



Type 2RHIDS

- Shaft Encoder
- Strong compact electronics
- Based on 2 precision ball bearings
- Resolution up to 10.000 ppr
- Standard IP 64

Electrical Specifications

Code:	Incremental
Resolution:	1 to 10.000 ppr (pulses per revolution)
Supply Voltage:	4,5 Vdc min. to 30 Vdc max. ^{**} (35 mA max. - no load)
Output Voltage:	Low: 500 mV max. at 10 mA High: (V _{in} - 0,6) at -10 mA (V _{in} - 1,3) at -25 mA
Output Current:	30 mA max. load per output channel ^{**}
Frequency Response:	300 kHz max. ^{**}
Output Format:	Two channel (A, B) quadrature with Index (Z) and optional complementary (A-, B-, Z-) outputs
Phase Sense:	A leads B clockwise (CW) from the mounting end of the encoder
Index:	Gated with Channels A and B high
Accuracy:	+/- 0,8 arc-min.
Outputs:	ASIC Push pull and Differential OL7272 Push-pull and Differential Line Driver 26C31 Differential Line Driver 5V output (with 5V input)
Electrical Protection:	Reverse polarity and output short circuit protected
Noise Immunity:	Tested to EN61000-6-2 : 2005 (industrial environments) Electromagnetic compatibility (EMC) and EN 61000-6-3 : 2007 (residential, commercial, and light-industrial environments) for Electromagnetic compatibility (EMC)

^{**}= It is recommended user not to combine max. value for all 3 parameters

Mechanical Specifications

Material:	Housing: Aluminum Cap: Aluminum Shaft: Stainless Steel
Weight:	Encoder: ~ 190 gr (6,7 oz) Cable: 60 gr / meter (2,12 oz / meter)
Bearing Life:	> 1,9 x 10 ¹⁰ revolutions at rated load
Shaft Speed:	3.000 rpm (max. sustained)
Starting Torque:	< 0,02 Nm (2,83 oz-in) at 25° C
Mass Moment of Inertia:	6,0 gcm ² (8,5 x 10 ⁻⁵ oz-in-sec ²)
Hollow Shaft Loads:	Axial: 50 N (11,24 lbs) max. Radial: 50 N (11,24 lbs) max.

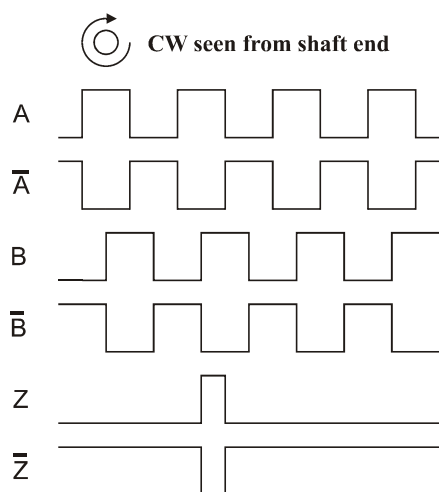
Environmental Specifications

Operating Temp.:	-40° to +85° C
Storage Temp.:	-40° to +85° C
Shock:	100 G / 11 ms
Vibration:	10-2000 Hz / 10 G
Bump:	10 G / 16 ms (1000 x 3 axis)
Humidity:	98 % RH without condensation
IP Rating:	IP 65 / Nema 5 (approx.) IP 67 / Nema 6 (approx.) option

Connection Options

Cable:	8 leads (0,14 mm ² , 26 AWG) twisted pairs; shielded
Connector:	Mil 3-pin

Output waveform



Channel tolerance **180 e° +/- 36 e°**
 Phase difference tolerance **90 e° +/- 18 e°**
 Z channel tolerance **90 e° +/- 18 e°**

