



2REX-A with cable or removable end cap

- Shaft Encoder - Ø 68 mm
- Shaft: Ø 10 mm, Ø 11 mm, Ø 5/8 inch
- Resolutions 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 Differential Line Driver (M and MP options) 26C31 Differential Line Driver 5V output (with 5V input)
Electrical Protection:	Output short circuit protected Reverse polarity protected
Noise Immunity:	EN61000-6-2: 2005 (industrial environments) Electromagnetic compatibility (EMC) 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 (AISI 303)
Weight:	Encoder: Approx. 540 gr (19 oz) Cable: 50 gr / meter (1.76 oz / meter)
Bearing Life:	> 1.9 x 10 ¹⁰ revolutions at rated load
Shaft Speed:	3000 rpm continuous (max.) IP 67
Starting Torque:	< 0.1 Nm (14.16 oz-in) at 25° C IP 67
Mass Moment of Inertia:	50 gcm ² (7.08 x 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 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

Certifications

ATEX:	Certificate No.: ITS 09 ATEX 16847X 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 «ЦСВЭ» No. EAЭС RU C-DK.AA87.B.00266/19 1Ex db IIC T5 Gb X, Ex tb IIIC T100°C Db X, -40°C<T.amb<+70°C

Output waveform

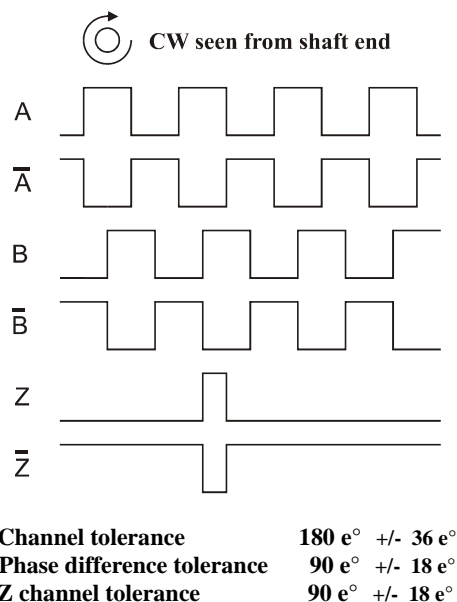


Table 1. Disk Resolutions (pulses per revolution)

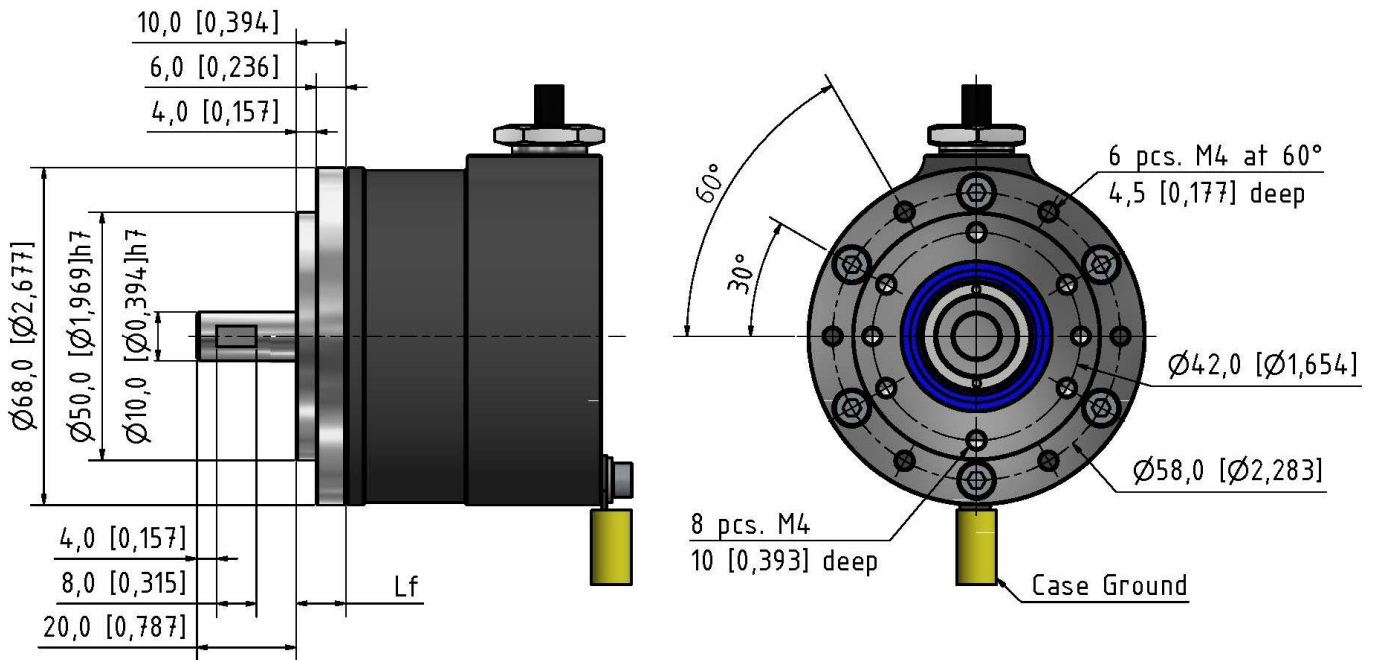
1	32	125	720	3000
2	36	150	800	3072
5	40	180	1000	3600
6	45	200	1000	4000
7	47	250	1024	4096
8	50	256	1131	5000
10	60	300	1200	8192
12	64	360	1250	9000*
15	70	400	1270	10000*
16	75	455	1500	
18	80	500	2000	
20	90	512	2048	
25	100	600	2400	
30	120	635	2500	

