



EN 60079



Type 2REX-A

- EX-Proof Shaft Encoder - \varnothing 68 to \varnothing 115
- Shaft \varnothing 10 mm to \varnothing 11 mm
- Resolution up to 10,000 ppr
- IP 66 (IP 67 option)
- 22 micron Anodization - "Seawater-proof"
- ATEX certified EX II 2 G Ex d IIC T4 Gb
ATEX certified EX II 2 D Ex tb IIIB Db IP6*

Electrical Specifications

Code:	Incremental
Resolution:	1 to 10,000 ppr (pulses per revolution)
Supply Voltage:	4.5 Vdc min. to 30 Vdc max. (45 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)

Mechanical Specifications

Material:	Housing: Aluminum Cap: Aluminum Shaft: Stainless Steel (AISI 303)
Weight:	Encoder: Approx. 540 gr (19 oz) Cable: 50 gr / meter (1.76 oz / meter)
Bearing Life:	> 1.9×10^{10} revolutions at rated load
Shaft Speed:	3,000 rpm continuous (max.) IP 67 T4
Starting Torque:	< 0.1 Nm (14.16 oz-in) at 25° C IP 67
Mass Moment of Inertia:	50 gcm ² (7.08×10^{-4} oz-in-sec ²)
Shaft Loads:	Axial 50 N (11.25 lbs) max. Radial 100 N (22.50 lbs) max.

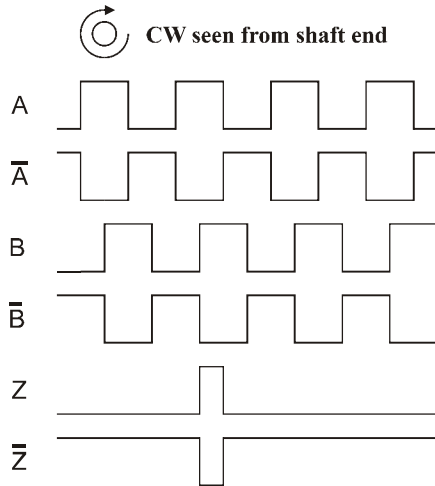
Environmental Specifications

Operating Temp.:	-40° to +70° 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
Enclosure Rating:	IP 66 / Nema 6 (approx.) IP 67 / Nema 6 (approx.) option
Certification	ATEX EX II 2 G Ex d IIC T4 Gb ATEX EX II 2 D Ex tb IIIB IP6* (See website for Certifications)

Connection Options

Cable:	8 leads (0.14 mm ² , 26 AWG) twisted pairs; shielded; halogen free
Cable Glands:	9-position terminal block (inside cap) M20 cable gland (fits cable \varnothing 11 - 14.5 mm)

Output waveform



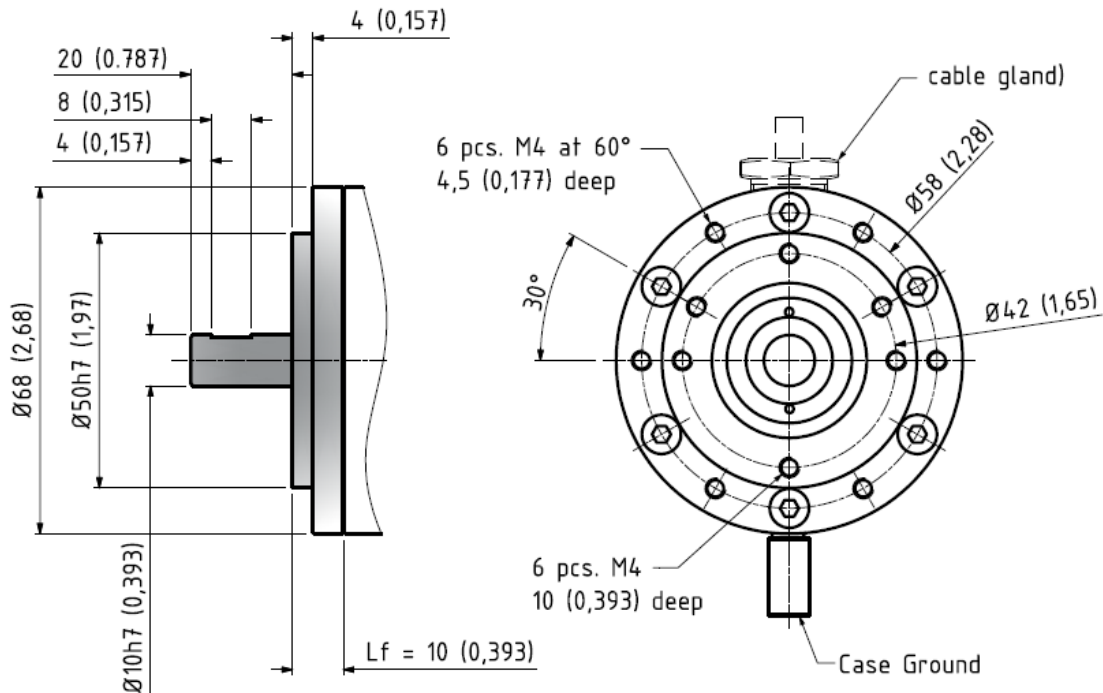
Channel tolerance $180\text{ e}^\circ \pm 36\text{ e}^\circ$
 Phase difference tolerance $90\text{ e}^\circ \pm 18\text{ e}^\circ$
 Z channel tolerance $90\text{ e}^\circ \pm 18\text{ e}^\circ$

