

## evoARC Encoder Data Sheet



### Features

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

### Specifications

<b>Size (L x W x H)</b>	50 x 30 x 24.5mm
<b>Weight</b>	53g + Cable
<b>Cable Length</b>	5m straight connection. 7.5m & 10m length, or angle connections available on request.
<b>Power</b>	5V
<b>Encoder channel</b>	Two (EN2)
<b>Encoding Type</b>	Quadrature A/B
<b>IP Rating</b>	Tested to IPX7
<b>Max. Angular Rate</b>	180°/s
<b>Operating Temperature</b>	-40°F – 185°F (-40°C – 85°C)
<b>Storage Temperature</b>	-5°F – 140°F (-15°C – 60°C)
<b>Shockproof Rating</b>	Designed to MIL-STD-810G
<b>Max. Angle from horizontal</b>	70° – Unit will not give reliable data beyond this point.

## Compatibility

- **Evident** SX, X3
- **Eddify** Mantis, **Eddify** Readdy
- Any unit using the Lemo 1K.316 standard encoder cable supporting quadrature.

### Encoder Tick Resolution Guideline:

Diameter (mm)	Resolution (Pulses per mm) <sup>1</sup>	Resolution (mm) <sup>2</sup>	Diameter (inch)	Resolution (Pulses per 1/8 inch) <sup>1</sup>	Resolution (inch) <sup>2</sup>
60.3	76.01	0.0132	2	286.48	0.0035
88.9	51.56	0.0194	3	190.99	0.0052
114.3	40.10	0.0249	4	143.24	0.0070
168.3	27.24	0.0367	6	95.49	0.0105
323.9	14.15	0.0707	12	47.75	0.0209
610	7.51	0.1331	24	23.87	0.0419
762	6.02	0.1662	30	19.10	0.0524

Formula:

$$\frac{\text{Ticks}}{\text{mm}} = \frac{14400}{\pi * \text{Diameter}_{outer}}$$

### 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

