



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:  issue No.:  Certificate history:

Status:

Date of Issue:  Page 1 of 3

Applicant: **F.E.A.M S.r.l**  
Via Mario Pagano, 3  
I - 20090 Trezzano sul Naviglio (MI)  
Italy

Electrical Apparatus: **nclosures type ESA... or ESX...**  
Optional accessory:

Type of Protection: **e and tb for enclosure and d, e, ia, ib, mb for components**

Marking: **Ex d e ia/ib ib mb IIC T6, T5 or T4 Gb**  
**Ex tb IIIC T85°C or T100°C Db IP66**

Approved for issue on behalf of the IECEX  
Certification Body:

Thierry HOUEIX

Position:

Ex Certification Officer

Signature:  
(for printed version)

Date:

2012-02-17



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 the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

**INERIS**  
**Institut National de l'Environnement Industriel  
et des Risques**  
BP n2  
Parc Technologique ALATA  
F-60550 Verneuil-En-Halatte  
France



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016  
Date of Issue: 2012-02-17 Issue No.: 0  
Page 2 of 3

Manufacturer: **F.E.A.M S.r.l**  
Via Mario Pagano, 3  
I - 20090 Trezzano sul Naviglio (MI)  
Italy

#### Manufacturing location(s):

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 electrical apparatus 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:

<b>IEC 60079-0 : 2000</b> Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-0 : 2004</b> Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-0 : 2007-10</b> Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
<b>IEC 60079-1 : 2001</b> Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosures 'd'
<b>IEC 60079-1 : 2007-04</b> Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-11 : 1999</b> Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
<b>IEC 60079-18 : 1992</b> Edition: 1	Electrical apparatus for explosive gas atmospheres - Part 18: Encapsulation 'm'
<b>IEC 60079-31 : 2008</b> Edition: 1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure 't'
<b>IEC 60079-7 : 2001</b> Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
<b>IEC 61241-0 : 2004</b> Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
<b>IEC 61241-1 : 2004</b> Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical 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 Report:  
[FR/INE/ExTR11.0017/00](#)

Quality Assessment Report:  
[IT/CES/QAR09.0003/01](#)



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016

Date of Issue:

2012-02-17

Issue No.: 0

Page 3 of 3

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

These enclosures made in light alloy for the type ESA... or stainless steel for the type ESX... are protected by increased safety "e" and protected by enclosure "tb" for dust atmosphere.

Enclosures, protected by increased safety "e", are intended to received terminals only or terminals and some electrical components covered by an IECEx certificates and with different type of protection as "Ex d e", "Ex ia", "Ex ib", "Ex d ia/ib", "Ex e mb", "Ex d e mb", "Ex d e mb ia".

Enclosures, protected by enclosure "tb" , are intended to received the same equipment listed above and/or electrical components not covered by an IECEx certificate and listed in the documentation.

The list of the component is defined in the technical documentation.

These enclosures get the degrees of protection IP65 or IP66 according to the IEC 600529 standard and in accordance with degrees of protection of the component installed on the enclosure

**CONDITIONS OF CERTIFICATION: NO**





# IECEx Certificate of Conformity

Certificate No.: IECEx INE 11.0016  
Date of Issue: 2012-02-17 Issue No.: 0  
Page 1 of 3  
Annexe: IECEx INE 11.0016\_Annex.pdf

## PARAMETERS RELATING TO THE SAFETY

### Enclosures “Ex e” and “Ex tb” with internal component and/or terminals:

Maximum supply voltage : 750 V

Maximum intensity : see table below

Wiring section (mm <sup>2</sup> )	1,5	2,5	4	6	10	16	25	35	50	70	95	150
Maximal current (A)	8	12	17	23	32	43	58	73	86	105	127	172

The maximum number of the terminals and the permissible rated current depend of the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described on the descriptive documents.

These enclosures are intended to be used in the following ranges of ambient temperature, in accordance with the temperature class T6/T85°C, T5/T100°C or T4/T135°C, the thermal stability of the terminals and the ambient temperature range of the component installed in the enclosure:

- minimum ambient temperature from -20°C to -60°C for “Ex e” and “Ex tb” versions.
- maximum ambient temperature from +40°C to +80°C for “Ex e” version.
- maximum ambient temperature from +40°C to +60°C for “Ex tb” version.

The components other than terminals can be installed only when the wiring section of each wire and terminal is 2.5 mm<sup>2</sup> and with a maximum current of 6 A. This configuration is only for a maximum ambient temperature 40°C.

### Enclosures “Ex tb” with internal component and/or terminals:

Maximum supply voltage : 660 V

Maximum power dissipated is indicated on the descriptive documentation in accordance with the size of enclosure, the temperature class and the ambient temperature.



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 11.0016

Date of Issue: **2012-02-17**

Issue No.: **0**

Page 2 of 3

Annexe: IECEX INE 11.0016\_Annex.pdf

## **MARKING**

Marking has to be readable and indelible; it has to include the following indications:

### **A – Enclosure “Ex e” and “tb” fitted only with terminals:**

- F.E.A.M S.r.l
- I – 20090 Trezzano sul Naviglio (MI)
- ESA... or ESX... **(1)**
- IECEX INE 11.0016
- (Serial number)
- Ex e IIC T6 or T5 or T4 Gb
- Ex tb IIIC T85°C or T100°C or T135°C Db IP66
- ...°C ≤ Tamb ≤ ...°C **(2)**
- T. cable = **(3)**
- (Rated voltage and rated current and/or rated power)
- Warning: DO NOT OPEN WHEN ENERGIZED

**(1)** Type is completed by numbers corresponding to the size of the enclosure.

**(2)** Indication of the range of temperature ambient if different from -20°C to +40°C.

**(3)** Indication when the temperature is higher than 70°C.

### **B – Enclosure “Ex e” and “tb” fitted with terminals and components:**

- F.E.A.M S.r.l
- I – 20090 Trezzano sul Naviglio (MI)
- ESA... or ESX... **(1)**
- IECEX INE 11.0016
- (Serial number)
- Ex **(2)** e IIB or IIC T6 or T5 Gb
- Ex tb IIIC T85°C or T100°C Db IP66
- ...°C ≤ Tamb ≤ ...°C **(3)**
- T. cable = **(4)**
- (Rated voltage and rated current and/or rated power)
- Warning: DO NOT OPEN WHEN ENERGIZED

**(1)** Type is completed by numbers corresponding to the size of the enclosure.

**(2)** The marking code Ex is completed by the indication of the type of protection of the Ex components installed in the enclosure in the alphabetical order.

**(3)** Indication of the range of temperature ambient if different from -20°C to +40°C.

**(4)** Indication when the temperature is higher than 70°C.



# IECEx Certificate of Conformity

Certificate No.: IECEx INE 11.0016

Date of Issue: **2012-02-17**

Issue No.: **0**

Page 3 of 3

Annexe: IECEx INE 11.0016\_Annex.pdf

## **C – Enclosure “Ex tb” for dust protection:**

- F.E.A.M S.r.l
- I – 20090 Trezzano sul Naviglio (MI)
- ESA... or ESX... **(1)**
- IECEx INE 11.0016
- (Serial number)
- Ex tb IIIC T85°C, T100°C or T135°C Db
- IP66
- ...°C ≤ Tamb ≤ ...°C **(2)**
- T. cable = **(3)**
- Warning: DO NOT OPEN WHEN ENERGIZED

**(1)** Type is completed by numbers corresponding to the size of the enclosure.

**(2)** Indication of the range of temperature ambient if different from -20°C to +40°C.

**(3)** 90°C for T100°C or 120°C for T135°C.

## **ROUTINE EXAMINATIONS AND TESTS**

In accordance with clause 7.1 of the IEC 60079-7 standard, a dielectric strength test on each of the different circuits of the connection units, performed according to the relevant standards, the supply voltage shall be applied during one minute.





# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEx INE 11.0016X Issue No: 1 Certificate history:  
Issue No. 1 (2015-05-07)  
Status: Current Page 1 of 4 Issue No. 0 (2012-02-17)  
Date of Issue: 2015-05-07  
Applicant: FEAM  
Via Mario Pagano, 3  
I - 20090 Trezzano sul Naviglio (MI)  
Italy  
Electrical Apparatus: Enclosures type ESA... or ESX...  
Optional accessory:  
Type of Protection: e and tb for enclosure and d, e, ia, ib, mb for components  
Marking:  
Ex d e ia/ib mb IIC T6 or T5 or T4 or T3 Gb  
Ex tb IIIC T85°C or T100°C or T135°C or T200°C Db IP66 or IP65

Approved for issue on behalf of the IECEx  
Certification Body:

Thierry HOUËIX

Position:

Ex Certification Officer

Signature:  
(for printed version)



Date:

2015-05-07

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

INERIS  
Institut National de l'Environnement Industriel  
et des Risques  
BP n2  
Parc Technologique ALATA  
F-60550 Verneuil-En-Halatte  
France

INERIS is accredited by COFRAC under number 5-0045 for certification of products and services (scope of accreditation is available on COFRAC website [www.cofrac.fr](http://www.cofrac.fr))

The certification rules are available on the INERIS website [www.ineris.fr](http://www.ineris.fr).



# IECEX Certificate of Conformity

Certificate No: IECEX INE 11.0016X

Issue No: 1

Date of Issue: 2015-05-07

Page 2 of 4

Manufacturer: **FEAM**  
Via Mario Pagano, 3  
I - 20090 Trezzano sul Naviglio (MI)  
Italy

Additional Manufacturing  
location(s):

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 electrical apparatus 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:

<b>IEC 60079-0 : 2007-10</b> Edition:5	Explosive atmospheres - Part 0:Equipment - General requirements
<b>IEC 60079-1 : 2007-04</b> Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-18 : 1992</b> Edition:1	Electrical apparatus for explosive gas atmospheres - Part 18: Encapsulation 'm'
<b>IEC 60079-31 : 2008</b> Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
<b>IEC 60079-7 : 2006-07</b> Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical 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 Report:

[FR/INE/ExTR11.0017/00](#)

[FR/INE/ExTR11.0017/01](#)

[HR/EXA/ExTR15.0007/00](#)

Quality Assessment Report:

[IT/CES/QAR09.0003/05](#)





# IECEX Certificate of Conformity

Certificate No: IECEx INE 11.0016X

Issue No: 1

Date of Issue: 2015-05-07

Page 3 of 4

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

These enclosures made in light alloy for the type ESA... or stainless steel for the type ESX... are protected by increased safety "e" and protected by enclosure "tb" for dust atmosphere.

Enclosures, protected by increased safety "e", are intended to received terminals only or terminals and some electrical components covered by an IECEx certificates and with different type of protection as "Ex d e", "Ex ia", "Ex ib", "Ex d ia/ib", "Ex e mb", "Ex d e mb", "Ex d e mb ia".

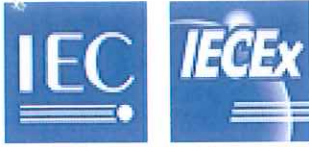
Enclosures, protected by enclosure "tb", are intended to received the same equipment listed above and/or electrical components not covered by an IECEx certificate and listed in the documentation.

The list of the component is defined in the Annex of this certificate.

These enclosures get the degrees of protection IP65 or IP66 according to the IEC 60529 standard and in accordance with degrees of protection of the component installed on the enclosure

### CONDITIONS OF CERTIFICATION: YES as shown below:

The enclosures could be used in different ambient temperatures ranges comprised from -60°C up to +160°C following the components fitted on the enclosures and in accordance with the descriptive documents.



# IECEx Certificate of Conformity

Certificate No: IECEx INE 11.0016X

Issue No: 1

Date of Issue: 2015-05-07

Page 4 of 4

**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):**

- Extension of the maximum ambient temperature from +40°C to +60°C for enclosures with terminals and accessories.
- Extension of the maximum ambient temperature from +80°C to +160°C for enclosures including terminals.
- Possibility to install bus bar in the enclosures for ambient temperatures from -60°C up to +100°C.
- Update of the applicable standard version in accordance with the components that can be fitted on the enclosures.

**Annex:**

[IECEx INE 11.0016-01\\_Annex.pdf](#)



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 11.0016X

Issue No.: 1

Page 1 of 5

Annexe: IECEX INE 11.0016X\_Annex.pdf

## PARAMETERS RELATING TO THE SAFETY

### Enclosures “Ex e” and “Ex tb” with internal component and/or terminals:

Maximum supply voltage : 750 V

Maximum intensity : see table below

Wiring section (mm <sup>2</sup> )	1.5	2.5	4	6	10	16	25	35	50	70	95	150
Maximal current (A)	8	12	17	23	32	43	58	73	86	105	127	172

The maximum number of the terminals and the permissible rated current depend of the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described on the descriptive documents.

These enclosures are intended to be used in the following ranges of ambient temperature, in accordance with the temperature class T6/T85°C, T5/T100°C, T4/T135°C or T3/T200°C, the thermal stability of the terminals and the range of ambient temperature of the component installed in the enclosure:

- Minimum ambient temperature from -20°C to -60°C for “Ex e” and “Ex tb” versions.
- Maximum ambient temperature from +40°C to +100°C for “Ex e” version for types of terminals specified in the descriptive documents.
- maximum ambient temperature from +40°C to +160°C for “Ex e” and “Ex tb” version only with terminals type SAK covered by the certificate IECEX SIR05.0032U and a maximum current of 8A.

The components other than terminals can be installed only when the wiring section of each wire and terminal is 2.5 mm<sup>2</sup> and with a maximum current of 6 A. This configuration is only for a maximum ambient temperature 60°C.

### Enclosures “Ex e” and “Ex tb” with bus bar:

Maximum supply voltage : 750 V

Maximum intensity : see table below

Max current (Size of bar)	Max. Ambient temperature	Temperature class for ESA	Temperature class for ESX
85 A (48 mm <sup>2</sup> ) 160 A (100 mm <sup>2</sup> ) 275 A (250 mm <sup>2</sup> )	+100°C	T4/T135°C	T3/T200°C
130 A (48 mm <sup>2</sup> ) 200 A (100 mm <sup>2</sup> ) 400 A (250 mm <sup>2</sup> )	+80°C	T4/T135°C	T3/T200°C
300 A (250 mm <sup>2</sup> )	+55°C	T5/T100°C	-
300 A (250 mm <sup>2</sup> )	+60°C	-	T4/T135°C





# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 1

Page 2 of 5

Annexe: IECEx INE 11.0016X\_Annex.pdf

The maximum number of the bars and the permissible rated current depend of the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described on the descriptive documents.

