

## Type SCH88BEX –Profibus



- Hollow Shaft Encoder –  $\varnothing$  89 mm ( $\varnothing$  3.46 in.)
- Through Hollow Shaft:  $\varnothing$  25 mm to  $\varnothing$  30 mm (1.18 in.)
- IP 66/67/68 (~ Nema 6) Environmental Protection
- Aluminium (Chromital TCP surface treatment)
- Material option Stainless Steel (*AISI 316*)
- ATEX, IECEx, Russian and North American Class I Div. 1 certifications
- New software version – 2PB (*see the ordering code*)

Electrical Specifications	
<b>Code:</b>	Absolute - Binary
<b>Interface:</b>	Profibus DP-V0 Supports the Profibus Profile for Absolute Encoders Vers. 1.1 class 1 and class 2
<b>Resolution:</b>	Max. 15 bit (32768) revolutions Max. 16 bit (65536) steps per rev.
<b>Device Addressing:</b>	Adjustable by rotary switches in the removable end cap and through the Change Station Address function over the Profibus interface
<b>Address Range</b>	1 to 126
<b>Baud Rate</b>	All standard Baud rates from 9,600 baud to 12 Mbaud
<b>Update Rate</b>	>1500 updates per second
<b>Termination Resistors:</b>	Built inside removable end cap Switchable on/off
<b>Supply Voltage</b>	9 V min. to 30 V max.
<b>Current Consumption</b>	80 mA @ $V_{sup} = 10$ V (typical) 40mA @ $V_{sup} = 24$ V (typical)
<b>Power consumption</b>	< 1.2 Watt
<b>Electrical Protection:</b>	Reverse polarity protected
<b>Noise Immunity:</b>	EN61000-6-2 : 2005 and EN61000-6-3 : 2007

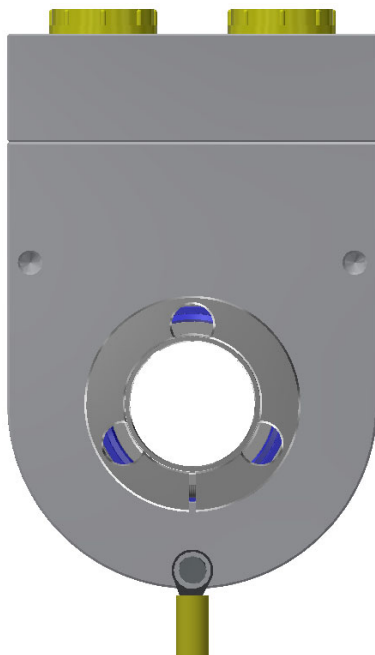
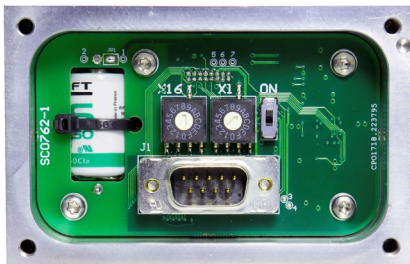
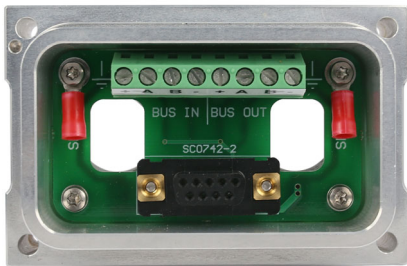
Mechanical Specifications	
<b>Material:</b>	Housing: Aluminum or Stainless Steel Cap: Aluminum or Stainless Steel Hollow Shaft: Stainless Steel
<b>Weight:</b>	Aluminum: ~ 2400 gr (84.65oz) Stainless Steel: ~ 5500 gr (194 oz)
<b>Bearing Life:</b>	> 1,9 x 10 <sup>10</sup> revolutions at rated load
<b>Hollow Shaft Speed:</b>	3.000 rpm continuous (max.) IP 67
<b>Starting Torque:</b>	< 0,1 Nm (142 oz-in) at 25° C
<b>Mass Moment of Inertia:</b>	180g-cm <sup>2</sup> (25,5 * 10 <sup>-3</sup> oz-in <sup>2</sup> )
<b>Shaft Loads:</b>	Axial: 250 N (56 lbs) max. Radial: 500 N (112 lbs) max.
<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)

Environmental Specifications	
<b>Operating Temp.:</b>	-40° to +70° C
<b>Storage Temp.:</b>	-40° to +85° C
<b>Humidity:</b>	98 % RH without condensation
<b>Enclosure Rating:</b>	IP 66 / Nema 6 (approx.) IP 67 / Nema 6 (approx.) IP 68 / Nema 6 (approx.) /1 meter/1 hour

