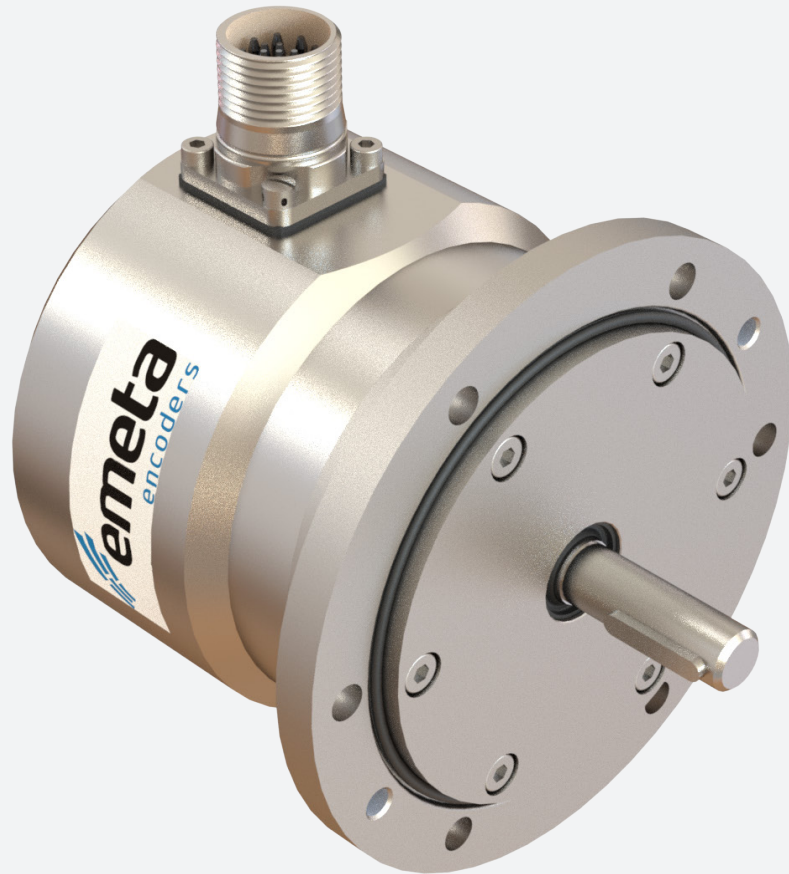


## MA4301 - SERIES



### HEAVY DUTY ABSOLUTE ENCODER Ø 115 MM, SINGLE OR MULTI-TURN SSI

*Encoder with EURO-flange B10, breathable membrane, double shaft seal*

- Offshore and salt water firm
- Ø 115 mm EURO-flange B10
- Available in anodized aluminium or B10 stainless steel AISI 316
- Ø 11 mm shaft with key, stainless steel 1.4057
- SSI Absolute interface
- Enlarged sturdy bearings
- Short circuit and reversed polarity proof
- Dust and splash proof IP67
- Optional incremental output with TTL or HTL
- Breathable membrane (Double on terminal box)
- Double shaft seal with protective lip



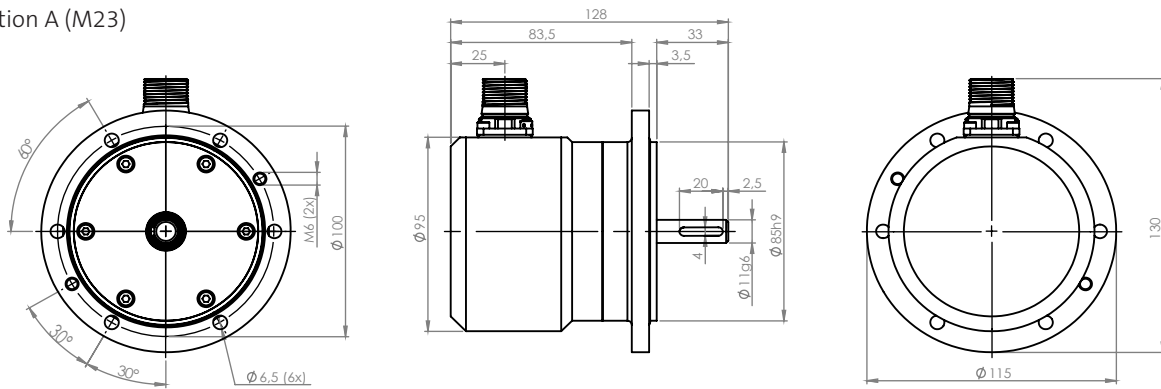
*Flexible and durable  
encoder for demanding  
applications*