The enclosures including bars are intended to be used in the range of ambient temperature from -60°C up to 100°C.

**Enclosures “Ex tb” with internal component and/or terminals:**

Maximum supply voltage : 660 V

Maximum power dissipated is indicated on the descriptive documentation in accordance with the size of enclosure, the temperature class and the ambient temperature.

**List of components that could be mounted on the enclosure and statement of the assessments regarding the older editions of the standard:**

Manufacturer	Type operating devices	Code	IECEX Certificate number	Statement of the older editions of the standard
BARTEC GmbH	Control and signaling device adapters	05-0003-00**/****	IECEX PTB 08.0037U	(1)
BARTEC GmbH	Circuit module and control circuit switch	07-3321-1... 07-3323-1... 07-3331-1...	IECEX PTB 07.0046U	(1)
BARTEC GmbH	Lamp and illuminated indicator module	07-335*-*..	IECEX PTB 00.0014U	(1)
BARTEC GmbH	illuminated push button	07-336*-*..	IECEX PTB 00.0014U	(1)
CEAG GmbH	Moving-iron amperemeter Moving-coil amperemeter (only intrinsic safety protection)	AM 72	IECEX BKI 07.0016U	(1)
CEAG GmbH	Moving-iron voltmeter	VM 72	IECEX BKI 07.0016U	(1)
STAHL GmbH	Push button for panel	8003/1.2*** 8003/1.4***	IECEX PTB 06.0066U	(1)
STAHL GmbH	Control switch / switch-Disconnecter	8008/2-***	IECEX PTB 06.0010U	(1)
STAHL GmbH	Indicator light for panel	8010/***	IECEX PTB 06.0016U	(1)
STAHL GmbH	Indicator light for panel	8013/2-*** 8013/4-***	IECEX PTB 07.0012U	(1)
STAHL GmbH	Contact element / isolating terminal	8082/1-*.***	IECEX PTB 06.0011U	(1)



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 11.0016X

Issue No.: 1

Page 3 of 5

Annexe: IECEX INE 11.0016X\_Annex.pdf

Manufacturer	Type operating devices	Code	IECEX Certificate number	Statement of the older editions of the standard
STAHL GmbH	Command and signalling adapters	8602/-*	IECEX PTB 06.0014U	(1)
STAHL GmbH	Control units with resistor	8453/*	IECEX PTB 06.0031U	(1)
Pepperl & Fuchs GmbH	Multifunctional terminal	MFT-***	IECEX BKI 08.0008U	(1)
STAHL GmbH	Potentiometer for panel	8455/4	IECEX PTB 07.0001U	(1)
STAHL GmbH	Control unit (potentiometer)	8208/**-***	IECEX PTB 06.0032U	(1)
STAHL GmbH	Amperemeter Voltmeter	8403/2-*** 8404/4-*** 8405/2-***	IECEX PTB 06.0017U	(1)
NUOVA ASP	Ammeter	AM**	IECEX LCIE 13.0008U	(1)
NUOVA ASP	Explosion-proof control switch	IRE-*	IECEX LCIE 13.0004U	(1)
NUOVA ASP	Flameproof button	PBE-*	IECEX LCIE 13.0006U	(1)
NUOVA ASP	Explosion proof indicator	LIE-*	IECEX LCIE 13.0017U	(1)
FEAM	Ammeter	AM**	IECEX LCIE 13.0009U	(1)
FEAM	Explosion-proof control switch	IRE-*	IECEX LCIE 13.0005U	(1)
FEAM	Flameproof button	PBE-*	IECEX LCIE 13.0007U	(1)
FEAM	Explosion proof indicator	LIE-*	IECEX LCIE 13.0018U	(1)
Quintex GmbH	Explosion proof switch module	QX0201	IECEX EPS 11.0011U	(1)
Quintex GmbH	Explosion proof signal lamp module	QX0202	IECEX EPS 11.0012U	(1)
Quintex GmbH	Explosion proof potentiometer module	QX0203	IECEX EPS 11.0013U	(1)
Quintex GmbH	Explosion proof ammeter module	QX0205	IECEX EPS 11.0014U	(1)
Quintex GmbH	Explosion proof signal lamp with button module	QX0212	IECEX EPS 11.0015U	(1)



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 11.0016X

Issue No.: 1

Page 4 of 5

Annexe: IECEX INE 11.0016X\_Annex.pdf

Manufacturer	Type operating devices	Code	IECEX Certificate number	Statement of the older editions of the standard
Peppers Cable Glands Ltd	Breathers drains	ACDP	IECEX SIR 09.0132U	(1)
NUOVA ASP	Beathing and draining valve	ECD***	IECEX EXA 14.0005U	(1)
FENEX	Beathing and draining valve	ECD***	IECEX EXA 14.0006U	(1)
FEAM	Beathing and draining valve	ECD***	IECEX EXA 14.0004U	(1)

(1) : No applicable Technical Differences

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

### A - Enclosure "Ex e" and "tb" fitted only with terminals or bars:

- FEAM
- I - 20090 Trezzano Sul Naviglio (MI)
- ESA... or ESX... (1)
- IECEX INE 11.0016X
- (Serial number)
- Ex e (2) IIB or IIC T6 or T5 or T4 or T3 Gb
- Ex tb IIIC T85°C or T100°C or T135°C or T200°C Db IP66 or IP65
- ...°C ≤ Tamb ≤ ...°C (3)
- T. cable = (4)
- (Rated voltage and rated current and/or rated power)
- Warning: DO NOT OPEN WHEN ENERGIZED

- (1) Type is completed by numbers corresponding to the size of the enclosure.
- (2) The marking code Ex could be completed by the indication of the type of protection "ia" in accordance with the type of terminals inside the enclosures.
- (3) Indication of the range of temperature ambient if different from -20°C to +40°C.
- (4) Indication when the temperature is higher than 70°C.





# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 1

Page 5 of 5

Annexe: IECEx INE 11.0016X\_Annex.pdf

## **B - Enclosure “Ex e” and “tb” fitted with terminals and components:**

- FEAM
- I - 20090 Trezzano Sul Naviglio (MI)
- ESA... or ESX... (1)
- IECEx INE 11.0016X
- (Serial number)
- Ex (2) e IIB or IIC T6 or T5 or T4 Gb
- Ex tb IIIC T85°C or T100°C or T135°C Db IP66 or IP65
- ...°C ≤ Tamb ≤ ...°C (3)
- T. cable = (4)
- (Rated voltage and rated current and/or rated power)
- Warning: DO NOT OPEN WHEN ENERGIZED

(1) Type is completed by numbers corresponding to the size of the enclosure.

(2) The marking code Ex is completed by the indication of the type of protection of the component installed in the enclosure in the alphabetical order.

(3) Indication of the range of ambient temperature if different from -20°C to +40°C.

(4) Indication when the temperature is higher than 70°C.

