

MAIN FEATURES

Blind hollow shaft encoder \varnothing 58 - 63 mm for industrial applications with high mechanical resistance requirements. The various types of assembly guarantee safety and flexibility of use.

- 3 channel encoder (A / B / Z) up to 10000 ppr based on innovative magnetic ASIC
- Power supply up to +30 V DC with several electrical interfaces available
- Up to 800 kHz output frequency
- Cable or connector output
- Available with metal cover for heavy duty applications
- Blind hollow shaft diameter up to 15 mm
- Mounting by stator coupling, torque slot stop or torque pin



ORDERING CODE	EMI	58F	M*	500	S	5/30	P	8	X	X	M	R	.162	+XXX
SERIES magnetic incremental encoder series EMI														
MODEL blind hollow shaft with stator coupling 58F blind hollow shaft with torque pin 58G blind hollow shaft with torque stop slot 63F blind hollow shaft with torque pin 63G														
METAL COVER * add for metal cover M														
RESOLUTION ppr from 1 to 10000 please refer to the preferred resolutions list														
ZERO PULSE without zero pulse S with zero pulse Z														
POWER SUPPLY (with L electrical interface) 5 V DC 5 5 ... 30 V DC 5/30														
ELECTRICAL INTERFACE NPN open collector C push-pull P line driver L power supply 5/30 V DC - output RS-422 RS														
BORE DIAMETER mm 8 mm 10 mm 12 mm 14 mm 15														
ENCLOSURE RATING IP 54 X IP 66 S														
OPTION to be reported X														
OUTPUT TYPE cable (standard length 1,5 m) P preferred cable lengths 2 / 3 / 5 / 10 m, to be added after DIRECTION TYPE (eg. PR5) MIL male connector M JIS-C-5432 male connector J M12 male connector M12 M23 male connector H M16 male connector C														
DIRECTION TYPE axial A radial R														
MATING CONNECTOR mating connector not included .162 to be reported only with connector output (eg. MR.162), for mating connector see Accessories														
VARIANT custom version +XXX														

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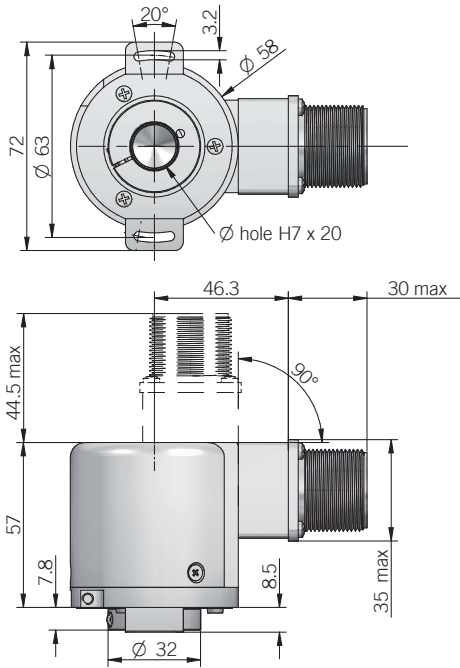
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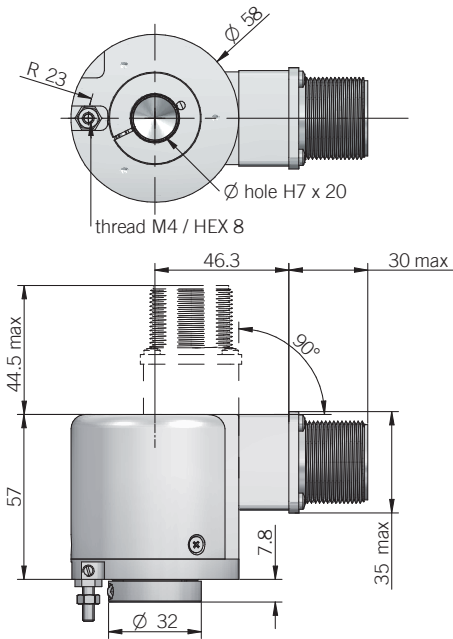
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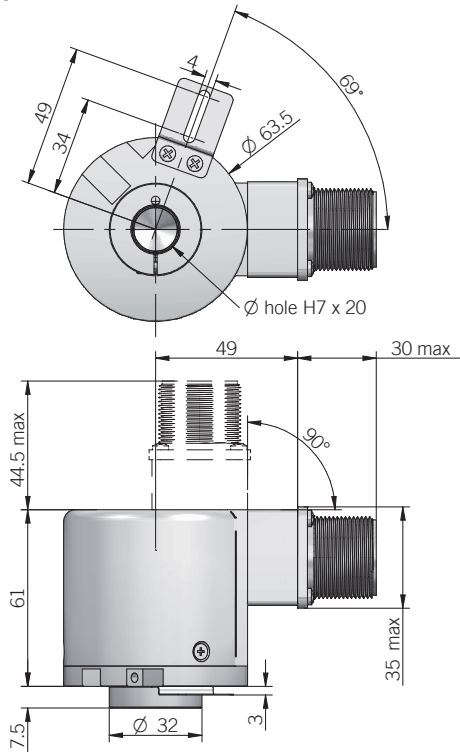
58 F



