

# Absolute Rotary Encoders

## Magnetic Multiturn Absolute Encoder

The absolute encoder provides a unique digital code for each angle position of the shaft.

The multiturn absolute encoder allows a higher number of applications, representing a very interesting extension of the encoders' action field.

Besides the angular tracking of the singleturn system, the multi turn encoder stores also the counting of number of revolutions made.

Magnetic encoders use magnetic poles, which fix the angle of rotation. The received data is assigned a unique code.

Contactless magnetic technology – a new revolution in the production of rotary encoders, allowing to operate devices without exposing them to wear due to the absence of bearings.

This allows you to operate devices in an environment with harsh conditions. Magnetic encoders are perfect for heavy duty applications that require high speed, robustness, and a wide range of operating temperature at the same time providing an excellent reliability in the generation of signals.

The sensor is designed using innovative Energy Harvesting Technologies, took as a basis the system Wiegand.



## Magnetic Rotary Encoder Eltra

The main series of Eltra Magnetic Multiturn Absolute encoder

- EAM 36 A
- EAM 36 F/G
- EAMW 58 B/C - 63 D
- EA 36 F/G
- EA 36 A
- EMA 22A - SSI
- EMA 50 A/B/BY
- EMA 50 F/G
- EMA 55 A/AY
- EML 50 A/B/BY
- EML 50 F/G

### Absolute Multiturn Platform



Under this line of Eltra encoders with Magnetic ASIC technology there are shafted encoders, encoders with blind hollow shaft and kit encoders.

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### Key features:

- Electronic interface can be SSI, BIT Parallel or analogue.
- Power supply 5 V DC , 12 - 28 V DC or 8 - 30 V DC.
- Cable, connector or cable gland output can be radial or axial.
- External diameter: 36 - 63,5 mm
- Shaft/bore diameter: 6 - 15 mm
- Resolution: 2 - 8192 ppr (13 bit).
- Rotation speed: 3000, 8000, 10000 rpm.



- Temperature range: -20 .. +125 °C
- Enclosure protection: IP67
- Encoder mounting can be by:
  - fixing flange;
  - stator coupling;
  - anti-rotation pin;
  - synchronous flange;
  - clamping flange;
  - centering square flange.

You can choose **special types of magnetic encoders:**

***Miniturized encoder*** for limited size applications (EAM 36A-F-G, EA 36 A-F-G)

***Encoders with separated chambers*** which give sturdy construction (EMA 22 A, EMA 50 A, EMA 50 B-BY, EMA 50 F-G, EML 50 A-B-BY, EML 50 F-G, EAM 36A-F-G, EA 36 A-F-G)

***Kit encoders*** (EMA 22A, EMA 55A - AY)

# Magnetic Multiturn Absolute Encoder

Series	Shaft type	electronic interface			key features			
		BIT PARALLEL	SSI	Analogue	External diameter, mm (max)	shaft /bore diameter, mm (max)	Resolution (min) ppr	Resolution (max) ppr
EAM 36A	solid shaft		+		36	6		
EAM 36F	blind hollow shaft		+		36	6		
EAM 36G	blind hollow shaft		+		36	6		
EAMW 58B	solid shaft		+		58	6		
EAMW 58C	solid shaft		+		58	10		
EAMW 63A	solid shaft		+		63,5	10		
EAMW 63D	solid shaft		+		63,5	10		
EA 36F	blind hollow shaft		+		36	6	360	720
EA 36G	blind hollow shaft		+		36	6	360	720
EA 36A	solid shaft		+		36	6	360	720
EMA 22A	kit encoder		+		22	10	8	8192
EMA 50A	solid shaft	+	+		50	10	2	8192
EMA 50B	solid shaft	+	+		50	10	2	8192
EMA 50BY	solid shaft	+	+		50	10	2	8192
EMA 50F	blind hollow shaft	+	+		50	15	2	8192
EMA 50G	blind hollow shaft	+	+		50	15	2	8192
EMA 55A	kit encoder		+		55	10	8	8192
EMA 55AY	kit encoder		+		55	10	8	8192
EML 50A	solid shaft			+	50	10		
EML 50B	solid shaft			+	50	10		
EML 50BY	solid shaft			+	50	10		
EML 50F	blind hollow shaft			+	50	15		
EML 50G	blind hollow shaft			+	50	15		

