



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

Certificate No.: **IECEX INE 19.0002X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 2 [Issue 1 \(2019-09-20\)](#)
[Issue 0 \(2019-03-21\)](#)
Date of Issue: 2022-10-14
Applicant: **BIFFI ITALIA s.r.l**
Strada Biffi, 165
I – 29017 Fiorenzuola d'Arda
Italy
Equipment: **Quarter-Turn Electric Actuator type KEYSTONE EPI2 and BETTIS SCE300**
Optional accessory:
Type of Protection: **db ec or db ec h and/or h tc or tc**
Marking: **For EPI2-E6 to E91, EPI2-063 to 1000 and SCE300-063 to 1000:**
Ex db ec IIB T5 Gc
Ex tc IIIC T100°C Dc
IP66/68.
For EPI2-E171, EPI2-2000 and SCE300-2000:
Ex db ec h IIB T5 Gc
Ex h tc IIIC T100°C Dc
IP66/68.
The complete marking is detailed in Annex.

Approved for issue on behalf of the IECEx
Certification Body:

Position:

Signature:
(for printed version)

Date:
(for printed version)



Thierry HOUËIX

Ex Certification Officer

2022-10-14

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

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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



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Manufacturer: **BIFFI ITALIA s.r.l**
Strada Biffi, 165
I – 29017 Fiorenzuola d'Arda
Italy

Manufacturing
locations: **BIFFI ITALIA s.r.l**
Strada Biffi, 165
I – 29017 Fiorenzuola d'Arda
Italy

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

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

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

[ISO 80079-36:2016](#) Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
Edition:1.0

[ISO 80079-37:2016](#) Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"
Edition:1.0

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 Report:

[FR/INE/ExTR19.0003/02](#)

Quality Assessment Report:

[FR/INE/QAR08.0005/13](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

This range of quarter-turn electric actuators is suitable for explosive gas explosive atmospheres of group IIB and for dust explosive atmospheres group IIIC.

The enclosure made in light alloy, is intended to receive mainly an electric motor and an electronic part protected by flameproof enclosure. The motor and the electrical circuits are protected by a thermal probe.

The connection to the external circuits is made in the terminal board protected by an increased safety housing.

This housing includes also a local control panel with :

- non-intrusive pushbuttons and selector and two LEDs protected by window on the cover.
- an electronic board closed inside the housing of the cover by compound. The cover is fitted on the main enclosure by 4 screws.

The equipment has two different brand names KEYSTONE EPI2 and BETTIS SCE 300.

The electric actuator EPI2-E171, EPI2-2000 and SCE300-2000 are provided with an additional gear, including only mechanical parts protected by "Ex h".

The enclosure gets the protection degrees IP66/IP68M according to IEC 60529 ; The verification of the degree of protection IPX8 corresponds to an immersion under 10 meters of water during 48 hours.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The gap and diametrical clearances are lower than the values specified in the tables of IEC 60079-1 standard. The width of the flameproof joints is greater of the values specified in the IEC 60079-1 standard. For any repair, to contact the manufacturer.
- During the installation, the user will take into consideration that electric actuator EPI2-E171, EPI2-2000 and SCE300-2000 underwent only a shock corresponding to an energy of a low risk at 2 J.
- The screws used for the assembly of the main cover of explosion-proof enclosures must be of quality higher or equal to A4 class 80 with yield strength higher or equal to 600 N/mm².
- The screws used for the assembly of the other various parts of explosion-proof enclosures must be of quality higher or equal to A4 class 70 with yield strength higher or equal to 450 N/mm².



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue n°2:

- Introduction of the version EPI2 and SCE 300 Boll&Kirch (BK) for the sizes 063 and 125
- Delete of the electric actuator type F02
- Application of the latest edition the IEC 60079-0 standard
- Updating of the Ex nA to Ex ec type of protection
- Update of absorbed and dissipated powers to lower values for electric actuators type EPI2 and SCE300.