Other options on request

Pulses per revolution,
min. 1 – max. 10.000

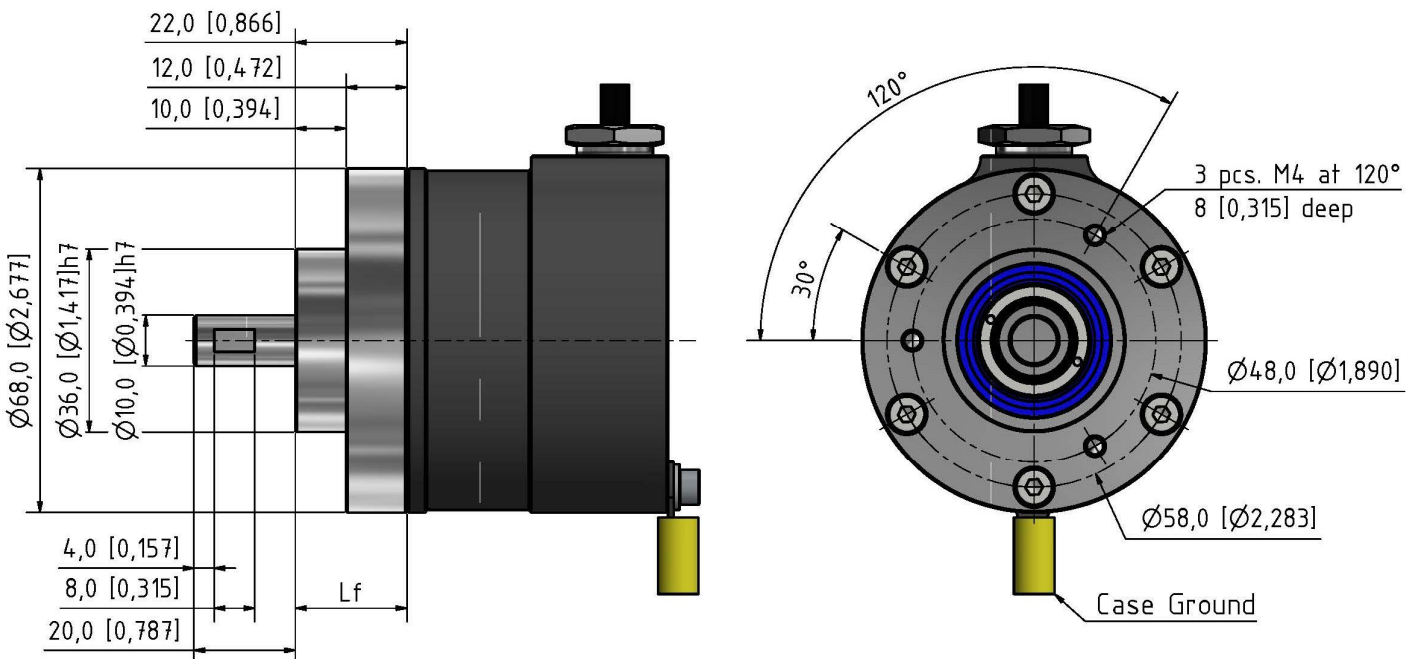
* Operating temperature: -20° C to 50° C

