



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

Certificate No.: IECEX INE 18.0007X Issue No: 0 Certificate history:
Issue No. 0 (2018-07-30)

Status: **Current** Page 1 of 4

Date of Issue: **2018-07-30**

Applicant: **FEAM**
Via Mario Pagano, 3
I - 20090 Trezzano Sul Naviglio
Italy

Equipment: **Sockets and plugs series CPSC***/CPH*** and series FSQCA***-FSQC***/BPA*****
Optional accessory:

Type of Protection: **db, tb**

Marking:
Ex db IIC T6 or T5 or T4 Gb
Ex tb IIC T85°C or T100°C or T135°C Db IP66
The complete marking is detailed in the Annex of the certificate.

Approved for issue on behalf of the IECEX
Certification Body:

Olivier COTTIN

Position:

Head of Equipment and Corporate Services Unit

Signature:
(for printed version)

Date:

2018.07.30



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



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Manufacturer: **FEAM**
Via Mario Pagano, 3
I - 20090 Trezzano Sul Naviglio
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 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 : 2014-06 Edition:7.0 | Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d" |
| IEC 60079-31 : 2013 Edition:2 | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" |

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/ExTR18.0007/00](#)

Quality Assessment Report:

[IT/CES/QAR09.0003/08](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The plugs and sockets Series CPSC***/CPH*** and series FSQCA***-FSQC***/BPA*** are suitable for explosive gas atmospheres of Group IIC protected by "Ex db" and for dust atmospheres Group IIIC protected by "Ex tb". The bodies of the socket and the plugs are made in aluminium alloy. The internal connector is made in polypropylene or BMC and closed by a sealed joint. All the pins are made in brass. The plugs and sockets are provided silicon O-ring ensuring the IP degrees of protection. The socket enclosure includes a switch mechanically interlocked with the plug : when the plug and the socket are separated, only the input terminals of the internal switch of the flameproof socket could be under voltage. The energizing up of the equipment is done by inserting the plug and by a rotating movement which acts on the internal switch, avoiding the formation of arcs or sparks between cavities and pins. The electrical circuit is closed only when the plug and the socket are correctly assembled.

When assembled, the equipment get the degrees of protection IP66 in accordance with IEC 60529. The socket is equipped with an aluminium cap complete with anti-loss chain to ensure the degrees of protection IP66 of the socket when separated from the plug . The socket get the degree of protection IP6x without this cap.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The flameproof joints have different values from those specified in the tables of the IEC 60079-1 standard. For any repairs, to contact the manufacturer.

The other specific conditions are stipulated in the user manual.



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Additional information:

Annex:

[IECEX INE 18.0007X-00_Annex.pdf](#)



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PARAMETERS RELATING TO THE SAFETY

Rated supply voltage : From 12Vac/dc to 500 Vac/dc (See Table 1,2 and 3 for details)
 Maximum current : 25 A from series CPSC***/CPH*** (See Table 1 for details) or 63A for series FSQCA***/BPA*** and FSQC***/BPA*** (See Table 2 and 3 for details)
 Rated frequency : 0/50/60 Hz

TABLE 1: INTERLOCKED SOCKET AND PLUGS SERIES CPSC*/CPH*** WITH NOT AUTOMATIC CIRCUIT BREAKER 16-25A**

| SOCKET TYPE | PLUG TYPE | POLES | VOLTAGE | CURRENT |
|--------------|-------------|-----------|----------|---------|
| CPSC 212 | CPH 212 | 2P+T (PE) | 12V | 16A |
| CPSC 224 | CPH 224 | 2P+T (PE) | 24V | 16A |
| CPSC 212-25A | CPH 212-25A | 2P+T (PE) | 12V | 25A |
| CPSC 224-25A | CPH 224-25A | 2P+T (PE) | 24V | 25A |
| CPSC 248 | CPH 248 | 2P+T (PE) | 48V | 16A |
| CPSC 248-25A | CPH 248-25A | 2P+T (PE) | 48V | 25A |
| CPSC 211 | CPH 211 | 2P+T (PE) | 110/130V | 16A |
| CPSC 211-25A | CPH 211-25A | 2P+T (PE) | 110/130V | 25A |
| CPSC 222 | CPH 222 | 2P+T (PE) | 220/250V | 16A |
| CPSC 222-25A | CPH 222-25A | 2P+T (PE) | 220/250V | 25A |
| CPSC 338 | CPH 338 | 3P+T (PE) | 380/500V | 16A |
| CPSC 338-25A | CPH 338-25A | 3P+T (PE) | 380/500V | 25A |
| CPSC 438 | CPH 438 | 4P+T (PE) | 380/500V | 16A |
| CPSC 438-25A | CPH 438-25A | 4P+T (PE) | 380/500V | 25A |