Issue n°1:

- Introduction a new brand called "Bettis" including new designation of the products: "SCE300".
- New type code for the version EPI2: "EPI2-063 to EPI2-2000".

Annex:

[IECEX INE 19.0002X-02_Annex.pdf](#)



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PARAMETERS RELATING TO THE SAFETY

Electrical parameters of the power circuit			
Models	063(E6)-125(E13)	250(E25)-500(E51)-1000(E91)-2000(E171)	"BK" version 063(E6)-125(E13)
DC Voltage range	From 24 to 48 Vdc and from 100 to 240 Vdc ($\pm 10\%$)		
Single phase Voltage range	From 24 to 48 Vac and from 100 to 240 Vac ($\pm 10\%$), frequency 50/60 Hz ($\pm 5\%$)		
Three phases Voltage range	From 208 to 575 Vac ($\pm 10\%$), frequency 50/60 Hz ($\pm 5\%$)		N/A
Max absorbed power	140 W	350 W	240W
Max dissipated power	110 W	290W	216W

This equipment can be used in range of ambient temperatures from -20°C to $+65^{\circ}\text{C}$ or -40°C to $+65^{\circ}\text{C}$.

MARKING

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

1. From EPI2-E6 to E91 and EPI2-063 to 1000 and SCE300-063 to 1000:

- BIFFI ITALIA s.r.l (***)
- I - 29017 Fiorenzuola d'Arda (PC)
- EPI₂... or SCE300... (*)
- IECEx INE 19.0002X
- (Serial number)
- Ex db ec IIB T5 Gc
- Ex tc IIIC T100°C Dc
- IP66 or IP66/68
- T.Amb. : (**)
- For cable entries dimensions see installation manual.

On the terminal box cover: (rated voltage and rated current and/or rated power)

- WARNINGS:
 - DO NOT OPEN WHEN ENERGIZED.
 - DO NOT OPEN ANY COVER IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

2. For EPI2-E171 and EPI2-2000 and SCE300-2000:

- BIFFI ITALIA s.r.l (***)
- I - 29017 Fiorenzuola d'Arda (PC)
- EPI₂... or SCE300... (*)
- IECEx INE 19.0002X
- (Serial number)
- Ex db ec h IIB T5 Gc
- Ex h tc IIIC T100°C Dc
- IP66 or IP66/68
- T.Amb.: (**)
- For cable entries dimensions see installation manual.

On the terminal box cover: (rated voltage and rated current and/or rated power)

- WARNINGS:
 - DO NOT OPEN WHEN ENERGIZED.
 - DO NOT OPEN ANY COVER IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

(*) Type is completed by numbers and/or letters corresponding to alternatives of execution.

(**) One of the following ranges of ambient temperature: -20°C to $+65^{\circ}\text{C}$ or -40°C to 65°C

(***) Optional Brands BETTIS or KEYSTONE can be added in the marking with the sentence "manufactured by BIFFI ITALIA s.r.l."



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ROUTINE EXAMINATIONS AND TESTS

For the “Ex db” parts of the enclosure:

For actuator models “-063” and “-125” and “-E6” and “-E13” for using at ambient temperature down to -20°C:

According to 16.2 of IEC 60079-1 standard, the flameproof enclosure, defined above is exempted of routine test due to the fact it has undergone a static type test at 4 times the reference pressure under 16.8 bar.

For actuator models “-063” and “-125” and “-E6” and “-E13” for using at ambient temperature down to -40°C:

According to 16.1 of IEC 60079-1 standard, each piece of the flameproof enclosure defined above must have successfully passed before delivery an overpressure test under 8.7 bar during at least 10 seconds.

For other models:

According to 16.1 of IEC 60079-1 standard, each piece of the flameproof enclosure defined above must have successfully passed before delivery an overpressure test, during at least 10 seconds, under:

- 10.1 bar for ambient temperature down to -20°C
- 13.5 bar for ambient temperature down to -40°C.

For the “Ex ec” terminal box:

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