



## RE<sup>2</sup>37 – 37 mm Absolute Rotary Electric Encoder™

The **RE<sup>2</sup>37** is a state-of-the-art, non-contact, absolute, rotary encoder. The standard version is accurate to  $\pm 0.05^\circ$  - over the operating temperature range of  $-40^\circ\text{C}$  to  $+125^\circ\text{C}$ ; The extended temperature version has additional error of  $\pm 0.02^\circ$ . The encoder is tolerant to harsh environments, it is available in resolutions from 4,096 to 32,768 counts-per-revolution.

The **RE<sup>2</sup>37** offers an unchallenged solution for industrial, and other applications, that require small size and ruggedness, without compromising performance. In addition, it is highly cost competitive.

The **RE<sup>2</sup>37** comes in a robust, industry-standard size-15 metal housing with a low profile of only 14 mm.

The **RE<sup>2</sup>37** is based on the proprietary **Electric Encoder™** technology. It is highly tolerant to contamination, humidity, shock and vibrations. Its hollow shaft is tolerant to eccentricity and axial misalignments, obviating the need for internal bearings, or flexible mounting. The absence of bearings, glass disc, light sources and detectors, together with low power consumption leaves the **RE<sup>2</sup>37** with virtually no failure mechanisms.

The **RE<sup>2</sup>37** employs the fully digital **AqBiSS™** interface which combines **BiSS** high-speed serial absolute/incremental interface, and a standard AqB output.

All **Netzer** encoders are covered by a 5-year warranty.



### Specifications

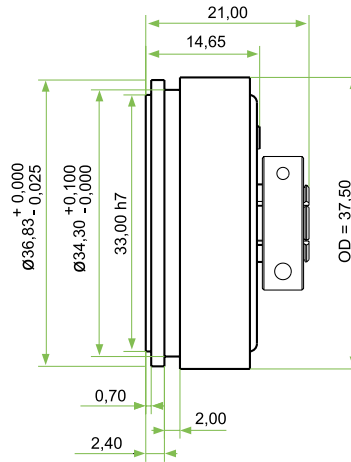
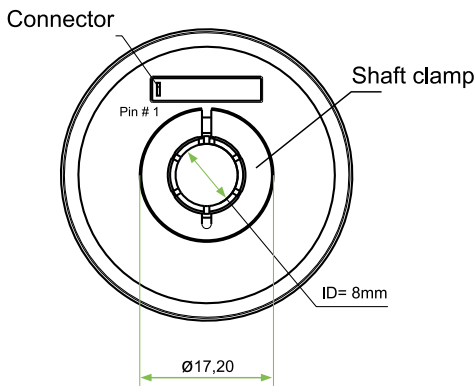
Parameter	Value
Resolution (quadrature counts per revolution)	8000, 16000, 32000, 4096, 8192, 16384, 32768
Accuracy	Resolutions $\leq 4096$ , $\pm 1$ count   Resolutions $> 4096$ , $\pm 0.08^\circ$
Maximum speed	10000 rpm
Output signal sense (viewed from the connector side)	In CCW direction B leads A and counting up
Output signal latency <sup>(1)</sup>	200 $\mu$ s
Permissible motor shaft run-out	$\pm 0.05$ mm
Permissible mounting eccentricity	$\pm 0.10$ mm
Permissible rotor axial movement	$\pm 0.20$ mm
Working temperature range	$-40^\circ\text{C}$ ... $+120^\circ\text{C}$
Storage temperature range	$-50^\circ\text{C}$ ... $+125^\circ\text{C}$
Relative humidity	$< 95\%$ (non condensing)
Shock endurance (per DIN IEC 68 Part 2-27)	100 g for 11 ms
Vibration endurance (per DIN IEC 68 Part 2-6)	20 g from 10 Hz to 2000 Hz
CE. EMC standards	EN 61000-6-2 & 61000-6-4
Power supply	
Voltage	4.75 V to 5.5 V (maximum ripple 50 mV p-p)
Current consumption at no load	$< 35$ mA
Rotor Inertia	$0.07 \cdot 10^{-6}$ kg·m <sup>2</sup>
Weight	30 gr
Interface	AqBiSS™ RS 422 RS 422 (16 index pulses per revolution) 1.7 MHz
BiSS channel MA, SL Incremental A,B,I, (quadrature and index) Maximum AqB frequency For absolute position, use the BiSS channel <sup>(2)</sup> . For incremental data, use either AqB or BiSS. Both channels can be used simultaneously.	

(1) Dynamic error  $\approx$  speed  $\times$  latency (e.g.  $0.07^\circ$  @ 60 rpm)

(2) See application notes AN 101 ÷ AN 1107

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Scale: 1:1



Mounting by means of servo screws or Synchro clamps.

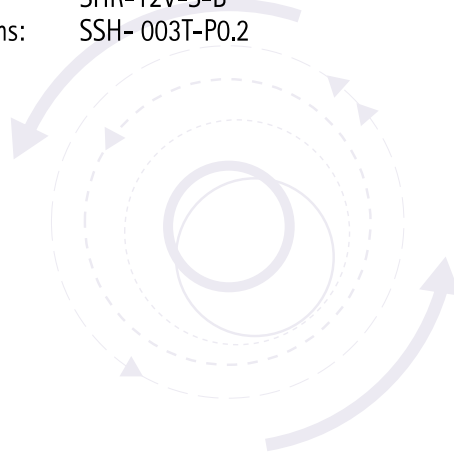
All dimensions in mm. DXF drawings can be downloaded from our website

## Electrical interface

AqBiSS connector pin assignment		
Pin #	Signal	Function
1	Vcc	Supply voltage
2	Gnd	Supply return
3	A+	A Positive (AqB)
4	A-	A Negative (AqB)
5	B+	B Positive (AqB)
6	B-	B Negative (AqB)
7	I+	Index Positive
8	I-	Index Negative
9	MA+	MA Positive (BISS clock)
10	MA-	MA Negative (BISS clock)
11	SL+	SL Positive (BISS data)
12	SL-	SL Negative (BISS data)

### AqBiSS connector:

Manufacturer: JST  
 Connector type: BM12B-SRSS-TB  
 Pins type : SHR-12V-S-B  
 Mating pins: SSH- 003T-P0.2



## RE<sup>2</sup>37 ordering options

<b>RE<sup>2</sup></b>	-	<b>Size</b>	-	<b>A</b>	-	<b>Resolution</b>	-	<b>S</b>
Encoder type= Rotary Electric Encoder		MODEL: 037008 OD= 37.5 mm, ID= 8.0 mm		A= Absolute I= Incremental		Resolution: Decimal: 032D= 32000 016D= 16000 008D= 8000 Binary: 032B= 32768 016B= 16384 008B= 8192 004B= 4096		S= Single Turn

\* For evaluation, kit RE<sup>2</sup>37-R-INT can be ordered. The kit includes mechanical mounting accessories and interconnect cables.

\* For latest product information please visit our website

\* Netzer reserves the rights to change the products technical characteristics and parameters without prior notice.

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