



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 BVS 16.0090X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 6	Issue 5 (2024-12-13)
Date of Issue:	2026-01-29		Issue 4 (2024-09-03)
Applicant:	Phoenix Contact GmbH & Co. KG Flachsmarktstr. 8 32825 Blomberg Germany		Issue 3 (2022-01-03)
Equipment:	Surge protection devices TTC Ex		Issue 2 (2021-05-18)
Optional accessory:			Issue 1 (2018-08-06)
Type of Protection:	Intrinsic Safety "i"; Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)		
Marking:	Ex ia [ia Ga] IIC T4/T6 Gb for details see ratings and thermal ratings [Ex ia Da] IIIC		
			Issue 0 (2016-12-13)

Approved for issue on behalf of the IECEx
Certification Body:

Jörg Koch

Position:

Head of Certification Body

Signature:
(for printed version)

Date:
(for printed version)

29.01.2026

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 or use of this QR Code.



Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany





IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 16.0090X**

Page 2 of 4

Date of issue: 2026-01-29

Issue No: 6

Manufacturer: **Phoenix Contact GmbH & Co. KG**
Flachsmarktstr. 8
32825 Blomberg
Germany

Manufacturing locations: **Phoenix Contact GmbH & Co. KG**
Flachsmarktstr. 8
32825 Blomberg
Germany

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 60079-11:2023](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:7.0

[IEC TS 60079-47:2021](#) Explosive atmospheres – Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)
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:

[DE/BVS/ExTR16.0089/06](#)

Quality Assessment Report:

[NL/DEK/QAR11.0009/10](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 16.0090X**

Page 3 of 4

Date of issue: 2026-01-29

Issue No: 6

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

General product information:

See Annex

Ratings:

See Annex

Thermal ratings:

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annex



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 16.0090X**

Page 4 of 4

Date of issue: 2026-01-29

Issue No: 6

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

The Surge protection devices TTC Ex were tested in accordance to the standards listed in this document

Annex:

[BVS_16_0090X_Phoenix_Annex_issue6_.pdf](#)



IECEx Certificate of Conformity



Certificate No.: IECEx BVS 16.0090X issue No: 6
Annex
Page 1 of 4

General product information:

The TTC Ex product portfolio consists of following surge protection devices:

One-piece surge protection devices

type **TTC-6-1X2-M-EX-24DC-UT-I**
type **TTC-6-2X1-M-EX-24DC-UT-I**
type **TTC-6-3-HF-F-M-EX-12DC-UT-I**
type **TTC-6-3-HF-F-M-EX-24DC-UT-I**

Multi-piece surge protection devices

type **TTC-6P-1X2-M-EX-24DC-UT-I** consisting of
one base element type **TTC-6P-1X2-M-EX-UT-BE** and
one plug module type **TTC-6P-1X2-EX-24DC-I-P**

type **TTC-6P-2X1-M-EX-24DC-UT-I** consisting of
one base element type **TTC-6P-2X1-M-EX-UT-BE** and
one plug module type **TTC-6P-2X1-EX-24DC-I-P**

type **TTC-6P-3-HF-F-M-EX-12DC-UT-I** consisting of
one base element type **TTC-6P-3-HF-F-M-EX-UT-BE** and
one plug module type **TTC-6P-3-HF-EX-12DC-I-P**

type **TTC-6P-3-HF-F-M-EX-24DC-UT-I** consisting of
one base element type **TTC-6P-3-HF-F-M-EX-UT-BE** and
one plug module type **TTC-6P-3-HF-EX-24DC-I-P**

type **TTC-6P-3-EX-24DC-UT-I** consisting of
one base element type **TTC-6P-3-EX-UT-BE** and
one plug module type **TTC-6P-3-EX-24DC-I-P**

type **TTC-6P-1X2-EX-24DC-UT-I** consisting of
one base element type **TTC-6P-1X2-EX-UT-BE** and
one plug module type **TTC-6P-1X2-EX-24DC-I-P**

Surge protection device with 2-WISE option

(base element) type **TTC-6P-3-APL-EX-24DC-UT-I**
with plug module type **TTC-6P-4-GDT-EX-24DC-I-P**

The base elements and the plug modules are coded. A confusion is thus excluded.

