

Type SCA24EX



- Ex-proof (d) Shaft Encoder - \varnothing 24 mm
- Shaft: \varnothing 4 mm to \varnothing 6 mm
- Resolution up to 3600 ppr
- IP 67 (IP 64, 65 & 66 option)
- Aluminium Chromital TCP
- ATEX, IECEx and North America Class I and Class II certified
- Formerly named 2MCEX-A

Electrical Specifications

Code:	Incremental
Resolution:	1 to 3,600 ppr (pulses per revolution)
Supply Voltage:	5 Vdc min. to 24 Vdc max. (35 mA max. - no load) **
Output Voltage:	Low: 500 mV max. at 10 mA High: (Vin - 0.6) at -10 mA (Vin - 1.3) at -20 mA
Output Current:	20 mA max. load per output channel **
Frequency Response:	200 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.
Output:	ASIC Push-pull and Differential
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. values for all 3 parameter

Mechanical Specifications

Material:	Housing: Aluminum Cap: Aluminum Shaft: AISI 303
Weight:	Encoder: Approx. 80 gr (44.1 oz) Cable: 50 gr / meter (1.76 oz / meter)
Bearing Life:	> 1.9 x 10 ¹⁰ revolutions at rated load
Shaft Speed:	3,000 rpm continuous (max.) IP 67
Starting Torque:	< 0.001 Nm (0.14 oz-in) at 25° C
Mass Moment of Inertia:	0.2 gcm ² (2.8 x 10 ⁻⁶ oz-in-sec ²)
Shaft Loads:	Axial 10 N (2.25 lbs) max. Radial 10 N (2.25 lbs) max.

Environmental Specifications

Operating Temp.:	-40° to +70° C
Storage Temp.:	-40° to +85° C
Shock:	100 G @ 11 ms
Vibration:	10 G @ 10-2000 Hz
Bump:	10 G @ 16 ms (1000 x 3 axis)
Humidity:	98 % RH without condensation
Enclosure Rating:	IP 64 / Nema 5 (approx.) option IP 65 / Nema 4 (approx.) option IP 66 / Nema 6 (approx.) option IP 67 / Nema 6 (approx.)

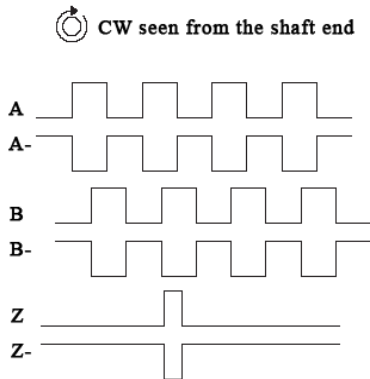
Connection Options

Cable:	8 leads (0.05 mm ² , 30 AWG) twisted pairs; shielded
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Certifications

ATEX:	Certificate No.: CML 19ATEX1098X II 2 GD Ex db IIC T5 Gb and Ex tb IIIC T100°C Db -40C ≤ Tamb ≤ +70C
IECEX:	Certificate No.: IECEX QPS 19.0021X Ex db IIC T5 Gb and Ex tb IIIC T100°C Db -40C ≤ Tamb ≤ +70C
North America:	Certificate No. LR 1192 24VDC, Max. 100 mA Class I, Div 2, Groups ABCD T5, Class II, Div 1, Groups EFG, Ex db IIC T5 Gb, Class I, Zone 1, AEx db IIC T5 Gb
EAC Ex:	НАНИО «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



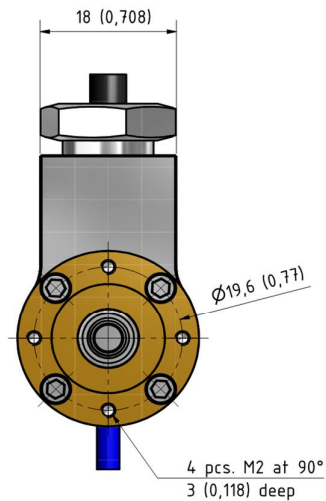
Channel tolerance	180 e° +/- 36 e°
Phase difference tolerance	90 e° +/- 18 e°
Z channel tolerance	90 e° +/- 18 e°

