



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 21.0057X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2021-10-29
Applicant: **PHOENIX CONTACT GmbH & Co. KG**
Flachsmarktstr. 8
32825 Blomberg
Germany
Equipment: **Surge protection device type TTC-**-***-**-*_-*_****_**_*_***
Optional accessory:
Type of Protection: **Increased Safety "e"**
Marking: Ex ec IIC T4 Gc

Approved for issue on behalf of the IECEx
Certification Body:

Dr Michael Wittler

Position:

Deputy Head of Certification Body

Signature:
(for printed version)

Date:

29.10.2021

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

 **DEKRA**
On the safe side.



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Manufacturer: **PHOENIX CONTACT GmbH & Co. KG**
Flachsmarktstr. 8
32825 Blomberg
Germany

Additional
manufacturing
locations:

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

STANDARDS :

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

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

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

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/ExTR21.0072/00](#)

Quality Assessment Report:

[NL/DEK/QAR11.0009/07](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Subject and Type

See Annex

Description

The Surge protection devices TTC... are used to limit transient overvoltages which could be coupled into signal circuits. Thereto, a surge protection module is connected into the signal circuits which have to be protected.

The surge protection devices TTC-**-***-**-*-M-****-**-*-* have disconnection screws which can interrupt the signal lines for maintenance purposes.

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.

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

The surge protection device TTC must be installed in an enclosure with a minimum degree of protection of IP54 according to IEC 60079-0.

The ambient temperature range specified in the thermal parameters refers to the internal temperature in the IP54 enclosure.

The surge protection device TTC shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.

Annex:

[BVS_21_0057x_Phoenix_Annex_1.pdf](#)

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Annex
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Subject and Type

Surge protection device type TTC-**-***-**-*_**-*-**_*_*

Type designation

TTC	-aa	-bbb	-cc	-d	-e	-ffff	-gg	-h	-i
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Placeholder	Value	Description
-aa	-6	6 mm non-pluggable version
	-6P	6 mm pluggable version
-bbb	-1x2	Protection of 1 loop consisting of 2 signal wires, floating
	-3	Three signal wires, without decoupling
-cc	-3-HF	Two signal wires with reference conductor for high- frequency signals
-d	-F	Optional: floating earth (with gas discharge tube)
-e	-M	Optional: signal path breaker
-ffff	-12DC	12 V signals
	-24DV	24 V signals
-gg	-UT	Screwed connection terminals
	-PT	Push in connection terminals
-i	-I	Optional: indication window for separation
-j	-P	Spare plug-in modules

One-piece surge protection device

TTC-6-1x2-M-24DC-UT-I
TTC-6-1x2-M-24DC-PT-I



Multi-piece surge protection devices

TTC-6P-3-HF-M-12DC-UT-I
TTC-6P-3-HF-M-12DC-PT-I
TTC-6P-3-HF-F-M-12DC-UT-I
TTC-6P-3-HF-F-M-12DC-PT-I
TTC-6P-3-HF-F-M-24DC-UT-I
TTC-6P-3-HF-F-M-24DC-PT-I
TTC-6P-1x2-M-24DC-UT-I
TTC-6P-1x2-M-24DC-PT-I
TTC-6P-3-24DC-PT-I




Spare plug-in modules

TTC-6P-1x2-24DC-I-P
TTC-6P-3-HF-EX-12DC-I-P
TTC-6P-3-HF-EX-24DC-I-P
TTC-6P-3-24DC-I-P

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Parameters

Electrical parameters

Rated voltage of signal lines (type ...-24DC...)	DC	30	V								
Rated voltage of signal lines (type ...-12DC...)	DC	15	DC								
Maximum current (type TTC-6P-3-24DC-PT-I)		5	A								
with derating											
Maximum current (all other types)		0.6	A								
with derating	Derating for Ex-areas (Zone 2, EX ec) <table border="1" style="width: 100%; margin-top: 5px;"> <thead> <tr> <th>ϑ [°C]</th> <th>I [mA]</th> </tr> </thead> <tbody> <tr> <td>$\leq 30^{\circ}\text{C}$</td> <td>600 mA</td> </tr> <tr> <td>$> 30^{\circ}\text{C} \dots \leq 50^{\circ}\text{C}$</td> <td>500 mA</td> </tr> <tr> <td>$> 50^{\circ}\text{C} \dots \leq 70^{\circ}\text{C}$</td> <td>400 mA</td> </tr> </tbody> </table>			ϑ [°C]	I [mA]	$\leq 30^{\circ}\text{C}$	600 mA	$> 30^{\circ}\text{C} \dots \leq 50^{\circ}\text{C}$	500 mA	$> 50^{\circ}\text{C} \dots \leq 70^{\circ}\text{C}$	400 mA
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Maximum current – not pluggable articles (type TTC-6-...)		0.6	A								
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Thermal parameters

Ambient temperature range with derating (inside the separately certified enclosure)	-40 °C ≤ T _{amb} ≤ 85 °C (T4)
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Connection cross-sections

Conductor with ferrule	0.2 to 2.5 mm ²
Conductor without ferrule	AWG 24 to AWG 12
Solid wire	0.2 to 4 mm ²