

MAIN FEATURES

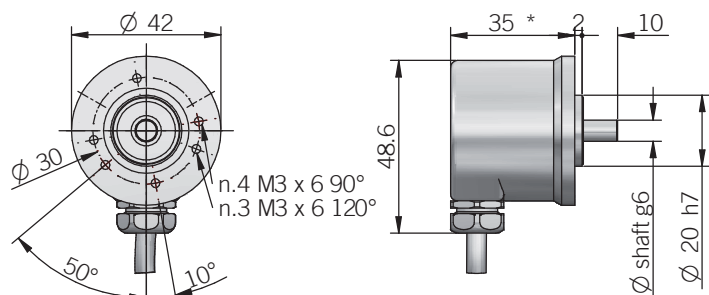
Thanks to the magnetic technology, EMI 40 series is suitable for harsh environment applications such as marble and glass working machines, washing systems and generally for industrial automation.

- 3 channel encoder (A / B / Z) up to 2048 ppr
- Power supply up to +28 V DC with several electrical interfaces available
- Cable output, connectors available on cable end
- Compact dimensions
- Solid shaft diameter up to 6 mm
- Sturdy construction due to separated chambers design
- Wide operating temperature -25° ... +100°C (-13° ... +212°F)



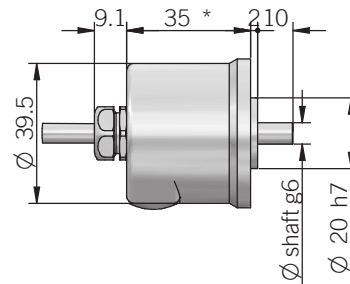
ORDERING CODE	EMI	40A	1024	Z	5	L	6	X	3	P	R	.XXX
SERIES magnetic incremental encoder series EMI												
MODEL clamping flange ø 20 mm 40A												
RESOLUTION ppr from 2 to 2048 refer to the available pulses list												
ZERO PULSE without zero pulse S with zero pulse Z												
POWER SUPPLY (with L electrical interface) 5 V DC 5 (with L electrical interface) 8 ... 24 V DC 8/24 5 ... 28 V DC 5/28												
ELECTRICAL INTERFACE push-pull P line driver L												
SHAFT DIAMETER mm 4 mm 6												
ENCLOSURE RATING IP 64 X IP 66 S												
MAX ROTATION SPEED (IP 66) 3000 rpm 3 (IP 64) 6000 rpm 6												
OUTPUT TYPE cable (standard length 0,5 m) P preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after DIRECTION TYPE (eg. PR5)												
DIRECTION TYPE axial A radial R												
VARIANT custom version XXX												

40 A radial cable output



recommended mating shaft tolerance H7
dimensions in mm

40A axial cable output



* IP66 + 7 mm

ELECTRICAL SPECIFICATIONS

Resolution	from 2 to 2048 ppr
Power supply¹	5 = 4,5 ... 5,5 V DC 5/28 = 4,75 ... 29,4 V DC 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection)
Current consumption without load	80 mA max
Max load current	20 mA / channel
Electrical interface²	push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or similar)
Max output frequency	205 kHz
Counting direction	A leads B clockwise (shaft view)
Accuracy	± 0,35° typical / ± 0,50° max
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	certificate n. E212495

CONNECTIONS

Function	Cable P	Cable L
+V DC	red	red
0 V	black	black
A+	green	green
A-	/	brown or grey
B+	yellow	yellow
B-	/	orange
Z+	blue	blue
Z-	/	white
⊥	shield	shield

MECHANICAL SPECIFICATIONS

Shaft diameter	∅ 4 / 6 mm
Enclosure rating	X = IP 64 (IEC 60529) S = IP 66 (IEC 60529)
Max rotation speed	IP 66 - 3000 rpm IP 64 - 6000 rpm
Max shaft load³	5 N axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	0,5 x 10 ⁻⁶ kgm ² (12 x 10 ⁻⁶ lbf ²)
Starting torque (at +20°C / +68°F)	< 0,02 Nm (2,83 Ozin) IP 64 < 0,05 Nm (7,10 Ozin) IP 66
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	painted aluminum
Bearings	n.2 ball bearings
Bearing lifetime	10 ⁹ revolutions
Operating temperature^{4,5}	-25° ... +100°C (-13° ... +212°F)
Storage temperature⁵	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

¹ as measured at the transducer without cable influences

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

³ maximum load for static usage

⁴ measured on the transducer flange

⁵ condensation not allowed

RESOLUTIONS

2 - 4 - 8 - 10 - 16 - 20 - 32 - 40 - 64 - 80 - 100 - 125 - 128 - 200 - 250 - 256 - 400 - 500 - 512 - 1024 - 2048