Face Mounts



Face Mount A

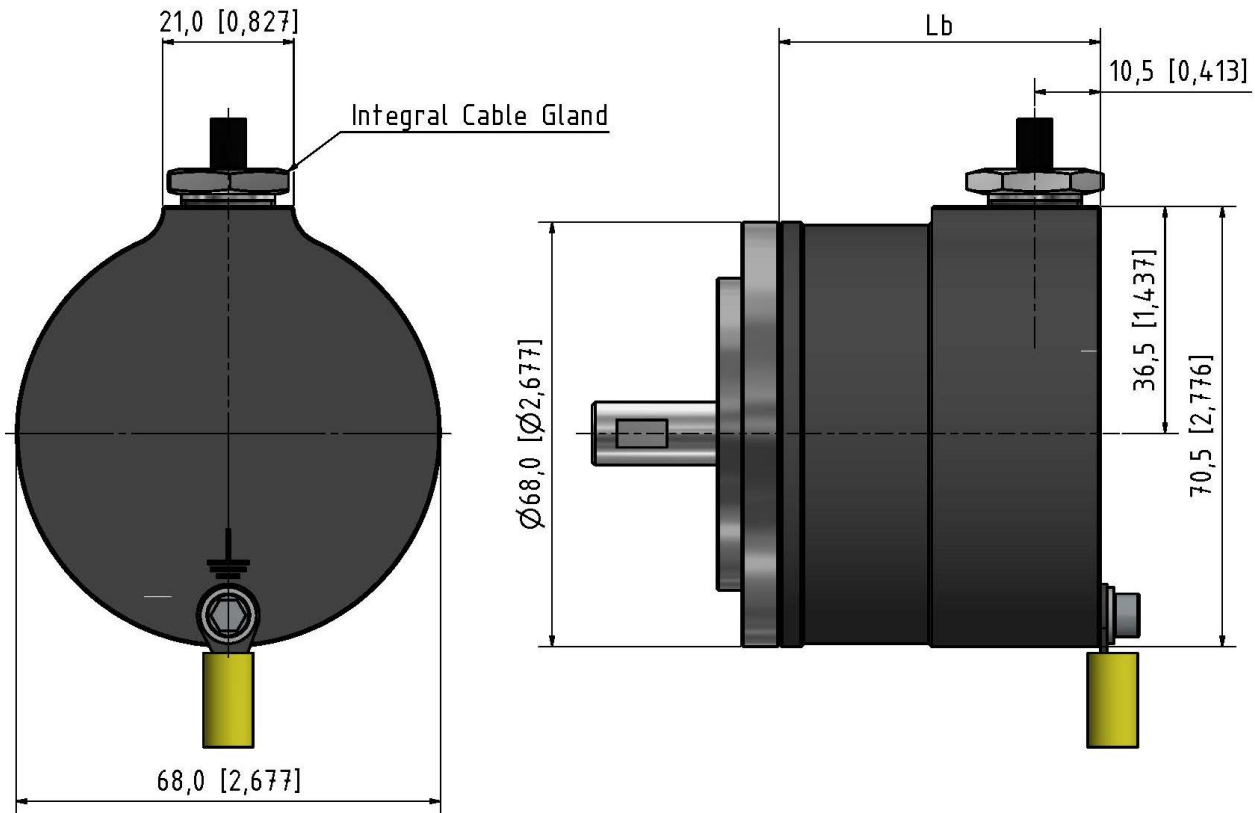
mm (inches)



