



2REX-H-SR with cable or removable end cap

- Hollow Shaft Encoder - Ø 68 mm
- Hollow bore - Ø 10 mm to Ø 16 mm
- Resolution up to 10,000 ppr
- Delivered with cable or removable end cap option for on-site installation
- ATEX, IECEx, UKEX, EAC Ex certified

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:	Output short circuit protected Reverse polarity protected
Noise Immunity:	EN 61000-6-2: 2005 (industrial environments) Electromagnetic compatibility (EMC) EN 61000-6-3: 2007 (residential, commercial, and light-industrial environments) for Electromagnetic compatibility (EMC)

Mechanical Specifications

Material:	Housing: Stainless steel AISI 303 (SR) Cap: Stainless steel AISI 303 (SR) Hollow Shaft: Stainless steel AISI 303 (SR)
Weight:	Encoder: Approx. 1325 gr (47.44 oz) Cable: 50 gr / meter (1.76 oz / meter)
Bearing Life:	> 1.9×10^{10} revolutions at rated load
Shaft Speed:	3000 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)
Hollow 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 64 / Nema 4 (approx.) option IP 65 / Nema 4 (approx.) option IP 66 / Nema 6 (approx.) IP 67 / Nema 6 (approx.) option

Connection Options

Cable:	MUD resistant (NEK 606) & halogen free, shielded, OD Ø6.6 +/- 0.2 mm 4x2x0.14 mm ² , 26 AWG, 4 twisted pairs; See Table 2
Terminal Block: (Removable End Cap)	See Table 3

**= It is recommended user not to combine max. Value for all 3 parameters

Certifications

ATEX:	Certificate No.: ITS09ATEX16847X II 2 G Ex db IIC T5 Gb, II 2 D Ex tb IIIC T100°C Db -40°C < Tamb < +70°C
IECEX:	Certificate No.: IECEX ITS 10.0015X Ex db IIC T5 Gb, Ex tb IIIC T100°C Db -40°C < Tamb < +70°C
UKEX	Certificate No.: ITS21UKEX0407X II 2 G Ex db IIC T5 Gb, II 2 D Ex tb IIIC T100°C Db -40°C < Tamb < +70°C
EAC Ex:	НАННО «ІСВЭ» No. EAЭC RU C-DK.AA87.B.00266/19 1Ex db IIC T5 Gb X, Ex tb IIIC T100°C Db X -40°C < Tamb < +70°C

Output waveform

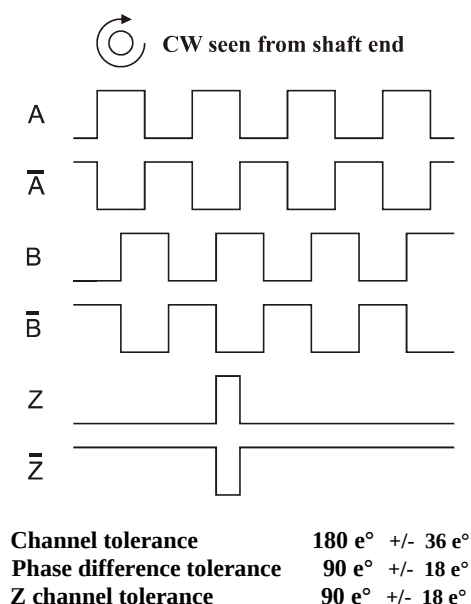


Table 1. Disk Resolutions (pluses per revolution)

