



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 TUN 18.0026X	Page 1 of 4	<u>Certificate history:</u> Issue 1 (2022-09-07) Issue 0 (2020-07-01)
Status:	Current	Issue No: 2	
Date of Issue:	2024-04-30		
Applicant:	Hans Turck GmbH & Co. KG Witzlebenstraße 7 45472 Mulheim an der Ruhr Germany		
Equipment:	Transmitter-power supply		
Optional accessory:	IMC-AIA-11Ex-i/*** resp. IMC-AIA01-11Ex-i/24VDC		
Type of Protection:	Equipment protection by increased safety "e"; Equipment protection Intrinsic safety "i"; Equipment dust ignition protection by enclosure "t"		
Marking:	IMC-AIA-11Ex-i/***: [Ex ia Ga] IIB or [Ex ia Da] IIIC or Ex ec [ia IIB Ga] IIC T4 Gc or Ex tc [ia IIIC Da] IIIB T80 °C Dc IMC-AIA01-11Ex-i/24VDC: [Ex ia Ga] IIC or [Ex ia Da] IIIC or Ex ec [ia Ga] IIC T4 Gc or Ex tc [ia IIIC Da] IIIB T80°C Dc		

Approved for issue on behalf of the IECEx
Certification Body:

Anke Drews

Position:

Deputy Head of IECEx Certification Body

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
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Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany





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Date of issue: 2024-04-30

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Manufacturer: **Hans Turck GmbH & Co KG**
Witzlebenstraße 7, 45472 Mülheim an der Ruhr
Germany

Manufacturing locations: **Werner Turck GmbH & Co. KG**
Goethestraße 7
58553 Halver
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 60079-31:2022](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

[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/TUN/ExTR18.0035/02](#)

Quality Assessment Reports:

[DE/PTB/QAR06.0012/06](#)

[DE/PTB/QAR06.0013/11](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

General product information:

Subject and Type:

Transmitter-power supply type IMC-AIA-11Ex-i/** resp. IMC-AIA01-11Ex-i/24VDC

Description:

The transmitter-power supply type IMC-AIA-11Ex-i/** resp. IMC-AIA01-11Ex-i/24VDC is used for the supply of apparatus in the explosion hazardous area and for the safe galvanic separation of the intrinsically safe measuring signals and the non-intrinsically safe output signals.

Electrical data:

See attachment to IECEX TUN 18.0026X issue No.2

Thermal data:

The ambient temperature range during operation is -25 °C ... +70 °C

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. For applications that require EPL Gc or EPL Dc: The connecting and disconnecting of the non-intrinsically safe circuit is not permitted when live.
2. For applications that require EPL Gc and EPL Dc: The metallic protective housing has to be connected to the equipotential bonding and to be safely screwed to a solid basement with the provided screws resp. with screws according to the manufacturer's operating instructions.
3. For applications that require EPL Gc and EPL Dc: The transmitter-power supply type IMC-AIA-11Ex-i/** resp. type IMC-AIA01-11Ex-i/24VDC has to be protected from UV radiation.
4. For applications that require EPL Dc: The transmitter-power supply type IMC-AIA-11Ex-i/** resp. type IMC-AIA01-11Ex-i/24VDC has to be protected from prolific charge generating mechanisms.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Proof of conformity of the transmitter-power supply type IMC-AIA-11Ex-i/** to the current version of the standards IEC 60079-11:2023 and IEC 60079-31:2022.

The transmitter-power supply type IMC-AIA-11Ex-i/** is already approved according to IEC 60079-0:2017 and IEC 60079-7:2017 in the previous IECEx TUN 18.0026X issue No.1

Proof of conformity of the extended transmitter-power supply type IMC-AIA01-11Ex-i/24VDC to the current versions of the standards IEC 60079-0:2017; IEC 60079-7:2017; IEC 60079-11:2023 and IEC 60079-31:2022

Annex:

[Attachment to IECEx TUN 18.0026X issue No.2.pdf](#)

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Description:

The transmitter-power supply type IMC-AIA-11Ex-i/** resp. type IMC-AIA01-11Ex-i/24VDC is used for the supply of apparatus in the explosion hazardous area and for the safe galvanic separation of the intrinsically safe measuring signals and the non-intrinsically safe output signals.

