

MAIN FEATURES

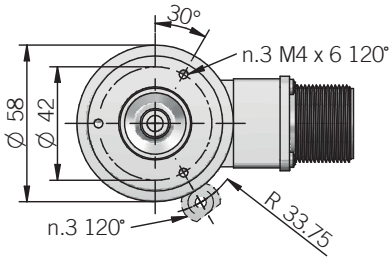
Solid shaft encoder series for industrial applications with high mechanical resistance requirements. The proprietary state of the art magnetic sensor provides wide options (resolution, electrical output, index width, index length) programmable by the end user.

- 3 channel encoder (A / B / Z) up to 20000 ppr
- Power supply up to +30 V DC with RS-422 or HTL as electrical interface
- Up to 800 kHz output frequency
- Cable or connector output, available with metal cover for heavy duty applications
- Solid shaft diameter up to 10 mm
- Mounting by synchronous or clamping flange

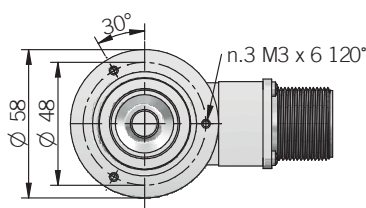


ORDERING CODE	EMI	P	58C	M* 20000	Z	5/30	L	8	X	X	M	R	.162	+XXX
SERIES magnetic incremental encoder EMI														
FEATURE user programmable P														
MODEL synchronous flange ø 50 mm 58B clamping flange ø 36 mm 58C														
METAL COVER * add for metal cover M														
RESOLUTION ppr 20000 user programmable from 1 to 20000 ppr														
ZERO PULSE with zero pulse Z														
POWER SUPPLY 5 ... 30 V DC 5/30														
ELECTRICAL INTERFACE line driver L RS-422 / HTL user programmable														
SHAFT DIAMETER (mod. B) mm 6 (mod. C) mm 8 (3/8") mm 9,52 mm 10														
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 M12 plug connector M12 M23 plug connector H														
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														

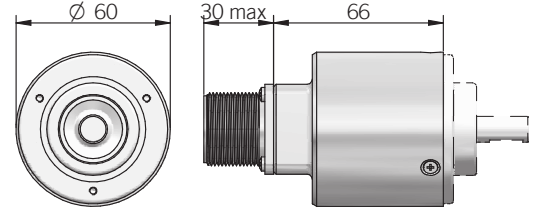
58 B



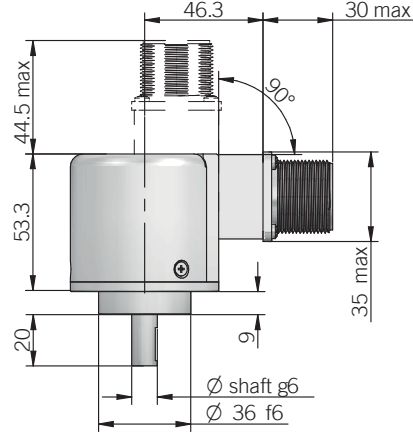
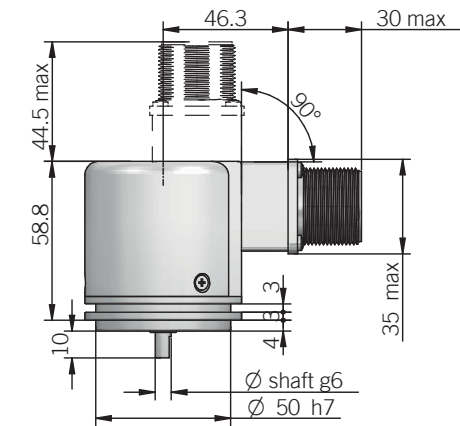
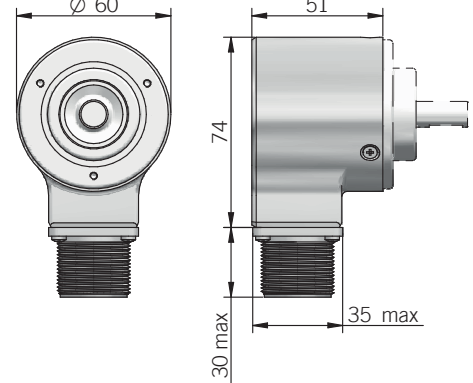
58 C



DIMENSION WITH METAL COVER AND AXIAL OUTPUT



DIMENSION WITH METAL COVER AND RADIAL OUTPUT



recommended mating shaft tolerance H7
dimensions in mm

ELECTRICAL SPECIFICATIONS	
Resolution	user programmable from 1 to 20000 ppr default 1024 ppr
Power supply¹	4,5 ... 30 V DC (reverse polarity protection)
Power draw without load	800 mW max
Max load current	20 mA / channel
Electrical interface²	line driver RS-422 / HTL (AEIC-7272 or similar) user programmable / default RS-422
Max output frequency	800 kHz
Counting direction	user programmable default A leads B clockwise (shaft view)
Index length	user programmable default 180°e (gated A)
Accuracy	± 0,10°
Hysteresis	user programmable from 0° to 0,70° default 0,17°
Start-up time	500 ms
Mean time to dangerous failure (MTTF_d)³ according to EN ISO 13849-1	173 years
Mission time (Tm)³	20 years
Diagnostic coverage (DC)³	0%
Cable type	shielded - fixed installation conductors section 0,22 mm ² / 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	
Shaft diameter	∅ 6 / 8 / 9,52 (3/8") / 10 mm
Enclosure rating IEC 60529	X = IP 54 S = IP 66
Max rotation speed	6000 rpm
Max shaft load⁴	10 N (2,25 lbs) axial with ∅ 6 mm shaft 20 N (4,45 lbs) radial with ∅ 6 mm shaft 200 N (45 lbs) axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	1,5 x 10 ⁻⁶ kgm ² (36 x 10 ⁻⁶ lbf ²)
Starting torque (at +20°C / +68°F)	< 0,02 Nm (2,83 Ozin) with X enclosure rating < 0,06 Nm (8,50 Ozin) with S enclosure rating
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^{5, 6}	-25° ... +100°C (-13° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature⁶	-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 this product is not a safety component, for further details refer to TECHNICAL BASICS section

⁴ maximum load for static usage

⁵ measured on the transducer flange

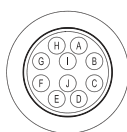
⁶ condensation not allowed

CONNECTIONS

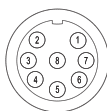
Function	Cable	10 pin M	8 pin M12	12 pin H
+V DC	red	D - E	7	12
0 V	black	F	1	10
A+	green	A	6	5
A-	brown or grey	G	5	6
B+	yellow	B	4	8
B-	orange	H	3	1
Z+	blue	C	2	3
Z-	white	I	8	4
⏏	shield	J	housing ¹	9

¹ only with metal cover

M connector (10 pin)
Amphenol MS3102-E-18-1
front view



M12 connector (8 pin)
M12 A coded
front view



H connector (12 pin) - M23 CCW
Hummel 7.410.000000 - 7.002.912.603
front view