Series	key features					special features		
	Resolution (max) bit (singleturn)	Total multiturn resolution, bit	Rotation speed (max) rpm	Operating temperature (°C)	Enclosure rating (max)	miniaturized	Separated chambers	Magnetic ASIC technology
EAM 36A	12	51 (12+39)	8000	-20..+85	IP67	+	+	+
EAM 36F	12	51 (12+39)	8000	-20..+85	IP67	+	+	+
EAM 36G	12	51 (12+39)	8000	-20..+85	IP67	+	+	+
EAMW 58B	12	24 12+12)		-20..+85	IP67			+
EAMW 58C	12	24 12+12)		-20..+85	IP67			+
EAMW 63A	12	24 12+12)		-20..+85	IP67			+
EAMW 63D	12	24 12+12)		-20..+85	IP67			+
EA 36F	12		8000	-20..+100	IP67	+	+	+
EA 36G	12		8000	-20..+100	IP67	+	+	+
EA 36A	12		8000	-20..+85	IP67	+	+	+
EMA 22A	13		10000	-40..+125	IP67		+	
EMA 50A	13		3000	-25..+85	IP67		+	
EMA 50B	13		3000	-25..+85	IP67		+	
EMA 50BY	13		3000	-25..+85	IP67		+	
EMA 50F	13		3000	-25..+85	IP67		+	
EMA 50G	13		3000	-25..+85	IP67		+	
EMA 55A	13		10000	-40..+100	IP67			
EMA 55AY	13		10000	-40..+100	IP67			
EML 50A	12		3000	-25..+85	IP67		+	
EML 50B	12		3000	-25..+85	IP67		+	
EML 50BY	12		3000	-25..+85	IP67		+	
EML 50F	12		3000	-25..+85	IP67		+	
EML 50G	12		3000	-25..+85	IP67		+	

Series	Mounting type	Output type	Power supply					Type of shaft load	
		cable output type	connector output type	cable gland output type	5 V DC	12...28 V DC	8...30 V DC	Axial shaft loads	Radial shaft loads
EAM 36A	fixing flange			+	+		+		+
EAM 36F	stator coupling			+	+		+		+
EAM 36G	anti-rotation pin			+	+		+		+
EAMW 58B	synchronous flange	+	+				+		+
EAMW 58C	clamping flange	+	+				+		+
EAMW 63A	synchronous flange	+	+				+		+
EAMW 63D	centering square flange	+	+				+		+
EA 36F	stator coupling	+			+		+		+
EA 36G	anti-rotation pin	+			+		+		+
EA 36A	fixing flange	+			+		+		+
EMA 22A	clamping flange	+			+			+	+
EMA 50A	synchronous flange	+	+		+		+	+	+
EMA 50B	synchronous flange	+	+		+		+	+	+
EMA 50BY	synchronous flange	+	+		+		+	+	+
EMA 50F	stator coupling	+	+		+		+	+	+
EMA 50G	anti-rotation pin	+	+		+		+	+	+
EMA 55A	fixing holes	+	+		+		+	+	+
EMA 55AY	fixing holes	+	+		+		+	+	+
EML 50A	synchronous flange	+	+			+		+	+
EML 50B	synchronous flange	+	+			+		+	+
EML 50BY	synchronous flange	+	+			+		+	+
EML 50F	stator coupling	+	+			+		+	+
EML 50G	anti-rotation pin	+	+			+		+	+



## Eltra Absolute Multiturn Magnetic Encoders

Ordering code	Series	Description
EAM36A12/12B8/30SPZE6X8PR	EAM 36 A	Solid shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36A12/12B8/30SPZE6X8PR5	EAM 36 A	Solid shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36A12/12G8/30SPX6X8PR5.128	EAM 36 A	Solid shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36A13/12G5SPZE6X8PR	EAM 36 A	Solid shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36A6/8G8/30SPZE6X8PR+H.162	EAM 36 A	Solid shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36F10/10B8/30SPX6X8PR2	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI)
EAM36F12/12G5SPZE6X8PR	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36F13/12G5SPZE6X8PR	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36F13/12G8/30SPX6X8PR	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36F13/12G8/30SPX6X8PR1	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36F13/12G8/30SPZE6X8PR10	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36G10/12B8/30SPX6X8PR	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36G12/12B8/30SPZE6X8PR	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAM36G13/12G5SPZE6X8PR	EAM 36 F / G	Blind Hollow Shaft magnetic multiturn absolute encoder with Serial Synchronous Interface (SSI).
EAMW58B12/12G8/30SPZE6XXPR	EAMW 58 B / C - EAMW 63 D	Solid shaft magnetic multiturn absolute encoder
EAMW58C12/12B8/30SPZE10XXPR	EAMW 58 B / C - EAMW 63 D	Solid shaft magnetic multiturn absolute encoder
EAMW63A12/12B8/30SPZE9XXPR	EAMW 58 B / C - EAMW 63 D	Solid shaft magnetic multiturn absolute encoder
EAMW63D12/12G8/30SPZE10XXPR	EAMW 58 B / C - EAMW 63 D	Solid shaft magnetic multiturn absolute encoder



[www.eltra-trade.com](http://www.eltra-trade.com)



tel: +421 552 601 099  
e-mail: [info@eltra-trade.com](mailto:info@eltra-trade.com)