

### MAIN FEATURES

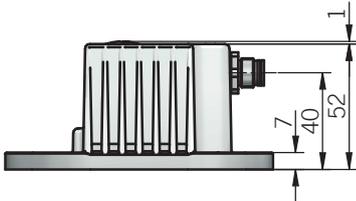
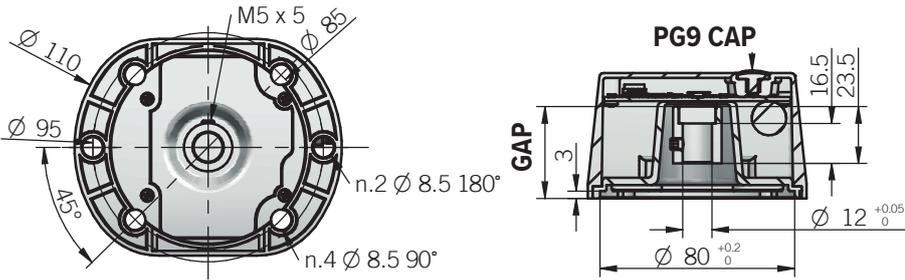
Magnetic multiturn absolute encoder with a buffer battery and Modbus RTU communication. It is design for installation, for example, on 050/063 series gearmotors.

- Total resolution 25 bit (9 bit singleturn + 16bit multiturn)
- Power supply up to +30 VDC, battery life up to 10 years
- Radial cable or metallic M12 connector output
- IP65 enclosure rating
- Mounting in kit without bearings, hub for 12 mm diameter shaft
- Battery activation via dip-switch



ORDERING CODE	EAM	110M	16	9	B	10/30	RS485	12	T	X	M12R	.162	+XXX
<b>SERIES</b> magnetic multiturn absolute encoder series <b>EAM</b>													
<b>MODEL</b> 050/063 flange <b>110M</b>													
<b>MULTITURN RESOLUTION</b> bit <b>16</b>													
<b>SINGLETURN RESOLUTION</b> bit <b>9</b>													
<b>CODE TYPE</b> binary <b>B</b>													
<b>POWER SUPPLY</b> 10 ... 30 V DC <b>10/30</b>													
<b>ELECTRICAL INTERFACE</b> RS-485 <b>RS485</b>													
<b>BORE DIAMETER</b> mm <b>12</b>													
<b>LINE TERMINATION</b> with termination resistor <b>T</b> without termination resistor <b>X</b>													
<b>ENCLOSURE RATING</b> IP 65 <b>X</b>													
<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 <b>DIRECTION TYPE</b> (eg. PR5) M12 radial connector <b>M12R</b>													
<b>SOCKET</b> socket not included <b>.162</b> to be reported only with connector output (eg. M12R.162), for socket see Accessories													
<b>VARIANT</b> custom version <b>XXX</b>													

110M



dimensions in mm

ELECTRICAL SPECIFICATIONS	
<b>Sensing principle</b>	Magnetic asic
<b>Singleturn resolution</b>	9 bit
<b>Multiturn resolution</b>	16 bit (battery buffered)
<b>Power supply<sup>1</sup></b>	+10 ... 30 V DC (reverse polarity protection)
<b>Current consumption without load</b>	30 mA
<b>Battery life<sup>2</sup></b>	up to 10 years
<b>Electrical interface</b>	RS-485
<b>Code type</b>	binary
<b>Communication protocol</b>	Modbus RTU
<b>Maximum permissible electrical acceleration</b>	100 rad/s <sup>2</sup>
<b>Counting direction</b>	decreasing clockwise (shaft view)
<b>Start-up time</b>	150 ms with main power
<b>Accuracy</b>	± 0,75°
<b>Cable type</b>	shielded - fixed installation conductors section 0,22 mm <sup>2</sup> / AWG 24 bending radius min 60 mm
<b>Electromagnetic compatibility</b>	according to 2014/30/EU directive
<b>RoHS</b>	according to 2011/65/EU directive

MECHANICAL SPECIFICATION	
<b>Bore diameter</b>	ø 12 mm
<b>Magnet positioning (GAP)</b>	31,5 ... 38 mm
<b>Enclosure rating</b>	IP 65 (IEC 60529) when properly installed
<b>Max rotation speed</b>	6000 rpm
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibrations</b>	10 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 hub material</b>	PA66 glass fiber reinforced
<b>Housing material</b>	PA66 glass fiber reinforced
<b>Operating temperature<sup>3,4</sup></b>	-20° ... +70°C (-4° ... +158°F)
<b>Storage temperature<sup>3,4</sup></b>	-20° ... +70°C (-4° ... +158°F)
<b>Weight</b>	160 g (5,64 oz)

<sup>1</sup> as measured at the transducer without cable influences

<sup>2</sup> estimated value at +20°C/+68°F. Actual battery life may vary depending on operating cycles, environmental conditions, temperature exposure and application profile.

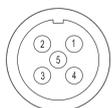
<sup>3</sup> measured on the transducer flange

<sup>4</sup> condensation not allowed

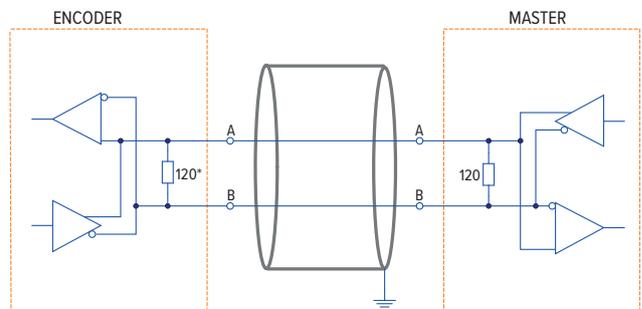
CONNECTIONS

Function	Cable	M12 5 pin
+V DC	red	1
0 V	black	3
A	green	2
B	yellow	4
NC	/	5
Shield	shield	/

M12 connector (5 pin)  
M12 A coded  
front view



RS-485 ELECTRICAL INTERFACE



\* with line termination (T ordering code)