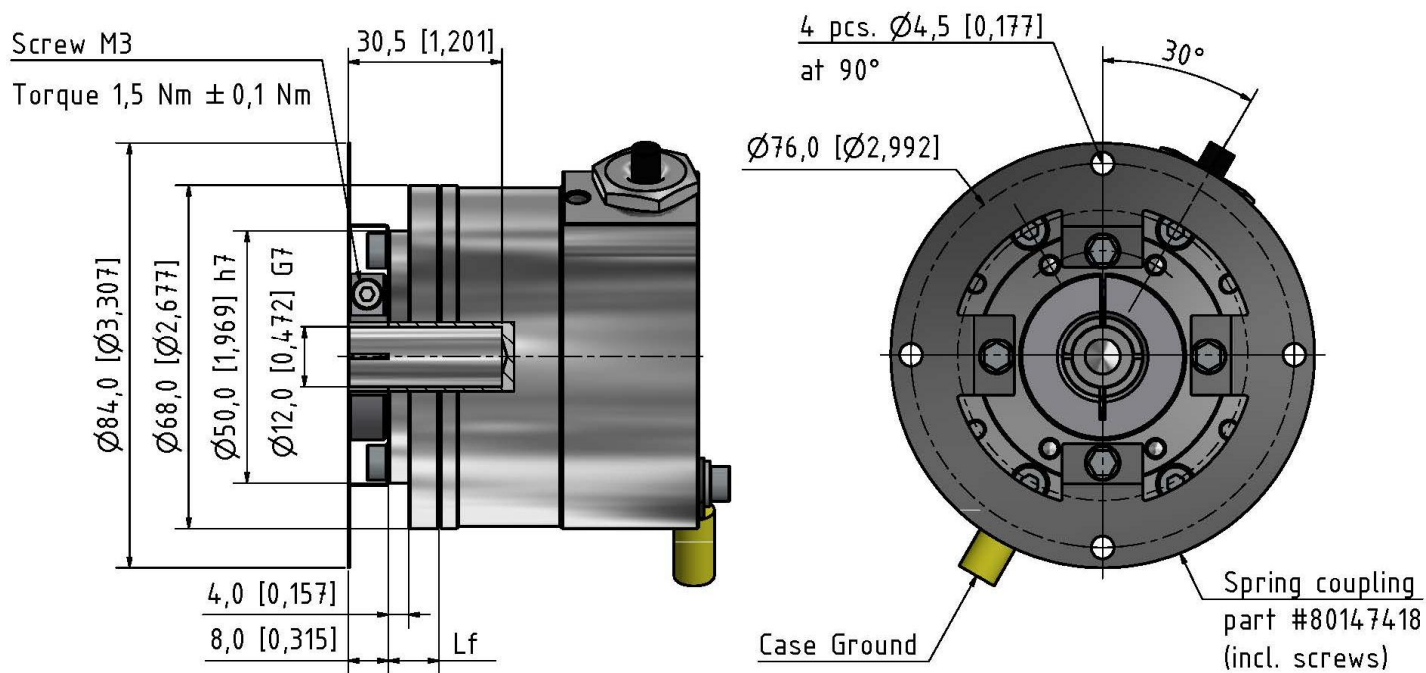
1	32	125	720	3000
2	36	150	800	3072
5	40	180	1000	3600
6	45	200	1000	4000
7	47	250	1024	4096
8	50	256	1131	5000
10	60	300	1200	8192
12	64	360	1250	9000*
15	70	400	1270	10000*
16	75	455	1500	
18	80	500	2000	
20	90	512	2048	
25	100	600	2400	
30	120	635	2500	