The surge protection devices TTC Ex are used to limit transient overvoltages which could be coupled into protected intrinsically safe circuits. Thereto, a surge protection device is connected into the intrinsically safe circuit which has to be protected.

The intrinsically safe circuit is not affected by the connection of the surge protection device in its properties.

The surge protection devices TTC ... -M- ... have screw disconnectors (knife disconnection) which can interrupt the signal lines for maintenance.

The surge protection devices can be installed in the Zone 1 (EPL Gb).

The surge protection devices can be mounted on a 35 mm width DIN-rail.

The mounting foot establishes an electrical connection to the 35 mm width DIN-rail.
See specific conditions of use.



IECEx Certificate of Conformity



Certificate No.: IECEx BVS 16.0090X issue No: 6
Annex
Page 2 of 4

Ratings:

1 One-piece surge protection devices and Multi-piece surge protection devices

Terminals 1-3 input (unprotected), terminals 4-6 output (protected)

Maximum input / output voltage	U_i / U_o	30 V for TTC ... 24DC ... 15 V for TTC ... 12DC ...
Maximum input / output current (see additional thermal ratings)	I_i / I_o	350 mA (T6) 100 mA (T6) 400 mA (T4 / dust) 250 mA (T4)
Maximum internal capacitance	C_i	negligible
Maximum internal inductance	L_i	negligible

2 Surge protection device with 2-WISE option

Terminals 1-3 input (unprotected), terminals 4-6 output (protected)

Maximum input / output voltage	U_i / U_o	30 V
Maximum input / output current	I_i / I_o	1 A
Maximum internal capacitance	C_i	negligible
Maximum internal inductance	L_i	negligible

The terminals 1 / 2 / 3 (One of the terminals for cable shield), input (unprotected) and terminals 4 / 5 / 6 (One of the terminals for cable shield), output (protected) are 2-WISE auxiliary device ports.

3 The intrinsically safe circuit is not affected in its properties by the connection of the surge protection device.

The mounting foot establishes an electrical connection to the 35 mm width DIN-rail.
See specific conditions for use.

4 The one-piece surge protection device type TTC-6-3-HF-F-M-EX-24DC-UT-I, the multi-piece surge protection device type TTC-6P-3-HF-F-M-EX-24DC-UT-I consisting of a base element type TTC-6P-3-HF-F-M-EX-UT-BE and a plug module type TTC-6P-3-HF-EX-24DC-I-P ($I_i / I_o = 400 \text{ mA} / T4 / -40^\circ\text{C} \leq T_a \leq +50^\circ\text{C}$) and the surge protection device with 2-WISE option type TTC-6P-3-APL-EX-24DC-UT-I with plug module type TTC-6P-4-GDT-EX-24DC-I-P can be used for connection inside of a fieldbus system according to the FISCO concept.



IECEx Certificate of Conformity



Certificate No.: IECEx BVS 16.0090X issue No: 6
Annex
Page 3 of 4

Thermal ratings:

1 One-piece surge protection devices and Multi-piece surge protection devices

Ambient temperature range for installation inside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +50\text{ °C}$ for temperature class T4 and $I_i = 400\text{ mA}$

$-40\text{ °C} \leq T_a \leq +70\text{ °C}$ for temperature class T4 and $I_i = 250\text{ mA}$

$-40\text{ °C} \leq T_a \leq +35\text{ °C}$ for temperature class T6 and $I_i = 350\text{ mA}$

$-40\text{ °C} \leq T_a \leq +70\text{ °C}$ for temperature class T6 and $I_i = 100\text{ mA}$