Disk Resolutions (pulses per revolution)

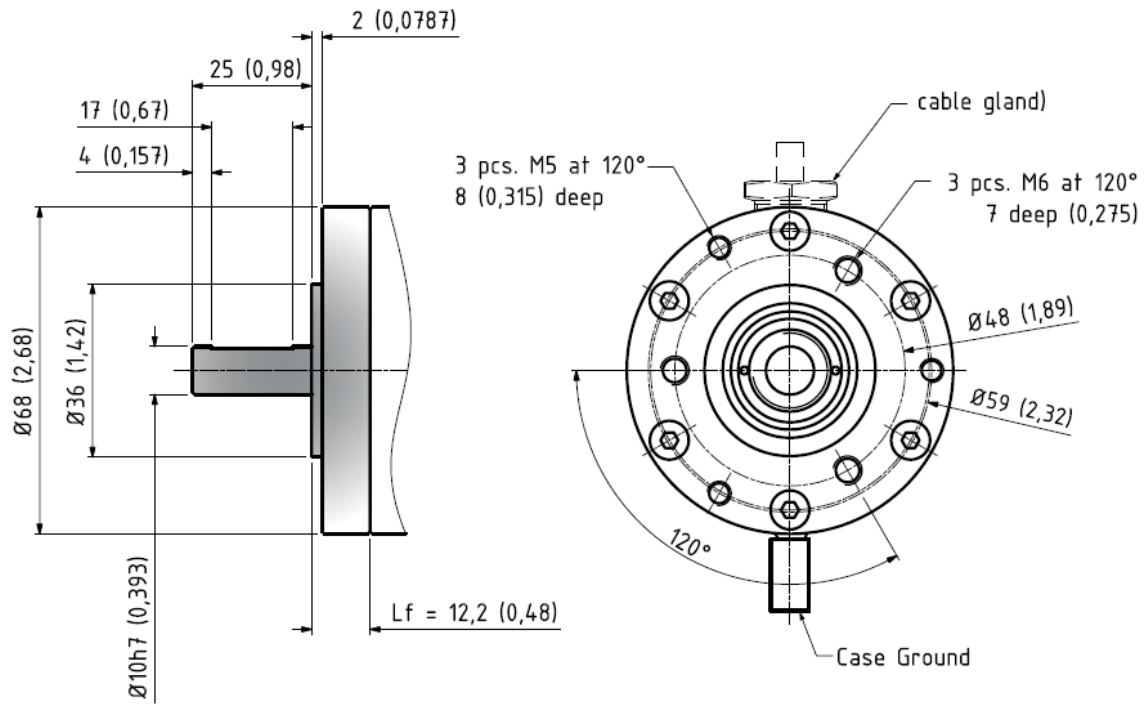
1	32	125	600	2500
2	36	150	635	3000
5	40	180	720	3600
6	50	200	800	4000
8	60	250	1000	4096
10	64	300	1024	5000
15	75	360	1131	9000
16	80	400	1250	10000
20	90	455	1500	
25	100	500	2000	
30	120	512	2048	

