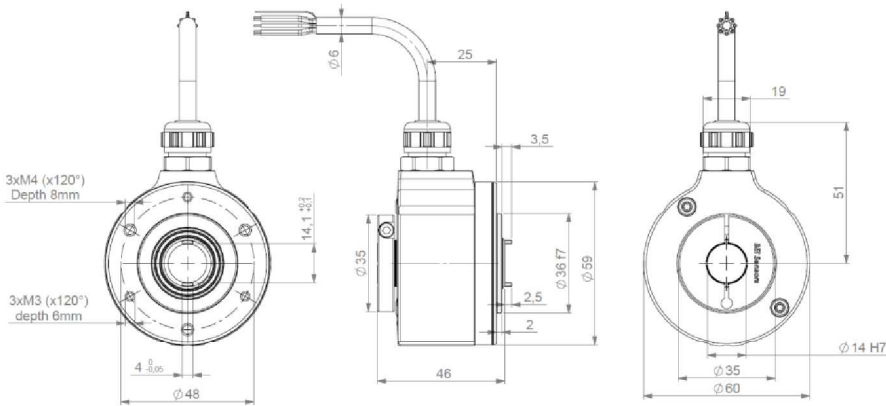


	9445/044	9445/047	
Permissible misalignments	Axial	+/- 1mm	+/- 1mm
	Radial	+/- 0.2mm	+/- 0.2mm
	Perpend.	+/- 2°	+/- 5°
	Runout	0.1mm	0.1mm
Angular rigidity	200 N.m/rad	250 N.m/rad	

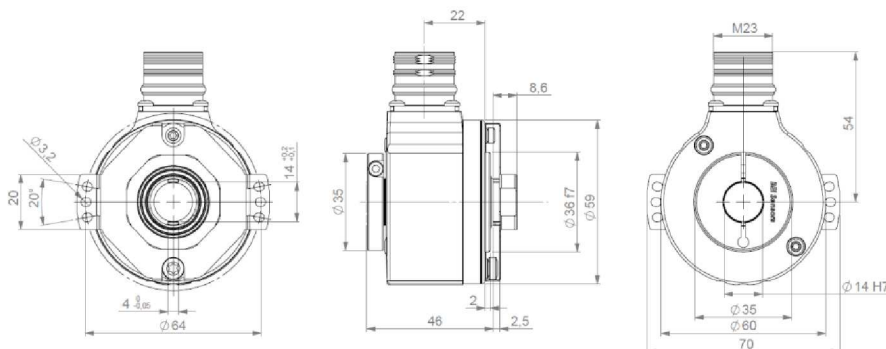
DSM5H06 radial cable - with 9500/003 flange



DS05H – radial cable



DS05H radial M23 - with stator coupling 9445/044





DSM5H ORDERING OPTIONS

Example : DSM5H06 // 5G29 // 01024 // GPR050 / 1J / **03**

Contact the factory for special versions, ex: resolution, connection, flange...

	DSM5H	06	//	5G59	//	01024	//	GPR050	/	1J	/	CS03**
Family	DSM5H											
DSM5H												
Shaft	06: 6mm 10: 10mm 09: 9.52 mm											
Supply + Output stage + Output signals												
Digital Signals:												
2: 5Vdc												
G2: TTL RS422												
9: AA/ BB/ ZZ/												
5: 11- 30Vdc												
G2: TTL RS422												
G5: HTL												
9: AA/ BB/ ZZ/												
Analog Sine Cosine signals:												
2: 5Vdc												
WT: TTL RS422												
N: SS/ CC/ ZZ/												
5: 11- 30Vdc												
WT: TTL RS422												
N: SS/ CC/ ZZ/												
Resolution	250, 256, 360, 500, 512, 1000, 1024, 2048, 2500											
Connection + Orientation												
G6: M23 12 pins CW												
A: axial												
R: radial												
G8: M23 12 pins CCW												
A: axial												
R: radial												
GP: PUR cable 12 wires												
R: radial cable (example: 050 = 5m)												
G3: PVC cable 8 wires												
R: radial cable (example: 050 = 5m)												
Cover	1J: Zinc alloy cover											
Flange												
****: No specials												
CS**: Key for keyway DSMH10 only												
03: 9500/003 Servo Flange												



DSO5H ORDERING OPTIONS

Example : DSO5H14 // 5G29 // 01024 // GPR050 // **DX**

Contact the factory for special versions, ex: resolution, connection, flange...

Family	DSO5H	14	//	5G29	//	01024	//	GPR050	//	**DX**
DSO5H										
Shaft										
14: 14mm										
Supply + Output stage + Output signals										
Digital Signals:										
2: 5Vdc										
G2: driver 5Vdc RS422										
G5: push-pull										
9: AA/ BB/ ZZ/										
5: 11- 30Vdc										
G2: driver 5Vdc RS422										
G5: push-pull										
9: AA/ BB/ ZZ/										
Sine-wave signals:										
2: 5Vdc										
WT: sine 1Vpp										
N: SS/ CC/ ZZ/										
5: 11- 30Vdc										
WT: sine 1Vpp										
N: SS/ CC/ ZZ/										
Resolution										
250, 256, 360, 500, 512, 1000, 1024, 2048, 2500										
Connection + Orientation										
G6: M23 12 pins CW										
R: radial										
G8: M23 12 pins CCW										
R: radial										
GP: PUR cable 12 wires										
R: radial cable (example: 050 = 5m)										
G3: PVC cable 8 wires										
R: radial cable (example: 050 = 5m)										
Anti-rotation										
DX : 9445/044										
****: No antirotation										



AGENCY APPROVALS & CERTIFICATIONS



BEI Sensors SAS

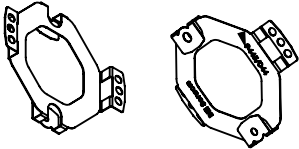
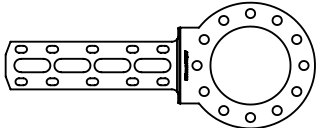
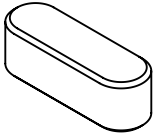
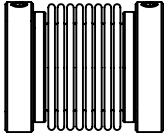
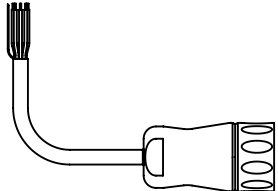
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GENERAL NOTES

For a safe installation according to the required safety level needed in the application, refer to the user safety manual - during the installation on the equipment, a quick installation guide is provided with each encoder.

ACCESORIES

<p>Safety Rated Flexmount (hardware included)</p> 	<p>M9445/044</p>	<p>DS05H</p>
<p>Safety Encoder Tether Arm (hardware included)</p> 	<p>M9445/047</p>	<p>DS05H</p>
<p>Metal shaft key 4mm square by 12mm long</p> 	<p>9435/006</p>	<p>DSM5H</p>
<p>Safety Bellows Couplings For 10mm shaft</p> 	<p>9404/S/10-10</p>	<p>DSM5H</p>
<p>Standard Mating Connector 2m, 5m, 7m, 10m Mating Cable Assembly</p> 	<p>9416/076-8230/020-G6-020 = 2m 9416/076-8230/020-G6-050 = 5m 9416/076-8230/020-G6-070 = 7m 9416/076-8230/020-G6-100 = 10m</p> <p>For use with M23 connector type G6</p>	<p>DS05H DSM5H</p>

Made in France

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