

# EMI 38 F / G

## MAGNETIC INCREMENTAL BLIND HOLLOW SHAFT ENCODER

### MAIN FEATURES

Thanks to the magnetic technology, the EMI 38 series is suitable for harsh environment applications such as marble and glass working machines, washing systems and generally for industrial automation.

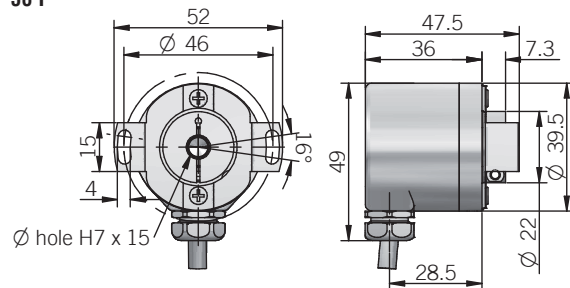
- Innovative proprietary magnetic Asic
- 3 channel encoder (A / B / Z) with resolution up to 10000 ppr
- Power supply up to +30 V DC with several electrical interfaces available
- Cable output, connectors available on cable end
- Compact dimensions
- Blind hollow shaft diameter up to 10 mm with shaft fixing by collar clamping
- Wide operating temperature -25° ... +100°C (-13° ... +212°F)



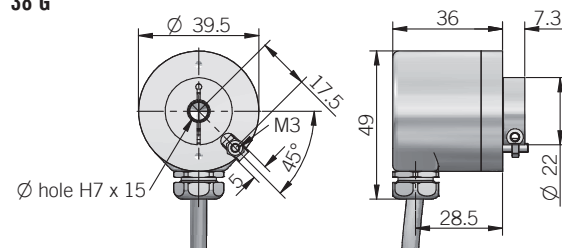
ORDERING CODE	EMI	38F	500	S	5/30	P	10	X	X	PR	.XXX
<b>SERIES</b> magnetic incremental encoder series EMI											
<b>MODEL</b> blind hollow shaft with stator coupling 38F blind hollow shaft with torque pin 38G											
<b>RESOLUTION</b> ppr from 1 to 10000 please refer to the preferred resolutions list											
<b>ZERO PULSE</b> without zero pulse S with zero pulse Z											
<b>POWER SUPPLY</b> (with L electrical interface) 5 V DC 5 5 ... 30 V DC 5/30											
<b>ELECTRICAL INTERFACE</b> NPN open-collector C push-pull P line driver L power supply 5/30 V DC - output RS-422 RS											
<b>SHAFT DIAMETER</b> mm 4 mm 5 mm 6 (1/4") mm 6.35 mm 8 mm 10											
<b>ENCLOSURE RATING</b> IP 66 shaft side / IP67 cover side X											
<b>OPTION</b> to be reported X											
<b>OUTPUT TYPE</b> radial cable (standard length 0,5 m) PR preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)											
<b>VARIANT</b> custom version XXX											

## MAGNETIC INCREMENTAL ENCODERS | EMI 38 F / G

38 F



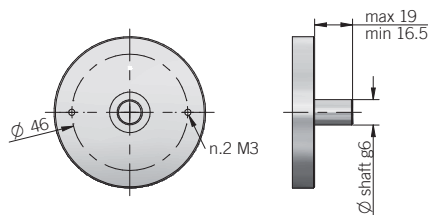
38 G



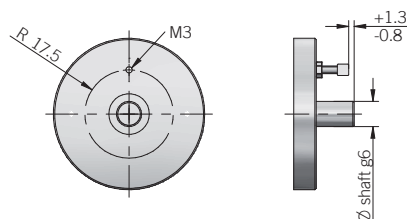
torque pin is included

## RECOMMENDED INTERFACE FLANGE DESIGN

38 F



38 G



dimensions in mm

## CONNECTIONS

Function	Cable C / P	Cable L / RS
+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

## 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

## ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 10000 ppr
Power supply <sup>1</sup>	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 interface <sup>2</sup>	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

## MECHANICAL SPECIFICATIONS

Shaft diameter	ø 4* / 5* / 6* / 6,35 (1/4") / 8* / 10 mm * with supplied shaft adapter
Enclosure rating IEC 60529	IP 66 shaft side / IP 67 cover side
Max rotation speed	6000 rpm
Max shaft load <sup>3</sup>	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	0,8 x 10 <sup>-6</sup> kgm <sup>2</sup> (19 x 10 <sup>-6</sup> lbf <sup>2</sup> )
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	EN-AW 2011 or 2033 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Shaft adapter material	CuSn12 / CC483K bronze
Housing material	painted aluminum
Bearings	n.2 ball bearings
Bearing lifetime	10 <sup>9</sup> revolutions
Operating temperature <sup>4,5</sup>	-25° ... +100°C (-13° ... +212°F)
Storage temperature <sup>5</sup>	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

<sup>1</sup> as measured at the transducer without cable influences<sup>2</sup> for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section<sup>3</sup> maximum load for static usage<sup>4</sup> measured on the transducer flange<sup>5</sup> condensation not allowed

## We are here for you. Addresses and Contacts.

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