Other Options on request

Pulses per revolution,
 Min. 1 – Max. 10.000

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

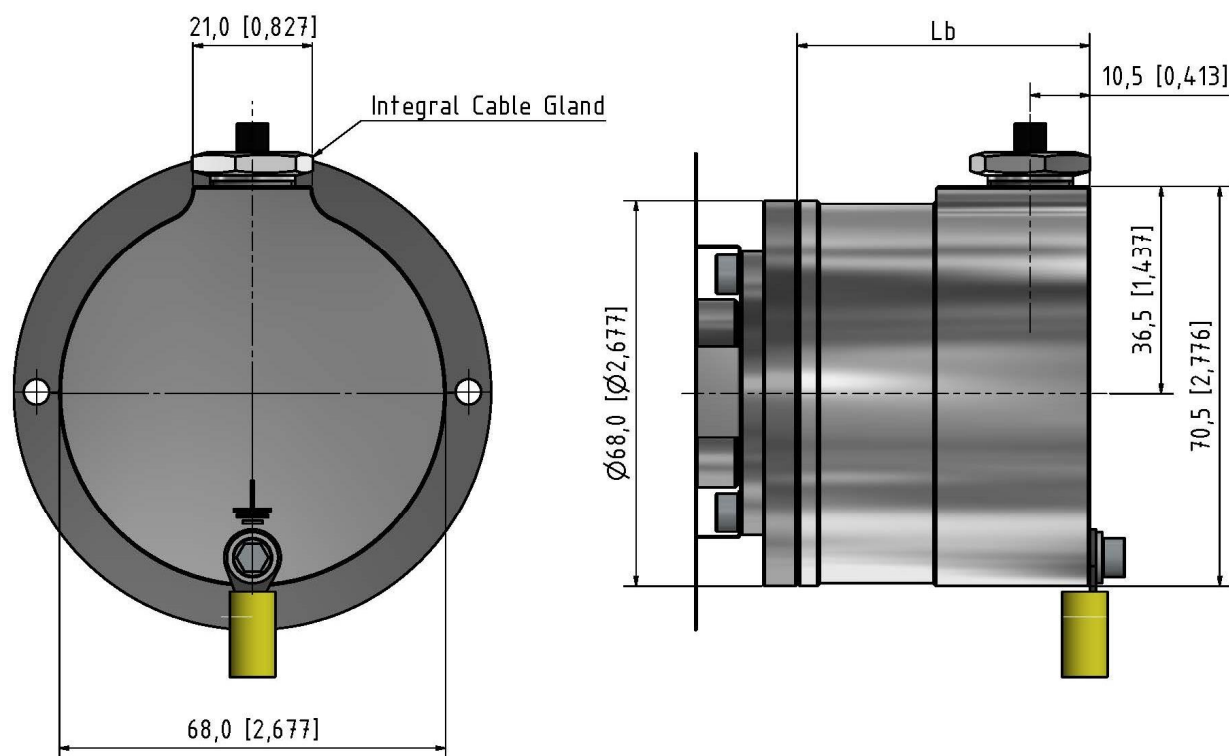
Face Mount



Face Mount A

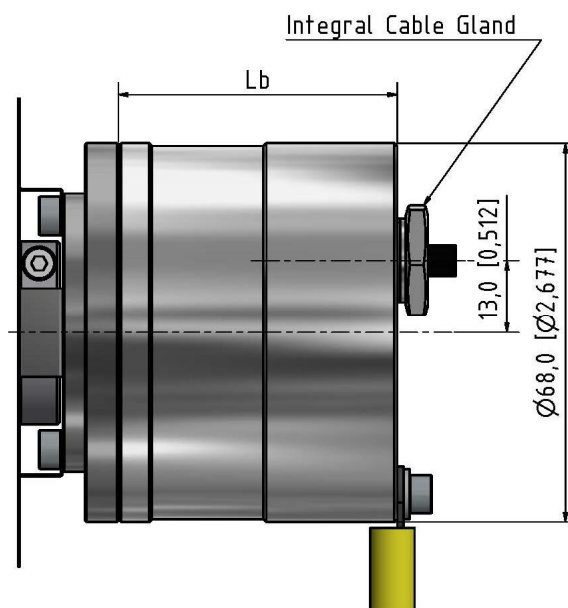
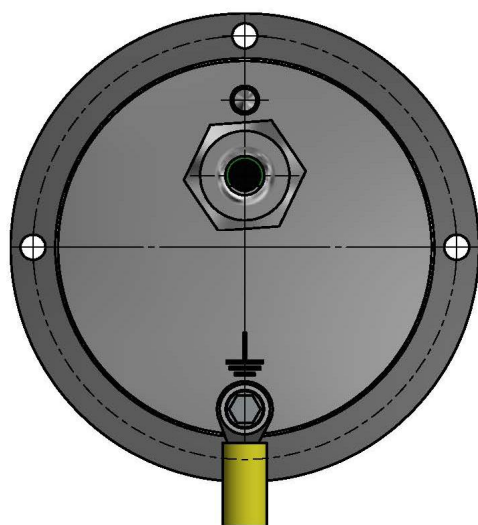
mm (inches)

Caps with Cable and Removable End Cap



Side Standard Cable Gland Cap (SS)

