

SCH86BEX Removable End Cap



- Hollow Shaft Encoder - Ø86 mm
- Through Hollow Bore: Ø5/8 to Ø1 inch
- IP 67 (~ Nema 6) Environmental Protection
- Aluminium Chromital TCP or AISI 316
Stainless Steel *option*
- Removable End Cap for on-site installation
- ATEX, IECEx, EAC Ex, North America
Class I, Div. 2 and AEx Class 1, Zone 1

Electrical Specifications		Mechanical Specifications	
Code	Incremental	Material	Housing: Aluminum / AISI 316 (SA option) Cap: Aluminum / AISI 316 (SA option) Hollow Shaft: AISI 316 (SA)
Resolutions	See Table 1	Weight	Aluminium: ~ 1250 gr. (2.76 lb.) AISI 316 SS: ~ 3750 gr. (8.27 lb.)
Supply Voltage*	4.5 V min. to 30 V max.	Bearing Life	100 thousand hours @ rated load
Current	35 mA max. (no load)	Shaft Speed	3,000 rpm continuous (max.) IP 67
Output Voltage	Low: 500 mV max. at 10 mA High: (V _{sup} - 0.6) at -10 mA (V _{sup} - 1.6) at -25 mA	Starting Torque	< 0.1 Nm (14.16 oz-in) at 25° C
Output Current*	35 mA max. load per output	Mass Moment of Inertia	750 g-cm ² (10.6 x 10 ⁻³ oz-in-sec ²)
Frequency Response*	300 kHz max. 150 kHz max. for MW output	Hollow shaft load	200 N (45 lbf) Axial max. 200 N (45 lbf) Radial max.
Output Format	Two channels (A, B) in quadrature with Index (Z); and complementary outputs (A-, B-, Z-)	Environmental Specifications	
Output Phase Sense	A leads B clockwise (CW)	Operating Temp.	-40° to +70° C
Index	Gated with Channels A and B high, 1/4 cycle	Storage Temp.	-40° to +85° C
Outputs:	ASIC Push-pull and Differential OL7272 Push-pull and Differential Line Driver iC-DL Differential Line Driver	Shock	100 G @ 11 ms
Electrical Protection:	Outputs short circuit protected Reverse polarity protected Miswiring protected - (MW output only)	Vibration	10 G @ 10-2000 Hz
Noise Immunity:	Tested to EN61000-6-2 : 2005 and EN 61000-6-3 : 2007	Bump:	10 G @ 16 ms (1000 x 3 axis)
		Humidity:	98 % RH without condensation
		Enclosure Rating	IP 65 / Nema 4 (approx.) IP 66 / Nema 6 (approx.) option IP 67 / Nema 6 (approx.) option IP 68 (1hour/1 meter) / Nema 6P (approx.)
		Connection Options	
		Terminal Blocks (Removable End Cap)	See Table 2

* It is recommended user not combine max. values for all 3 parameters

Certifications

ATEX	Certificate No.: ITS09ATEX16841X II 2 G Ex db IIC T5 Gb II 2 D Ex tb IIIC T100°C Tamb: -40°C to +70°C
IECEX	Certificate No.: IECEX ITS 13.0025X Ex db IIC T5 Gb Ex tb III C T100°C Db -40°C < Tamb < +70°C
North America	Certificate No: LR1192 Class I, Division 2, Groups ABCD T5 Class II, Division 2, Groups FG Ex db IIC T5 Gb Class I, Zone 1, AEx db IIC T5 Gb Tamb = -40 °C to +70 °C V= 4.5 – 30 Vdc; I _{max} = 100 mA
EAC Ex	НАННО «ЦСВЭ» No. EAЭС RU C- DK.AA87.B.00266/19 IEx db IIC T5 Gb X, Ex tb IIIC T100°C Db X ОТ МИНУС 40 ДО +70°

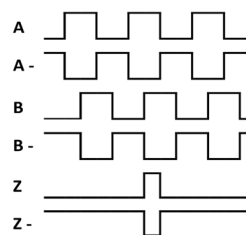
Table 1. Disk Resolutions (pulses per revolution)

