

EMA 50 F / G BIT PARALLEL - SSI

BLIND HOLLOW SHAFT MAGNETIC SINGLETURN ABSOLUTE ENCODER



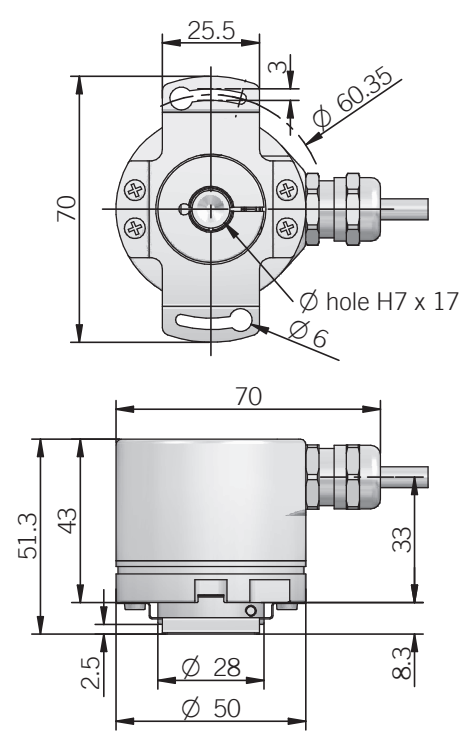
Specifications

Singleturn absolute magnetic encoder size 50 mm with blind hollow shaft

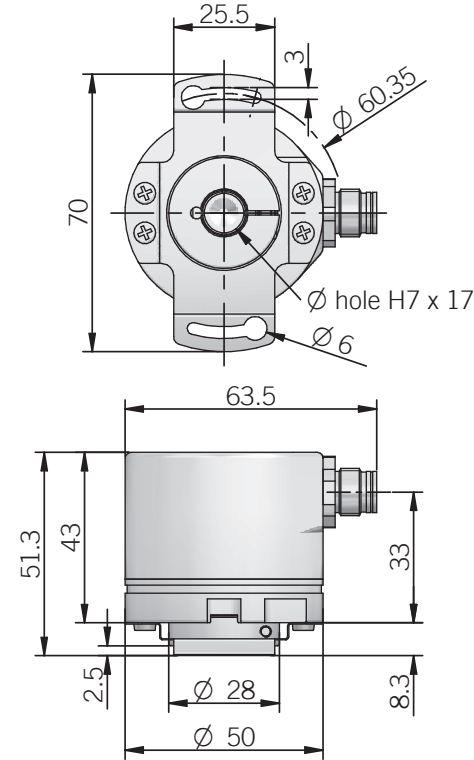
- Resolution up to 13 bit (8192 ppr)
- Power supply up to +30 VDC with SSI or Bit Parallel as electronic interface
- Code reset for easy setup
- Cable or M12 output, other connectors available on cable end
- Sturdy construction (separated chambers)
- Blind hollow shaft diameter up to 15 mm
- IP 67 enclosure rating
- Mounting by stator coupling or anti-rotation pin

ORDERING CODE	EMA	50F	1024	G	8/30	N	N	X	6	X	3	P	R	.XXX
<p>SERIES magnetic singleturn absolute encoder EMA</p> <p>MODEL blind hollow shaft with stator coupling 50F blind hollow shaft with anti-rotation pin 50G</p> <p>RESOLUTION (N / C / R / U / P interface) ppr from 2 to 4096 (S interface) ppr from 2 to 8192</p> <p>CODE TYPE binary B gray G (no powers of 2) binary offset code (0-XXX) BC (no powers of 2) gray offset code (0-XXX) GC</p> <p>POWER SUPPLY 5 V DC 5 8 ... 30 V DC 8/30</p> <p>ELECTRONIC INTERFACE NPN N NPN open collector C PNP R PNP open collector U push pull P Serial Synchronous Interface - SSI S</p> <p>LOGIC negative N positive P</p> <p>OPTIONS to be reported if not used X reset ZE (with binary or offset binary code) strobe S (with binary or offset binary code) strobe and code reset SIZE</p> <p>BORE DIAMETER mm 6 mm 8 9,52 (3/8") mm 9 mm 10 mm 12 mm 14 mm 15</p> <p>ENCLOSURE RATING IP 65 X IP 67 S</p> <p>MAX ROTATION SPEED 3000 rpm 3</p> <p>OUTPUT TYPE cable (standard length 0,5 m) P (S interface) M12 connector M12 <i>female connector included, without female please add 162 as variant code</i></p> <p>DIRECTION TYPE axial A radial R</p> <p>VARIANT custom version XXX</p>														

