

Datasheet

Characteristics

- EX-Proof Encoder with hollow shaft
- Encoder: Ø 24mm
- Hollow Shaft: Ø2 mm - 1/8 inch
- ATEX , IECEx certified and North America Class I and Class II
- Resolution up to 3.600 ppr
- "seawater-proof" - 22 micron anodization
- IP64 / IP65, IP66, IP67 (optional)



Mechanical data

Dimension	Ø 24mm
Weight: Encoder	~80 gr
Cable	50 gr / meter
Material: Housing	Aluminium / Messing
Hollow Shaft	Messing
Cap	Aluminium
Bearing Life	>1,9 x 10 ¹⁰ revolutions at rated load
Shaft Loads	axial: max. 10 N radial: max. 10 N
Shaft Speed	max. 3.000 rpm -> IP67
Starting Torque	< 0,001 Nm at 25°C
Mass Moment of Inertia	0,2 gcm ²
Operating Temp.	-40°C to +70°C
Storage Temp.	-40°C to +85°C
Shock	100 G / 11 ms
Vibration	10 - 2.000 Hz / 10 G
Bump	10 G / 16 ms (1.000 x 3 axis)
Humidity	98% RH without condensation
IP Rating	IP64 / IP65, IP66, IP67 (optional)

Electrical data

Code	Incremental
Resolution (pulses per revolution)	min. 1, 100, 125, 160, 256, 300, 360, 500, 635, 1.000, 1.024, 2.000, 2.500, max. 3.600 (other options on request)
Supply Voltage**	5 VDC to 30VDC (Max. for NA certification) (35 mA max. - no load)
Outputs Voltage	High $V_{in} - 0.6$ at -10 mA $V_{in} - 1.3$ at -25 mA Low 500 mV max. at 10 mA
Load**	max. 20 mA load per output channel
Frequency Response**	200 kHz max.
Output Format	Two channel (A, B) quadrature with Index (Z) and optional complementary ($\bar{A}$, $\bar{B}$, $\bar{Z}$) outputs
Phase Sense	A leads B clockwise 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
Electrical Protection	Reverse polarity and output short circuit protected
Noise Immunity	EN 61000-6-2 (2005) EN 61000-6-3 (2007)

**It is recommended user, not to combine max. Values for all 3 parameters

Datasheet

Connection Option

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

Certifications

ATEX	Certificate No.: TÜV 11 ATEX 091676X II 2 GD Ex db IIC T5 Gb and Ex tb IIIC T100°C Db IP 6x -40C ≤ Tamb ≤ +70C
IECEX	Certificate No.: IECEX TUN 12.0005X Ex db IIC T5 Gb and Ex tb IIIC T100°C Db IP 6x -40C ≤ Tamb ≤ +70C
North America	Certificate No.: LR 1192-2 24VDC, Max. 100 mA Class I, Div 2 Groups ABCD T5 Class II, Div 1, Groups EFG Ex d IIC Gb T5 Class I, Zone 1 AEx d IIC T5
GOST	Certificate No.: POCC DN.ГБ05.B03721 No. 0466143 1 EX d IIC T5 X и and Ex tD A21 IP64 T100°C
ISO 9001: 2008	Certificate Registration No.: 44 100 111616 Report No: 3508 5281

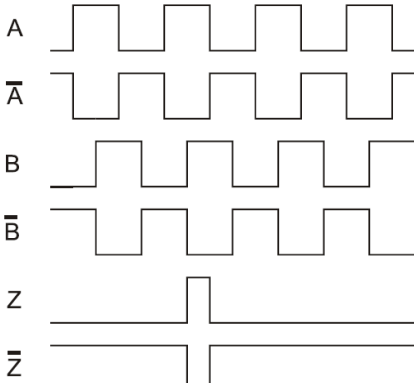
Output Terminations

Standard Cable		
Channel	Standard Output	Differential Output
	Code	
A	pink	pink
$\bar{A}$	grey*	grey
B	green	green
$\bar{B}$	yellow*	yellow
Z	white	white
$\bar{Z}$	brown*	brown
V _{SUP}	red	red
GND	blue	blue