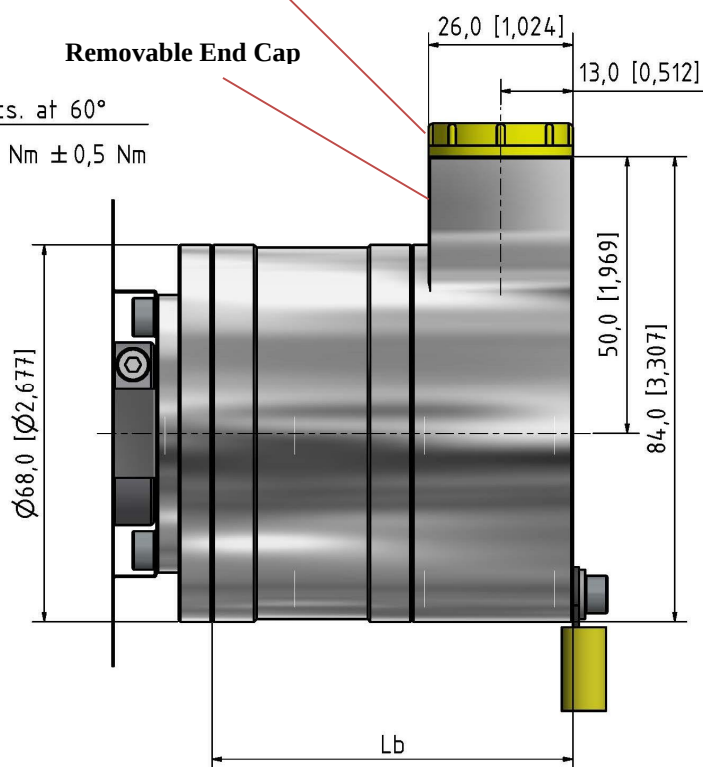
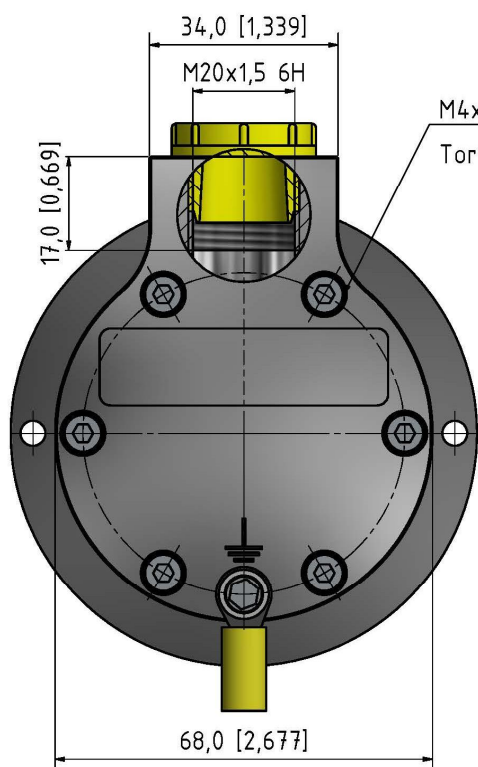
mm (inches)



Back Standard Cable Gland Cap (BS)

mm (inches)

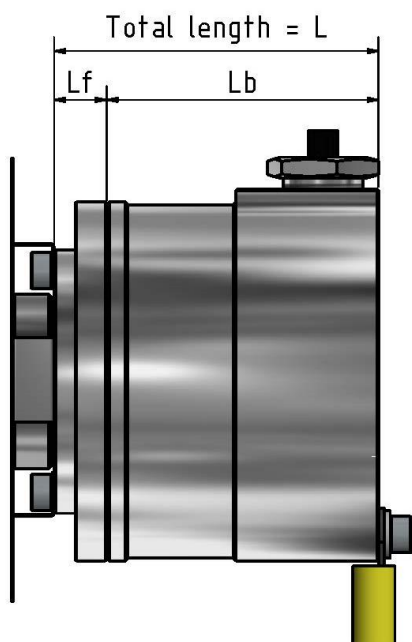
**Plastic screw plug is for cable outlet protection during shipping and storage.
Plug must be replaced by a suitably certified cable gland prior to use.**



Removable End Cap Side Standard (EC01)

mm (inches)