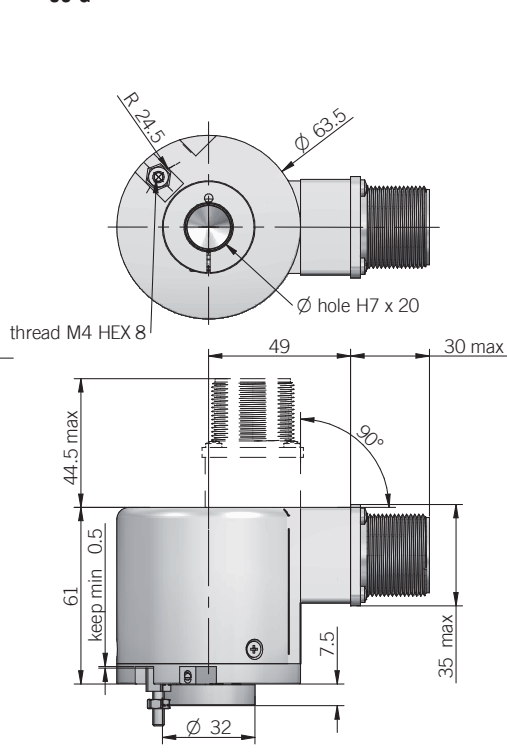
58 G



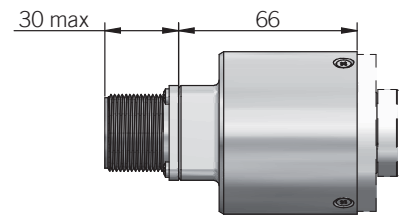
63 F



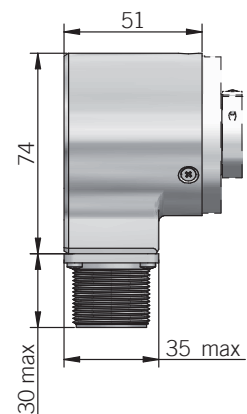
63 G



DIMENSIONS WITH METAL COVER AND AXIAL OUTPUT



DIMENSIONS WITH METAL COVER AND RADIAL OUTPUT



torque pin is included in model G, for model 63F please refer to Accessories

recommended mating shaft tolerance g6
dimensions in mm

ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 10000 ppr
Power supply¹	5 = 4,5 ... 5,5 V DC 5/30 = 4,5 ... 30 V DC (reverse polarity protection)
Power draw without load typical	0,4 W
Max load current	C / P = 50 mA / channel L / RS = 20 mA / channel
Electrical interface²	NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272 or similar) line driver RS-422 (AELT-5000 or similar)
Max output frequency	800 kHz
Counting direction	A leads B clockwise (shaft view)
Index signal	180°e (Z&A)
Startup time typical	10 ms
Accuracy	< 0,3° at +20°C (+68°F) ± 0,5° in the operating temperature range
Hysteresis	0,70° up to 256 ppr 0,35° from 257 ppr to 10000 ppr
Electromagnetic compatibility	according to 2014/30/EU directive
RoHs	according to 2011/65/EU directive
UL / CSA	file n. E212495