## Certifications

<b>ATEX:</b>	Certificate number: QPS 24ATEX5009X Certificate number: CML 19ATEX1099X ( <i>not valid for the cover EC03 with outlets on sides</i> ) II 2 G Ex db IIC T5 Gb, II 2 D Ex tb IIIC T100°C Db, -40°C ≤ Tamb. ≤ +70°C
<b>IECEX:</b>	Certificate number: IECEX QPS 19.0003X Ex db IIC T5 Gb, Ex tb IIIC T100°C Db, -40°C ≤ Tamb. ≤ +70°C
<b>North America:</b>	Certificate number: LR1192-6 Class I, Division 1, Groups CD T5; Class I, Division 2, Groups BCD T5; Class II, Division 1, Groups EFG; Class II, Division 2, Groups FG, Ex db IIC T5 Gb, Ex tb IIIC T100°C Db; Class I Zone 1, AEx db IIC T5 Gb; Zone 21, AEx tb IIIC T100°C Db; Tamb= -40 °C to +70 °C

## Output Terminations in removable end cap



### Terminal Block

Bus In	Bus Out	Function
+	+	Supply Voltage
A	A	Negative data for Profibus Interface
B	B	Positive data for Profibus Interface
-	-	Circuit Ground (GND)

Connect shield to red cable shoe(s) – see below:

- Access to termination, address setting switches and termination switch after end cap has been removed.
- **The internal earth connection** (red cable shoes) is 22-16 AWG.  
*La connexion à la terre interne (Borne rouge) est en 22-16 AWG.*
- **The terminal block** is intended for installation a cable with wire size:
  - a) solid 0,14 mm<sup>2</sup> – 2,5 mm<sup>2</sup>.
  - b) flexible 0,14 mm<sup>2</sup> - 1,5 mm<sup>2</sup>
  - c) stranded with ferrule 0,25 mm<sup>2</sup> - 1,5 mm<sup>2</sup>.

The rated wire size is AWG 26-14.

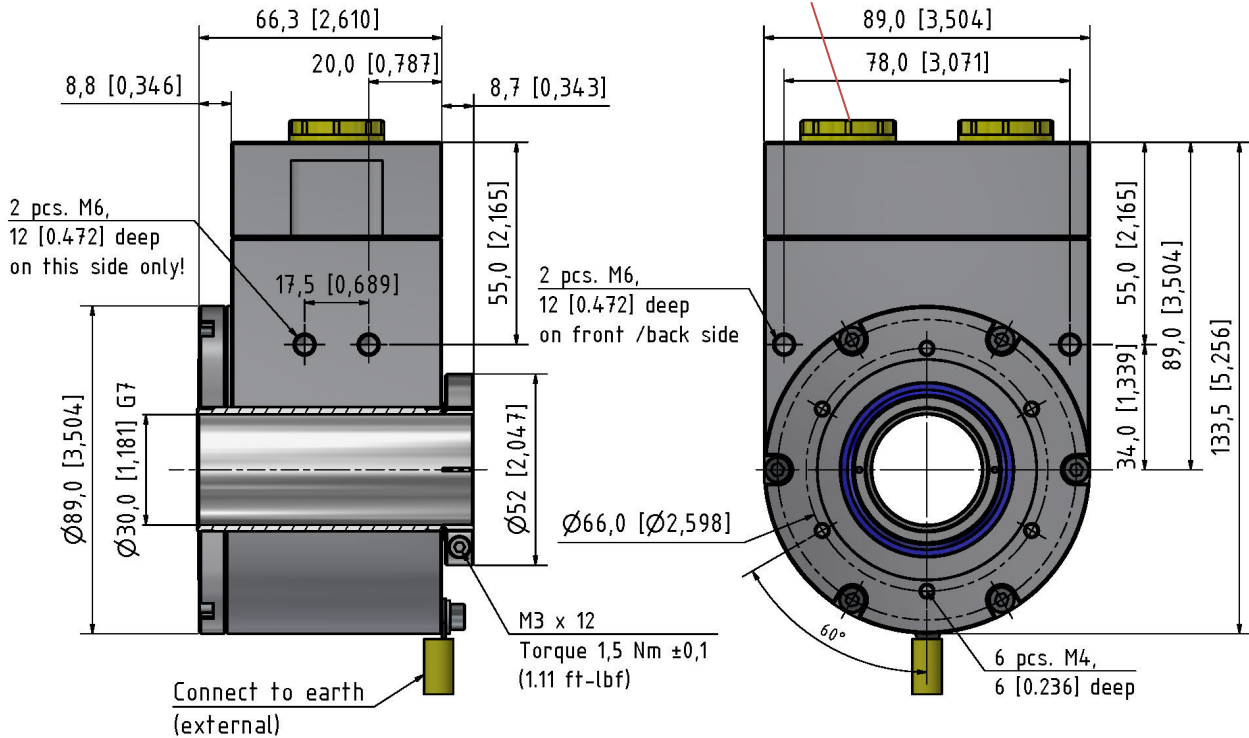
- **Le bornier** est conçu pour une installation d'un câble à la taille du fil:
  - a) rigide de 0,14 mm<sup>2</sup> - 2,5 mm<sup>2</sup>
  - b) flexible 0,14 mm<sup>2</sup> - 1,5 mm<sup>2</sup>
  - c) souple avec embout 0,25 mm<sup>2</sup> - 1,5 mm<sup>2</sup>.