Encoder Length



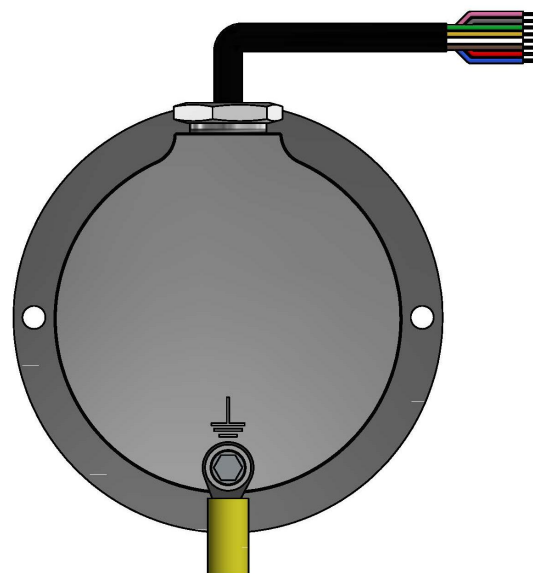
Total Encoder Length $L = L_b + L_f$

Cap	Face mount A
SS	61,5 mm (2,42 in)
BS	60,0 mm (2,36 in)
EC01	75,0 mm (2,95 in)

Cap + Face Mount = Total Encoder Length

Table 2. Cable Output

	Standard Cable	
	Standard Output	Differential Output
Channel	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

Shield connected to Case Ground

Cable: MUD (NEK 606) resistant & halogen free, shielded

4x2x0.14 mm², 26 AWG, 4 twisted pairs, OD Ø6.6 +/- 0.2 mm;

Yellow cable shoe: AWG 12-10

Table 3. Terminal Block Outputs (*Removable End Cap*)

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

GND = Circuit Ground

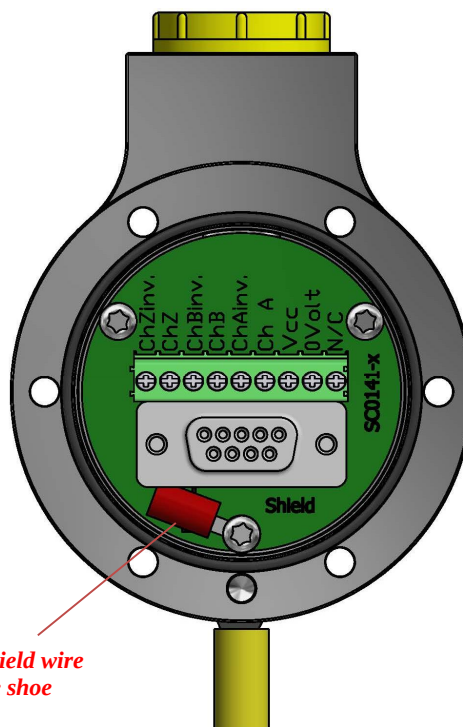
Shield = Case Ground

Connect shield wire to the cable shoe

Wire conductor size: AWG 26 to 16
0.14 mm² to 1.5 mm²

Red cable shoe: AWG 22-16

Yellow cable shoe: AWG 12-10



**Connect shield wire
to the cable shoe**

Ordering Code

Example: 2REX - H – 1024 – SR – D – 12 – 30 – 67 – 01 – SS – A – 01

2REX-H	-		-	SR	-		-		-	30	-		-		-		-	A	-	
		1		2		3		4		5		6		7		8		9		10

1. Pulse per revolutions

See Table 1.

2. Material

Stainless Steel*..... SR

* AISI 303

3. Output

Standard.....N
 Standard – open Collector NPN..... NON
 Standard – open Collector PNP..... NOP
 Differential.....D
 26C31 Line Driver 5V only..... L
 OL 7272 Line Driver..... M

4 & 5 Hollow shaft dimensions

10 mm x 30.5 mm

12 mm x 30.5 mm

14 mm x 30.5 mm

15 mm x 30.5 mm

4.

10

x

5.

30

12

x

30

14

x

30

15

x

30

6. IP Rating

IP 64 64

IP 65 65

IP 66 66

IP 67 67

7. Cable Length

Standard cable is 1m..... 01

Specify length..... XX

No cable (End Cap) 00

8. Cable Takeout

Side (Standard)..... SS

Back (Standard)..... BS

Side Removable End Cap..... EC01

9. Flange

Flange A A

10. Spring Coupling

No spring coupling..... 00

80147418..... 01

80140159..... 02

80141203..... 03

80142932..... 04

80142641..... 05

80132983..... 06

80230208..... 07