



# elap

## SINGLE-TURN ABSOLUTE ENCODERS SERIES

### MSE MRE520 MRE620

- High resolution
- Wide mechanical range
- Strong and reliable

Available with a wide array of mechanical solutions, absolute encoders series **MSE**, **MRE520** e **MRE620** grant high resolutions (9, 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 standards**

#### MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

TYPE	MSE	MRE520	MRE620
	round flange diameter 50 mm	servo coupling diam. 58 mm SIZE23	square flange mm63.5x63.5 SIZE25
• Weight	400 g	320 g	440 g
• Materials: case	ABS self-extinguishing	Aluminium	Aluminium
• Shaft	stainless steel	stainless steel	stainless steel
• Shaft diameter	10	6, 8, 9.52, 10 mm	
• Revolutions/minute	6000		
• Starting torque	≥0,2Ncm		
• Inertia	≥5g 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*

#### ELECTRICAL AND OPERATING SPECIFICATIONS

Encoder with resolution	9 bits		12 bits - 13 bits	
• Available types	MSE	MRE520	MRE520	MRE620
• Operating principle	magnetic		optical	
• Pulse code	Binary		Binary or Gray	
• Resolution	9 bits		12 – 13 bits	
• Pulses/revolutions	512		4096 - 8192	
• Output signals	serial SSI (RS422) parallel NPN or PNP open collector			
• Supply	10 ÷ 24 Vdc or 5 Vdc ±5%			
• Current consuption (unconnected ch.)	40 mA		175 mA	
• Parallel outputs I max	50 mA			
• Clock SSI max. frequency	1 MHz			
• Accuracy	± 1 LSB		± ½ LSB	
• Max frequency	100 KHz			
• Connection outlet	axial cable 1 m long			

## INPUT AND OUTPUT SIGNALS

### Parallel output 9 bit encoder

BIT 1 (LSB)  
BIT 2  
BIT 3  
BIT 4  
BIT 5  
BIT 6  
BIT 7  
BIT 8  
BIT 9 (MSB)  
LATCH  
0 V  
+ V

### Serial output 9 bit encoder

DATUM  
DATUM  
CLOCK  
CLOCK  
0 V  
+ V

### Parallel output 12/13 bit encoder

BIT 1 (LSB)  
BIT 2  
BIT 3  
BIT 4  
BIT 5  
BIT 6  
BIT 7  
BIT 8  
BIT 9  
BIT 10  
BIT 11  
BIT 12  
BIT 13 (MSB)  
LATCH  
UP-DOWN  
-----  
0 V  
+ V

### Serial output 12/13 bit encoder

DATUM  
DATUM  
CLOCK  
CLOCK  
UP/DOWN  
0 V  
+ 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):** the connection of input U/D with OV allows to invert the absolute code: this would be the same as rotating the shaft in the opposite direction.

Remark: the inversion of the absolute code is not possible on 9-bit encoders. If necessary this selection can be done by the receiver. The operation consists in complementing all bits of the received code (via hardware or via software).

## ORDERING INFORMATION

