

MAIN FEATURES

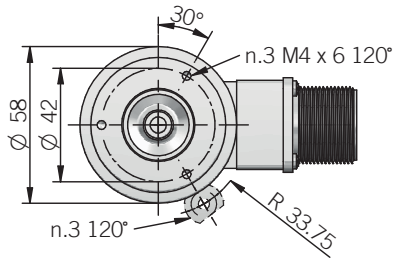
Solid shaft encoder series for industrial applications with high mechanical resistance requirements. The proprietary state of the art magnetic sensor offers a wide range of options (resolution, electrical output, index width, index length) programmable by the end user

- 3 channel encoder (A / B / Z) up to 20000 ppr
- Power supply up to +30 V DC with differential (TTL or HTL) as electrical interface
- Output frequency up to 800 kHz
- 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

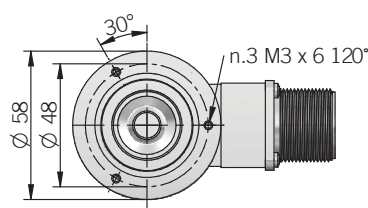


ORDERING CODE	EMI	P	58C	M* 20000	Z 5/30	L	15	X	X	M	R	.162	+XXX
SERIES magnetic incremental encoder EMI													
FEATURE user programmable P													
MODEL synchronous flange ø 50 mm 58B clamping flange ø 36 mm 58C													
METAL COVER * add for metal cover M													
RESOLUTION ppr 20000 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 TTL / 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													

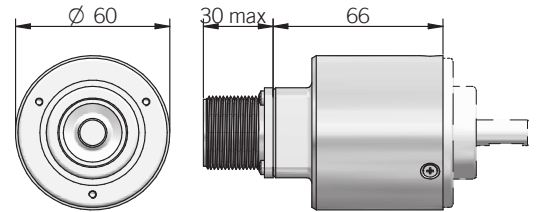
58 B



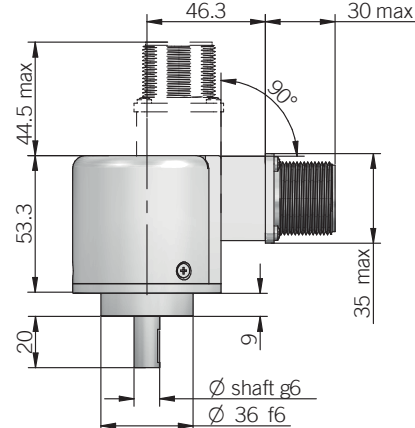
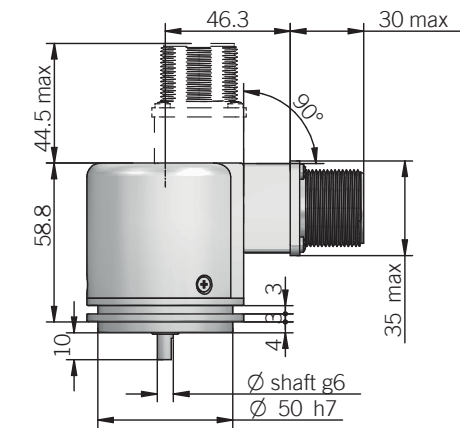
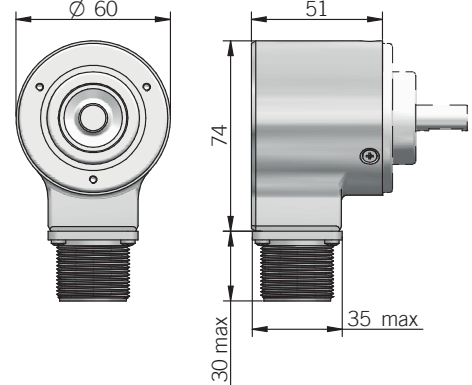
58 C



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	0,8 W max
Max load current	20 mA / channel
Electrical interface²	line driver TTL / HTL (AEIC-7272 or similar) user programmable / default TTL
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

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

MECHANICAL SPECIFICATIONS

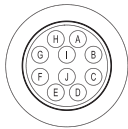
Shaft diameter	ø 6 / 8 / 9,52 (3/8") / 10 mm
Enclosure rating IEC 60529	X = IP 54 S = IP 66
Max rotation speed	6000 rpm
Max shaft load⁴	10 N (2,25 lbs) axial with ø 6 mm shaft 20 N (4,45 lbs) radial with ø 6 mm shaft 200 N (45 lbs) axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 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

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