Face Mount K

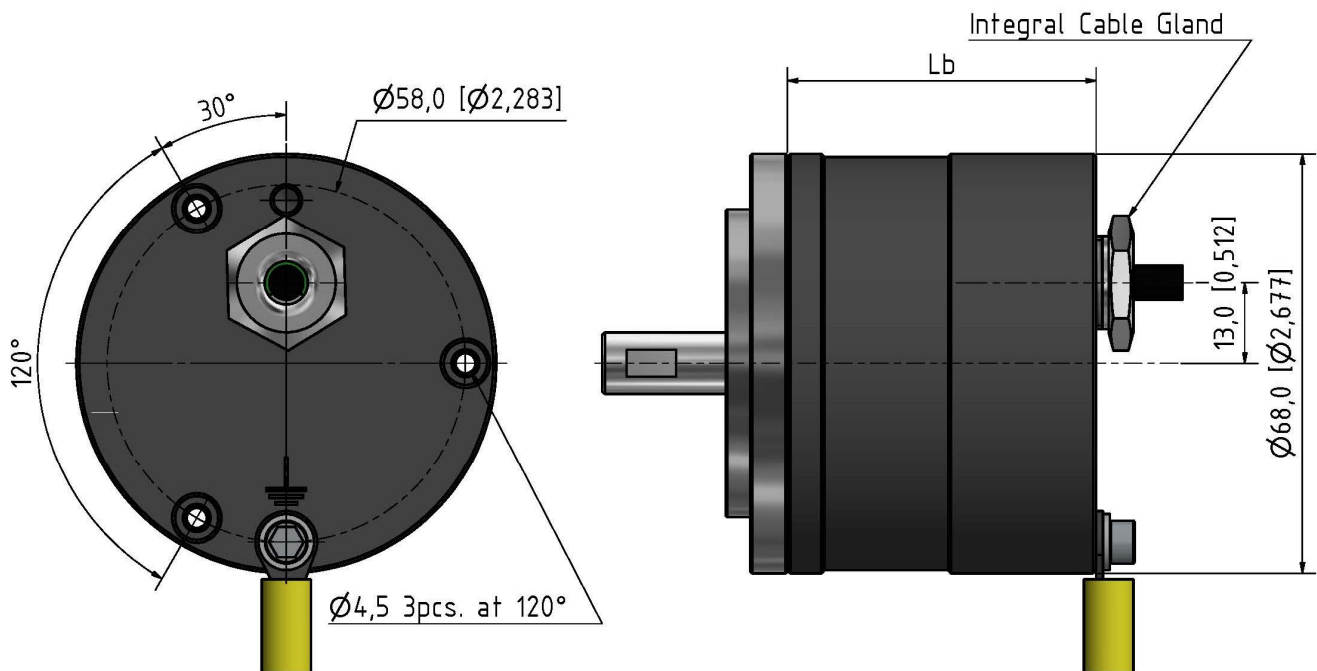
mm (inches)

Caps with Cable and Removable End Cap



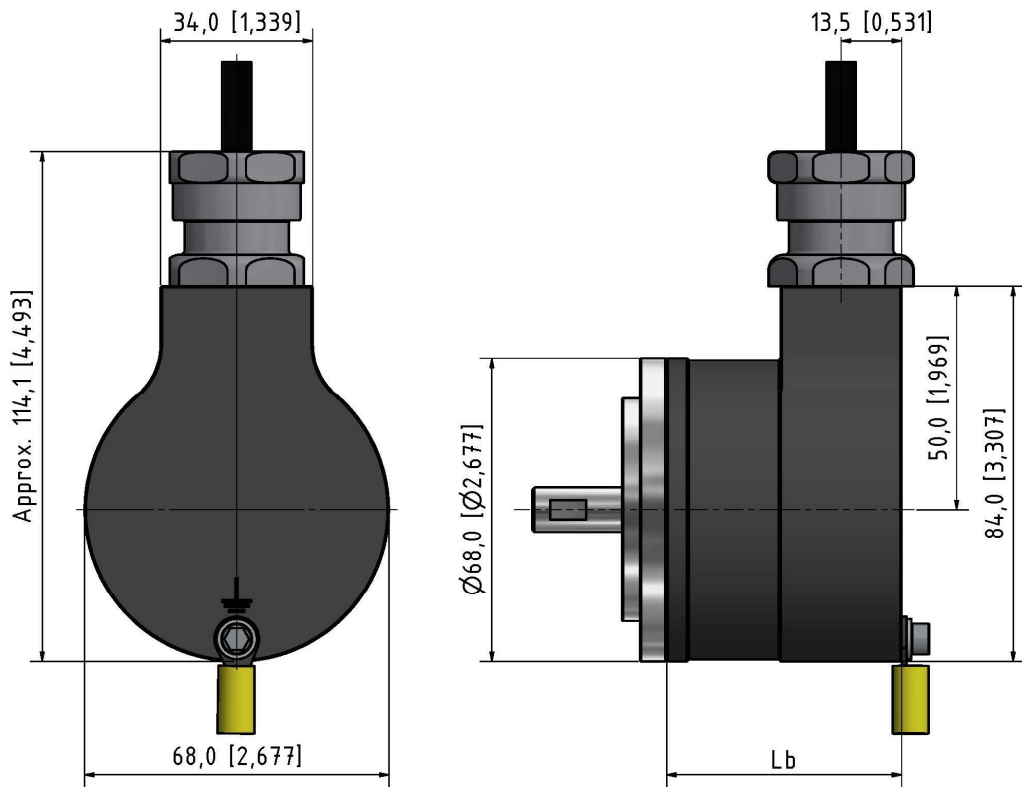
Side Standard Cable Gland Cap (SS)

