



# IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION  
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX TSA 11.0008X** Page 1 of 5 Certificate history:  
Status: **Current** Issue No: 2 Issue 1 (2015-03-04)  
Date of Issue: 2018-10-19 Issue 0 (2011-11-10)  
Applicant: **Scancon Encoders A/S**  
Huginsvej 8  
3400 Hilleroed  
Denmark  
Equipment: **Optical Encoder Type EXME**  
Optional accessory:  
Type of Protection: **Flameproof "d"**  
Marking: Ex db I Mb  
-40°C ≤ Ta ≤ +70°C

Approved for issue on behalf of the IECEx  
Certification Body:

**Ujen Singh**

Position:

**Quality & Certification Manager**

Signature:  
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**TestSafe Australia**  
919 Londonderry Road  
Londonderry NSW 2753  
Australia





# IECEX Certificate of Conformity

Certificate No.: **IECEX TSA 11.0008X**

Page 2 of 5

Date of issue: 2018-10-19

Issue No: 2

Manufacturer: **Scancon Encoders A/S**  
Huginsvej 8  
3400 Hilleroed  
Denmark

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition: 7.0

**IEC 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition: 7.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[AU/TSA/ExTR11.0044/00](#)

[AU/TSA/ExTR11.0067/00](#)

[AU/TSA/ExTR18.0030/00](#)

Quality Assessment Report:

[GB/EXV/QAR17.0015/01](#)



# IECEX Certificate of Conformity

Certificate No.: **IECEX TSA 11.0008X**

Page 3 of 5

Date of issue: 2018-10-19

Issue No: 2

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Optical Encoder EXME is a small flameproof construction enclosure containing the electronics. The encoder housing is manufactured from stainless steel or acid proof stainless steel with drive shaft in one enclosure end shield. The shaft can be either solid type shaft (EXME-A) or hollow type shaft (EXME-H). The drive end shield is secured to the body with six M4 counter bored socket head cap screws. The non-drive end shield is secured to the body with six M4 counter bored socket head cap screws. The body makes one cylindrical joint with the non-drive shield on one side and another cylindrical joint with the drive end shield on another side. O-rings are fitted to each cylindrical joint. There is a shaft seal on drive end shield, where two ball bearings are mounted to the cylindrical joint between the shaft and the drive end shield.

The encoder housing can be provided with one to four M20 × 1.5 – 6H, or M25 × 1.5 – 6H, or ½" NPT, or ¾" NPT threaded entries on the non drive end shield. These threaded entries are closed with the suitable separately IECEx certified cable glands. All unused entries must be closed with suitable separately IECEx certified blanking elements. The fasteners used to secure enclosure body to end shields shall have a minimum yield stress of 450 MPa. The apparatus is rated at 300 mA maximum current and voltage range from 4.5 V d.c or 10 V d.c. to 30 V d.c.. The encoder model numbers and coding is shown in the drawing 00240171. Rated speed for type variants with shaft seal maximum 3000 rpm; without shaft seal maximum 6000 rpm.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

1. As flameproof joints parameters are different from the minimum/maximum defined in Table 2 of IEC 60079-1, the repair must be carried out only by the manufacturer in accordance with the certification drawings.
2. The manufacturer's instruction must be followed to minimize the risk from electrostatic discharge.
3. For ambient temperature 65°C to 70°C, cable must be rated for at least 85°C.
4. The fastener used to secure enclosure body to end shields shall have a minimum yield stress of 450Mpa
5. Use only suitably certified Ex db I Mb cable glands, thread adaptors and blanking elements comply to ambient temperature range - 40°C to + 70°C and relevant IP rating -IP64/65/66/67/68 (1h/1 meter)



# IECEx Certificate of Conformity

Certificate No.: **IECEx TSA 11.0008X**

Page 4 of 5

Date of issue: 2018-10-19

Issue No: 2

## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

### Issue 1:

Address of the manufacturer was changed to Huginsvej 8, Hilleroed 3400 Denmark, from Tranevang 1, Allerød 3450 Denmark.

### Issue 2:

1. Removing Group II and Group III from certification, although still keeping Group III assessment in IECEx test report
2. Updating certification standard from IEC 60079-0:2004 Edition 4.0 and IEC 60079-0:2007 Edition 5.0, to IEC 60079-0:2017, Edition 7.0
3. Updating certification standard from IEC 60079-1:2007 Edition 6.0 to IEC 60079-1:2014, Edition 7.0
4. Updating standard in IECEx test report from IEC 60079-31:2008 Edition 1.0 to IEC 60079-31:2013, Edition 2.0
5. Change of ambient temperature from  $-20^{\circ}\text{C} \leq T_a \leq +65^{\circ}\text{C}$  to  $-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$
6. Provides more options of Back Covers, increased from 2 options to totally 5 optional shapes in the product family, total number of thread entries to each Back Cover from 2 to 5; besides original  $M20 \times 1.5 - 6H$  thread, more threaded entry options:  $M25 \times 1.5 - 6H$ , or  $\frac{1}{2}$ " NPT, or  $\frac{3}{4}$ " NPT
7. Additional voltage range of 4.5 – 30 V d.c.
8. Inclusion of new type of rotary seal
9. Increase in maximum gap of both end cover cylindrical joints from 0.08mm to 0.1mm
10. Changes to the "Specific Conditions of Use"
11. Update of drawing set & material datasheets