Z channel not available for resolutions above 5000 ppr

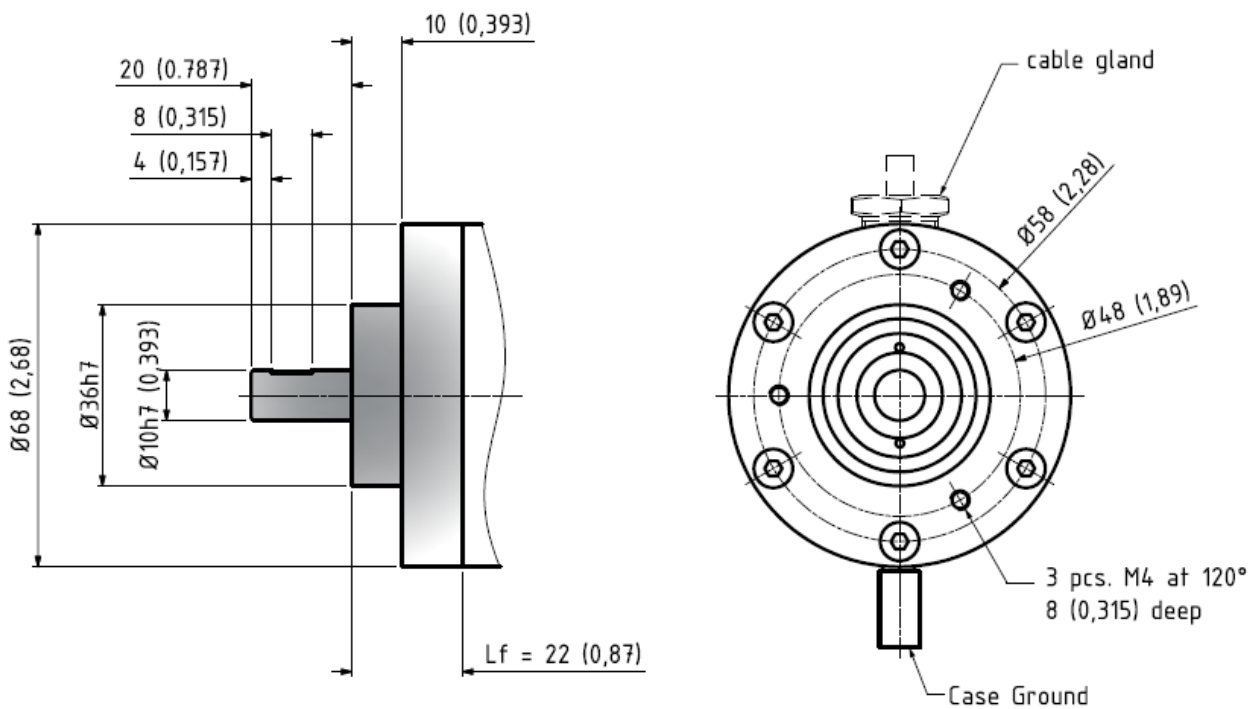
Mechanical Dimensions



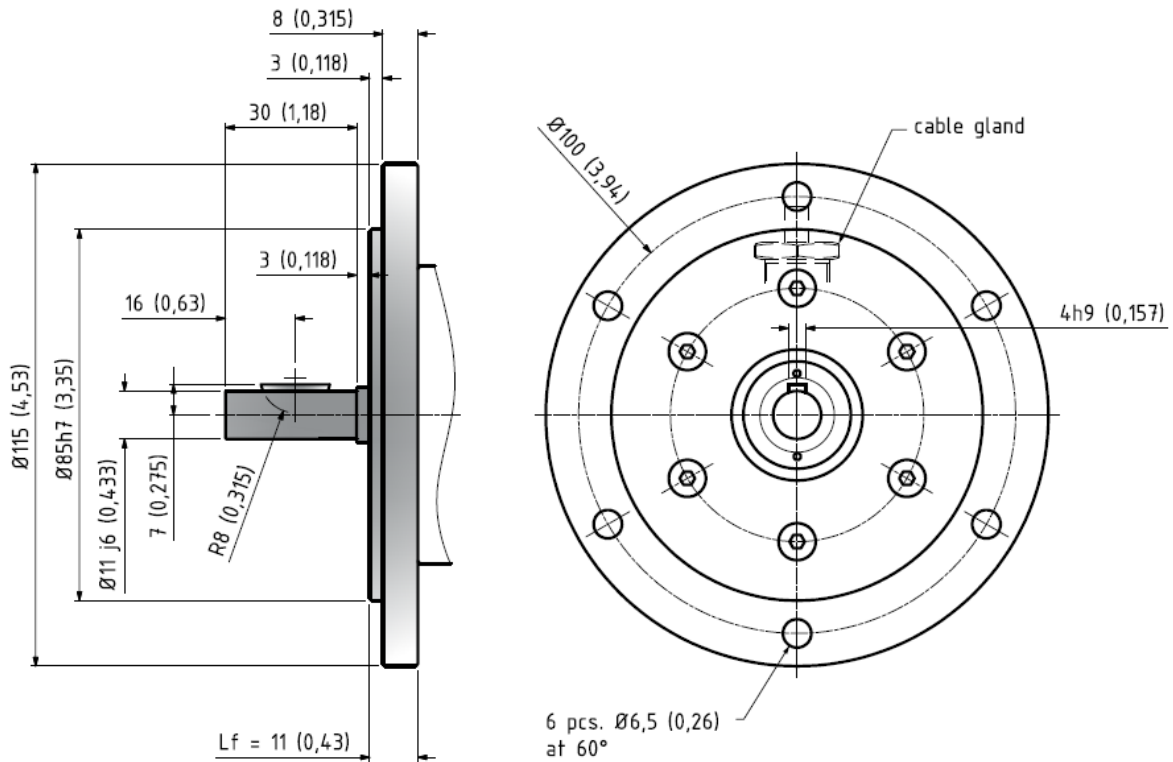
Flange A option



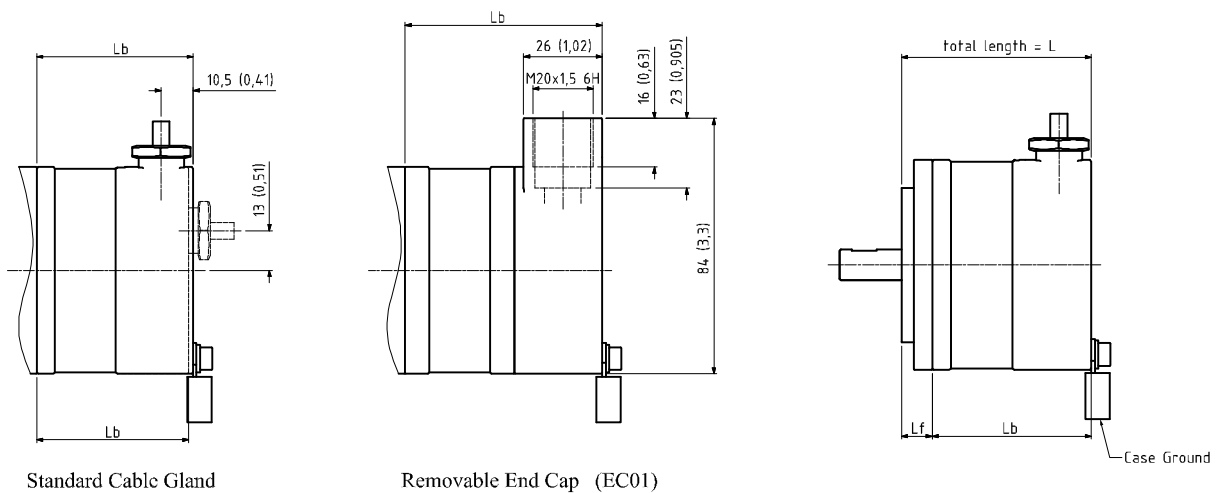
Flange B option



Flange K option



Flange U option



Encoder Length

Total length of encoder $L = L_b + L_f$

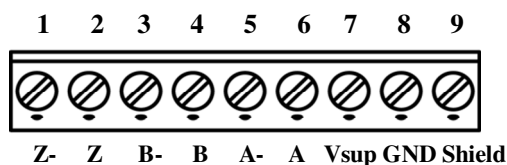
Flange Type	Body		
	Standard Side - (SS)	Standard Back - (BS)	End Cap (EC01)
A	61,5 (2,42)	60,0 (2,36)	75,0 (2,95)
B	63,7 (2,51)	62,2 (2,45)	77,2 (3,04)
K	73,5 (2,89)	72,0 (2,83)	87,0 (3,43)
U	62,5 (2,46)	61,0 (2,40)	76,0 (2,99)

measurements: mm (inches)

Output Terminations

Removable End Cap

Position	Terminal Block	
	Standard Output	Differential Output
	Channel	Channel
1	*	Z -
2	Z	Z
3	*	B -
4	B	B
5	*	A -
6	A	A
7	Vsup	Vsup
8	GND	GND
9	Shield	Shield



* Do not attach any wires to terminal block

GND = Circuit Ground Shield = Case Ground

Channel	Standard Cable	
	Standard Output	Differential Output
	Wire Color	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

* Gray, Yellow, and Brown are internally connected to Circuit Ground

GND = Circuit Ground

