



SCH108BEX



ATEX



Installation guide

This Installation Guide is valid only for encoder types SCH108BEX, SCH108FEX and SCA108Ex



For your safety please read this guide carefully.

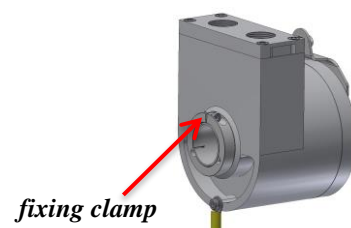
Failure to follow the instructions in this guide will render **ALL** certifications **INVALID**.

ESHR 1.1.2: Within the limits of the operating conditions laid down by the manufacturer, it must not be possible for a reaction to take place between the materials used and the constituents of the potentially explosive atmosphere which could impair explosion protection.

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 torque arm mounting hole with motor face plate hole.
Insert screw into mounting hole and tighten.
5. Tighten fixing clamp M4 screw (maximum 1.5 Nm (1.12 lbft) torque).
6. Remove the protective plastic insert(s) from the cable gland outlet(s). This must be done prior to final installation.
7. Use only Ex d and/or Ex tb certified cable glands, thread adapters (or blind plug, if no cable is attached – Dual Output option) which meet accordingly EN/IEC 60079-1 and/or EN/IEC 60079-



31 requirements for attaching cable to the encoder when using the Removable Cover option. Cable entry threads are M20 x 1,5, M25 x 1,5, 1/2 inch NPT, 3/4 inch NPT.

8. Use **only shielded cable**. Be aware of National Wiring Standards for ATEX environments. For ambient temperatures below -10° C and above +60° C use field wiring suitable for minimum and maximum ambient temperatures.
9. Connect encoder Circuit Ground (GND).
10. Connect remaining Output wires to PLC.
11. Reattach endcap and fasten screws before applying power (**insure the Supply Voltage is correct!**).
12. If used, safety screws in the Removable End Cap shall have a minimum yield stress of 450 MPa.
13. Precautions must be taken to avoid dust from forming layers on the encoder.
14. 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.**
- **DO NOT open when a flammable atmosphere may be present.**
- **DO NOT strike encoder with hammer or any other heavy object.**
- **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.**
- **WARNING: Open circuit before removing cover. Keep cover tight while circuits are alive**
- **WARNING: must be used with class 2 circuits.”(North America only)**
AVERTISSEMENT:.. Doit être utilisé avec des circuits Class 2 "(Amérique du Nord uniquement)
- **WARNING: This primary backup battery is intended for use in applications subject to replacement only by a trained service technician.**
- **No user replaceable items inside – including internal backup battery!**
Aucun utilisateur les éléments remplaçables à l'intérieur!
- **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.**
- No modifications may be made to the flamepaths of the enclosure.
- **To minimize the risk from electrostatic discharge - clean only with a damp cloth.**
- **It is a condition of certification that the precautions must be taken to avoid dust from forming layers on the encoder.**
- **Temperatures at the branching point can reach 85°C. Selection of cable must be appropriate for the ambient temperature range in which the product is used !**
- **Note: this equipment is suitable for use in class I, division 1, groups CD or class II, division 1, groups EFG or non-hazardous locations only!**

- **Use only fasteners with a minimum yield stress of 450 Mpa.**
Utilisez uniquement des fixations avec une limite d'élasticité minimale de 450 MPa.
- **Only suitably certified cable glands, fittings, and/or blind plugs may be used.**
Seulement convenablement certifié presse-étoupes, raccords et / ou bouchons peuvent être utilisés.
- **A seal shall be installed within 50 mm of the enclosure. (North America only).**
Un scellement doit être installé à moins de 50 mm du boîtier.

2. Electrical ratings

Supply voltage:	9V to 30V
Current consumption:	150mA @ Vsup=10V(typical) 70mA @ Vsup=24V(typical)
Power consumption:	< 2 Watts
Rotation:	3000 rpm maximum

3. Marking: ATEX/IECEX



Ex db IIB+H2 T5 Gb
Ex tb IIIC T100°C Db
Tamb=-40°C to +70°C



II 2G Ex db IIB+H2 T5 Gb
II 2D Ex tb IIIC T100°C Db
Tamb=-40°C to +70°C

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

North American



File no. LR1192

Class I Div. 1 Groups CD T5
Class I Div. 2 Groups BCD T5
Class II Div. 1 Groups EFG
Class II Div. 2 Groups FG
Ex db IIB+H2 T5 Gb
Ex tb IIIC T100°C Db
Tamb=-40°C to +70°C

Class I Zone 1 Group IIB T5
Zone 21 Group IIIC
Tamb=-40°C to +70°C
AEx db IIB+H2 T5 Gb
AEx tb IIIC T100°C Db

Additionally the encoders meet IP65/66/67 & 68- 1 meter/1 hour) in accordance with EN 60529.

4. Certification numbers:

IECEX: IECEx QPS 15.0015X

ATEX: CML 15ATEX1142X.

Certificate of Compliance (North America) is under file no. LR1192

See certifications at www.scancon.dk

5. The encoder complies with the following standards:

IEC 60079-0 :2011 Ed.6 EN 60079-0 :2012+A11:2013	Explosive atmospheres - Part 0: Equipment – General requirements
IEC 60079-1 :2014-06 Ed. 7 EN 60079-1 :2014	Explosive atmospheres - Part 1: Equipment protection by flameproof 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.142-M1987	Process Control Equipment, Industrial Products.
CSA C22.2 No.30-M1986	Explosion-Proof Enclosures for Use in Class I Hazardous Locations, Industrial Products.
CSA C22.2 No. 25-1966	Enclosures for Use in Class II Groups E, F and G Hazardous Locations
CSA C22.2 No. 213-2017	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations, Industrial Products.
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'
CAN/CSA 60079-31:2016	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure 't'
ANSI/UL 1203, 5 th Edition 2013	Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
ANSI/UL 508 17 th Edition	Industrial Control Equipment
ANSI/ISA 12.12.01-2017	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
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"
ISA/ANSI 60079-31-2015	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure 't'