



SCH86BEX



SCH86FEX



SCH86BEX-fixed cable



Installation guide

This Installation Guide is valid only for encoder types SCH86FEX, SCH86BEX, SCA86EX.



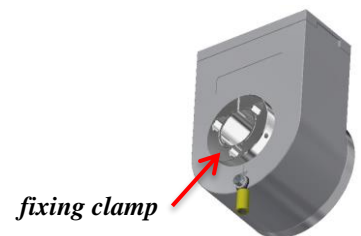
For your safety please read this guide carefully.

Failure to follow the instructions in this guide will render **ALL** certifications **INVALID**.

1. Installation

Installation of the encoder must be completed by a skilled technician or engineer. Failure to comply with the instructions below will render all certifications **INVALID**. **The encoder may not be modified by the customer.**

1. Insure that power is off.
 2. Connect to earth prior to proceeding. Observe precautions for handling **ESD (ElectroStatic Discharge)** sensitive devices
 3. When installing the Hollow Shaft encoder, check that the encoder fixing clamp is loose. Then slide the encoder hollow bore over the motor shaft (or other device).
 4. Align encoder spring coupling or torque arm mounting hole(s) with motor face plate hole(s). Insert screws into mounting holes and tighten.
 5. Tighten fixing clamp M3 screw (maximum 1.5 Nm (1.12 lbft) torque).
- Points 6 to 14 concerns the encoder with removable Cover only!
6. Use **only shielded cable**. Temperatures at the cable entry can reach 90 °C. Selection of cable must be appropriate for the ambient temperature range in which the product is used.
 7. Use **only** suitably certified cable glands (or blind plug, if no cable is attached) minimum rated for these applications or superior (see marking below). Cable entry threads are M20 x 1,5; M25 x 1,5; ½” NPT; ¾” NPT. The encoder housing can be provided with up to two of them on the nondrive end shield.



Each entry shall have no more than one thread adapter when an adaptor is used. A blanking element shall not be used with an adapter.

8. Assemble cable through Ex-Proof Cable Gland be sure approx. 3 inches (76 mm) of wire extend completely through gland.
9. Remove the protective plastic insert(s) from the cable gland outlet(s). This must be done prior to final installation.
10. Remove Cover from encoder.
11. Push wires through Cable Gland and the exterior Cover hole.
12. Screw Cable Gland into the Cover and tighten.
Estimate required wire length needed for insertion into Terminal Blocks. **NOTE** – *wire lengths will vary depending on which terminal they will be inserted into.*
- **WARNING: Do not tighten the Ex-proof cable gland while the encoder is attached to the shaft. Excessive torque may result in damage to the encoder ball bearings.**
13. Cut wires to proper lengths and insert into terminals.
14. Attach Cover to encoder and tighten screws; M4 – 3,5 Nm +/- 0,1 Nm torque.
15. Connect encoder Circuit Ground (GND).
16. Connect remaining Output wires to PLC. Then apply power (**insure the Supply Voltage is correct!**).
17. If used, safety screws in the Removable End Cap shall have a minimum yield stress of 450 MPa.
18. Precautions must be taken to avoid dust from forming layers on the encoder.
19. It is strongly recommended that the original packaging be used for any additional shipping or transport.

Caution

- **DO NOT connect encoder when power is on.**
 - **DO NOT connect output wires to supply voltage.**
 - **WARNING: Do not open when an explosive atmosphere is present!***
 - **DO NOT strike encoder with hammer or any other heavy object.**
 - **If encoder is mounted to electrical machinery with high current or high voltage on the shaft, precautions must be taken for galvanic separation.**
 - **Maintenance is not necessary. Any required maintenance or repair is to be done only by the manufacturer.**
 - **To minimize the risk from electrostatic discharge - clean only with a damp cloth.**
 - **Note: this equipment is suitable for use in class I, division 2, groups ABCD or class II, division 2, groups FG or non-hazardous locations only!**
 - **For US and Canada: this equipment with removable cap is suitable for use in Class I, Zone 1 & 2 or non-hazardous locations.**
 - **For US and Canada: this equipment with Scancon's cable gland & fixed cable is suitable for use in Class I, Zone 2 or non-hazardous locations.**
 - **WARNING: Open circuit before removing cover. Keep cover tight while circuits are alive.***
 - **WARNING: seal required within 50mm of enclosure.***
- *) This warning/caution notice is not applicable for fixed cable option.

2. Marking:

ATEX & IECEx:



II 2 G Ex db IIC T5 Gb
 II 2 D Ex tb IIIC T100°C Db IP6X
 Ambient temperatures are – 40°C to 70°C ***



North America:

Marking valid for encoder version with removable cover – (delivered without fixed cable).



File no. LR1192

Class I, Div 2, Groups ABCD T5
 Class II, Div 2, Groups FG
 Ex db IIC T5 Gb
 Class I, Zone 1, AEx db IIC T5 Gb**
 T_{Amb} = -40°C to +70°C ***

*) It is place for the specific number for the QAN issuer.

***) This mark is **excluded from fixed cable** option and is replaced by marking “Class I, Zone 2 Group IIC” (or equivalent).

***) Temperature range for the **magnetic encoder** type is – 50°C to 70°C.

3. Certification numbers:

ITS09ATEX16841X

IECEX ITS 13.0025X

QPS (Hazardous Location US/Canada) file no. LR1192

See certifications at www.scancon.dk

4. The encoder complies with the following standards:

IEC 60079-0 :2017 Ed. 7 EN 60079-0 :2018	Explosive atmospheres - Part 0: Equipment – General requirements
IEC 60079-1 :2014-06 Ed. 7	Explosive atmospheres - Part 1: Equipment protection by flameproof

EN 60079-1 :2014	enclosures "d"
IEC 60079-31:2013 Ed. 2 EN 60079-31 :2014	Electrical apparatus for use in the presence of combustible dust - Part 0: General Requirement
CSA C22.2 No. 25-1966	Enclosures for Use in Class II Groups E, F and G Hazardous Locations
CSA C22.2 No. 213-2016	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA 60079-0: 2015	Explosive atmospheres - Part 0: Equipment General requirements
CAN/CSA 60079-1: 2016	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"
UL121201-2017	Nonincendive Electrical Equipment for Use in Class I and II, Division 2
ISA/ANSI 60079-0-2009	Explosive Atmospheres – Part 0: Equipment General Requirements
ISA/ANSI 60079-1-2015	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"

NOTE: Adding/removing data or changing the layout of this document, which does not conflict with the actual data and QPS, ATEX/IECEx certification, does not need to be notified by Certification Body, as well as the new revision number following the changes.