TABLE 2: INTERLOCKED SOCKET AND PLUGS SERIES FSQCA*/BPA*** WITH CIRCUIT BREAKER 32-63A**

| SOCKET TYPE | PLUG TYPE | POLES | VOLTAGE | CURRENT |
|-------------|-----------|-----------|----------|---------|
| FSQCA 235 | BPA 235 | 2P+T (PE) | 220/250V | 32A |
| FSQCA 335 | BPA 335 | 3P+T (PE) | 380/415V | 32A |
| FSQCA 435 | BPA 435 | 4P+T (PE) | 380/415V | 32A |
| FSQCA 260 | BPA 260 | 2P+T (PE) | 220/250V | 63A |
| FSQCA 360 | BPA 360 | 3P+T (PE) | 380/415V | 63A |
| FSQCA 460 | BPA 460 | 4P+T (PE) | 380/415V | 63A |

TABLE 3: INTERLOCKED SOCKET AND PLUGS FSQC*/BPA*** WITH NOT AUTOMATIC CIRCUIT BREAKER 32-63A**

| SOCKET TYPE | PLUG TYPE | POLES | VOLTAGE | CURRENT |
|-------------|-----------|-----------|----------|---------|
| FSQC 235 | BPA 235 | 2P+T (PE) | 220/250V | 32A |
| FSQC 335 | BPA 335 | 3P+T (PE) | 380/500V | 32A |
| FSQC 435 | BPA 435 | 4P+T (PE) | 380/500V | 32A |
| FSQC 260 | BPA 260 | 2P+T (PE) | 220/250V | 63A |
| FSQC 360 | BPA 360 | 3P+T (PE) | 380/500V | 63A |
| FSQC 460 | BPA 460 | 4P+T (PE) | 380/500V | 63A |



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The plugs and sockets are intended to be used in range of ambient temperatures from -60°C to $+60^{\circ}\text{C}$ depending on the versions and the temperatures classes as defined in the following table :

| Ambient temperature range | Series CPSC***/CPH*** | | Series FSQCA***- FSQC***/BPA*** | |
|---|---------------------------------|-----------------------|---------------------------------|------------------------|
| | Temperature Class for Gas /Dust | Tcable | Temperature Class for Gas /Dust | Tcable |
| From -60°C to $+40^{\circ}\text{C}$ | T6 / T85 $^{\circ}\text{C}$ | 75 $^{\circ}\text{C}$ | T6 / T85 $^{\circ}\text{C}$ | 80 $^{\circ}\text{C}$ |
| From -60°C to $+55^{\circ}\text{C}$ | T5 / T100 $^{\circ}\text{C}$ | 95 $^{\circ}\text{C}$ | T5 / T100 $^{\circ}\text{C}$ | 95 $^{\circ}\text{C}$ |
| From -60°C to $+60^{\circ}\text{C}$ | T5 / T100 $^{\circ}\text{C}$ | 95 $^{\circ}\text{C}$ | T4 / T135 $^{\circ}\text{C}$ | 100 $^{\circ}\text{C}$ |

MARKING

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

1- On the sockets Series CPSC*** or Series FSQCA***- FSQC*** :

- FEAM
- I - 20090 Trezzano sul Naviglio (MI)
- CPSC*** or FSQCA*** or FSQC*** (1)
- IECEx INE 18.0007X
- (Serial number)
- Ex db IIC T⁽²⁾ Gb
- Ex tb IIIC T⁽³⁾ Db IP66
- ... $^{\circ}\text{C}$ < Tamb < ... $^{\circ}\text{C}$ (4)
- T.Cable: (5)
- WARNINGS : DO NOT OPEN THE SOCKET ENCLOSURE AND THE PLUG ENCLOSURE IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

- (1) Type is completed by numbers and/or letters corresponding to alternatives of execution.
(2) T6 or T5 or T4 according to the versions as defined in Table 4
(3) T85 $^{\circ}\text{C}$ or T100 $^{\circ}\text{C}$ or T135 $^{\circ}\text{C}$ according to the versions as defined in Table 4
(4) Ambient temperature range according to the Table 4 when different from -20°C to $+40^{\circ}\text{C}$
(5) "Tcable" according to the versions and the ambient temperature as defined in Table 4

2- On the plugs Series CPH*** or BPA***:

- FEAM
- I - 20090 Trezzano sul Naviglio (MI)
- CPH*** or BPA*** (1)
- IECEx INE 18.0007X
- (Serial number)
- Ex db IIC T⁽²⁾ Gb
- Ex tb IIIC T⁽³⁾ Db IP66
- ... $^{\circ}\text{C}$ < Tamb < ... $^{\circ}\text{C}$ (4)
- T.Cable: (5)



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- (1) Type is completed by numbers and/or letters corresponding to alternatives of execution.
- (2) T6 or T5 or T4 according to the versions as defined in Table 4
- (3) T85°C or T100°C or T135°C according to the versions as defined in Table 4
- (4) Ambient temperature range according to the Table 4 when different from -20°C to +40°C
- (5) "Tcable" according to the versions and the ambient temperature as defined in Table 4

ROUTINE EXAMINATIONS AND TESTS

In accordance with clause 16.1 of the IEC 60079-1 standard each piece of equipment has to have successfully passed, before delivery, an overpressure test at 1.5 times the reference pressure for -60°C of a period comprised between 10 and 60 seconds under:

- 24.6 bar on the plugs type CPH*** or BPA***
- 20.9 bar on the sockets type CPSC**, FSQCA*** or FSQC***