mm (inches)



Back Standard Cable Gland Cap (BS)

mm (inches)

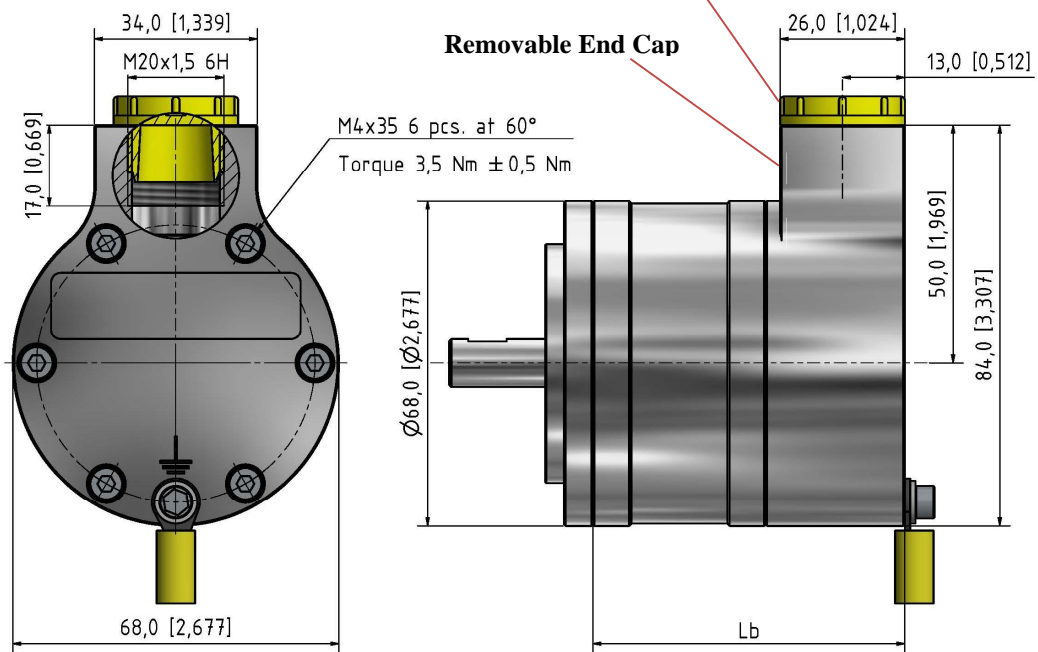


Side Cable Takeout (SH08)

mm [inches]

*EX d certified cable gland Hawke 501/421 included
(Fixed cable installation)*

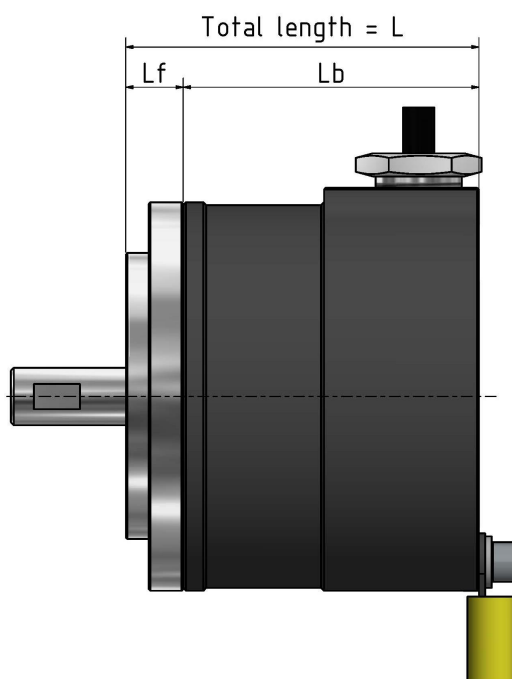
**Plastic screw plug is for cable outlet protection during shipping and storage.
Plug must be replaced by a suitably certified cable gland prior to use.**