Disk Resolutions (pulses per revolution)

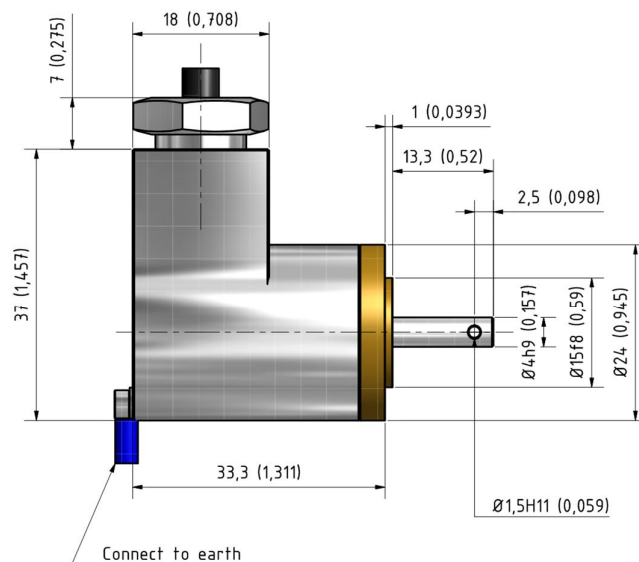
25	100	125	160	256
300	360	500	635	1000
1024	2000	2500	3600	

Other options on request
Pulses per revolution,
min. 1 – max. 3.600

Mechanical Dimensions

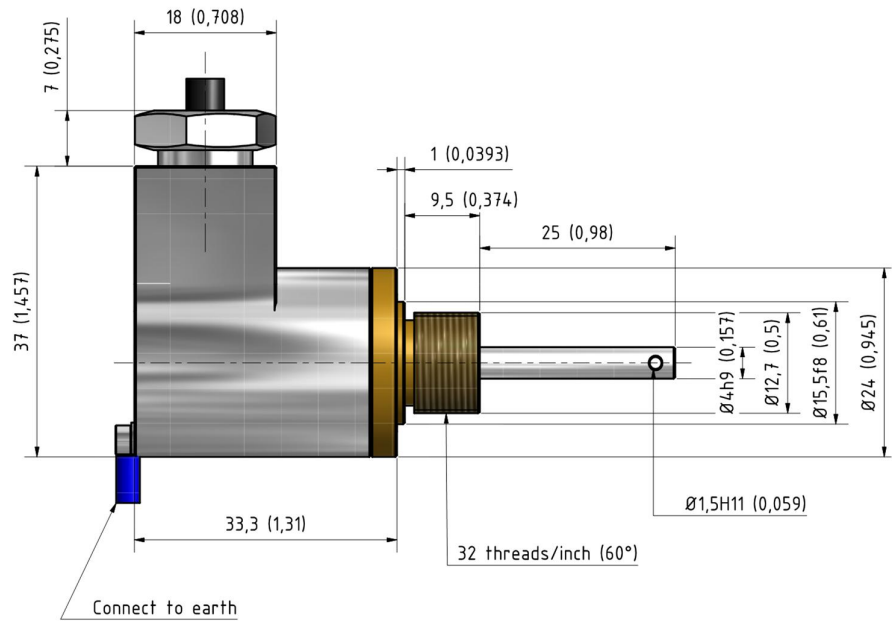
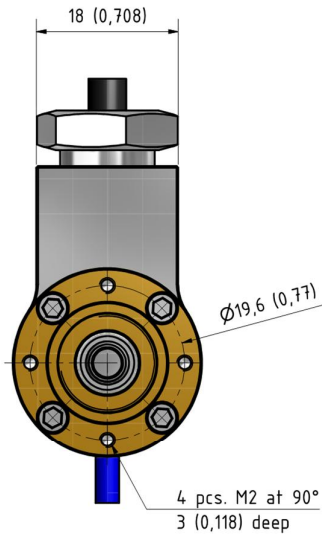


