

### MAIN FEATURES

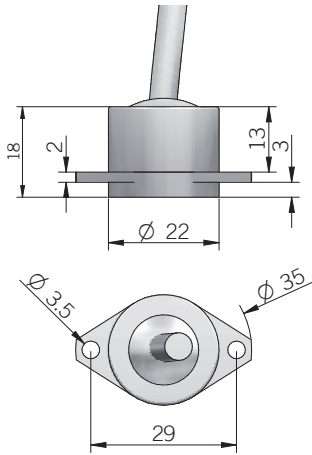
EM series encoders are suitable for several application fields like electric motors, textile machines, wood-working, paper-working, glass working, marble-working machinery and, more generally, automation and process control fields.

- Resolution up to 13 bit (8192 ppr) with SSI as electrical interface
- Cable output, connector available on cable end
- No wear due to no contact magnetic technology
- Bore shaft diameter up to 10 mm
- IP 67 enclosure rating
- Wide operating temperature -40° ... +125°C (-40° ... +257°F)

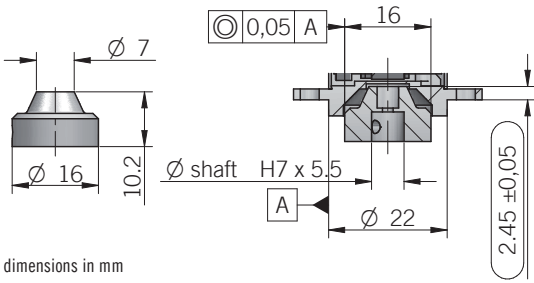
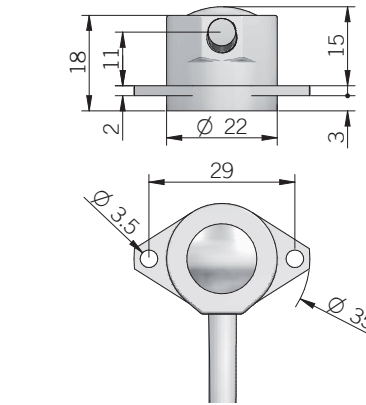


ORDERING CODE	EMA	22A	1024	B	5	S	P	X	6	S	10	P	R	.XXX
<b>SERIES</b> magnetic singleturn absolute encoder <b>EMA</b>														
<b>MODEL</b> clamping flange $\varnothing$ 22 mm <b>22A</b> for anodized version please directly contact our offices														
<b>RESOLUTION</b> ppr from 8 to 8192 refer to the available pulses list														
<b>CODE TYPE</b> binary <b>B</b> gray <b>G</b>														
<b>POWER SUPPLY</b> 5 V DC <b>5</b>														
<b>ELECTRICAL INTERFACE</b> Serial Synchronous Interface - SSI <b>S</b>														
<b>LOGIC</b> positive <b>P</b>														
<b>OPTIONS</b> to be reported <b>X</b>														
<b>BORE DIAMETER (MAGNET ACTUATOR)</b> mm <b>6</b> mm <b>8</b> (3/8") 9,52 mm <b>9</b> mm <b>10</b>														
<b>ENCLOSURE RATING</b> IP 67 <b>S</b>														
<b>MAX ROTATION SPEED</b> 10000 rpm <b>10</b>														
<b>OUTPUT TYPE</b> cable (standard length 0,5 m) <b>P</b>														
<b>DIRECTION TYPE</b> axial <b>A</b> radial <b>R</b>														
<b>VARIANT</b> custom version <b>XXX</b>														

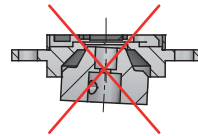
22 A with axial cable output



22 A with radial cable output



dimensions in mm



ELECTRICAL SPECIFICATIONS

<b>Resolution</b>	from 8 to 8192 ppr
<b>Power supply<sup>1</sup></b>	4,75 ... 5,25 V DC
<b>Current consumption without load</b>	100 mA max
<b>Electrical interface<sup>2</sup></b>	RS-422 (SN65LBC179Q or equivalent)
<b>Code type</b>	binary or gray
<b>Clock frequency</b>	100 kHz ... 1 MHz
<b>SSI monostable time (Tm)</b>	20 μs
<b>SSI frame</b>	(MSB ... LSB) 13 bit data length
<b>Counting direction</b>	decreasing clockwise (magnet actuator view)
<b>Accuracy</b>	± 0,35° typical / ± 0,50° max
<b>Electromagnetic compatibility</b>	according to 2014/30/EU directive
<b>RoHS</b>	according to 2015/863/EU directive
<b>UL / CSA</b>	certificate n. E212495

<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> measured on the transducer flange  
<sup>4</sup> condensation allowed

MECHANICAL SPECIFICATIONS

<b>Bore diameter (magnet-actuator)</b>	∅ 6 / 8 / 9,52 (3/8") / 10 mm
<b>Enclosure rating</b>	IP 67 (IEC 60529)
<b>Max rotation speed</b>	10000 rpm
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibration</b>	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
<b>Moment of inertia (magnet-actuator)</b>	0,1 x 10 <sup>-6</sup> kgm <sup>2</sup> (2,4 x 10 <sup>-6</sup> lbft <sup>2</sup> )
<b>Bearing stage material</b>	EN-AW 2011 aluminum
<b>Housing material</b>	EN-AW 2011 aluminum
<b>Magnet-actuator material</b>	EN-AW 2011 aluminum
<b>Operating temperature<sup>3,4</sup></b>	-40° ... +125°C (-40° ... +257°F)
<b>Storage temperature<sup>4</sup></b>	-25° ... +85°C (-13° ... +185°F)
<b>Weight</b>	30 g (1,06 oz)
<b>Magnet actuator mounting tolerances (to get best electrical performances)</b>	± 0,2 mm (axial) ± 0,1 mm (radial)

CONNECTIONS

Function	Cable
+ V DC	red
0 V	black
DATA +	green
DATA -	brown or grey
CLOCK +	yellow
CLOCK -	orange
⊥	shield

RESOLUTIONS

8 - 16 - 25 - 32 - 40 - 50 - 64 - 80 - 100 - 125 - 128 - 160 - 200 - 250 - 256 - 320 - 400 - 500 - 512 - 800 - 1000 - 1024 - 1600 - 2000 - 2048 - 4096 - 8192