

EU TYPE-EXAMINATION CERTIFICATE



1. **EU type-examination Certificate (Module B)**
2. **Equipment or Protective System intended for use in potentially explosive atmospheres (Directive 2014/34/EU)**
3. **EU type examination certificate Nr ITS 09 ATEX 16841X R.1**
4. **Product:** Incremental Encoder Type SCA86EX, SCH86BEX & SCH86FEX
5. **Manufacturer:** Scancon Encoders A/S **Applicant:** Scancon Encoders A/S
6. **Address:** Huginsvej 8, DK-3400, Hilleroed, Denmark **Address:** Huginsvej 8, DK-3400, Hilleroed, Denmark
7. This product and any acceptable variation thereto are specified in the schedule to this certificate and therein referred to.
8. INTERTEK ITALIA S.p.A., Notified Body n° 2575 in accordance with article 17 of the Directive 2014/34/EU of the European Parliament and Council of the 26 February 2014, certifies that the equipment or protective system has been found to comply with the essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmosphere, given in Annex II of the Directive.

The examination and tests results are recorded in confidential technical evaluation Intertek Reports: ETS3539 dated 17 December 2009, No ETS3887 dated 15 March 2010, 101235509MAN-001D dated February 2014, 101663066MAN-001D dated May 2014, 101936470MAN-001 dated February 2015, 102049593CHE-001 dated April 2016, 103054906CHE-001 dated September 2017, and 103678823CHE-001 dated 07 February 2019.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN IEC 60079-0:2018, EN 60079-1: 2014, and EN 60079-31: 2014 except in respect of those requirements referred to at item 16 of the Schedule.
10. If the sign X is placed after the certificate number, it indicates that the product is subject to Special Conditions for Safe Use specified in the schedule to this certificate.
11. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
12. The marking of the product shall include the following:



II 2 G Ex db IIC T5 Gb
II 2 D Ex tb IIIC T100°C Db
Tamb: -40°C/-50°C* to +70°C
*-50°C applicable to magnetic version only.

3rd September 2020
Certificate issue date

Fabrizio Massei
Certification Officer
Intertek Italia S.p.A. (NB 2575)



PDR N° 277B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements



This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Italia S.p.A. Via Miglioli, 2/A - 20063 Cernusco sul Naviglio, Milano - Italy



SCHEDULE

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13. DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

The Incremental Encoder types SCA86EX, SCH86BEX, SCH86FEX are small enclosures manufactured from stainless steel or aluminium available in a “U”-shape with removable end or in a “drop-shape” with non-removable end cap version with approximate dimensions of 70mm x 86mm x 130mm. These enclosures are populated with electronics and have a shaft passing through the main body. The shaft may be solid or hollow and with one or two ends free. The encoder designations detail the type of shaft used as follows; SCA86EX – Solid Shaft, SCH86BEX – Hollow Shaft, SCH86FEX – Hollow Shaft. The enclosures comprise of cylindrical flamepaths between the Housing & End Cap, End Cap & Cover (when “U”-shaped enclosure used). The rotating shaft also forms a cylindrical flamepath through the housing controlled by k & m factors and is held in place with 2 precision roller element bearings. The enclosure is provided with either one or two threaded cable entries which are fitted with either a certified M20 or M25 cable gland. Alternatively, the equipment can have either one or two holes in NPT size $\leq 3/4$ ". Both internal and external earthing is provided.

Note: Optionally the encoder can be fitted with an optical transmitter – the optical radiation output of the apparatus with respect to explosion protection is covered in this certificate based on Exception 3) to the scope of EN 60079-28:2015.

CE Marking shall be accompanied by the identification number of the Notified Body responsible for surveillance of production.

14. DRAWINGS AND DOCUMENTS

TITLE	DOCUMENT Nr	LEVEL	DATE
Certification drawing – Housing SC86EX Ex dwg	00132575C	6	11-12-2018
Certification drawing – End Cap SC86EX Ex dwg	00132576C	5	11-12-2018
Certification drawing – Cap SC86EX Ex dwg	00132820C	4	06-07-2017
Certification drawing – Cover SC86EX Ex dwg	00132819C	6	11-12-2018
Certification drawing – hollow shaft SC86EX EX dwg	00132577C	5	11-12-2018
Certification drawing – Shaft SC86EX EX dwg	00132578C	5	11-12-2018
Internal/external earthing SC86EX-XM	00132829C	3	06-07-2017
Encoder type SC86EX, SC86XM “k” calculation Ex-dwg	00132813A	3	11.12.2018
Encoder type SC86EX, SC86XM “m” calculation Ex-dwg	00132813B	3	11.12.2018
Encoder type SC86EX, SC86XM “k” calculation Ex-dwg	00132814A	3	11.12.2018
Encoder type SC86EX, SC86XM “m” calculation Ex-dwg	00132814B	3	11.12.2018
SC86EX-SC86XM enclosure	00132827	3	11-12-2018
Allen screw M4x12 ISO4762 A2-70	07130059	3	18-10-2012
Allen screw M4x12 ISO4762 A4-80	07130094	3	17-05-2017
Allen screw M4x16 ISO4762 A4-80	07130086	5	06-07-2017
Ring Cable Shoe Yellow – M4	06300054	1	09-07-2013
Warning Label for mining and surface Ex-dwg.	00241009	1	11.12.2018



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TITLE	DOCUMENT Nr	LEVEL	DATE
Certification drawing – Rotary-Shaft Seal	00230847C	1	18-01-2018
Certification drawing – O-ring Ex dwg	00230849C	1	16-01-2018
SC86EX ordering code surface Ex-dwg	00142828	4	11-12-2018
SCA86EX, SCH86BEX SCH86FEX Marking drawing – surface Ex-dwg	00142581	8	06.07.2017
Type SC86EX Installation Guide	00141508	12	11 Dec 2018
Certification drawing – SC86EX-FO	90230763C	2	11-12-2018
SCA86EX, SCH86BEX SCH86FEX Magnetic Marking drawing – surface Ex-dwg.	00241014	1	11.12.2018

Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.

15. SPECIAL CONDITIONS FOR SAFE USE

- Minimise the risk from electrostatic discharge - clean only with a damp cloth.
- Temperature at the cable gland or branching point could exceed 90°C – suitably rated cable must be used.
- No modifications must be made to the flamepaths of the enclosure without consultation to the manufacturer's drawings.
- Use only fasteners with minimum yield stress of 450MPa.
- Use only suitably certified Ex db IIC Gb and Ex tb IIIC Db cable glands.
- Use only suitably certified Ex db IIC Gb and Ex tb IIIC Db blanking elements.
- Use only suitably certified Ex db IIC Gb and Ex tb IIIC Db thread adapters.
- Lower ambient of -50°C is only applicable for the magnetic version of the SC86EX.
- For the magnetic version of the SC86EX, only Eriks NBR 70 Compound 366224 O-rings are to be used.

16. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

The relevant essential Health and Safety Requirements have been identified and assessed in Intertek Reports: ETS3539 dated 17 December 2009, No ETS3887 dated 15 March 2010, 101235509MAN-001D dated February 2014, 101663066MAN-001D dated May 2014, 101936470MAN-001 dated February 2015, 102049593CHE-001 dated April 2016, 103054906CHE-001 dated September 2017, and 103678823CHE-001 dated 07 February 2019.

17. ROUTINE (FACTORY) TESTS

None

18. DETAIL OF CERTIFICATE CHANGES

R.1 (3rd September 2020): typing error correction.