## **C - Enclosure “Ex tb” for dust protection:**

- FEAM
- I - 20090 Trezzano Sul Naviglio (MI)
- ESA... or ESX... (1)
- IECEx INE 11.0016X
- (Serial number)
- Ex tb IIIC T85°C or T100°C or T135°C Db
- IP66 or IP65
- ...°C ≤ Tamb ≤ ...°C (2)
- T. cable = (3)
- Warning: DO NOT OPEN WHEN ENERGIZED

(1) Type is completed by numbers corresponding to the size of the enclosure.

(2) Indication of the range of ambient temperature if different from -20°C to +40°C.

(3) 90°C for T100°C or 120°C for T135°C.

## **ROUTINE EXAMINATIONS AND TESTS**

In accordance with clause 7.1 of the IEC 60079-7 standard, a dielectric strength test on each of the different circuits of the connection units, performed according to the relevant standards, the supply voltage shall be applied during one minute.



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEX INE 11.0016X

Issue No: 2

Certificate history:

Status: Current

Issue No. 2 (2017-07-25)

Issue No. 1 (2015-05-07)

Date of Issue: 2017-07-25

Page 1 of 4

Issue No. 0 (2012-02-17)

Applicant: FEAM  
Via Mario Pagano, 3  
I - 20090 Trezzano sul Naviglio (MI)  
Italy

Equipment: Enclosures type ESA... or ESX...  
Optional accessory:

Type of Protection: e and tb for enclosure and db, e, ia, ib, mb for components

Marking:  
Ex db e ia/ib ia ib mb IIC T6 or T5 or T4 or T3 Gb  
Ex tb IIIC T85°C or T100°C or T135°C or T200°C Db IP66 or IP65

Approved for issue on behalf of the IECEX  
Certification Body:

Thierry HOUEIX

Position:

Ex Certification Officer

Signature:  
(for printed version)

  
*Thierry Houeix*  
2017-07-25

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 the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

INERIS  
Institut National de l'Environnement Industriel  
et des Risques, BP n2  
Parc Technologique ALATA  
France



# IECEX Certificate of Conformity

Certificate No: IECEX INE 11.0016X Issue No: 2  
Date of Issue: 2017-07-25 Page 2 of 4  
Manufacturer: FEAM  
Via Mario Pagano, 3  
I - 20090 Trezzano sul Naviglio (MI)  
Italy

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18 : 2009 Edition:3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2006-07 Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate does not indicate compliance with electrical 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 Report:

FR/INE/ExTR11.0017/00  
HR/EXA/ExTR15.0007/00

FR/INE/ExTR11.0017/01

FR/INE/ExTR11.0017/02

### Quality Assessment Report:

IT/CES/QAR09.0003/07





# IECEX Certificate of Conformity

Certificate No: IECEx INE 11.0016X

Issue No: 2

Date of Issue: 2017-07-25

Page 3 of 4

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

These enclosures made in light alloy for the type ESA... or stainless steel for the type ESX... are protected by increased safety "e" for gas hazardous atmosphere and protected by enclosure "tb" for dust hazardous atmosphere.

Enclosures, protected by increased safety "e", are intended to receive terminals and/or bus bar and/or some electrical components covered by IECEx certificates for different type of protection as "Ex db e", "Ex ia", "Ex ib", "Ex db ia/ib", "Ex e mb", "Ex db e mb", "Ex db e mb ia".

Enclosures, protected by enclosure "tb", are intended to received the same equipment listed above and/or electrical components not covered by an IECEx certificate and listed in the documentation.

The list of the component is defined at the end of the Annex of this certificate.

These enclosures get the degrees of protection IP65 or IP66 according to the IEC 60529 standard and in accordance with degrees of protection of the component installed on the enclosure.

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

The enclosures could be used in different ambient temperatures ranges comprised from -60°C up to +160°C following the components fitted on the enclosures and in accordance with the descriptive documents.

The instructions for safe use are completed by those stipulated in the instructions manuals of the manufacturer and of each Ex component fitted on the final product.



# IECEX Certificate of Conformity

Certificate No: IECEx INE 11.0016X

Issue No: 2

Date of Issue: 2017-07-25

Page 4 of 4

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

### Purpose of the Issue 2:

- Introduction of the ESX enclosures type ESX150110 and ESX 200180 (already covered by the component certificate IECEx INE 13.0103U)
- Introduction of terminals with maximum cross-sections until 300mm<sup>2</sup>.
- Update of the maximum electrical parameters
- Update of the standard versions in accordance with the components that could be fitted with the enclosures.

### Purpose of the Issue 1:

- Extension of the maximum ambient temperature from +40°C to +60°C for enclosures with terminals and accessories.
- Extension of the maximum ambient temperature from +80°C to +160°C for enclosures including terminals.
- Possibility to install bus bar in the enclosures for ambient temperatures from -60°C up to +100°C.
- Update of the applicable standard version in accordance with the components that can be fitted on the enclosures.

### Annex:

[IECEX INE 11.0016X-02\\_Annex.pdf](#)



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 11.0016X

Issue No.: 02

Page 1 of 7

Annex: IECEX INE 11.0016X-02\_Annex.pdf

## PARAMETERS RELATING TO THE SAFETY

### Enclosures "Ex e" and "Ex tb" with internal component and/or terminals:

Maximum supply voltage : 1 100 V  
Wiring section of the terminals : From 1.5 mm<sup>2</sup> up to 300 mm<sup>2</sup>

The maximum number of the terminals and the permissible rated current depend of the type of terminals, the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described on the descriptive documents.

These enclosures are intended to be used in the following ranges of ambient temperature, in accordance with the temperature class T6/T85°C, T5/T100°C, T4/T135°C or T3/T200°C, the thermal stability of the terminals and the range of ambient temperature of the component installed in the enclosure:

- Minimum ambient temperature from -20°C to -60°C for "Ex e" and "Ex tb" versions.
- Maximum ambient temperature from +40°C to 80°C for "Ex e" version for types of terminals specified in the descriptive documents and "Ex tb"
- Maximum ambient temperature from +40°C to 160°C for "Ex e" (version only with terminals SAK covered by certificate IECEX SIR 05.0032U) and "Ex tb"

The components other than terminals can be installed only when the wiring section of each wire and terminal is 2.5 mm<sup>2</sup> and with a maximum current of 6 A. This configuration is only for a maximum ambient temperature 60°C.

### Enclosures "Ex e" and "Ex tb" with bus bar:

Maximum supply voltage : 750 V  
Maximum intensity : see table below

Max current (Size of bar)	Max. Ambient temperature	Temperature class for ESA	Temperature class for ESX
85 A (48 mm <sup>2</sup> ) 160 A (100 mm <sup>2</sup> ) 275 A (250 mm <sup>2</sup> )	+100°C	T4/T135°C	T3/T200°C
130 A (48 mm <sup>2</sup> ) 200 A (100 mm <sup>2</sup> ) 400 A (250 mm <sup>2</sup> )	+80°C	T4/T135°C	T3/T200°C
300 A (250 mm <sup>2</sup> )	+55°C	T5/T100°C	-
300 A (250 mm <sup>2</sup> )	+60°C	-	T4/T135°C

The maximum number of the bars and the permissible rated current depend of the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described on the descriptive documents.

The enclosures including bars are intended to be used in the range of ambient temperature from -60°C up to 100°C for "Ex e" version and "Ex tb".





# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 02

Page 2 of 7

Annex: IECEx INE 11.0016X-02\_Annex.pdf

## Enclosures “Ex tb” with internal component and/or terminals:

Maximum supply voltage : 1 100 V

Maximum power dissipated is indicated on the descriptive documentation in accordance with the size of enclosure, the temperature class and the ambient temperature.

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

### A - Enclosure “Ex e” and “tb” fitted only with terminals or bars:

- FEAM
- I - 20090 Trezzano Sul Naviglio (MI)
- ESA... or ESX... (1)
- IECEx INE 11.0016X
- (Serial number)
- Ex e (2) IIB or IIC T6 or T5 or T4 or T3 Gb
- Ex tb IIIC T85°C or T100°C or T135°C or T200°C Db IP66 or IP65
- ...°C ≤ Tamb ≤ ...°C (3)
- T. cable = (4)
- (Rated voltage and rated current and/or rated power)
- Warning: DO NOT OPEN WHEN ENERGIZED

(1) Type is completed by numbers corresponding to the size of the enclosure.

(2) The marking code Ex could be completed by the indication of the type of protection “ia” in accordance with the type of terminals inside the enclosures.

(3) Indication of the range of temperature ambient if different from -20°C to +40°C.

(4) Indication when the temperature is higher than 70°C.

### B - Enclosure “Ex e” and “tb” fitted with terminals and components:

- FEAM
- I - 20090 Trezzano Sul Naviglio (MI)
- ESA... or ESX... (1)
- IECEx INE 11.0016X
- (Serial number)
- Ex (2) e IIB or IIC T6 or T5 or T4 Gb
- Ex tb IIIC T85°C or T100°C or T135°C Db IP66 or IP65
- ...°C ≤ Tamb ≤ ...°C (3)
- T. cable = (4)
- (Rated voltage and rated current and/or rated power)
- Warning: DO NOT OPEN WHEN ENERGIZED

(1) Type is completed by numbers corresponding to the size of the enclosure.

(2) The marking code Ex is completed by the indication of the type of protection of the component installed in the enclosure in the alphabetical order.

(3) Indication of the range of ambient temperature if different from -20°C to +40°C.

(4) Indication when the temperature is higher than 70°C.



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 02

Page 3 of 7

Annex: IECEx INE 11.0016X-02\_Annex.pdf

## C - Enclosure "Ex tb" for dust protection:

- FEAM
- I - 20090 Trezzano Sul Naviglio (MI)
- ESA... or ESX... (1)
- IECEx INE 11.0016X
- (Serial number)
- Ex tb IIIC T85°C or T100°C or T135°C Db
- IP66 or IP65
- ...°C ≤ Tamb ≤ ...°C (2)
- T. cable = (3)
- Warning: DO NOT OPEN WHEN ENERGIZED

(1) Type is completed by numbers corresponding to the size of the enclosure.

(2) Indication of the range of ambient temperature if different from -20°C to +40°C.

(3) 90°C for T100°C or 120°C for T135°C.

## ROUTINE EXAMINATIONS AND TESTS

In accordance with clause 7.1 of the IEC 60079-7 standard, a dielectric strength test on each of the different circuits of the connection units, performed according to the relevant standards, the supply voltage shall be applied during one minute.



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 02

Page 4 of 7

Annex: IECEx INE 11.0016X-02\_Annex.pdf

**List of components that could be mounted on the enclosure and statement of the assessments regarding the older editions of the standard:**

Manufacturer	Type operating device	Code	IECEX Certificate number	Standards edition	Statement of the older editions of the standard
CEAG GmbH	Moving-iron voltmeter Moving-iron amperemeter Moving-coil amperemeter (only intrinsic safety protection)	VM 45 VM 72 AM 45 AM 72	IECEX BKI 07.0016U	IEC 60079-0:2004, IEC 60079-11:1999, IEC 60079-18:1992, IEC 60079-7:2001	(1)
Pepperl & Fuchs GmbH	Multifunctional terminal	MFT-***	IECEX BKI 08.0008U	IEC 60079-0:2004, IEC 60079-1:2003, IEC 60079-7:2001	(1)
Quintex GmbH	Explosion proof switch module	QX0201	IECEX EPS 11.0011U	IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
Quintex GmbH	Explosion proof signal lamp module	QX0202	IECEX EPS 11.0012U	IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
Quintex GmbH	Explosion proof potentiometer module	QX0203	IECEX EPS 11.0013U	IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
Quintex GmbH	Explosion proof ammeter module	QX0205	IECEX EPS 11.0014U	IEC 60079-0:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
Quintex GmbH	Explosion proof signal lamp with button module	QX0212	IECEX EPS 11.0015U	IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
FEAM	Breathing and draining valve	ECD***	IECEX EXA 14.0004U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-31:2013, IEC 60079-7:2006	(1)
NUOVA ASP	Breathing and draining valve	ECD***	IECEX EXA 14.0005U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-31:2013, IEC 60079-7:2006	(1)
FENEx	Beathing and draining valve	ECD***	IECEX EXA 14.0006U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-31:2013, IEC 60079-7:2006	(1)





# IECEX Certificate of Conformity

Certificate No.:

IECEX INE 11.0016X

Issue No.: 02

Page 5 of 7

Annex: IECEX INE 11.0016X-02\_Annex.pdf

Manufacturer	Type operating device	Code	IECEX Certificate number	Standards edition	Statement of the older editions of the standard
Weidmuller	Terminals	Terminal block SAK-EK	IECEX KEM 06.0014U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	WFF	IECEX KEM 07.0053U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
NUOVA ASP	Explosion-proof control switch	IRE-*	IECEX LCIE 13.0004U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
FEAM	Explosion-proof control switch	IRE-*	IECEX LCIE 13.0005U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
NUOVA ASP	Pushbutton	PBE-*	IECEX LCIE 13.0006U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
FEAM	Flameproof button	PBE-*	IECEX LCIE 13.0007U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
NUOVA ASP	Ammeter	AM**	IECEX LCIE 13.0008U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
FEAM	Ammeter	AM**	IECEX LCIE 13.0009U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
NUOVA ASP	Explosion proof indicator	LIE-*	IECEX LCIE 13.0017U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
FEAM	Explosion proof indicator	LIE-*	IECEX LCIE 13.0018U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
BARTEC GmbH	Lamp and illuminated indicator module  illuminated push button	07-335*-*.. 07-336*-*..	IECEX PTB 10.0014U	IEC 60079-0:2011, IEC 60079-1:2014, IEC 60079-11:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2002-***7	IECEX PTB 03.0004U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2006-***7	IECEX PTB 05.0014U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2016-***7	IECEX PTB 05.0015U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2004-***7	IECEX PTB 05.0033U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2001-***7	IECEX PTB 05.0034U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2010-***7	IECEX PTB 06.0003U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
STAHL GmbH	Control switch / switch-Disconnector	8008/2-***	IECEX PTB 06.0010U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 11.0016X

