

MAIN FEATURES

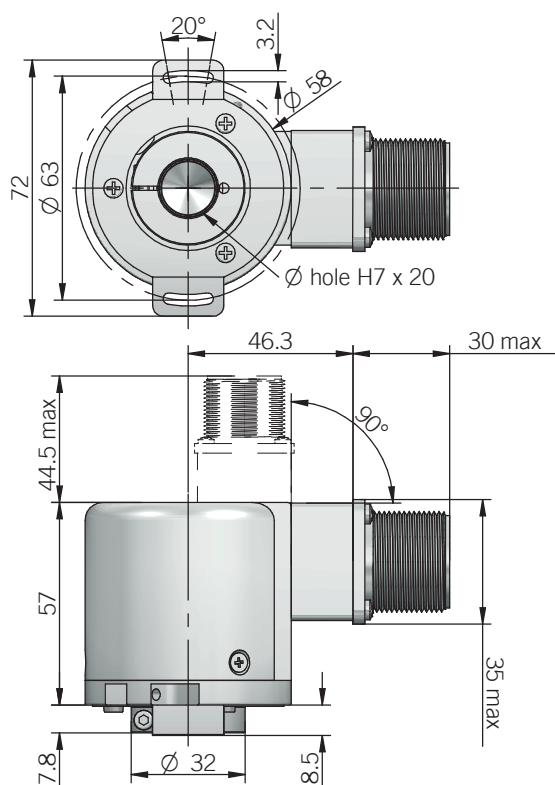
Hollow shaft encoder series for industrial applications with high mechanical resistance requirements. Based on a proprietary magnetic sensor these encoders are designed to withstand high radial and axial shaft loads.

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

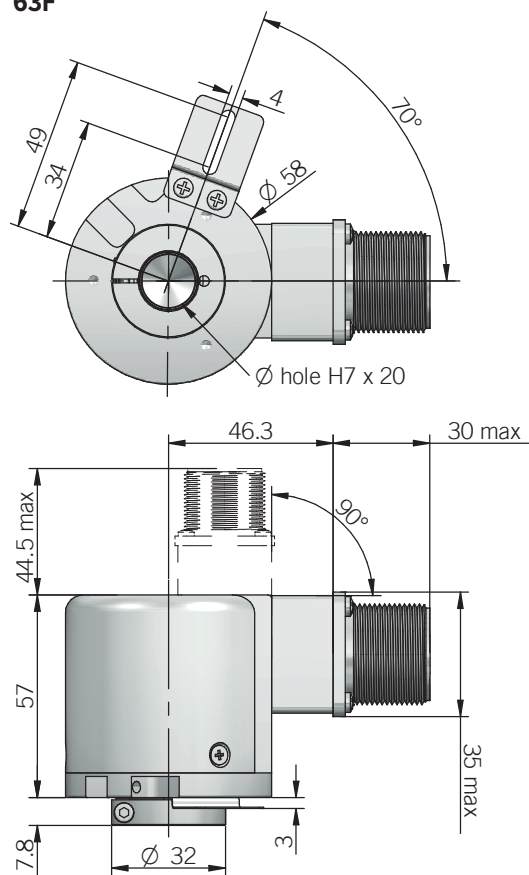


ORDERING CODE	EMI	58F	M*	500	S	5/30	P	8	X	X	M	R	.162	+XXX
SERIES magnetic incremental encoder series EMI														
MODEL blind hollow shaft with stator coupling 58F blind hollow shaft with torque stop slot 63F blind hollow shaft with torque pin 63G														
METAL COVER * add for metal cover 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 plug connector M JIS-C-5432 IP40 plug connector J M12 plug connector M12 M23 plug connector H M16 IP40 plug connector C														
DIRECTION TYPE axial A radial R														
SOCKET socket not included .162 to be reported only with connector output (eg. MR.162), for socket see Accessories														
VARIANT custom version XXX														

