EMI 30 M INSTALLATION INSTRUCTIONS

SAFETY ADVICES

- The transducer must be used in observance of its specifications. Encoder is a precision measuring instrument and it is not a safety device.
- Assembling and installing staff must be qualified and carefully follow installation instructions. It is strongly recommended to avoid any mechanical or electrical modification for safety reasons.
- Don't expose the device to stresses or impacts in order to ensure correct functioning.
- Check that the mechanical coupling between the motor shaft and the encoder shaft is carried out with appropriate elastic couplings, specially in case of accentuated axial or radial movements.
- Check that the operating environment is free from corrosive agents (acids, etc.) or substances that are not compatible with the device.
- Check the connection of the device to the ground. If it is necessary, provide an additional external connection.
- Before switching on, verify the voltage range applicable to the device and save it from overvoltage supplying.
- Place power and signal cables in such a way as to avoid capacitive or inductive interferences that may cause malfunction of the device. Place also encoder cables far from power lines or any other cable with high noise levels.
- Transducer installation and cabling must be carried out only with power supply off and by skilled staff.
- The user who integrates the transducer in his appliance must observe CE regulations and mark it with CE marking.
- Failure to comply with previously listed rules will void the warranty.
- Eltra consider itself exempt from any liability for damages or injuries due to non-observance of these directives.

UNI EN ISO 9001:2008

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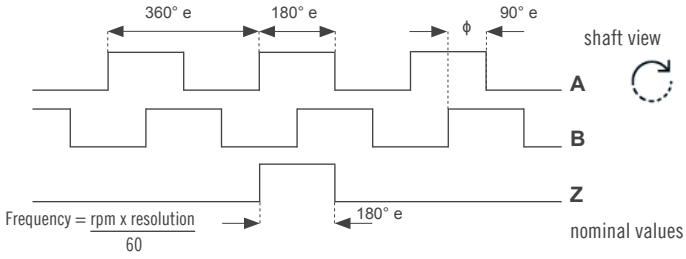
ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 90 ppr
Power supply	5 = 4,5 ... 5,5 V DC 5/30 = 4,5 ... 30 V DC (with reverse polarity protection)
Power draw without load	5 = 200 mW typical 5/30 = < 400 mW
Max load current	N / C / P = 50 mA per channel L = 20 mA per channel (line driver)
Electronic interface	NPN / NPN open collector / push-pull / line driver
Max output frequency	15 kHz
Counting direction	A leads B clockwise (shaft view)
Accuracy	± 0,35° typical ± 0,60° according to mounting tolerances and temperature range
Startup time	150 ms
Electromagnetic compatibility	IEC 61000-6-2 IEC 61000-6-4

MECHANICAL SPECIFICATIONS

Bore diameter	ø 6 / 6,35 (1/4") / 8 / 10 mm
Enclosure rating	IP 54 (IEC 60529) when properly installed with supplied oring
Max rotation speed	limited only by output frequency
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	0,1 x 10^{-6} kgm^2
Magnet holder material	EN-AW 2011 aluminium
Cover material	PA66 glass fiber reinforced
Operating temperature	-20° ... +100°C (-4° ... +212°F)
Storage temperature	-20° ... +100°C (-4° ... +212°F)
Airgap + Shaft axial play	0,75 mm ± 0,5 mm (including mounting tolerance)
PCB fixing holes / shaft eccentricity tolerance	± 0,5 mm
Fixing torque for grub screws	40 cNm max
Weight	100 g (3,5 oz) approx

OUTPUT SIGNALS



EMI 30 M ORDERING CODE

EMI 30	M	*S	50	Z	5	N	6	X	X	PR	. XXX

SERIES
EMI 30

TYPE
kit encoder - M

COVER
* add if without cover - S

RESOLUTION
from 1 to 90 ppr - 50

ZERO PULSE
without zero pulse - S
with zero pulse - Z

POWER SUPPLY
5 V DC - 5
5 ... 30 V DC - 5/30

ELECTRONIC INTERFACE
NPN - N
NPN open collector - C
push-pull - P
line driver - L
power supply 5/30V - output RS-422 - RS

BORE DIAMETER
mm 6 / 6,35 (1/4") / 8 / 10 - 6

ENCLOSURE RATING
IP54 - X

OPTION
to be reported - X

OUTPUT TYPE
radial cable (standard lenght 0,5 m) - PR

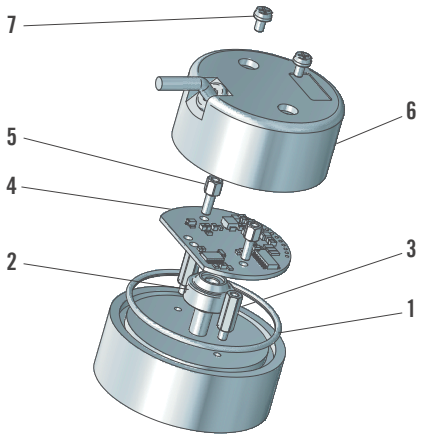
VARIANT
custom version - XXX

CONNECTIONS

Function	Cable output N / C / P	Cable output Line driver
+ V dc	red	red
0 V	black	black
A +	green	green
A -	/	brown
B +	yellow	yellow
B -	/	orange
Z +	blue	blue
Z -	/	white
⏚	shield	shield

EMI 30 M

1. Apply oring **1** on interface flange.
2. Apply magnet hub **2** on motor shaft (please respect mounting tolerances / fixing torque as indicated on mechanical specifications). Please use threadlocker (e.g. Loctite 243).
3. Apply PCB spacers **3** to interface flange and fix them with HEX socket screwdriver n°5.
4. Apply PCB **4** and then cover spacers **5**, fix them with HEX socket screwdriver n°5.
5. Apply encoder cover **6** and fix it with n°2 M3x6 screws (with oring) **7.**



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