Issue No.: 02

Page 6 of 7

Annex: IECEX INE 11.0016X-02\_Annex.pdf

Manufacturer	Type operating device	Code	IECEX Certificate number	Standards edition	Statement of the older editions of the standard
STAHL GmbH	Contact element / isolating terminal	8082/1.*.**	IECEX PTB 06.0011U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
STAHL GmbH	Command and signalling adapters	8602/-*	IECEX PTB 06.0014U	IEC 60079-0:2011, IEC 60079-31:2008, IEC 60079-7:2006	(1)
STAHL GmbH	Indicator light for panel	8010/***	IECEX PTB 06.0016U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-11:2011, IEC 60079-7:2006	(1)
STAHL GmbH	Amperemeter Voltmeter	8403/2-*** 8404/4-*** 8405/2-***	IECEX PTB 06.0017U	IEC 60079-0:2000, IEC 60079-18:1992, IEC 60079-7:2001	(1)
STAHL GmbH	Control units with resistor	8453/*	IECEX PTB 06.0031U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
STAHL GmbH	Control unit (potentiometer)	8208/**.**	IECEX PTB 06.0032U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
STAHL GmbH	POTentiometer for panel	8455/4	IECEX PTB 07.0001U	IEC 60079-0:2004, IEC 60079-1:2001, IEC 60079-18:1992, IEC 60079-7:2001	(1)
WAGO	Terminals	TOP JOB S 2000-1**7	IECEX PTB 11.0093U	IEC 60079-0:2007, IEC 60079-7:2006	(1)
STAHL GmbH	Push button for panel	8003/1.2** * 8003/1.4** *	IECEX PTB 06.0066U	IEC 60079-0:2004, IEC 60079-1:2001, IEC 60079-7:2001	(1)
STAHL GmbH	Indicator light for panel	8013/2-*** 8013/4-***	IECEX PTB 07.0012U	IEC 60079-0:2004, IEC 60079-1:2001, IEC 60079-11:1999, IEC 60079-18:1992, IEC 60079-7:2006	(1)
BARTEC GmbH	Circuit module and control circuit switch	07-3321-1... 07-3323-1... 07-3331-1...	IECEX PTB 07.0046U	IEC 60079-0:2011, IEC 60079-1:2014, IEC 60079-7:2006	(1)
BARTEC GmbH	Control and signalling device adapters	05-0003-00**/****	IECEX PTB 08.0037U	IEC 60079-0:2011, IEC 60079-31:2008, IEC 60079-7:2006	(1)
Peppers Cable Glands Ltd	Breathers drains	ACDP	IECEX SIR 09.0132U	IEC 60079-0:2007, IEC 60079-31:2008, IEC 60079-7:2006	(1)
Weidmuller	Terminals	SAKK	IECEX SIR 05.0032U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	BK	IECEX SIR 05.0035U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block AKZ-AKE	IECEX SIR 05.0038U	IEC 60079-0:2004, IEC 60079-7:2001	(1)





# IECEX Certificate of Conformity

Certificate No.: IECEX INE 11.0016X

Issue No.: 02

Page 7 of 7

Annex: IECEX INE 11.0016X-02\_Annex.pdf

Manufacturer	Type operating device	Code	IECEX Certificate number	Standards edition	Statement of the older editions of the standard
Weidmuller	Terminals	WDU_TC	IECEX SIR 05.0039U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block WDK	IECEX ULD 05.0008U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block ZDU-ZPE	IECEX ULD 05.0009U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block ZDU-ZPE_N	IECEX KEM 06.0048U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block WDU-WPE	IECEX ULD14.0005U	IEC 60079-0:2011, IEC 60079-7:2006	(1)

(1) No Technical Differences with the last version of the standard IEC 60079-0:2011, IEC 60079-1:2014, IEC 60079-7:2006, IEC 60079-11:2011, IEC 60079-18:2009, IEC 60079-31:2013





# 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 INE 11.0016X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 3 [Issue 2 \(2017-07-25\)](#)  
Date of Issue: 2021-12-23 [Issue 1 \(2015-05-07\)](#)  
Applicant: **BARTEC F.N. S.R.L.** [Issue 0 \(2012-02-17\)](#)  
Via M. Pagano, 3  
I - 20090 Trezzano sul Naviglio (MI)  
**Italy**  
Equipment: **Enclosures type ESA... or ESX...**  
Optional accessory:  
Type of Protection: **e and tb for enclosure and db, e, ia, ib, mb for components**  
Marking: Ex db e ia/ib ia ib mb IIC T6 or T5 or T4 or T3 Gb  
Ex tb IIIC T85°C or T100°C or T135°C or T200°C Db IP66 or IP65

Approved for issue on behalf of the IECEX  
Certification Body:

Position:

Signature:  
(for printed version)

Date:



Thierry HOUEIX

Ex Certification Officer

Signé électroniquement  
Digitally signed by  
Thierry HOUEIX  
Ex Certification Officer  
Délégué Certification

2021-12-23

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:

**INERIS**  
Institut National de l'Environnement Industriel et des Risques  
BP n2 / Parc Technologique ALATA  
F-60550 Verneuil-en-Halatte  
France



controlling risks |  
for sustainable development



# IECEX Certificate of Conformity

Certificate No.: **IECEX INE 11.0016X**

Page 2 of 4

Date of issue: 2021-12-23

Issue No: 3

Manufacturer: **BARTEC F.N. S.R.L.**  
Via M. Pagano, 3  
I - 20090 Trezzano sul Naviglio (MI)  
**Italy**

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 60079-0:2011](#) Explosive atmospheres - Part 0: General requirements  
Edition:6.0

[IEC 60079-1:2007-04](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:6

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

[IEC 60079-18:2009](#) Explosive atmospheres Part 18: Equipment protection by encapsulation "m"  
Edition:3

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

[IEC 60079-7:2006-07](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:4

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:

[FR/INE/ExTR11.0017/00](#)  
[FR/INE/ExTR11.0017/03](#)

[FR/INE/ExTR11.0017/01](#)  
[HR/EXA/ExTR15.0007/00](#)

[FR/INE/ExTR11.0017/02](#)

Quality Assessment Report:

[IT/CES/QAR09.0003/14](#)



# IECEX Certificate of Conformity

Certificate No.: **IECEX INE 11.0016X**

Page 3 of 4

Date of issue: 2021-12-23

Issue No: 3

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

These enclosures made in light alloy for the type ESA... or stainless steel for the type ESX... are protected by increased safety "e" for gas hazardous atmosphere and protected by enclosure "tb" for dust hazardous atmosphere.

Enclosures, protected by increased safety "e", are intended to receive terminals and/or bus bar and/or some electrical components covered by IECEx certificates for different type of protection as "Ex db e", "Ex ia", "Ex ib", "Ex db ia/ib", "Ex e mb", "Ex db e mb", "Ex db e mb ia".

Enclosures, protected by enclosure "tb", are intended to received the same equipment listed above and/or electrical components not covered by an IECEx certificate and listed in the documentation.

The list of the component is defined at the end of the Annex of this certificate.

These enclosures get the degrees of protection IP65 or IP66 according to the IEC 60529 standard and in accordance with degrees of protection of the component installed on the enclosure.

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

The enclosures could be used in different ambient temperatures ranges comprised from -60°C up to +160°C following the components fitted on the enclosures and in accordance with the descriptive documents.

The instructions for safe use are completed by those stipulated in the instructions manuals of the manufacturer and of each Ex component fitted on the final product.