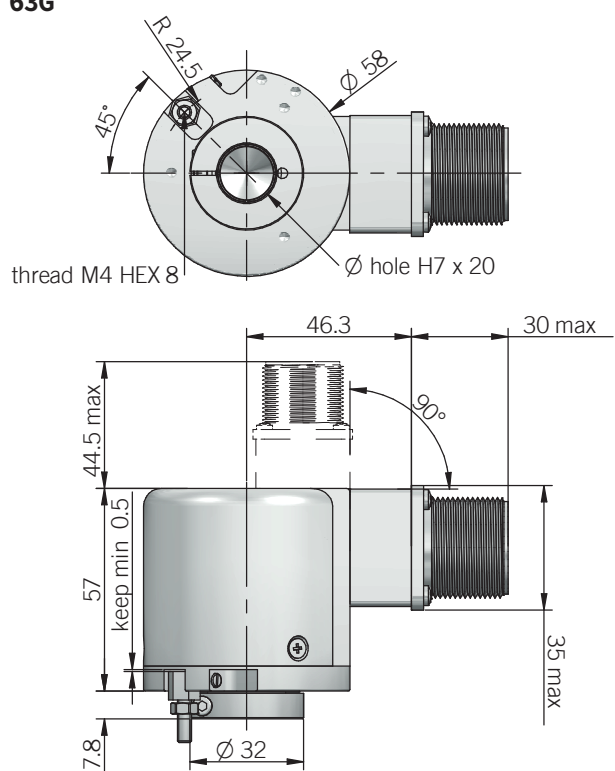
58F



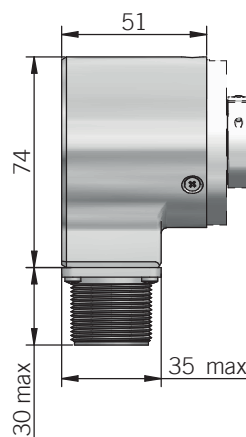
63F



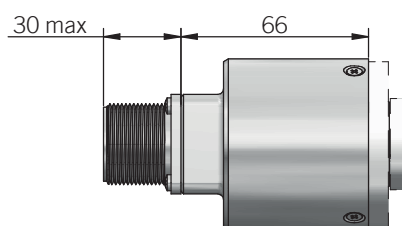
63G



DIMENSIONS WITH METAL COVER AND RADIAL OUTPUT



DIMENSIONS WITH METAL COVER AND AXIAL OUTPUT



torque pin is included in model G, for model F please refer to Accessories
recommended mating shaft tolerance g6
dimensions in mm

ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 10000 ppr
Power supply ¹	5 = 4,5 ... 5,5 V DC 5/30 = 4,5 ... 30 V DC (reverse polarity protection)
Power draw without load	0,8 W max
Max load current	C / P = 50 mA / channel L / RS = 20 mA / channel
Electrical interface ²	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 (gated A)
Startup time typical	20 ms
Accuracy	< 0,2° 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
Mean time to dangerous failure (MTTF) ³ according to EN ISO 13849-1	275 years
Mission time (Tm) ³	20 years
Diagnostic coverage (DC) ³	0%
Cable type	shielded - fixed installation conductors section 0,22 mm² / AWG 24 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHs	according to 2011/65/EU directive
UL / CSA	file n. E212495

MECHANICAL SPECIFICATIONS

Bore diameter	ø 8 / 10 / 12 / 14 / 15 mm
Enclosure rating IEC 60529	X = IP 54 S = IP 66
Max rotation speed	6000 rpm
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 kgm² (95 x 10 ⁻⁶ lbf·ft²)
Starting torque (at +20°C / +68°F)	< 0,02 Nm (2,83 Ozin)
Bearing stage material	aluminum
Shaft material	stainless steel
Housing material	PA66 glass fiber reinforced / painted aluminum
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature ^{4,5}	-25° ... +100°C (-13° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature ⁵	-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 influences² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section³ this product is not a safety component, for further details refer to TECHNICAL BASICS section⁴ measured on the transducer flange⁵ condensation not allowed

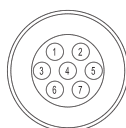
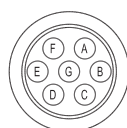
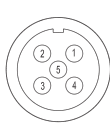
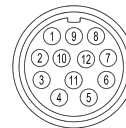
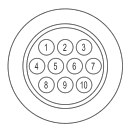
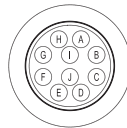
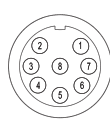
PREFERRED RESOLUTIONS

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

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 ¹	housing ¹	9	housing ¹	housing ¹

¹ only with metal coverJ connector (7 pin)
JIS-C-5432 IP40 Size 16
front viewM connector (7 pin)
Amphenol MS3102-E-16-S
front viewM12 connector (5 pin)
M12 A coded
front viewC connector (5 pin)
Amphenol C091 M16 IP40
front viewH connector (12 pin) - M23 CCW
Hummel 7.410.000000 - 7.002.912.603
front viewJ connector (10 pin)
JIS-C-5432 IP40 Size 16
front viewM connector (10 pin)
Amphenol MS3102-E-18-1
front viewM12 connector (8 pin)
M12 A coded
front viewC connector (8 pin)
Amphenol C091 IP40 IEC 60130-9
front view