PREFERRED RESOLUTIONS

2 - 4 - 5 - 6 - 8 - 10 - 12 - 16 - 20 - 30 - 40 - 50 - 60 - 80 - 90 - 100 - 125 - 128 - 200 - 250 - 256 - 360 - 400 - 500 - 512 - 720 - 1000 - 1024 - 1440 - 2000 - 2048 - 3600 - 4096 - 5000 - 7200 - 10000

please directly contact our offices for other pulses

MECHANICAL SPECIFICATIONS

Bore diameter	∅ 8 / 10 / 12 / 14 / 15 mm
Enclosure rating	X = IP 54 (IEC 60529) S = IP 66 (IEC 60529)
Max rotation speed	6000 rpm with X enclosure rating 3000 rpm with S enclosure rating
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	4 x 10 ⁻⁶ kgm ² (95 x 10 ⁻⁶ lbf ²)
Starting torque (at +20°C / +68°F)	< 0,02 Nm (2,83 Ozin) IP 54 with X enclosure rating < 0,06 Nm (8,50 Ozin) IP 66 with S enclosure rating
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	PA66 glass fiber reinforced painted aluminum
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{3,4}	-25° ... +85°C (-13° ... +158°F)
Storage temperature⁴	-25° ... +70°C (-13° ... +158°F)
Weight	350 g (12,35 oz) 450 g (15,87 oz) with metal cover

¹ as measured at the transducer without cable influences

² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

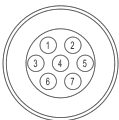
³ measured on the transducer flange

⁴ condensation not allowed

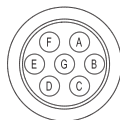
CONNECTIONS

Function	Cable C / P	Cable L / RS	7 pin J C / P	7 pin J L / RS no Zero	7 pin M C / P	7 pin M L / RS no Zero	10 pin J L / RS with Zero	10 pin M L / RS with Zero	5 pin M12 C / P	8 pin M12 L / RS	12 pin H	5 pin C C / P	8 pin C L / RS
+V DC	red	red	6	4	F	D	4 - 5	D - E	2	7	12	5	7
0 V	black	black	1	6	A	F	6	F	4	1	10	1	8
A+	green	green	3	1	C	A	1	A	3	6	5	2	1
A-	/	brown or grey	/	3	/	C	7	G	/	5	6	/	2
B+	yellow	yellow	5	2	E	B	2	B	1	4	8	4	3
B-	/	orange	/	5	/	E	8	H	/	3	1	/	4
Z+	blue	blue	4	/	D	/	3	C	5	2	3	3	5
Z-	/	white	/	/	/	/	9	I	/	8	4	/	6
≡	shield	shield	7	7	G	G	10	J	housing	housing	9	/	/

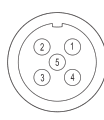
J connector (7 pin)
JIS-C-5432 Size 16
solder side view FV



M connector (7 pin)
Amphenol MS3102-E-16-S
solder side view FV



M12 connector (5 pin)
M12 A coded
solder side view FV



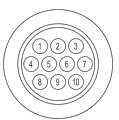
C connector (5 pin)
circular M16
solder side view FV



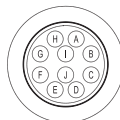
H connector (12 pin) - M23 CCW
Hummel 7.410.000000 -
7.002.912.603
solder side view FV



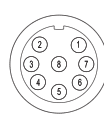
J connector (10 pin)
JIS-C-5432 Size 16
solder side view FV



M connector (10 pin)
Amphenol MS3102-E-18-1
solder side view FV



M12 connector (8 pin)
M12 A coded
solder side view FV



C connector (8 pin)
M16 IEC 60130-9
solder side view FV



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