



## EM / EMA Magnetic encoder

The encoder series EM/EMA operated according to the magnetic principle. They offer an excellent resistance to vibrations and shocks, and high protection against environmental agents: they can be applied in environments with presence of dust, oil or solvents. The encoders are both available in the incremental series (series EM/REM) as well as in single-turn absolute type (EMA/REMA) with many different mechanical versions.



### ■ Electrical and operating specifications

#### Incremental encoder series EM/REM

Pulse code	Incremental
Pulses-revolution no.	8, 10, 16, 25, 32, 40, 50, 64, 80, 100, 125, 128, 200, 250, 256, 400, 500, 512, 1024, 2048
Zero reference pulse	1 pulse each revolution
Output Signals	Two square waves $90^\circ \pm 30^\circ$ out of phase. Zero pulse $90^\circ \pm 15^\circ$ wide
Supply	5/24 Vdc or $10 \div 24$ Vdc or 5Vdc $\pm 5\%$ . Protection against polarity reversal
Power consumption	60 mA
Max frequency	200 KHz
Connection outlets	MS-7pin axial or radial connector (10-pin connector for line driver output) Axial or radial cable 3m long (1m for line driver output)

### ■ Electrical and operating specifications

#### Single-turn absolute encoder series EMA/REMA

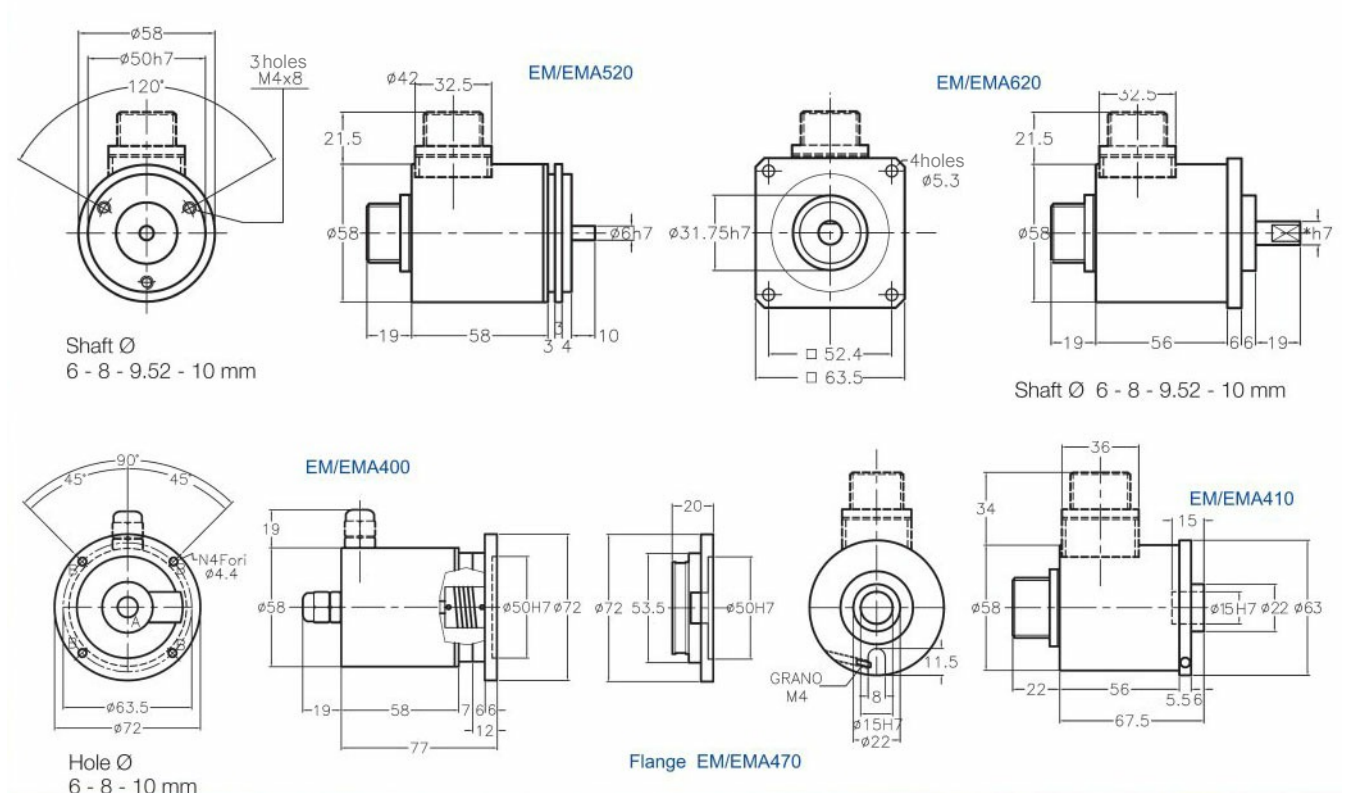
Resolution	10, 11, 12, 13 bit
Code	binary
Electronic output	SSI 5V / Serial SSI 5V
Supply voltage	5/24 Vdc or $10 \div 24$ Vdc or 5Vdc $\pm 5\%$
Connection outlets	MS-7pin axial or radial connector. Axial or radial cable 1m long

### ■ Mechanical and environmental specifications

Materials: Case	EM/EMA ABS self-extinguishing / REM/REMA aluminium
Shaft	Stainless steel AISI 303
Revolutions per minute	6000* continuous 10,000 temporary *max operating speed with IP65 sealing ring applied to the shaft, 3000 rev/minute
Starting torque	$\leq 0,8$ Ncm
Inertia	$\leq 25$ g cm <sup>2</sup>
Max load	80N axial / 100N radial
Shock resistance (11 m s)	50 G
Vibration resistance (10÷2000 Hz)	100 m /sec <sup>2</sup>
Protection degree	IP64 (optional IP65)
Operating temperature	0 ÷ 70°C
Stocking temperature	-20 ÷ 80°C

**■ Dimensions**

Further mechanical versions available



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