



## 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

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

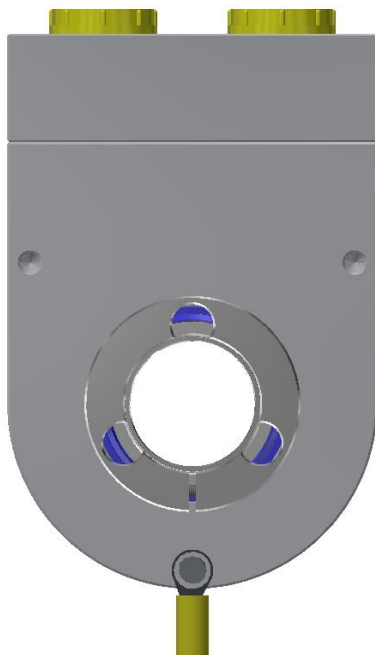
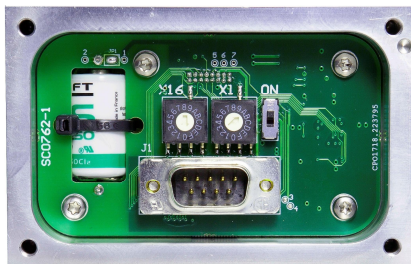
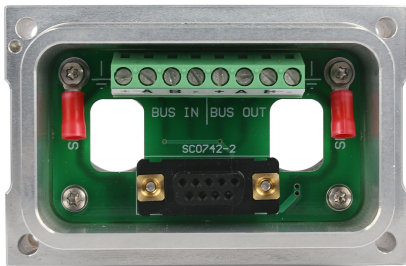
Mechanical Specifications	
<b>Material:</b>	Housing: Aluminum or Stainless Steel Cap: Aluminum or Stainless Steel Hollow Shaft: Stainless Steel
<b>Weight:</b>	Aluminum: ~ 2400 gr (84.65oz) Stainless Steel: ~ 5500 gr (194 oz)
<b>Bearing Life:</b>	> 1,9 x 10 <sup>10</sup> revolutions at rated load
<b>Hollow 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 (approx.) /1 meter/1 hour

## Certifications

<b>ATEX:</b>	Certificate number: CML 19ATEX1099X 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.

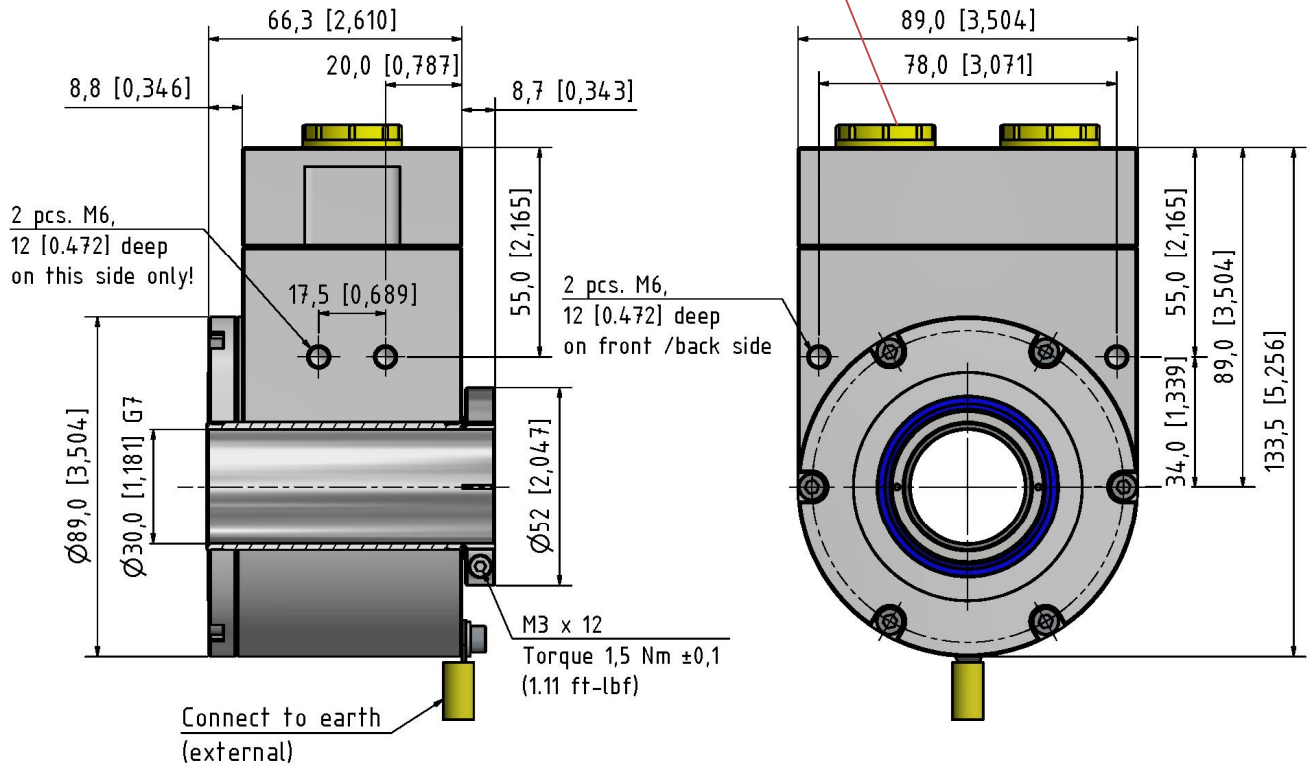
- **Le bornier** est conçu pour une installation d'un câble à la taille du fil:
  - a) rigide de 0,14 mm<sup>2</sup> - 2,5 mm<sup>2</sup>
  - b) flexible 0,14 mm<sup>2</sup> - 1,5 mm<sup>2</sup>
  - c) souple avec embout 0,25 mm<sup>2</sup> - 1,5 mm<sup>2</sup>.

*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.



Standard End Cap Type EC02

mm (inches)

## Ordering Code

Example: SCH88BEX-01P- 12-13 - AL - DP - 03 - 00 - 67 - EC02 - A

SCH88BEX-01P -  -  -  -  -  -  -  -  -

1                      2                      3                      4                      5                      6                      7                      8

### 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. Output

Profibus ..... **DP**

### 6. IP Rating

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

\*1 meter/1hour

### 8. Flange

A..... **A**

### 5. Hollow Shaft (diameter)

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

### 7. End Cap

M20x1,5 2 threaded outlets .... **EC02**

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