Flange A Option



Side Cable Takeout - S

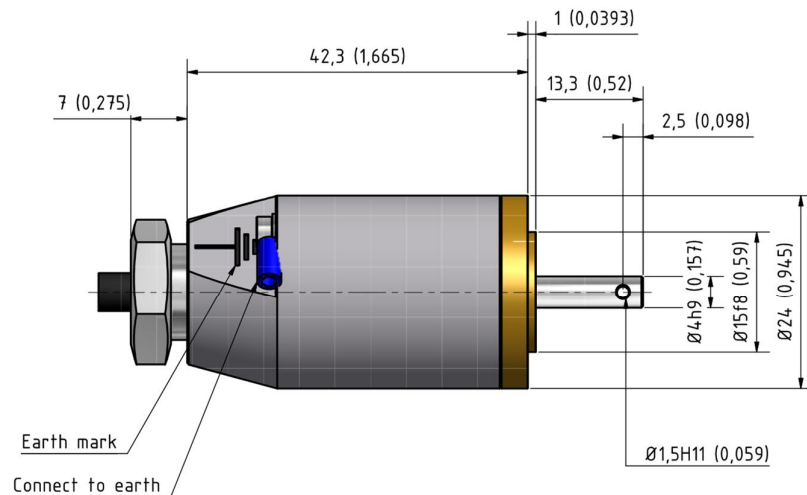
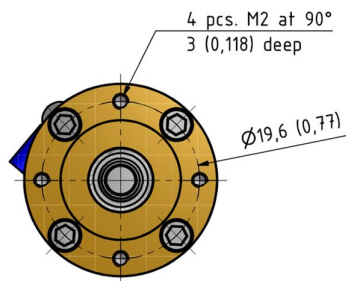
mm (inches)



mm (inches)