**CE** **UL** **US** File E342441

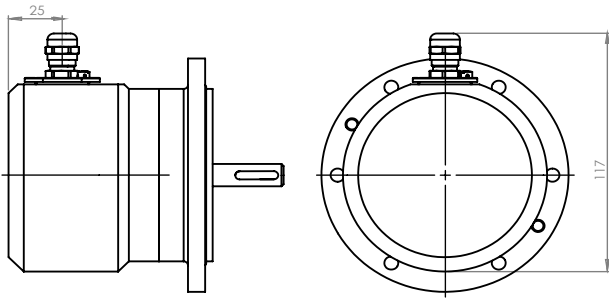


Conforms to european EMC directive  
89/336/EEC standards:  
EN61000-6-4 emission in industrial environments  
EN61000-6-2 immunity in industrial environments

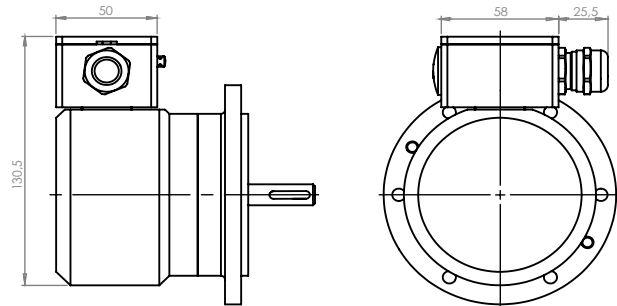
Connection A (M23)



Connection B (Cable gland)



Connection C (Terminal box)



**ELECTRICAL SPECIFICATIONS**

Supply Voltage	4,5–30 VDC (SELV)
Clock Input	RS-422 Compatible via Optocoupler
Clock Frequency	100 kHz to 2MHz
Output Circuit	Linedriver RS422A compatible
Resolution Singleturn	12, 13 or 16 bit
Revolutions Multiturn	12 or 14 bit
Multiturn Technology	Mechanical Gear
Singleturn Accuracy	±½ LSB (up to 12 bit)
Cycle Time	> 25µs
Power Consumption	Max. 1,5W

**MECHANICAL SPECIFICATIONS**

Hausing	Stainless steel AISI 316
Shaft	Stainless steel 1.4057
Encapsulation	IP67
Operating temperature	-30°C to +70°C
Bearings	Permanently greased
Bearing load at	1 000 rpm
Radial	<350 N
Axial	<250 N
Max rpm	3 000 rpm
Vibration	10g 10 - 1000 Hz (EN60068-2-6)
Shock	100g at 6 ms (EN60068-2-27)
Weight	3,6 kg (AISI316), 1,5 kg (Aluminium)

CONNECTION	A	B	C
Signal	Pin	Color	Pin
Clock +	2	Green	2
Clock -	1	Yellow	3
Data +	3	Gray	4
Data -	4	Pink	5
Direction	8	Red	6
Preset	9	Blue	7
A	5	Black	9
A inv	6	Violet	10
B	7	Gray-Pink	11
B inv	10	Red-Blue	12
Z	13	White-Green	13
Z inv	14	Brown-Green	14
+V	11	Brown	1
0 V	12	White	16
Gnd	Chassis	Shield	Chassis

**ORDERING KEY**

Model - Material - Connection - Interface - Resolution - Code type - Incremental type - Pulse rate incremental

Model	MA4301	
Material	S	Stainless Steel
	A	Aluminium
Connection	A	16-pin M23 Male Connector CW
	B	Radial Cable 5 meter length
	C	Terminal box, for ø6-ø12mm cable
Interface	S	SSI
Resolution		
Multi Turn	YY	YY bit (00 indicates single turn)
Single Turn	ZZ	ZZ bit
Code type	B	Binary
	G	Gray
Incremental type	0	No incremental signals
	5	TTL
	6	HTL
Pulse rate incr.	0	No incremental signals
	A	1024 ppr
	B	2048 ppr

*Sample ordering key*

MA4301-SA-S0012G00	SSI, Single turn
MA4301-SA-S1213G00	SSI, Multi turn, 16 pin M23
MA4301-SA-S1213G6A	SSI & Incremental HTL with 1024ppr



Skogsvägen 1, SE-645 34 Strängnäs, Sweden  
 Tel: +46 152 33 11 90 Fax: +46 152 33 11 91  
 E-mail: info@emetaencoders.com  
 www.emetaencoders.com