

evoARC Encoder Data Sheet



Features

- Non-Contact Encoding Technology with no moving parts
- Absolute positioning
- Digital light display indicates for 12,3,6,9 o'clock positions
- Quick release & replaceable cable
- Toolless quick change evoARC mounting system
- Works with existing acquisition units utilising the Lemo 1K.316 encoder socket.

Specifications

Size (L x W x H)	2"x1.18"x0.96" (50x30x24.5mm)
Weight	1.87oz (53g) + Cable
Cable Length	16' (5m) straight connection. 24' (7.5m) & 32' (10m) length, or angle connections available on request.
Power	5V
Encoder channel	Two (EN2)
Encoding Type	Quadrature A/B
IP Rating	Tested to IPX7
Max. Angular Rate	180°/s
Operating Temperature	-5°F – 140°F (-15°C – 60°C)
Storage Temperature	-40°F – 185°F (-40°C – 85°C)
Shockproof Rating	Designed to MIL-STD-810G
Max. Angle from horizontal	70° – Unit will not give reliable data beyond this point.



Compatibility

- **Evident** SX, X3
- **Eddify** Mantis, **Eddify** Gekko
- Any unit using the Lemo 1K 16 pin standard encoder cable supporting quadrature inputs.

Encoder Tick Resolution Guideline:

Diameter (mm)	Resolution (Steps per mm) ¹	Resolution (mm) ²
60.3	76.01	0.0132
88.9	51.56	0.0194
114.3	40.10	0.0249
168.3	27.24	0.0367
323.9	14.15	0.0707
610	7.51	0.1331
762	6.02	0.1662
900	5.03	0.20
1067	4.29	0.23

Diameter (inch)	Resolution (Steps per) ¹	Resolution (inch) ²
2	1931	0.00052
3	1309	0.00076
4	1019	0.00098
6	692	0.0014
12	359	0.0028
24	191	0.0052
30	153	0.0065
36	127	0.0077
42	109	0.0092

Calibration Formula:

$$\frac{\text{Ticks}}{\text{mm/IN}} = \frac{4583}{\text{Diameter}_{\text{outer}}}$$

Note: This applies for both Metric and Imperial Units. Use actual outer diameter values for pipe sizes

NOTE:

- 1) Circumferential encoding calibration required on pipe diameter prior to data capture.
- 2) Sensor offsets will need to be applied relative to indicated clock position.
- 3) Major Clock position indication accuracy is
 - <0.28mm at 323.9mm Outer Diameter (12")
 - <0.68mm at 762mm Outer Diameter (30")

Cable Specification

PIN	Signal	Description	Level
1	NC		
2	+5VDC	Power Supply	+5VDC
3-10	NC		
11	PhB1	Encoder 2 /PhB1	TTL
12	PhB2	Encoder 2 PhB2	TTL
13-15	NC		
16	GND	Ground	0VDC