GND = Circuit Ground

*internally connected to Circuit Ground

Output waveform

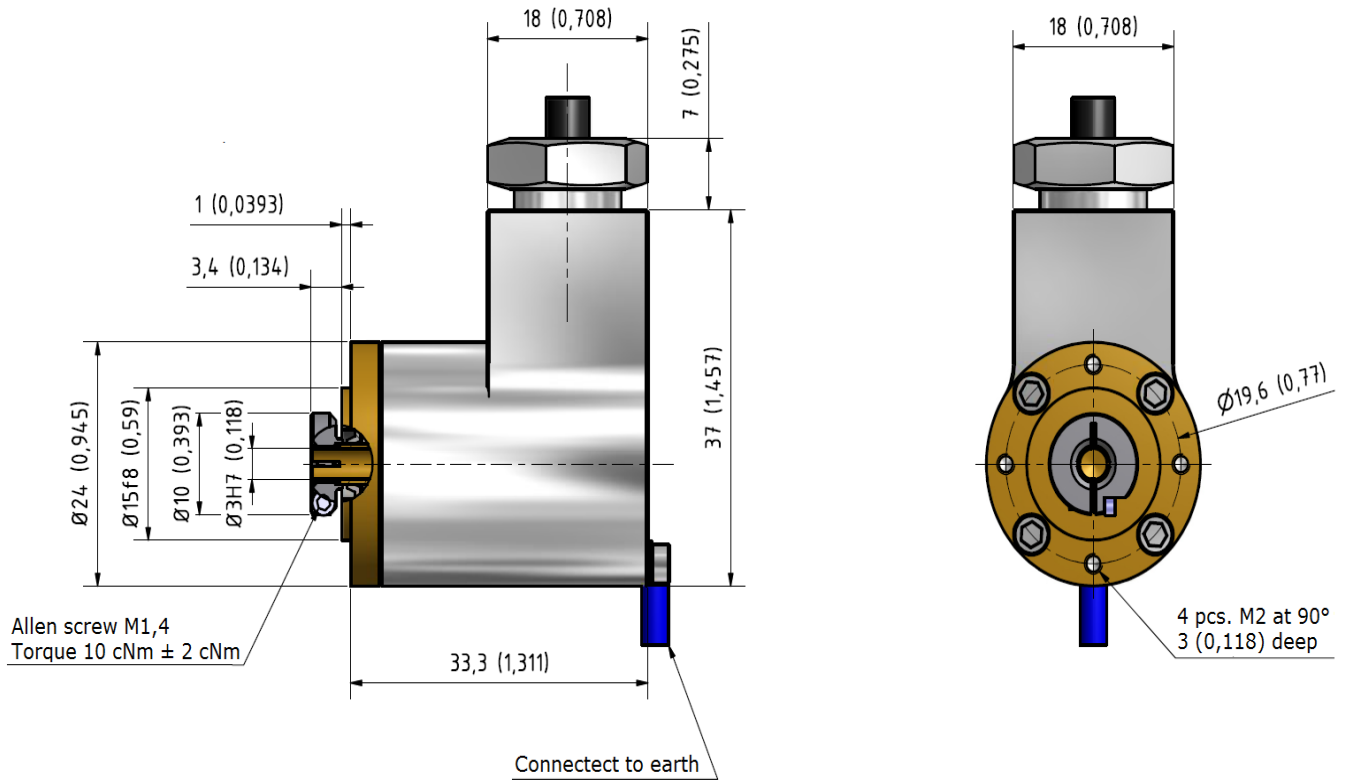
	Channel Tolerance 180°e ± 36°e Phase difference Tolerance 90°e ± 18°e Z Channel Tolerance 90°e ± 18°e
---	---