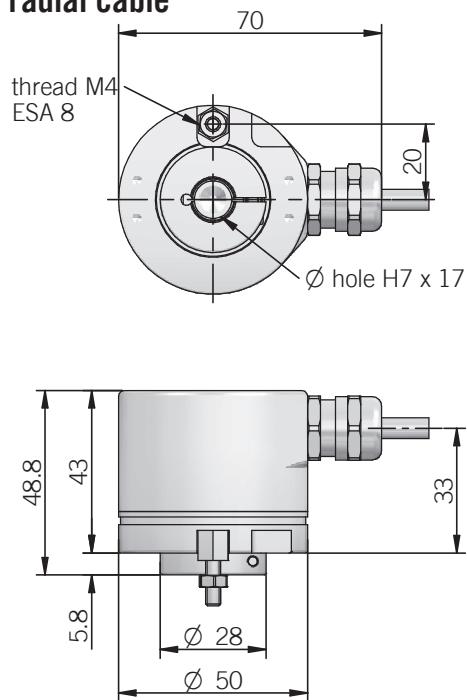
EMA 50 F
radial cable



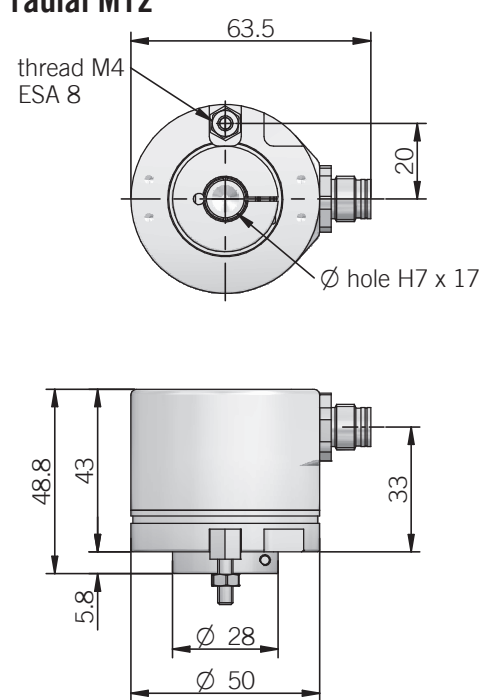
EMA 50 F
radial M12



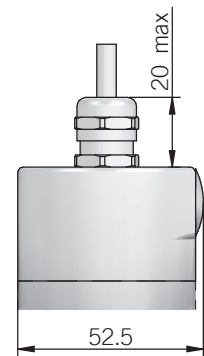
EMA 50 G
radial cable



EMA 50 G
radial M12



Axial output



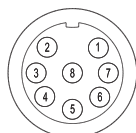
ELECTRICAL SPECIFICATIONS

Resolution	from 2 to 4096 ppr with N / C / P / R / U interface from 2 to 8192 ppr with S interface
Power supply	5 = 4,5 ... 5,5 V DC 8/30 = 7,6 ... 31,5 V DC
Current consumption without load	< 100 mA
Max load current	20 mA / channel (push pull) 40 mA / channel (NPN / PNP)
Output type*	NPN / NPN open collector / PNP / PNP open collector / push pull / RS-422
Auxiliary inputs (U/D - Reset)	active high (+Vdc) <i>connect to 0V if not used / Reset tmin 150 ms</i>
Max frequency	output: 25 kHz LSB (Bit parallel) clock input: 100 kHz ... 1 MHz (SSI)
SSI monostable time (Tm)	20 µs
SSI pause time (Tp)	> 35 µs
Strobe time	20 µs
Accuracy	± 0,35° typical
SSI frame	(MSB ... LSB) 13 bit data length
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Electromagnetic compatibility	IEC 61000-6-2 IEC 61000-6-4

BIT PARALLEL CONNECTIONS

Function	Gray / Binary	Cable output
bit 1 (LSB)	G ⁰ / B ⁰	green
bit 2	G ¹ / B ¹	yellow
bit 3	G ² / B ²	blue
bit 4	G ³ / B ³	brown
bit 5	G ⁴ / B ⁴	orange or pink
bit 6	G ⁵ / B ⁵	white
bit 7	G ⁶ / B ⁶	grey
bit 8	G ⁷ / B ⁷	violet
bit 9	G ⁸ / B ⁸	grey / pink
bit 10	G ⁹ / B ⁹	white / green
bit 11	G ¹⁰ / B ¹⁰	brown / green
bit 12	G ¹¹ / B ¹¹	white / yellow
0 Volt	/	black
+ Vdc	/	red
U / D	/	red / blue
RESET	/	yellow / brown
STROBE	/	white / grey
⊥	/	shield

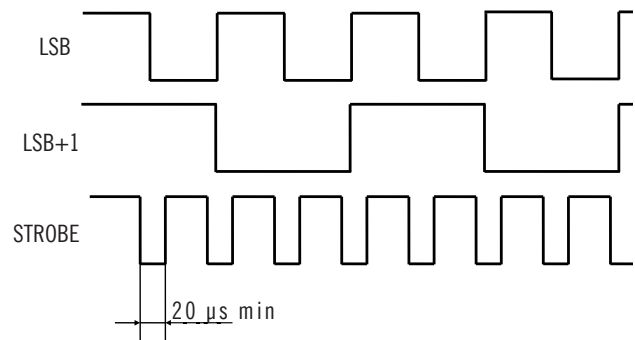
M12 connector (8 pin)
M12 A coded
solder side view FV



MECHANICAL SPECIFICATIONS

Bore diameter	∅ 6* / 8* / 9,52* (3/8") / 10* / 12* / 14 / 15 mm
Enclosure rating	X = IP 65 (IEC 60529) S = IP 67 (IEC 60529)
Max rotation speed	3000 rpm continuous
Max shaft load	30 N axial / 50 N radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	4 x 10 ⁻⁶ kgm ²
Starting torque (at +20°C / +68°F)	< 0,03 Nm
Body material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	EN-AW 2011 aluminum
Bearings	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	-25° ... +85°C (-13° ... +185°F)
Storage temperature	-25° ... +85°C (-13° ... +185°F)
Fixing torque for collar clamping	1,5 Nm recommended
Weight	200 g (7,05 oz)

STROBE TIMING



SSI CONNECTIONS

Function	Cable output	8 pin M12 connector
+ Vdc	red	8
0 Volt	black	5
data +	green	3
data -	brown	2
clock +	yellow	4
clock -	orange or pink	6
U / D	red / blue	7
RESET	white	1
⊥	shield	housing