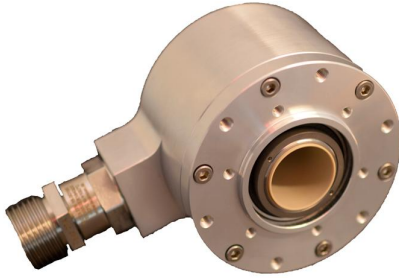


## SCH86BEX with cable



Scancon's **SCH86BEX** Encoder is designed for ATEX Zone 1 applications where reliability and size are critical. Smaller than the competition, and with a 1" hollow bore and removable end cap, it is the EX-proof (d) encoder of choice for rugged Oilfield applications.

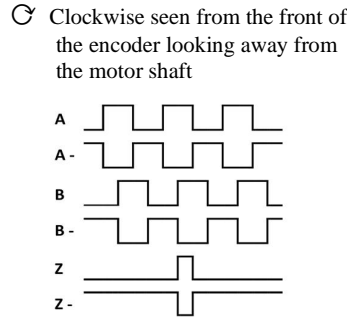
- **Ex-proof (d) Hollow Shaft Encoder -  $\varnothing$  86 mm**
- **Through Hollow Bore:  $\varnothing$  5/8 to  $\varnothing$  1 inch**
- **IP 67 (~ Nema 6) Environmental Protection**
- **Aluminium Chromital TCP or 316 Stainless Steel option**
- **ATEX, IECEx, Class I, Zone 2, Group IIC, EAC Ex**

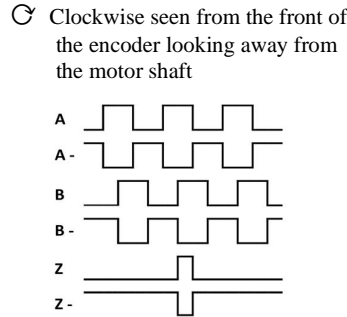


Electrical Specifications	
<b>Code</b>	Incremental
<b>Resolution</b>	See Table 1
<b>Supply Voltage*</b>	4.5 V min. to 30 V max.
<b>Current</b>	35 mA max. (no load)
<b>Output Voltage</b>	Low: 500 mV max. at 10 mA High: (V <sub>sup</sub> - 0.6) at -10 mA (V <sub>sup</sub> - 1.6) at -25 mA
<b>Output Current*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

Mechanical Specifications	
<b>Material</b>	Housing: Aluminum / AISI 316 SS <i>option</i> Cap: Aluminum / AISI 316 SS <i>option</i> Hollow Shaft: AISI 316 SS
<b>Weight</b>	Aluminum: ~ 1250 gr. (2.76 lb.) AISI 316 SS: ~ 3750 gr. (8.27 lb.) Cable: 50 gr / meter (1.76 oz / meter)
<b>Bearing Life</b>	100 thousand hours @ rated load
<b>Shaft Speed</b>	3,000 rpm continuous (max.) IP 67
<b>Starting Torque</b>	< 0.1 Nm (14.16 oz-in) at 25° C
<b>Mass Moment of Inertia</b>	750 g-cm <sup>2</sup> (10.6 x 10 <sup>-3</sup> oz-in-sec <sup>2</sup> )
Environmental Specifications	
<b>Operating Temp.</b>	-40° to +70° C
<b>Storage Temp.</b>	-40° to +85° C
<b>Shock</b>	100 G @ 11 ms
<b>Vibration</b>	10 G @ 10-2000 Hz
<b>Bump:</b>	10 G @ 16 ms (1000 x 3 axis)
<b>Humidity:</b>	98 % RH without condensation
<b>Enclosure Rating</b>	IP 65 / Nema 4 (approx.) IP 66 / Nema 6 (approx.) <i>option</i> IP 67 / Nema 6 (approx.) <i>option</i>
Connection Options	
<b>Cable</b>	<b>MUD resistant (NEK 606) &amp; halogen free, shielded</b> 4x2x0,14 mm <sup>2</sup> , 26 AWG, 4 twisted pairs; See Table 2