25	32	40	100
200	256	400	800
1024	2000	2048	2500
3072	3600	4096	

Other resolutions may be requested

Output Waveform

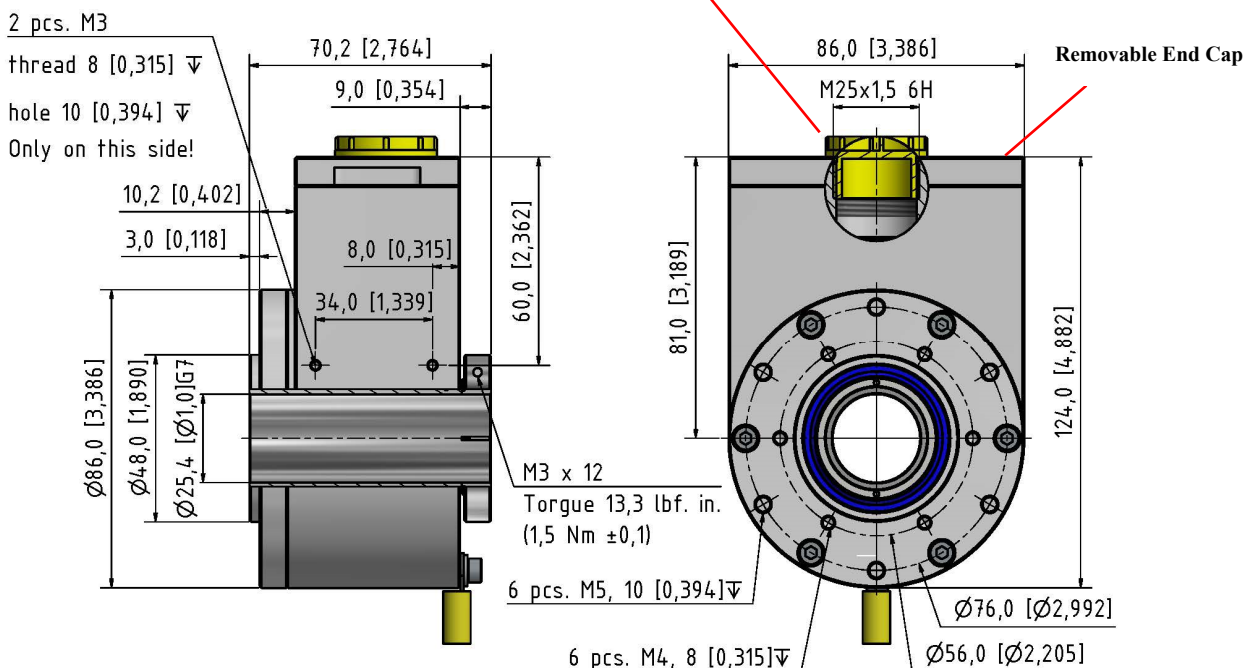
⌚ Clockwise seen from the front of the encoder looking away from the motor shaft



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

Mechanical Dimensions

**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 - EC08, EC09, EC10 and EC11 mm (inches)

Table 2. Terminal Block Outputs

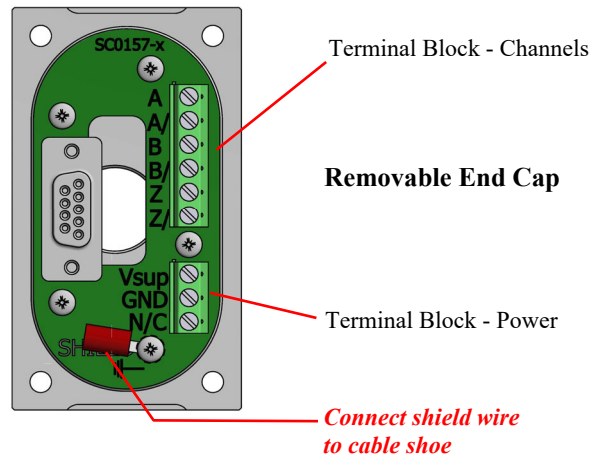
	Standard Output	Differential Output	Power
Position	Channel	Channel	
1	A	A	
2	NC	A -	
3	B	B	
4	NC	B -	
5	Z	Z	
6	NC	Z -	
7			Vsup
8			GND
9			N/C

GND = Circuit Ground

Shield = Case Ground

Connect shield wire to the cable shoe

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



Mechanical Tolerances (mm)

Hollow Shaft (ISO tolerance):	ISO 286-2 ANSI B4.2
Hollow bore $\varnothing > 10$ mm to ≤ 18 mm	G7 (+ 0.006 / + 0.024)
Hollow bore $\varnothing > 18$ mm to ≤ 30 mm	G7 (+ 0.007 / + 0.028)
Shaft (recommended ISO tolerance):	ISO 286-2 ANSI B4.2
Shaft $\varnothing > 10$ mm to ≤ 18 mm	h6 (- 0 / - .011)
Shaft $\varnothing > 18$ mm to ≤ 30 mm	h6 (- 0 / - .013)
Shaft Runout (recommended TIR):	NEMA Std. MG1, 4.9.7 + / - 0.05 (0.002 in.)

Ordering Code

Example: SCH86BEX – 1024 – AL – MW – 01 – 00 – 67 – 00 – EC08 – A

SCH86BEX - - - - - - - - - -

1 2 3 4 5 6 7 8

1. Resolutions

See Table 1.

Other resolutions may be requested

3. Output

Standard 4.5V to 30V N
 Differential 4.5V to 30V D
 OL7272 4.5V to 30V M
 iC-DL 9.0V to 30V MW*

* miswiring protected; and
 built-in transient suppression

5. IP Rating

IP 65 65
 IP 66 66
 IP 67 67
 IP 68** 68

**1 meter/1 hour

7. End Cap

End Cap***
 M20 threaded outlet EC09
 M25 threaded outlet EC08
 1/2 inch NPT outlet EC10
 3/4 inch NPT outlet EC11

*** No Cable Gland attached

2. Composition

Aluminum AL
 Stainless Steel* SA

*AISI 316

4. Hollow Shaft (diameter)

5/8 inch 01
 16 mm 02
 20 mm 03
 25 mm 04
 1 inch 05

6. Cable Length

No Cable (End Cap) 00

8. Flange

A A

See Accessories data sheet for Anti-rotation Springs/Torque Arm options