# IECEX Certificate of Conformity

Certificate No.: **IECEX TSA 11.0008X**

Page 5 of 5

Date of issue: 2018-10-19

Issue No: 2

**Additional information:**

See Annexe for more information

**Annex:**

[Annexe\\_IECEX TSA 11.0008X-02.pdf](#)



# IECEX Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEX TSA 11.0008X	Issue No.:	2
-----------------------------	--------------------	------------	---

## Drawing list pertaining to Issue 0 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
130290	1	EXAG + EXME Gap sketch Ex -dwg.	4	2011-02-24
130291	1	EXAG + EXME Gap sketch Ex -dwg	4	2011-02-24
00130651C	1	Hollow shaft Ø14 EXAG Ex dwg	1	2009-09-21
130976	1	EXAG Back Cover Type FA VA Ex dwg	6	2009-08-28
131115	1	EXAG Back Cover Type ES VA cable Ø9 Ex-dwg.	4	2009-08-28
00131341C	1	Hollow shaft Ø16 EXAG/EXME Ex dwg	1	2009-09-21
00131828C	1	Certification dwg Housing EXAG/EXME Ex dwg	2	2010-07-08
00131829C	1	Certification dwg Housing EXAG/EXME Ex dwg	2	2010-07-08
140386	1	Warning Label	1	2007-09-19
140975	1	EXAG Cover Tube VA Ex dwg	3	2009-09-01
141195	1	EXME Ordering Code Ex-dwg	9	2011-09-05
141742	1	EXAG.. Adresse label 100x23 Ex-dwg.	1	2009-10-08
141830	1	EXME Marking label for Mining Ex-dwg.	5	2011-09-02
EXMEA VA 102066CES	1	EXME-A-VA-10-20-66-C-ES Ex dwg	6	2011-09-02
EXMEA VA 102066CES CAT	1	EXME-A-VA-10-20-66-C-ES Ex dwg	6	2011-10-21
EXMEA VA 102066CFA	1	EXMEAVA102066CFA Ex dwg	6	2011-09-02
EXMEA VA 102066CFACAT	1	EXMEAVA102066CFA Ex dwg	6	2011-10-21
EXMEH VA 140066CCB	1	EXME-H-VA-14-00-66-C-CB Ex-dwg	6	2011-09-02
EXMEH VA 140066CCBCAT	1	EXME-H-VA-14-00-66-C-CB Ex-dwg	6	2011-10-21
EXMEH VA 140066CES	1	EXME-H-VA-14-00-66-C-ES Ex-dwg	6	2011-09-02
EXMEH VA 140066CESCAT	1	EXME-H-VA-14-00-66-C-ES Ex-dwg	6	2011-10-21
EXMEH VA 140066CFA	1	EXME-H-VA-14-00-66-C-FA Ex-dwg	6	2011-09-02
EXMEH VA 140066CFACAT	1	EXME-H-VA-14-00-66-C-FA Ex-dwg	6	2011-10-21
EXMEH VA 140066CDD	1	EXME-H-VA-14-00-66-C-DD Ex-dwg	4	2011-09-02
EXMEH VA 140066CDDCAT	1	EXME-H-VA-14-00-66-C-DD Ex-dwg	6	2011-10-21
80131870	1	EXAG Back Cover F0 SA Mounting Instructions Ex dwg	3	2010-08-24

Certificate issued by:

	<b>TestSafe Australia</b> 919 Londonderry Road Londonderry NSW 2753 Australia
---	---





# IECEX Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEX TSA 11.0008X	Issue No.:	2
-----------------------------	--------------------	------------	---

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
80131308	1	EXAG Back Cover Type F0 VA Mounting Instructions Ex dwg	3	2010-08-24
80131995	1	EXAG Back Cover Type CO VA Mounting Instructions Ex dwg	2	2010-07-22
80132308	1	EXAG Back Cover Type EO VA Mounting Instructions Ex dwg	1	2011-09-12

### Specific Conditions of use pertaining to Issue 0 of this Certificate:

1. It is a condition of certification that the flame paths have to comply with the manufacturer drawing and can only be repaired by the manufacturer.
2. It is a condition of certification that the precautions must be taken to avoid dust from forming layers on the encoder.