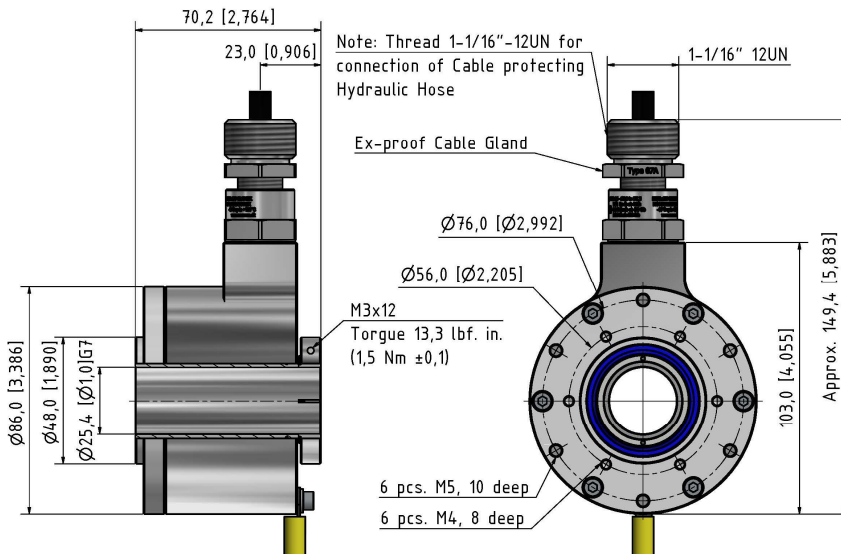
\* It is recommended user not combine max. values for all 3 parameters

Certifications		Table 1. Disk Resolutions (pulses per revolution)			
ATEX	Certificate No.: ITS09ATEX16841X II 2 G Ex db IIC T5 Gb II 2 D Ex tb IIIC T100°C Db -40°C < Tamb < +70°C	25	32	40	100
		400	800	1024	2000
IECEEx	Certificate No.: ITS13.0025X Ex db IIC T5 Gb Ex tb IIIC T100°C Db -40°C < Tamb < +70°C	2048	2500	3072	3600
		4096	<i>Other resolutions may be requested</i>		
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 2, Group IIC T <sub>Amb</sub> = -40 °C to +70 °C	 <p>⌚ Clockwise seen from the front of the encoder looking away from the motor shaft</p>			
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 ОТ МИНУС 40 ДО +70°				



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

## Mechanical Dimensions



### Side Cable Takeout - SH07A

EX d certified cable gland included

For use with cable-protecting hose (NBR composite or similar)

See Table 2.

## Table 2. Cable Output

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

GND = Circuit Ground

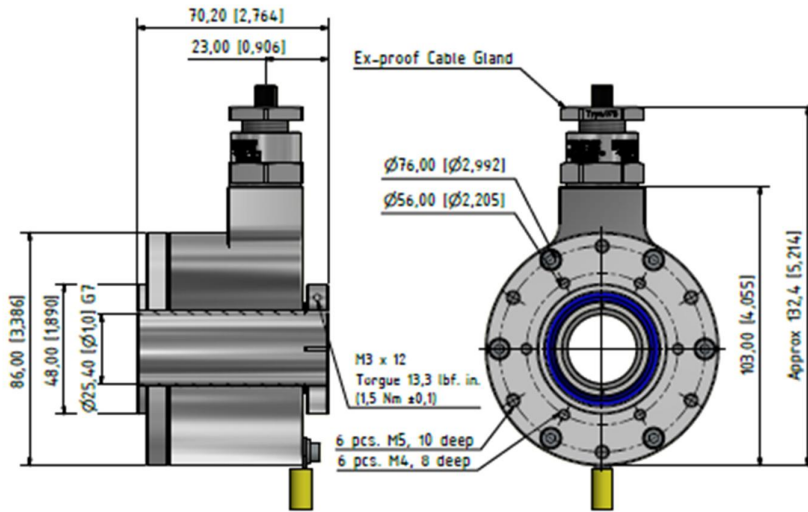
\* = internally connected as Ground  
Shield connected to Case Ground

Cable: MUD resistant (NEK 606) &

halogen free, shielded

4x2x0,14 mm<sup>2</sup>, 26 AWG, 4 twisted pairs;

Yellow cable shoe: AWG 12-10



**Side Cable Takeout - SH07B**  
EX d certified cable gland included

See Table 3.

**Table 3. Cable Output**

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

GND = Circuit Ground

\* = internally connected as Ground  
Shield connected to Case Ground

Cable: **MUD resistant (NEK 606) & halogen free, shielded**

4x2x0,14 mm<sup>2</sup>, 26 AWG, 4 twisted pairs;

Yellow cable shoe: AWG 12-10

## Ordering Code

Example: SCH86BEX - 1024 - AL - MW - 01 - 00 - 67 - 00 - SH07A - A

SCH86BEX -  -  -  -  -  -  -  -  -  -

1                    2                    3                    4                    5                    6                    7                    8

### 1. Resolution

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. Cable Takeout

Cable  
Side (Ex gland included)..... SH07A  
Side (Ex gland included)..... SH07B

### 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

Standard 1 m ..... 01  
Specify length ..... XX

### 8. Flange

A ..... A

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