



# ELAP

## SINGLE-TURN ABSOLUTE ENCODERS SERIES

### MRE520 MRE540 MRE620

- High resolution
- Wide mechanical range
- Strong and reliable

Available with a wide array of mechanical solutions, absolute encoders series MRE520, MRE540 and MRE620 grant high resolutions (8, 9, 10, 12 or 13 bits). The different output signals (serial or parallel) and voltage supplies allow to couple them to any counting system or PLC. **COMPLYING TO CE STANDARD**

#### MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

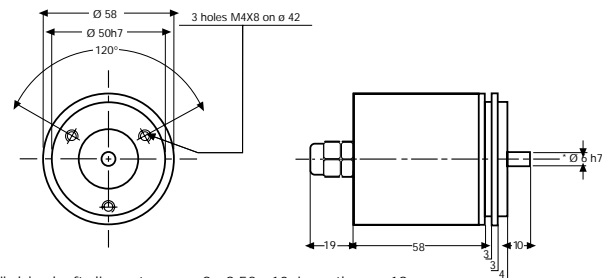
Type	MRE520	MRE540	MRE620
	servo coupling Ø 58 mm SIZE 23	round flange Ø 58 mm centering mask Ø 36 mm	square flange mm 63.5x63.5 SIZE 25
Weight	320 g	350 g	440 g
Materials: case	Aluminium		
albero	Stainless Steel		
Shaft diameter	6, 8, 9.52, 10 mm		
Revolutions/minute	6000		
Starting torque	≥0,2 Ncm		
Inertia	≥5 g cm <sup>2</sup>		
Max load	20N axial / 40N radial		
Shock resistance (11 ms)	30 G		
Vibrations resistance (10÷2000 Hz)	10 G		
Protection degree	IP64		
Operating temperature	0÷+60° C		
Stocking temperature	-15 ÷ 70° C		

#### TYPICAL APPLICATIONS:

- Detection of displacements on operating machines (packing machines, sheet, marble, wood-working, textile machinery etc.)
- Camme operation on presses
- Revolving turrets on machine tools

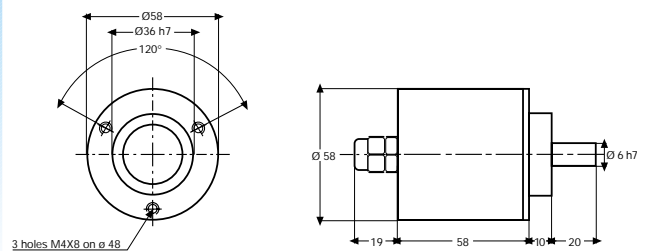
#### DIMENSIONS

##### TYPE MRE 520



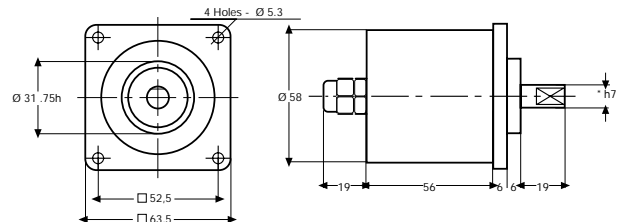
Available shaft diameter: mm 8 - 9.52 - 10. Length mm 19

##### TYPE MRE 540



Available shaft diameter: mm 8 - 9.52 - 10. Length mm 19

##### TYPE MRE 620



Available shaft diameter: mm 8 - 9.52 - 10.

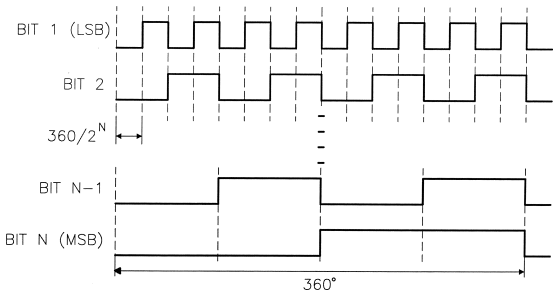
#### ELECTRICAL AND OPERATING SPECIFICATIONS