### Drawing list pertaining to Issue 1 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
00140386	1	Warning Label	4	2015-02-10
00141742	1	EXAG.. Address label 100x23 Ex-dwg	2	2015-01-05
00141830	1	EXME Marking label for mining Ex-dwg	5	2015-02-10

### Specific Conditions of use pertaining to Issue 1 of this Certificate:

Same as Issue 0.

### Details of certificate changes to Issue 1 of the Certificate:

See the main body in certificate.

Certificate issued by:

	<b>TestSafe Australia</b> 919 Londonderry Road Londonderry NSW 2753 Australia
---	---



# IECEX Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEX TSA 11.0008X	Issue No.:	2
-----------------------------	--------------------	------------	---

## Drawing list pertaining to Issue 2 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
EXMENA016x00FZC00	1	* Ex dwg	5	2018-09-11
EXMENV016x00FZCS1	1	* Ex dwg	6	2018-09-11
EXMESASA026x00FIQ00	1	* Ex dwg	2	2018-09-11
EXMESHSA076x00FECS1	1	* Ex dwg	2	2018-09-11
EXMENA016x00FGC00	1	* Ex dwg	5	2018-09-11
EXMESASA026x00FZC00	1	* Ex dwg	4	2018-09-11
EXMELASA036x00FZC00	1	* Ex dwg	5	2018-09-11
00132208C	1	* Certification drawing – H.shaft /shaft Ø17 EXAG/EXME Ex dwg	3	2017-05-17
00132215C	1	* Certification drawing – H. shaft/shaft Ø30 EXAG/EXME Ex dwg	4	2017-05-17
00132213C	1	* Certification drawing – Cover Tube EXAG/EXME Ex dwg	4	2017-05-17
00132216C	1	* Certification drawing – EXAG Back Cover Ex dwg	4	2017-05-17
00132207C	1	* Certification dwg – Housing EXAG/EXME Ex dwg	7	2017-05-17
80230175C	1	* Certification drawing-EXAG Back Cover, Internal External Earthing Ex dwg	2	2017-05-17
90230950C	1	*Certification drawing – EXME Assembly Ex dwg	1	2018-08-23
90230885C	1	* Certification drawing – EXAG/EXME Enclosure Ex dwg	1	2018-03-27
00230164	1	* Encoder type EXAG/EXME “k” calculation Ex-dwg	1	2015-05-27
00230165	1	* Encoder type EXAG/EXME “m” calculation	1	2015-05-27
00240171	1	* EXME- Ordering Code Ex-dwg	2	2017-03-17
00240172	1	* EXME – Marking Label 100×23 Ex-dwg	2	2017-05-17

Certificate issued by:

	<b>TestSafe Australia</b> 919 Londonderry Road Londonderry NSW 2753 Australia
---	---





# IECEX Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEX TSA 11.0008X	Issue No.:	2
-----------------------------	--------------------	------------	---

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
00240173	1	* EXME – Marking Label 100×35 Ex-dwg	2	2017-05-17
00240082	1	* EXME - Marking label for Mining 35×15	2	2018-06-19
00141742	1	* EXAG – Address Label 100×23 Ex-dwg	2	2015-01-05
00142898	1	* Warning Label Label for mining and surface Ex-dwg	7	2017-05-17
00142898B	1	* Warning Label - Suppl.to 00142898 Ex-dwg	1	2017-05-17
00240719	3	* Type EXME Installation Guide	3	2018-09-05
07130063	1	* Allen screw M4×35 ISO4762 A2-70	3	2012-10-18
07130059	1	* Allen screw M4×12 ISO4762 A2-70	3	2012-10-18
07130074	1	* Allen screw M4×50 ISO4762 A4-80	3	2017-05-17
07130094	1	* Allen screw M4×12 ISO4762 A4-80	3	2017-05-17
07130097	1	* Allen screw M4×35 ISO4762 A4-80	4	2017-05-17
07130026	1	* Allen screw M4×25 ISO4762 A2-70	2	2017-05-17
07130102	1	* Allen screw M4×25 ISO4762 A4-80	2	2017-05-17
07130103	1	* Allen screw M4×55 ISO4762 A4-80	2	2017-05-17
06300054	1	* Ring cable shoe yellow M4	1	2013-07-09

*Note: An \* is included before the title of documents that are new or revised.*

### **Specific Conditions of use pertaining to Issue 2 of this Certificate:**

See the main body in certificate

### **Details of certificate changes to Issue 2 of the Certificate:**

See the main body in certificate.

**Certificate issued by:**

	<b>TestSafe Australia</b> 919 Londonderry Road Londonderry NSW 2753 Australia
---	---