Flange G Option

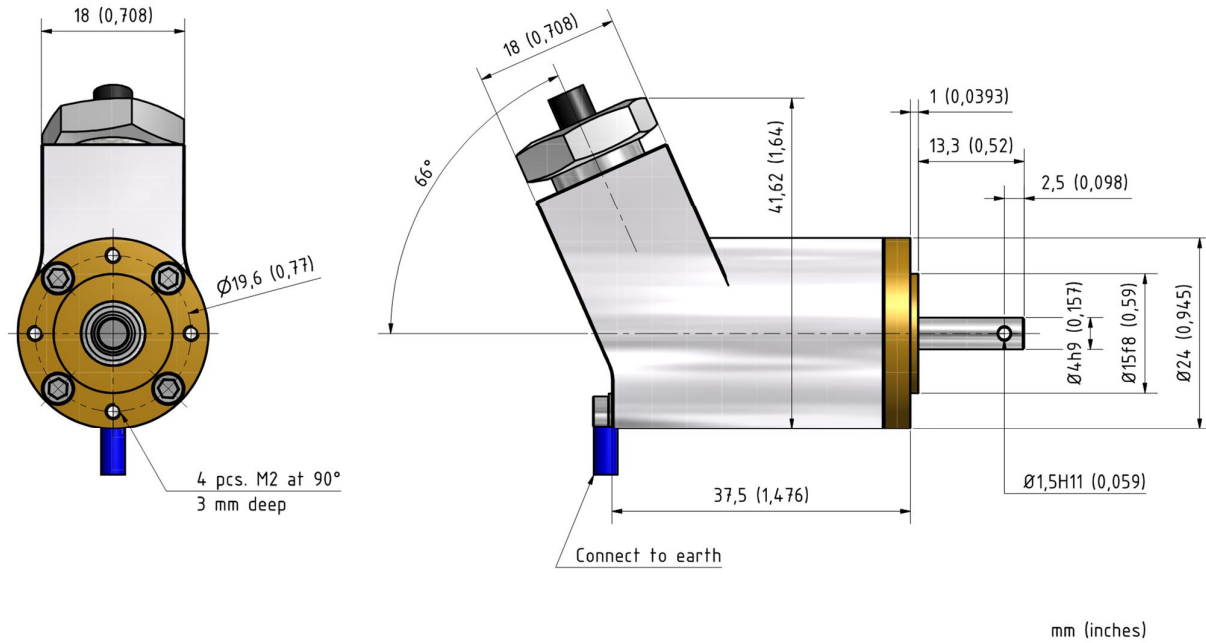
Side Cable Takeout - S



mm (inches)

Flange A Option

Back Cable Takeout - B



Flange A Option

Angled Cable Takeout -V

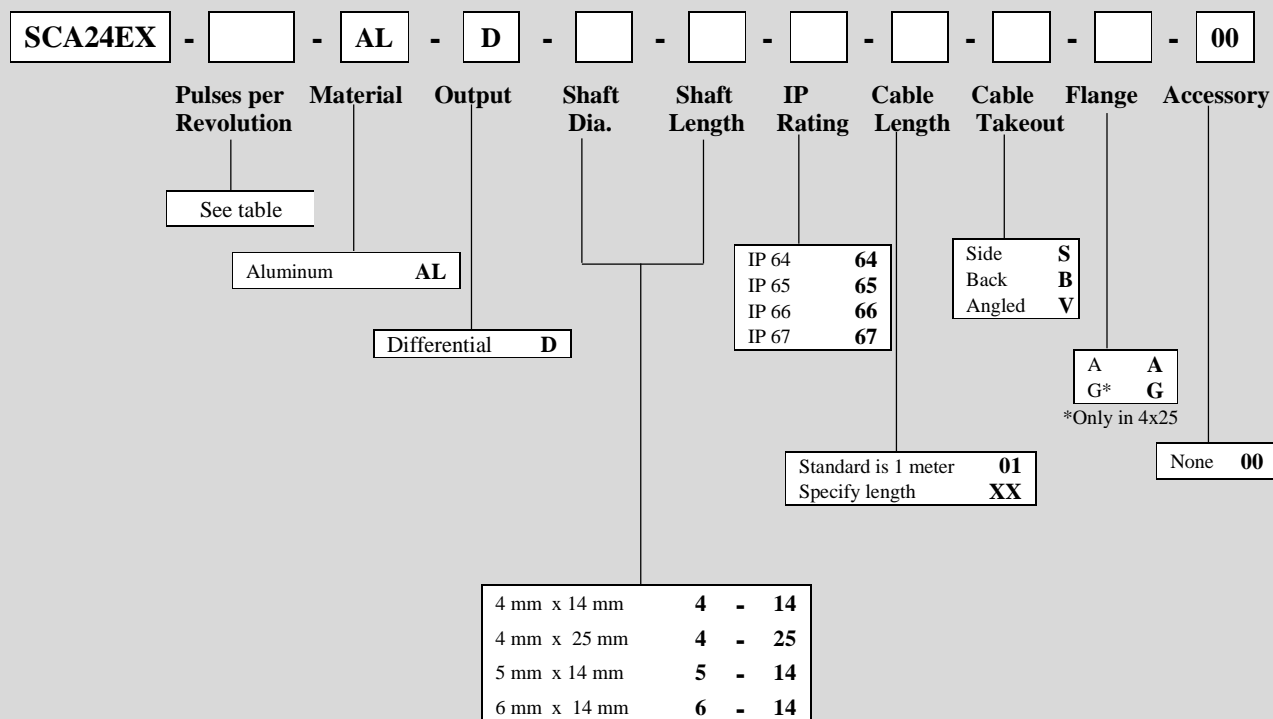
Output Terminations

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

GND = Circuit Ground

Ordering Code

Example: SCA24EX – 1024 – AL – D – 4 – 25 – 67 – 01 – S – A – 00



Other options on request:
 Please contact Scancon A/S

See Accessories for drawings