*La taille de fil nominale est AWG 26-16.*

- **The external earth connection** (yellow cable shoe) is 12-10 AWG.  
*La connexion de terre externe (Borne jaune) est en 12-10 AWG.*

## Mechanical Dimensions

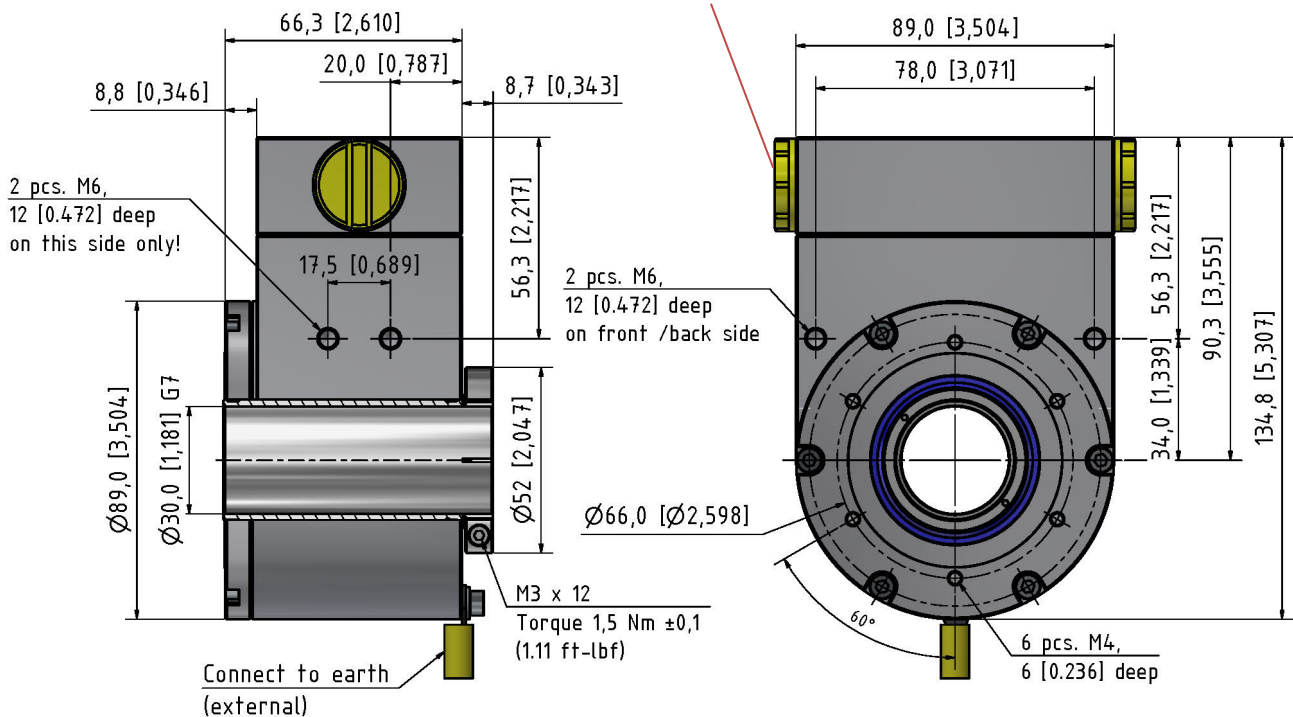
Plastic screw plugs are for cable outlet protection during shipping and storage. Plugs must be replaced by a suitably certified cable glands prior to use.



**End Cap Type EC02**

mm (inches)

Plastic screw plugs are for cable outlet protection during shipping and storage. Plugs must be replaced by a suitably certified cable glands prior to use.



**End Cap Type EC03**

mm (inches)

## Ordering Code

Example: SCH88BEX-2PB- 12-13 – AL – B – 03 – 00 – 67 – EC02 – A

SCH88BEX-2PB\* -  -  -  -  -  -  -  -  -

### 1. Revolution

Singleturn .....00  
 Multiturn 12 bits (4096) ..... 12  
 Multiturn 14 bits (16384)..... 14  
 Multiturn 15 bits (32468)..... 15

### 2. Resolution

12 Bits (4096 steps; 0,09°) .....12  
 13 Bits (8192 steps; 0,04°) .....13  
 16 Bits (65536 steps; 0,005°)...16

### 3. Composition

Aluminum ..... AL  
 Stainless Steel\* ..... SA  
 \*AISI 316

### 4. Code

Binary..... B

### 5. Hollow Shaft (diameter)

25 mm .....01  
 1 inch .....02  
 30 mm .....03

### 6. IP Rating

IP 66 ..... 66  
 IP 67 ..... 67  
 IP 68\*..... 68

### 7. End Cap

2 x M20x1,5 radial.... EC02  
 2 x M20x1,5 sides..... EC03

### 8. Flange

A..... A

\*1 meter/1hour

\*) Firmware version **01P** has been replaced by firmware version **2PB**. The two versions are not directly interchangeable as version 2PB will require a changed GSD file. Version 01P is only available on request by replacing 2PB with 01P in the ordering code. Technical Manual and GSD file for both versions can be found on Scancons website.

See **Accessories** for Anti-rotation devices (Springs/Torque Arms) and mounting examples.