Encoder with resolution	8 bits	9 bits	10 bits	12 bits	13 bits
Pulse code	Binary or Gray				
Resolution	8 bits	9 bits	10 bits	12 bits	13 bits
Positions/revolutions	256	512	1024	4096	8192
Output signals	SSI Serial output (RS422), NPN or PNP open collector or push-pull parallel output				
Supply	10 ÷ 24 Vdc or 5 Vdc ± 5%				
Current consumption (unconnected ch.)	50 mA + 175 mA				
Parallel outputs I max	50 mA				
Clock SSI max. frequency	1 MHz				
Accuracy	± 1 LSB		± 1/2 LSB		
Max frequency	100 KHz				
Connection outlet	axial cable 1 m long				



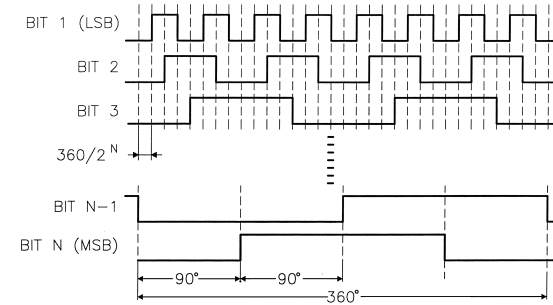
**ELECTRONICS**

**Parallel binary output signals**



N = 8 for 8-bit encoders  
 N = 9 for 9-bit encoders  
 N = 10 for 10-bit encoders  
 N = 12 for 12-bit encoders  
 N = 13 for 13-bit encoders

**Parallel Gray output signals**



N = 8 for 8-bit encoders  
 N = 9 for 9-bit encoders  
 N = 10 for 10-bit encoders  
 N = 12 for 12-bit encoders  
 N = 13 for 13-bit encoders

**SSI output signals**



N = 8 for 8-bit encoders  
 N = 9 for 9-bit encoders  
 N = 10 for 10-bit encoders  
 N = 12 for 12-bit encoders  
 N = 13 for 13-bit encoders

**INPUT AND OUTPUT SIGNALS**

8/9-bit encoder parallel output	8/9-bit encoder parallel output	10/12/13-bit encoder parallel output	10/12/13-bit encoder serial output
BIT 1 (LSB)	DATO	BIT 1 (LSB)	DATO
BIT 2	DATO	BIT 2	DATO
BIT 3	CLOCK	BIT 3	CLOCK
BIT 4	CLOCK	BIT 4	CLOCK
BIT 5	0 V	BIT 5	UP/DOWN
BIT 6	+ Vcc	BIT 6	0 V
BIT 7		BIT 7	+ Vcc
BIT 8		BIT 8	
BIT 9 (MSB)		BIT 9	
LATCH		BIT 10	
0 V		BIT 11	
+ Vcc		BIT 12	
		BIT 13 (MSB)	
		LATCH	
		UP/DOWN	
		0 V	

**LATCH INPUT**

Activating the LATCH signal allows to keep the output data unchanged even with rotating shaft (the option is only available for versions with parallel outputs)

LATCH input configuration:

- NPN for NPN outputs
- PNP for PNP outputs

**UP/DOWN INPUT (U/D)**

Connecting input U/D with 0V allows to invert the absolute code: this would be the same as rotating the shaft in the opposite direction.

*Remark: the absolute code cannot be inverted on 8/9-bit binary magnetic encoders. If necessary the inversion can be done by the receiver. The operation consists in complementing all bits of the received code (via hardware or via software).*

**ORDERING INFORMATION**

<b>MRE520</b>	<b>12B</b>	<b>10/24</b>	<b>NPN</b>	<b>10</b>	<b>K</b>
					<b>MMECHANICAL FEATURES (Optional)</b>
					- standard K with O-ring
					<b>SHAFT DIAMETER</b>
					10 mm 9.52 mm 8 mm 6 mm
					<b>OUTPUT SIGNALS</b>
					SSI serial output NPN parallel output PNP parallel output PP push-pull parallel output
					<b>VOLTAGE SUPPLY</b>
					10÷24 Vdc 5 Vcc +5%
					<b>RESOLUTION AND CODE</b>
					8B 8 bit Binary code    10G 10 bit Gray code 8G 8 bit Gray code    12B 12 bit Binary code 9B 9 bit Binary code    12G 12 bit Gray code 9G 9 bit Gray code    13B 13 bit Binary code 10B 10 bit Binary code    13G 13 bit Gray code
					<b>TYPE</b>
					MRE520 servo coupling diameter 58 mm MRE540 round flange diameter 58 mm mask diameter 36 mm MRE620 square flange 63.5x63.5 mm

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Variations admitted without notice