Datasheet

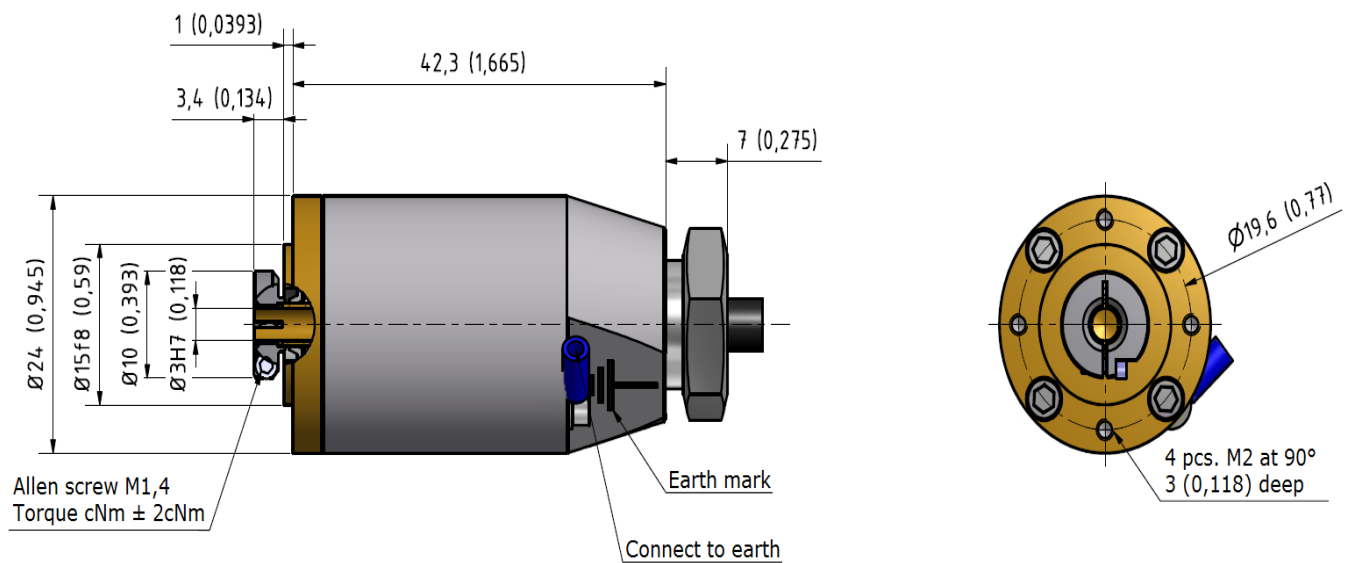
Dimension

(ISO 2768f) mm (inches)

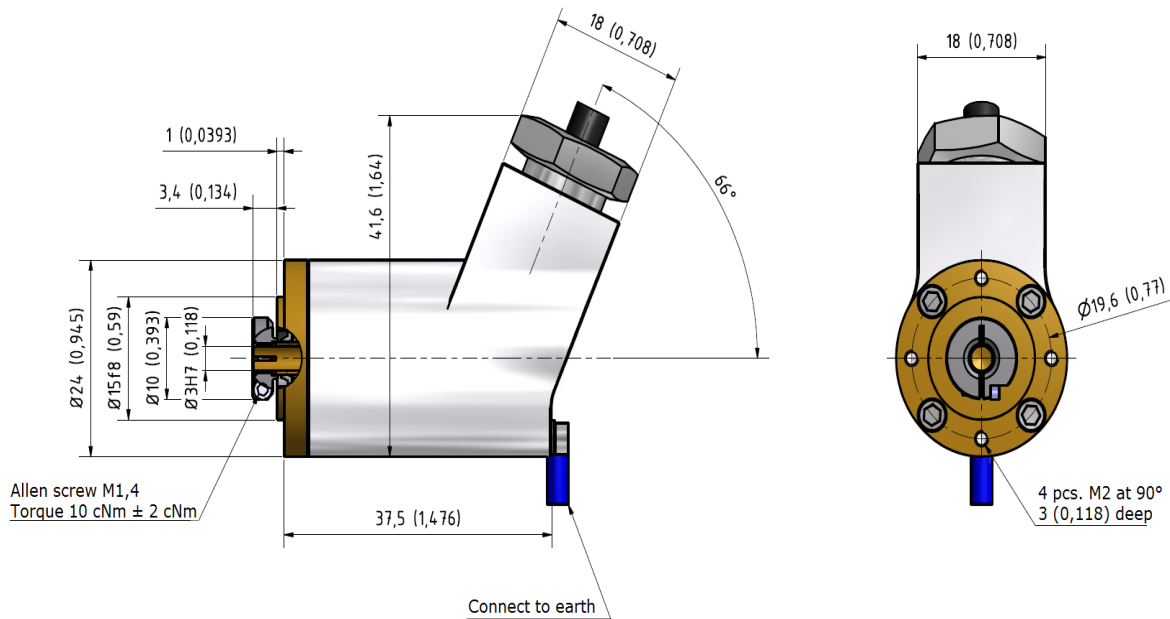
Side Cable Takeout (S)



Back Cable Takeout (B)



Angled Cable Takeout (V)



Ordering example

Type SCH24EX - 100 - AL - N - 08-14 - 66 - 01 - SS - A - S1

Pulse per Revolution

see table

Material

AL = Aluminium

Output

N = Standard

D = Differential

Shaft Dia. / Length

03-15 = 3 x 15 mm

IP

64 = IP64

65 = IP65

66 = IP66

67 = IP67

Cable Length

01 = 1 m (Standard)

XX = specify length

Connector Takeout

S = Side (Standard)

B = Back (Standard)

V = Angled

Flange

A = A

Spring coupling

S1 = 70131831