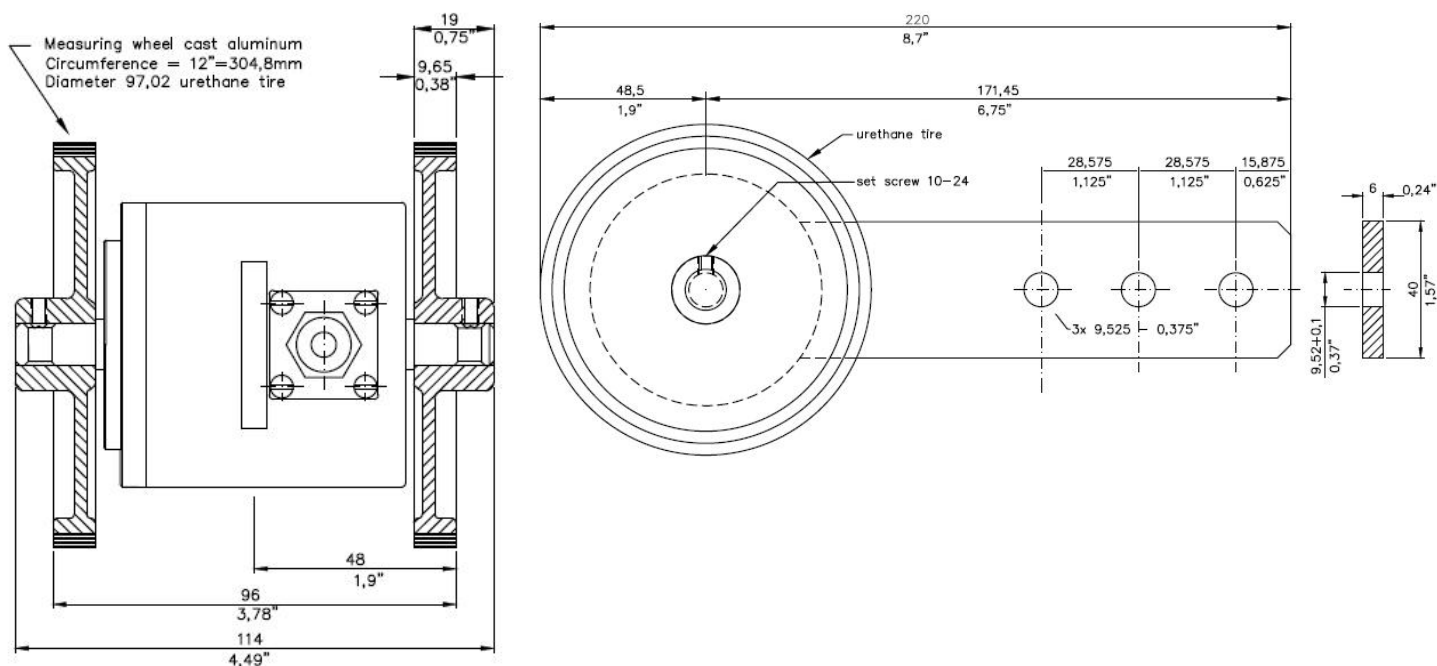
Disk Resolutions (Pulses per revolution)

1	32	125	720	3000
2	36	150	800	3072
5	40	180	1000	3600
6	45	200	1000	4000
7	47	250	1024	4096
8	50	256	1131	5000
10	60	300	1200	8192
12	64	360	1250	9000*
15	70	400	1270	10000*
16	75	455	1500	
18	80	500	2000	
20	90	512	2048	
25	100	600	2400	
30	120	635	2500	

Other options on request
 Pulses per revolution,
 min. 1 – max. 10.000

*** Operating temperature: -20° C to 50° C**

Mechanical Dimensions

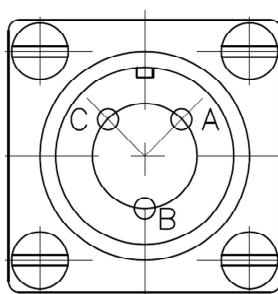


Output Terminations

Channel	Standard Cable	
	Standard Output	Differential Output
	Wire Color	
A	Pink	Pink
A -	Gray*	Gray
B	Green	Green
B -	Yellow*	Yellow
Z	White	White
Z -	Brown*	Brown
Vsup	Red	Red
GND	Blue	Blue

GND = Circuit Ground

** Internally connected as GND*



Pin	3-pin Mil Connector	
	Standard Output	
	Channel	
A	Vsup	
B	Ch A	
C	GND	

Example: 2RHIDS – 1024 – M – 3/8 – 20 – 64 – 01 – S – C3

[illegible]

See Accessories for drawings