



# EMA

## Single turn Absolute Encoders



- High resolution, Binary code
- SSI output
- Different mechanical versions available
- ABS plastic (EMA) or metal case (REMA)
- Strong, accurate, affordable

### ■ Mechanical versions

Series EMA520:	Series EMA540	Series EMA510	Series REMA530
Ø 58 mm round flange Servo coupling Ø 50 mm centering mask Shaft Ø 6, 8, 9.52 or 10 mm	Ø 58 mm round flange Servo coupling Ø 36 mm centering mask 3 M4 holes 120° on Ø 48 mm	Ø 58 mm round flange Servo coupling Ø 31.75 mm centering mask Shaft Ø 6, 8, 9.52 or 10 mm	Flange type RE0444 Shaft Ø 11 mm Aluminium case
Series EMA410	Series EMA430	Series EMA620:	Series EMA650:
Hollow shaft for motor shaft coupling – hole Ø 8, 10, 12, 14 or 15 mm	Hollow shaft for motor shaft coupling – hole Ø 8, 10, 12, 14 or 15 mm Antirotational elastic support	63.5x63.5 square flange Ø 31.75 mm centering mask Shaft Ø 6, 8, 9.52 or 10 mm	63.5x63.5 square flange Ø 50 mm centering mask Shaft Ø 6, 8, 9.52 or 10 mm

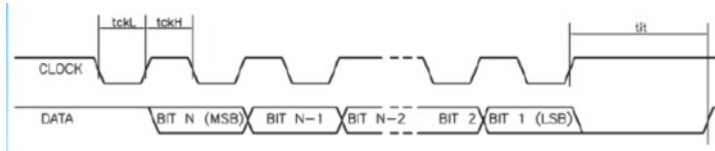
### ■ Mechanical & Environmental Specifications

	TYPE	EMA520/EMA510/EMA540	EMA620/EMA650	REMA530	EMA410/EMA430
Weight		500 g ca.			
Materials: case shaft		Series EMA: ABS plastics – Series REMA: aluminium stainless steel			
Shaft/Joint hole diameter		6, 8, 9.52 or 10 mm		11 mm	Joint hole Ø 8, 10, 12, 14, 15 mm
Revolutions/minute		6000			
Starting torque		0.8 Ncm			
Inertia		25 g cm <sup>2</sup>			
Max. load		80 N axial / 1000 N radial			
Shock resistance (11 ms)		50 G			
Vibrations resistance (10÷2000 Hz)		100 m/sec <sup>2</sup>			
Protection degree		IP64, optional IP65 (version K)			
Operating temperature		-30 ÷ +70°C			
Stocking temperature		-30 ÷ +85°C			

### ■ Electrical & Operating Specifications

Resolution	5 ÷ 13 bit
Code	Binary
Output signals	SSI 5V
Supply voltage	5Vdc ±5% or 10/24Vdc or 5/24Vdc 5 ÷ 28 Vdc Protection against polarity reversal
Power consumption	60 mA
Max frequency	200 KHz
SSI Clock max. frequency	1 MHz
Accuracy	±1 ÷ ±1/2 LSB
Frequency	100 KHz
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-4
Connections	axial or radial cable lg.1 m or axial/radial 7-pin connector 12/13 bit with parallel output version: radial cable outlet- cable length 1 m

## ■ SSI Interface Signals



MSB: bit Most Significant Bit  
 LSB: bit Less Significant Bit  
 tckL: 0.5  $\mu$ s min.  
 tckH: 0.5  $\mu$ s max  
 tit: 30  $\mu$ s typical

(tit: when the tit time lag expires the encoder considers the interrogation ended)

The output code is increasing with shaft rotating clockwise (shaft side sight).

## ■ Input & Output signals

### SSI OUTPUT

SIGNALS	CABLE COLOURS	7-PIN CONNECTOR
Clock+	Brown	PIN 1
Clock-	White	PIN 2
Data+	Green	PIN 3
Data-	Yellow	PIN 4
Reset	Pink	PIN 5
0V	Blue	PIN 12
+Vdc	Red	PIN 11

## ■ Ordering information

<b>EMA520</b>	<b>C</b>	<b>12B</b>	<b>2/24</b>	<b>R</b>	<b>8</b>	<b>SSI</b>
						<b>OUTPUT SIGNALS</b> SSI = SSI
						<b>SHAFT DIAMETER/JOINT HOLE</b> Shaft 6 – 8 – 9.52 – 10 mm -11 mm (MRE530) Joint hole 8 – 10 – 12- 14 – 15 mm
						<b>CONNECTIONS OUTLET</b> A axiale /R radial 7-pin connector / 1 m cable
						<b>SUPPLY</b> 5/28 Vdc 18/24 Vdc (analogue output only)
						<b>RESOLUTION &amp; CODE</b> 8 – 9 – 10 – 11 – 12 -13 bit B = Binary code G = Gray code
						<b>MECHANICAL PECULIARITIES (Optional field)</b> - = Standard version C = Cable outlet K = Sealing O-ring
						<b>TYPE</b> EMA520 – EMA540 – EMA510 – EMA530 Round flange EMA620 – EMA650 Square flange EMA410 – EMA430 Hollow shaft

Variations admitted without notice

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