

MAIN FEATURES

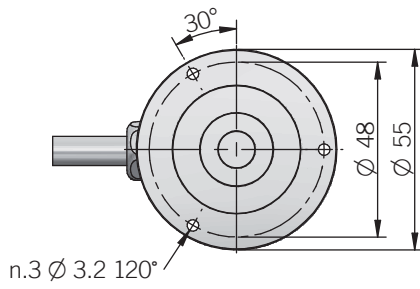
EM series encoders are suitable for several application fields like electric motors, textile machines, wood-working, paper-working, glass working, marble-working machinery and, more generally, automation and process control fields.

- Resolution up to 13 bit (8192 ppr) with SSI as electrical interface
- Cable or M12 output, other connector available on cable end
- No wear due to no contact magnetic technology
- Bore shaft diameter up to 10 mm
- Enclosure rating up to IP67
- Wide operating temperature -40° ... +100°C (-40° ... +212°F)

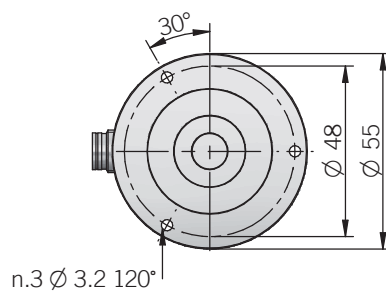


ORDERING CODE	EMA	55A	1024	B	5	S	P	X	6	X	10	P	R	.XXX
SERIES magnetic singleturn absolute encoder EMA														
MODEL fixing holes \varnothing 48 mm 55A for anodized version please directly contact our offices														
RESOLUTION ppr from 8 to 8192 refer to the available pulses list														
CODE TYPE binary B gray G														
POWER SUPPLY 5 V DC 5 8 ... 30 V DC 8/30														
ELECTRICAL INTERFACE Serial Synchronous Interface - SSI S														
LOGIC positive P														
OPTIONS to be reported X														
BORE DIAMETER (MAGNET ACTUATOR) mm 6 mm 8 (3/8") 9,52 mm 9 mm 10														
ENCLOSURE RATING IP 65 X IP 67 S														
MAX ROTATION SPEED 10000 rpm 10														
OUTPUT TYPE cable (standard length 0,5 m) P M12 connector M12 female connector included, without female please add 162 as variant code														
DIRECTION TYPE axial A radial R														
VARIANT custom version XXX														

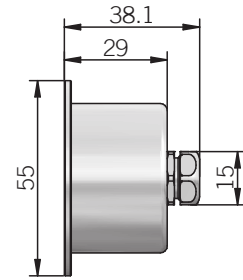
55 A radial cable output



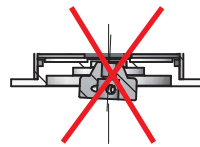
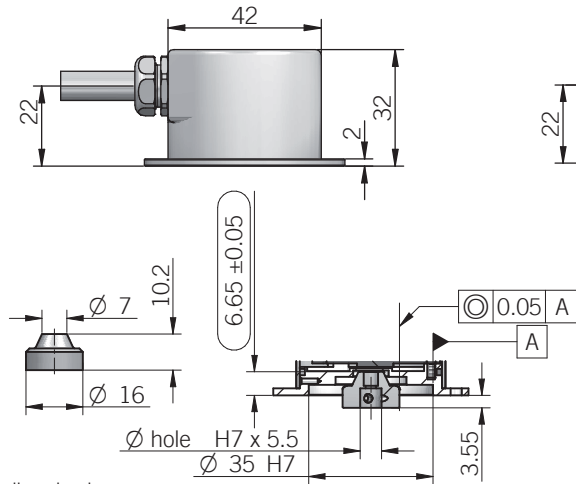
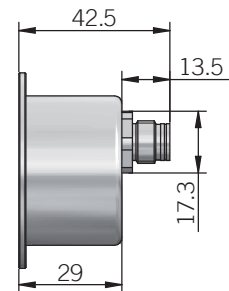
55 A radial M12 output



55 A axial cable output



55 A axial M12 output



dimensions in mm

ELECTRICAL SPECIFICATIONS	
Resolution	from 8 to 8192 ppr
Power supply¹	5 = 4,75 ... 5,25 V DC 8/30 = 7,6 ... 31,5 V DC (reverse polarity protection)
Power draw without load	800 mW max
Electrical interface²	RS-422 (SN65LBC179Q or equivalent)
Clock frequency	100 kHz ... 1 MHz
Code type	binary or gray
SSI monostable time (Tm)	20 µs
SSI frame	(MSB ... LSB) 13 bit data length
Counting direction	decreasing clockwise (flange view)
Accuracy	± 0,35° typical / ± 0,50° max
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2015/863/EU directive
UL / CSA	certificate n. E212495

¹ as measured at the transducer without cable influences

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

³ measured on the transducer flange

⁴ condensation not allowed

CONNECTIONS		
Function	Cable	8 pin M12
+ V DC	red	8
0 V	black	5
DATA +	green	3
DATA -	brown or grey	2
CLOCK +	yellow	4
CLOCK -	orange or pink	6
≡	shield	housing

MECHANICAL SPECIFICATIONS	
Bore diameter (magnet actuator)	∅ 6 / 8 / 9,52 (3/8") / 10 mm
Enclosure rating	X = IP 65 (IEC 60529) S = IP 67 (IEC 60529)
Max rotation speed	10000 rpm
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia (magnet actuator)	0,1 x 10 ⁻⁶ kgm ² (2,4 x 10 ⁻⁶ lbf ²)
Bearing stage material	EN-AW 2011 aluminum
Housing material	painted aluminium
Magnet actuator material	EN-AW 2011 aluminum
Operating temperature^{3,4}	-40° ... +100 °C (-40° ... +212°F)
Storage temperature⁴	-25° ... +85 °C (-13° ... +185°F)
Weight	150 g (5,29 oz)
Magnet actuator mounting tolerances (to get best electrical performances)	± 0,2 mm (axial) ± 0,1 mm (radial)

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

M12 connector (8 pin)
M12 A coded
solder side view FV

