

### MAIN FEATURES

Series of miniaturized encoders for integration on small size AC/DC motors, stepper motors or for limited size applications.

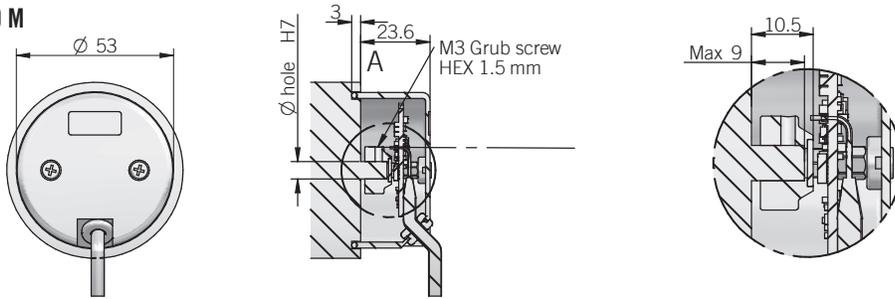
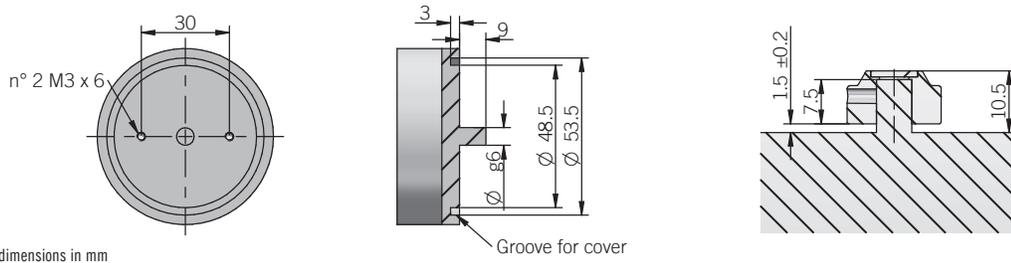
- 3 channel encoder (A / B / Z) up to 90 ppr
- Power supply up to +30 V DC with several electrical interfaces available
- Cable output, connector available on cable end
- Compact dimensions (only 23,6 mm height)
- No wear due to no contact magnetic technology
- Bore shaft diameter up to 10 mm
- Wide operating temperature -20° ... +100°C (-4° ... +212°F)
- OEM version without cover available



### ORDERING CODE

EMI	30M	*S	50	Z	5/30	P	6	X	X	PR	.XXX
<p><b>SERIES</b> magnetic incremental encoder series <b>EMI</b></p> <p><b>MODEL</b> kit encoder <b>30M</b></p> <p><b>COVER</b> * add if without cover <b>S</b></p> <p><b>RESOLUTION</b> ppr from <b>1</b> to <b>90</b></p> <p><b>ZERO PULSE</b> without zero pulse <b>S</b> with zero pulse <b>Z</b></p> <p><b>POWER SUPPLY</b> <b>5</b> V DC <b>5</b> <b>5 ... 30</b> V DC <b>5/30</b></p> <p><b>ELECTRICAL INTERFACE</b> NPN open collector <b>C</b> push-pull <b>P</b> line driver <b>L</b> power supply 5/30V - output RS-422 <b>RS</b></p> <p><b>BORE DIAMETER</b> mm <b>6</b> (1/4") mm <b>6,35</b> mm <b>8</b> mm <b>10</b></p> <p><b>ENCLOSURE RATING</b> IP <b>54</b> <b>X</b></p> <p><b>OPTION</b> to be reported <b>X</b></p> <p><b>OUTPUT TYPE</b> radial cable (standard length 0,5 m) <b>PR</b> preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)</p> <p><b>VARIANT</b> custom version <b>XXX</b></p>											

30 M


**RECOMMENDED INTERFACE FLANGE DESIGN**


dimensions in mm

**ELECTRICAL SPECIFICATIONS**

<b>Resolution</b>	from 1 to 90 ppr
<b>Power supply</b>	5 = 4,5 ... 5,5 V DC 5/30 = 4,5 ... 30 V DC (reverse polarity protection)
<b>Power draw without load</b>	5 = 200 mW typical 5/30 = < 400 mW
<b>Max load current</b>	C / P = 50 mA for channel L / RS = 20 mA per channel
<b>Output type*</b>	NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or equivalent)
<b>Max output frequency</b>	15 kHz
<b>Counting direction</b>	A leads B clockwise (magnet actuator view)
<b>Accuracy</b>	± 0,35° typical / ± 0,90° max according to mounting tolerances and temperature range
<b>Startup time</b>	150 ms
<b>Electromagnetic compatibility</b>	according to 2014/30/EU directive
<b>RoHs</b>	according to 2011/65/EU directive
<b>UL / CSA</b>	certificate n. E212495

\* for further details please see OUTPUT LEVELS under TECHNICAL BASICS section

**MECHANICAL SPECIFICATIONS**

<b>Bore diameter</b>	ø 6 / 6,35 (1/4") / 8 / 10 mm
<b>Enclosure rating</b>	IP 54 (IEC 60529) when properly installed with supplied oring
<b>Max rotation speed</b>	limited only by output frequency
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibration</b>	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
<b>Moment of inertia</b>	0,1 x 10 <sup>-6</sup> kgm <sup>2</sup> (2,4 x 10 <sup>-6</sup> lbf <sup>2</sup> )
<b>Magnet-actuator material</b>	EN-AW 2011 aluminium
<b>Cover material</b>	PA66 glass fiber reinforced
<b>Operating temperature</b>	-20° ... +100°C (-4° ... +212°F)
<b>Storage temperature</b>	-20° ... +100°C (-4° ... +212°F)
<b>Nominal airgap + shaft axial play</b>	0,75 mm ± 0,5 mm (including mounting tolerances)
<b>PCB fixing holes / shaft eccentricity tolerance</b>	± 0,5 mm
<b>Fixing torque for grub screws</b>	40 cN (57 Ozin) max
<b>Weight</b>	100 g approx (3,5 oz)

**CONNECTIONS**

Function	Cable C / P	Cable L / RS
+V DC	red	red
0 V	black	black
Ch. A	green	green
Ch. A-	/	brown
Ch. B	yellow	yellow
Ch. B-	/	orange
Ch. Z	blue	blue
Ch. Z-	/	white
⊕	shield	shield