



SCH86BXM Removable End Cap

- Hollow Shaft Encoder - Ø86 mm
- Through Hollow Bore: Ø5/8 to Ø1 inch
- AISI 316 Stainless Steel
- Removable End Cap for on-site installation
- ATEX, IECEX, EAC Ex certified

Electrical Specifications	
Code	Incremental
Resolutions	See Table 1
Supply Voltage*	4.5 V min. to 30 V max.
Current	35 mA max. (no load)
Output Voltage	Low: 500 mV max. at 10 mA High: (V _{sup} - 0.6) at -10 mA (V _{sup} - 1.6) at -25 mA
Output Current*	35 mA max. load per output
Frequency Response*	300 kHz max. 150 kHz max. for MW output
Output Format	Two channels (A, B) in quadrature with Index (Z); and complementary outputs (A-, B-, Z-)
Output Phase Sense	A leads B clockwise (CW)
Index	Gated with Channels A and B high, 1/4 cycle
Outputs:	ASIC Push-pull and Differential OL7272 Push-pull and Differential Line Driver iC-DL Differential Line Driver
Electrical Protection:	Outputs short circuit protected Reverse polarity protected Miswiring protected - (MW output only)
Noise Immunity:	Tested to EN61000-6-2 : 2005 and EN 61000-6-3 : 2007

Mechanical Specifications	
Material	Housing: Stainless Steel AISI 316 (SA) Cap: Stainless Steel AISI 316 (SA) Hollow Shaft: Stainless Steel AISI 316
Weight	AISI 316: ~ 3750 gr. (8.27 lb.)
Bearing Life	100 thousand hours @ rated load
Hollow Shaft Speed	3,000 rpm continuous (max.) IP 66/67
Starting Torque	< 0.1 Nm (14.16 oz-in) at 25° C IP 66/67
Mass Moment of Inertia	750 g cm ² (10.6 x 10 ⁻³ oz-in-sec ²)
Hollow shaft loads:	200 N (45 lbf) Axial max. 200 N (45 lbf) Radial max.

Environmental Specifications	
Operating Temp.	-40° to +70° C
Storage Temp.	-40° to +85° C
Shock	100 G / 11 ms
Vibration	10-2000 Hz /10G
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

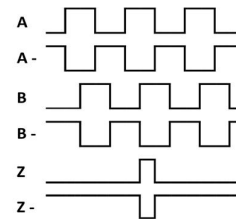
Connection Options	
Terminal Blocks (Removable End Cap)	See Table 2

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

Certifications		Table 1. Disk Resolutions (pulses per revolution)			
ATEX	Certificate No.: ITS09ATEX16850X	25	32	40	100
	I M2 Ex db I Mb Tamb:-40°C to +70°C	400	800	1024	2000
IECEX	Certificate No.: IECEX ITS 13.0024X	2048	2500	3072	3600
	Ex db I Mb -40°C < Tamb < +70°C	4096			
EAC Ex	НАННО «ЦСВЭ» No. ЕАЭС RU C-	<i>Other resolutions may be requested</i>			
	DK.AA87.B.00266/19 PB Ex db I Mb X ОТ МИНУС 40 ДО +70°				

Output Waveform

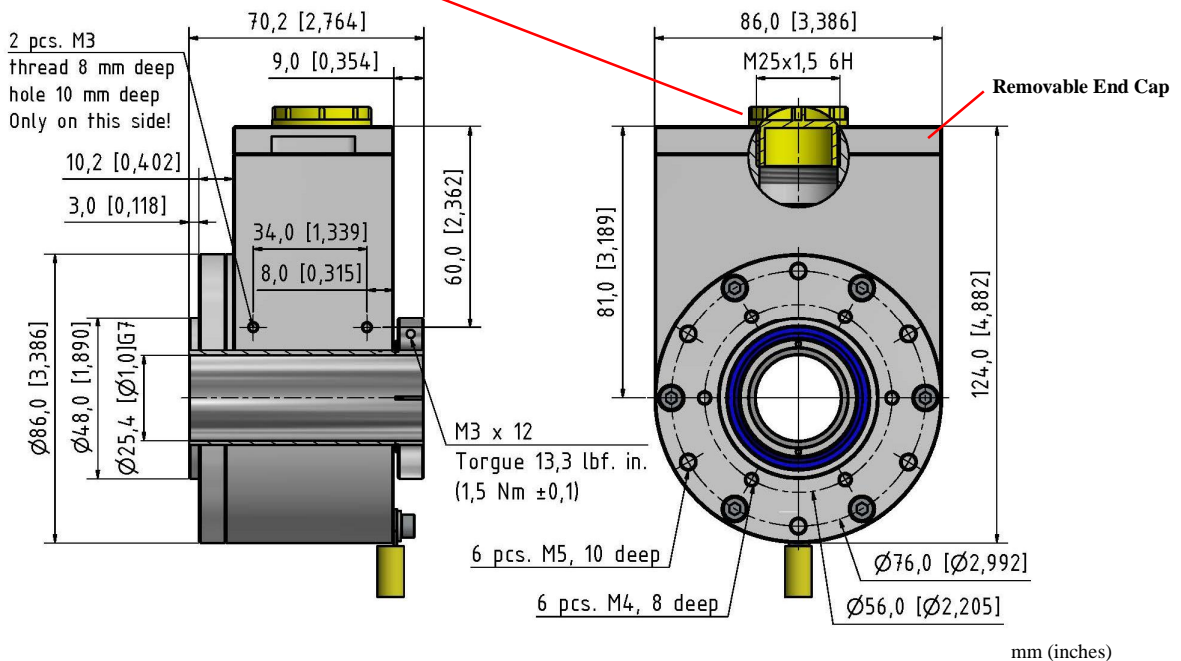
⌚ Clockwise seen from the front of the encoder looking away from the motor shaft



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

Table 2. Terminal Block Outputs

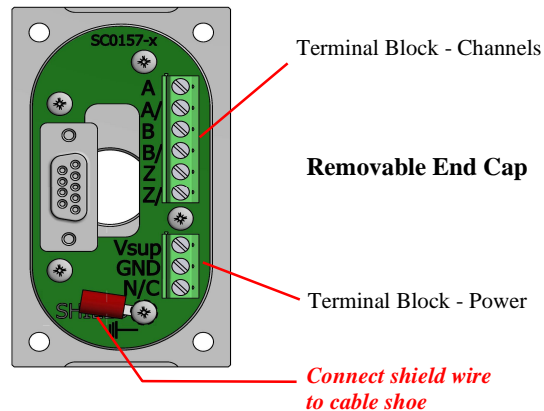
Position	Standard Output	Differential Output	Power
	Channel	Channel	
1	A	A	
2	NC	A -	
3	B	B	
4	NC	B -	
5	Z	Z	
6	NC	Z -	
7			Vsup
8			GND
9			NC

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

Ordering Code

Example: SCH86BXM - 1024 - SA - MW - 01 - 00 - 67 - 00 - EC08 - A

SCH86BXM - - - - - - - - -

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

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

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