Removable End Cap Side Standard (EC01)

mm [inches]

Encoder Length



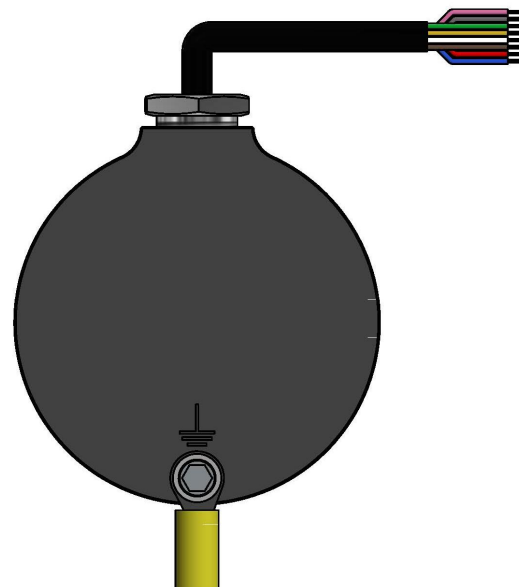
Total Encoder Length $L = L_b + L_f$

Cap	Face mount A	Face mount K
SS	61,5 mm (2,42 in)	73,5 mm (2,89 in)
BS	60,0 mm (2,36 in)	72,0 mm (2,83 in)
SH01	62,5 mm (2,46 in)	74,5 mm (2,93 in)
EC01	75,0 mm (2,95 in)	87,0 mm (3,43 in)

Cap + Face Mount = Total Encoder Length

Table 2. Cable Output

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

Shield connected to Case Ground

Cable: **MUD resistant (NEK 606) & 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)

Position	Standard Output	Differential Output
	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

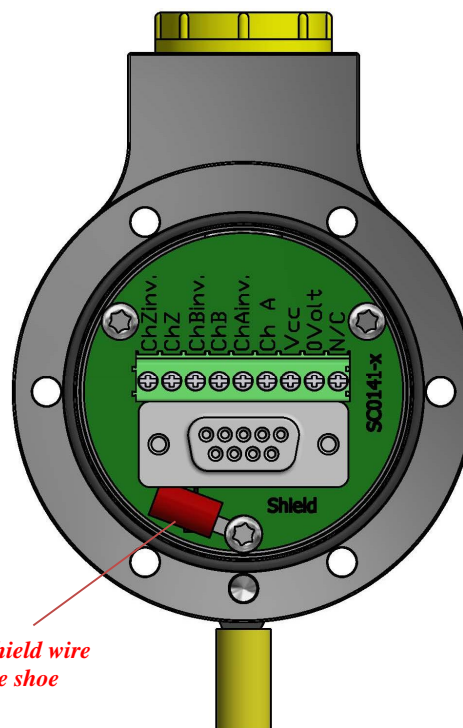
Shield = Case Ground

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

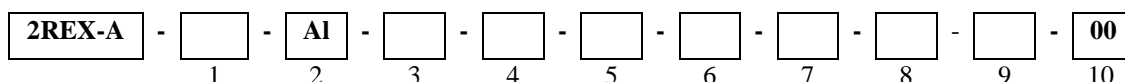
Yellow cable shoe: AWG 12-10



Connect shield wire to the cable shoe

Ordering Code

Example: 2REX-A – 1024 – AL – D – 10 – 20 – 67 – 01 – SS – A – 00



1. Pulse per revolutions

See Table 1.

2. Material

Aluminum..... **AI**

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 Shaft dimensions

10 mm x 20 mm (Flanges A, K)
 10 mm x 27 mm (Flange A)
 10 mm x 30 mm (Flange A)
 5/8 inch x 20 mm (Flange A)
 11 mm x 27 mm (Flange A)

4. 5.

10 x 20
10 x 27
10 x 30
5/8 x 20
11 x 27

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..... **00**

8. Cable Takeout

Side (*Standard*)..... **SS**
 Back (*Standard*)..... **BS**
 Side (*Ex gland included*)..... **SH08**
 Side Removable End Cap..... **EC01**

9. Flange

Flange A..... **A**
 Flange K..... **K**

10. Accessory

No accessory..... **00**