# IECEX Certificate of Conformity

Certificate No.: **IECEX INE 11.0016X**

Page 4 of 4

Date of issue: 2021-12-23

Issue No: 3

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

### **For the Issue n°03 :**

- Change of the name and address of the applicant and manufacturer
- Update of the marking plates

### **For the Issue n°02 :**

- Introduction of the ESX enclosures type ESX150110 and ESX 200180 (already covered by the component certificate IECEx INE 13.0103U)
- Introduction of terminals with maximum cross-sections until 300mm<sup>2</sup>.
- Update of the maximum electrical parameters
- Update of the standard versions in accordance with the components that could be fitted with the enclosures.

### **For the Issue n°01 :**

- Extension of the maximum ambient temperature from +40°C to +60°C for enclosures with terminals and accessories.
- Extension of the maximum ambient temperature from +80°C to +160°C for enclosures including terminals.
- Possibility to install bus bar in the enclosures for ambient temperatures from -60°C up to +100°C.
- Update of the applicable standard version in accordance with the components that can be fitted on the enclosures.

## **Annex:**

[IECEX INE 11.0016X-03\\_Annex.pdf](#)



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 3

Page 1 of 5

Annex: IECEx INE 11.0016X-03\_Annex.pdf

## PARAMETERS RELATING TO THE SAFETY

### Enclosures "Ex e" and "Ex tb" with internal component and/or terminals:

Maximum supply voltage : 1 100 V  
Wiring section of the terminals : From 1.5 mm<sup>2</sup> up to 300 mm<sup>2</sup>

The maximum number of the terminals and the permissible rated current depend of the type of terminals, the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described on the descriptive documents.

These enclosures are intended to be used in the following ranges of ambient temperature, in accordance with the temperature class T6/T85°C, T5/T100°C, T4/T135°C or T3/T200°C, the thermal stability of the terminals and the range of ambient temperature of the component installed in the enclosure:

- Minimum ambient temperature from -20°C to -60°C for "Ex e" and "Ex tb" versions.
- Maximum ambient temperature from +40°C to 80°C for "Ex e" version for types of terminals specified in the descriptive documents and "Ex tb"
- Maximum ambient temperature from +40°C to 160°C for "Ex e" (version only with terminals SAK covered by certificate IECEx SIR 05.0032U) and "Ex tb"

The components other than terminals can be installed only when the wiring section of each wire and terminal is 2.5 mm<sup>2</sup> and with a maximum current of 6 A. This configuration is only for a maximum ambient temperature 60°C.

### Enclosures "Ex e" and "Ex tb" with bus bar:

Maximum supply voltage : 750 V  
Maximum intensity : see table below

Max current (Size of bar)	Max. Ambient temperature	Temperature class for ESA	Temperature class for ESX
85 A (48 mm <sup>2</sup> ) 160 A (100 mm <sup>2</sup> ) 275 A (250 mm <sup>2</sup> )	+100°C	T4/T135°C	T3/T200°C
130 A (48 mm <sup>2</sup> ) 200 A (100 mm <sup>2</sup> ) 400 A (250 mm <sup>2</sup> )	+80°C	T4/T135°C	T3/T200°C
300 A (250 mm <sup>2</sup> )	+55°C	T5/T100°C	-
300 A (250 mm <sup>2</sup> )	+60°C	-	T4/T135°C

The maximum number of the bars and the permissible rated current depend of the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described on the descriptive documents.

The enclosures including bars are intended to be used in the range of ambient temperature from -60°C up to 100°C for "Ex e" version and "Ex tb".

### Enclosures "Ex tb" with internal component and/or terminals:

Maximum supply voltage : 1 100 V

Maximum power dissipated is indicated on the descriptive documentation in accordance with the size of enclosure, the temperature class and the ambient temperature.

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

### A – Enclosure "Ex e" and "tb" fitted only with terminals or bars:

- BARTEC FN (5)
- I - 20090 Trezzano Sul Naviglio (MI)
- ESA... or ESX... (1)
- IECEx INE 11.0016X
- (Serial number)
- Ex e (2) IIB or IIC T6 or T5 or T4 or T3 Gb
- Ex tb IIIC T85°C or T100°C or T135°C or T200°C Db IP66 or IP65
- ...°C ≤ Tamb ≤ ...°C (3)
- T. cable = (4)



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 3

Page 2 of 5

Annex: IECEx INE 11.0016X-03\_Annex.pdf

- (Rated voltage and rated current and/or rated power)
  - Warning: DO NOT OPEN WHEN ENERGIZED
- (1) Type is completed by numbers corresponding to the size of the enclosure.
  - (2) The marking code Ex could be completed by the indication of the type of protection "ia" in accordance with the type of terminals inside the enclosures.
  - (3) Indication of the range of temperature ambient if different from -20°C to +40°C.
  - (4) Indication when the temperature is higher than 70°C.
  - (5) Optional Brands "BARTEC FEAM" or "BARTEC NASP" can be added in the marking with the sentence "manufactured by BARTEC FN"

## **B – Enclosure "Ex e" and "tb" fitted with terminals and components:**

- BARTEC FN (5)
  - I - 20090 Trezzano Sul Naviglio (MI)
  - ESA... or ESX... (1)
  - IECEx INE 11.0016X
  - (Serial number)
  - Ex (2) e IIB or IIC T6 or T5 or T4 Gb
  - Ex tb IIC T85°C or T100°C or T135°C Db IP66 or IP65
  - ...°C ≤ Tamb ≤ ...°C (3)
  - T. cable = (4)
  - (Rated voltage and rated current and/or rated power)
  - Warning: DO NOT OPEN WHEN ENERGIZED
- (1) Type is completed by numbers corresponding to the size of the enclosure.
  - (2) The marking code Ex is completed by the indication of the type of protection of the component installed in the enclosure in the alphabetical order.
  - (3) Indication of the range of ambient temperature if different from -20°C to +40°C.
  - (4) Indication when the temperature is higher than 70°C.
  - (5) Optional Brands "BARTEC FEAM" or "BARTEC NASP" can be added in the marking with the sentence "manufactured by BARTEC FN"

## **C – Enclosure "Ex tb" for dust protection:**

- BARTEC FN (4)
  - I - 20090 Trezzano Sul Naviglio (MI)
  - ESA... or ESX... (1)
  - IECEx INE 11.0016X
  - (Serial number)
  - Ex tb IIC T85°C or T100°C or T135°C Db
  - IP66 or IP65
  - ...°C ≤ Tamb ≤ ...°C (2)
  - T. cable = (3)
  - Warning: DO NOT OPEN WHEN ENERGIZED
- (1) Type is completed by numbers corresponding to the size of the enclosure.
  - (2) Indication of the range of ambient temperature if different from -20°C to +40°C.
  - (3) 90°C for T100°C or 120°C for T135°C.
  - (4) Optional Brands "BARTEC FEAM" or "BARTEC NASP" can be added in the marking with the sentence "manufactured by BARTEC FN"

## **ROUTINE EXAMINATIONS AND TESTS**

In accordance with clause 7.1 of the IEC 60079-7 standard, a dielectric strength test on each of the different circuits of the connection units, performed according to the relevant standards, the supply voltage shall be applied during one minute.





# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 3

Page 3 of 5

Annex: IECEx INE 11.0016X-03\_Annex.pdf

**List of components that could be mounted on the enclosure and statement of the assessments regarding the older editions of the standard:**

Manufacturer	Type operating device	Code	IECEX Certificate number	Standards edition	Statement of the older editions of the standard
CEAG GmbH	Moving-iron voltmeter Moving-iron amperemeter Moving-coil amperemeter (only intrinsic safety protection)	VM 45 VM 72 AM 45 AM 72	IECEX BKI 07.0016U	IEC 60079-0:2004, IEC 60079-11:1999, IEC 60079-18:1992, IEC 60079-7:2001	(1)
Pepperl & Fuchs GmbH	Multifunctional terminal	MFT-***	IECEX BKI 08.0008U	IEC 60079-0:2004, IEC 60079-1:2003, IEC 60079-7:2001	(1)
Quintex GmbH	Explosion proof switch module	QX0201	IECEX EPS 11.0011U	IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
Quintex GmbH	Explosion proof signal lamp module	QX0202	IECEX EPS 11.0012U	IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
Quintex GmbH	Explosion proof potentiometer module	QX0203	IECEX EPS 11.0013U	IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
Quintex GmbH	Explosion proof ammeter module	QX0205	IECEX EPS 11.0014U	IEC 60079-0:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
Quintex GmbH	Explosion proof signal lamp with button module	QX0212	IECEX EPS 11.0015U	IEC 60079-0:2007, IEC 60079-1:2007, IEC 60079-7:2006, IEC 61241-0:2004, IEC 61241-1:2004	(1)
FEAM	Breathing and draining valve	ECD***	IECEX EXA 14.0004U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-31:2013, IEC 60079-7:2006	(1)
NUOVA ASP	Breathing and draining valve	ECD***	IECEX EXA 14.0005U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-31:2013, IEC 60079-7:2006	(1)
FENEx	Beathing and draining valve	ECD***	IECEX EXA 14.0006U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-31:2013, IEC 60079-7:2006	(1)
Weidmuller	Terminals	Terminal block SAK-EK	IECEX KEM 06.0014U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	WFF	IECEX KEM 07.0053U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
NUOVA ASP	Explosion-proof control switch	IRE-*	IECEX LCIE 13.0004U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
FEAM	Explosion-proof control switch	IRE-*	IECEX LCIE 13.0005U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
NUOVA ASP	Pushbutton	PBE-*	IECEX LCIE 13.0006U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
FEAM	Flameproof button	PBE-*	IECEX LCIE 13.0007U	IEC 60079-0:2011,	(1)



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 3

Page 4 of 5

Annex: IECEx INE 11.0016X-03\_Annex.pdf

Manufacturer	Type operating device	Code	IECEX Certificate number	Standards edition	Statement of the older editions of the standard
				IEC 60079-1:2007, IEC 60079-7:2006	
NUOVA ASP	Ammeter	AM**	IECEX LCIE 13.0008U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
FEAM	Ammeter	AM**	IECEX LCIE 13.0009U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
NUOVA ASP	Explosion proof indicator	LIE-*	IECEX LCIE 13.0017U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
FEAM	Explosion proof indicator	LIE-*	IECEX LCIE 13.0018U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
BARTEC GmbH	Lamp and illuminated indicator module illuminated push button	07-335*-*.. 07-336*-*..	IECEX PTB 10.0014U	IEC 60079-0:2011, IEC 60079-1:2014, IEC 60079-11:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2002-***7	IECEX PTB 03.0004U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2006-***7	IECEX PTB 05.0014U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2016-***7	IECEX PTB 05.0015U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2004-***7	IECEX PTB 05.0033U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2001-***7	IECEX PTB 05.0034U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
WAGO	Terminals	TOP JOB S 2010-***7	IECEX PTB 06.0003U	IEC 60079-0:2011, IEC 60079-7:2006	(1)
STAHL GmbH	Control switch / switch- Disconnecter	8008/2-***	IECEX PTB 06.0010U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
STAHL GmbH	Contact element / isolating terminal	8082/1-**-**	IECEX PTB 06.0011U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
STAHL GmbH	Command and signalling adapters	8602/-*	IECEX PTB 06.0014U	IEC 60079-0:2011, IEC 60079-31:2008, IEC 60079-7:2006	(1)
STAHL GmbH	Indicator light for panel	8010/**	IECEX PTB 06.0016U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-11:2011, IEC 60079-7:2006	(1)
STAHL GmbH	Amperemeter Voltmeter	8403/2-*** 8404/4-*** 8405/2-***	IECEX PTB 06.0017U	IEC 60079-0:2000, IEC 60079-18:1992, IEC 60079-7:2001	(1)
STAHL GmbH	Control units with resistor	8453/*	IECEX PTB 06.0031U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
STAHL GmbH	Control unit (potentiometer)	8208/**-**	IECEX PTB 06.0032U	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-7:2006	(1)
STAHL GmbH	POTentiometer for panel	8455/4	IECEX PTB 07.0001U	IEC 60079-0:2004, IEC 60079-1:2001, IEC 60079-18:1992, IEC 60079-7:2001	(1)
WAGO	Terminals	TOP JOB S 2000-1**7	IECEX PTB 11.0093U	IEC 60079-0:2007, IEC 60079-7:2006	(1)
STAHL GmbH	Push button for panel	8003/1.2*** 8003/1.4***	IECEX PTB 06.0066U	IEC 60079-0:2004, IEC 60079-1:2001, IEC 60079-7:2001	(1)



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 11.0016X

Issue No.: 3

Page 5 of 5

Annex: IECEx INE 11.0016X-03\_Annex.pdf

Manufacturer	Type operating device	Code	IECEX Certificate number	Standards edition	Statement of the older editions of the standard
STAHL GmbH	Indicator light for panel	8013/2-*** 8013/4-***	IECEX PTB 07.0012U	IEC 60079-0:2004, IEC 60079-1:2001, IEC 60079-11:1999, IEC 60079-18:1992, IEC 60079-7:2006	(1)
BARTEC GmbH	Circuit module and control circuit switch	07-3321-1... 07-3323-1... 07-3331-1...	IECEX PTB 07.0046U	IEC 60079-0:2011, IEC 60079-1:2014, IEC 60079-7:2006	(1)
BARTEC GmbH	Control and signalling device adapters	05-0003- 00**/****	IECEX PTB 08.0037U	IEC 60079-0:2011, IEC 60079-31:2008, IEC 60079-7:2006	(1)
Peppers Cable Glands Ltd	Breathers drains	ACDP	IECEX SIR 09.0132U	IEC 60079-0:2007, IEC 60079-31:2008, IEC 60079-7:2006	(1)
Weidmuller	Terminals	SAKK	IECEX SIR 05.0032U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	BK	IECEX SIR 05.0035U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block AKZ-AKE	IECEX SIR 05.0038U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	WDU_TC	IECEX SIR 05.0039U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block WDK	IECEX ULD 05.0008U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block ZDU-ZPE	IECEX ULD 05.0009U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block ZDU-ZPE_N	IECEX KEM 06.0048U	IEC 60079-0:2004, IEC 60079-7:2001	(1)
Weidmuller	Terminals	Terminal block WDU-WPE	IECEX ULD14.0005U	IEC 60079-0:2011, IEC 60079-7:2006	(1)

(1) No Technical Differences with the last version of the standard IEC 60079-0:2011, IEC 60079-1:2014, IEC 60079-7:2006, IEC 60079-11:2011, IEC 60079-18:2009, IEC 60079-31:2013