Ambient temperature range for installation outside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +85\text{ °C}$

2 Surge protection device with 2-WISE option

Ambient temperature range for installation inside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +85\text{ °C}$ for temperature class T4

$-40\text{ °C} \leq T_a \leq +70\text{ °C}$ for temperature class T6

Ambient temperature range for installation outside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +85\text{ °C}$

Ambient temperature range for installation

outside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +85\text{ °C}$

Specific Conditions of Use:

1 One-piece surge protection devices and Multi-piece surge protection devices

Ambient temperature range for installation inside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +50\text{ °C}$ for temperature class T4 and $I_i = 400\text{ mA}$

$-40\text{ °C} \leq T_a \leq +70\text{ °C}$ for temperature class T4 and $I_i = 250\text{ mA}$

$-40\text{ °C} \leq T_a \leq +35\text{ °C}$ for temperature class T6 and $I_i = 350\text{ mA}$

$-40\text{ °C} \leq T_a \leq +70\text{ °C}$ for temperature class T6 and $I_i = 100\text{ mA}$

Ambient temperature range for installation outside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +85\text{ °C}$

2 Surge protection device with 2-WISE option

Ambient temperature range for installation inside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +85\text{ °C}$ for temperature class T4

$-40\text{ °C} \leq T_a \leq +70\text{ °C}$ for temperature class T6

Ambient temperature range for installation outside of the hazardous area:

$-40\text{ °C} \leq T_a \leq +85\text{ °C}$

3 For installation inside of the hazardous area:

The surge protection devices must be protected from electrostatic charging.

4 The mounting foot establishes an electrical connection to the 35 mm width DIN-rail.

The surge protection devices type TTC-6-1X2-M-EX-24DC-UT-I, type TTC-6-2X1-M-EX-24DC-UT-I, type TTC-6P-1X2-M-EX-24DC-UT-I, type TTC-6P-2X1-M-EX-24DC-UT-I and type TTC-6P-1X2-EX-24DC-UT-I are directly connected over the terminals 3 and 6 to the mounting foot.

The surge protection devices type TTC-6-3-HF-F-M-EX-12DC-UT-I, type TTC-6-3-HF-F-M-EX-24DC-UT-I, type TTC-6P-3-HF-F-M-EX-12DC-UT-I and type TTC-6P-3-HF-F-M-EX-24DC-UT-I are connected over the terminals 3 and 6 and via a surge arrester to the mounting foot.



IECEx Certificate of Conformity



Certificate No.: IECEx BVS 16.0090X issue No: 6

Annex

Page 4 of 4

The terminals 1, 2, 4 and 5 are connected to terminals 3 and 6 via surge arresters for all types above.

Each of the terminal pairs 1 – 4, 2 – 5 and 3 – 6 of the surge protection device type **TTC-6P-3-EX-24DC-UT-I** is connected via a surge arrester with the mounting foot.

Each of the terminal pairs 1 – 4, 2 – 5 and 3 – 6 of the surge protection device with 2-WISE option type **TTC-6P-3-APL-EX-24DC-UT-I with** plug module type **TTC-6P-4-GDT-EX-24DC-I-P** is connected via two surge arrester with the mounting foot.

The breakdown voltage of the surge arresters is less than 500 VAC.

The breakdown voltage between the intrinsically safe circuit and the earth connection (mounting foot) is therefore less than 500 VAC depending on the design.

The intrinsically safe circuit is earthed, depending on the type of surge protection device and from the installation, in normal operation or by fault. Along to the intrinsically safe circuit potential equalization has to be provided.

- 5 The surge protection devices are intrinsically safe apparatus. The devices were tested in accordance with the standards IEC 60079-0 and IEC 60079-11.

The suitability of the devices as an overvoltage protection device according to IEC 60079-25 is not subject of the Certificate of Conformity. Further considerations are required.