Type code and Marking:

IMC-AIA-11Ex-i/**	[Ex ia Ga] IIB or [Ex ia Da] IIIC or Ex ec [ia IIB Ga] IIC T4 Gc or Ex tc [ia IIIC Da] IIIB T80°C Dc
IMC-AIA01-11Ex-i/24VDC	[Ex ia Ga] IIC or [Ex ia Da] IIIC or Ex ec [ia Ga] IIC T4 Gc or Ex tc [ia IIIC Da] IIIB T80°C Dc

Electrical data:

IMC-AIA-11Ex-i/**

Supply and signal circuit
IMC-AIA-11Ex-i/L
(Connection X2;
Pins 2[+], 4[-])

For the connection to non-intrinsically safe circuits with following maximum values:
 $U_N = 24 \text{ V d.c. (max. 30 V d.c.)}$, $I = 4 \dots 20 \text{ mA}$
 $U_m = 253 \text{ V a.c.}$

Supply and signal circuit
IMC-AIA-11Ex-i/24V
(Connection X2;
Signal circuit:
Pins 2[+], 4[-]
Supply circuit:
Pins 1[+], 3[-])

For the connection to non-intrinsically safe circuits with following maximum values:
 $U_N = 24 \text{ V d.c. (max. 30 V d.c.)}$, $I = 4 \dots 20 \text{ mA}$
 $U_m = 253 \text{ V a.c.}$

Supply circuit
IMC-AIA-11Ex-i/L and
IMC-AIA-11Ex-i/24V
(Connection X1;
Socket 1[+], 2[-])

In type of protection Intrinsic Safety Ex ia IIB or IIIC with following maximum values:

$U_o = 21.8 \text{ V}$
 $I_o = 64.5 \text{ mA}$
 $P_o = 1.13 \text{ W}$
Characteristic line: trapezoidal
Effective internal capacitance $C_i = 11 \text{ nF}$
Effective internal inductance L_i is negligibly small.

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ia IIB/IIIC	L_o [mH]	3.4	2	0.5	0.2	0.1
	C_o [μF]	0.41	0.51	0.82	1.08	1.14

The intrinsically safe supply circuit is safely galvanically separated from the non-intrinsically safe limited circuits up to the peak crest value of the voltage of 375 V.

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IMC-AIA01-11Ex-i/24VDC

Supply and signal circuit
Signal circuit:
Pins 2[+], 4[-]
supply circuit:
Pins 1[+], 3[-])

For connection to non-intrinsically safe circuits with the following maximum values:
 $U_N = 24 \text{ V d.c. (max. 30 V d.c.)}$, $I = 4 \dots 20 \text{ mA}$
 $U_m = 253 \text{ V a.c.}$

Supply circuit
(Connection X1;
Socket 1[+], 2[-])

In type of protection Intrinsic Safety Ex ia IIC or IIIC with following maximum values:

$U_o = 23.2 \text{ V}$
 $I_o = 63.6 \text{ mA}$
 $P_o = 773 \text{ mW}$
Characteristic line: trapezoidal
Effective internal capacitance $C_i = 11 \text{ nF}$
Effective internal inductance L_i is negligibly small.

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ia IIC	L_o [mH]	0.94	0.5	0.2	0.1
	C_o [nF]	57	77	109	127
Ex ia IIIC	L_o [mH]	1.4	1	0.2	0.1
	C_o [nF]	519	589	989	999

The intrinsically safe supply circuit is safely galvanically separated from the non-intrinsically safe limited circuits up to the peak crest value of the voltage of 375 V.

Thermal data:

Permissible ambient temperature range during operation: $-25 \text{ °C} \leq T_a \leq +70 \text{ °C}$

Details of change (applicable only when revising an existing ExTR package):

Proof of conformity of the transmitter-power supply type IMC-AIA-11Ex-i/** to the current versions of the standards IEC 60079-11:2023 and IEC 60079-31:2022.

The transmitter-power supply type IMC-AIA-11Ex-i/** is already approved according to IEC 60079-0:2017 and IEC 60079-7:2017 in the previous IECEx TUN 18.0026X issue No.1

Proof of conformity of the extended transmitter-power supply type IMC-AIA01-11Ex-i/24VDC to the current versions of the standards IEC 60079-0:2017; IEC 60079-7:2017; IEC 60079-11:2023 and IEC 60079-31:2022

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Specific Conditions of Use:

1. For applications that require EPL Gc and EPL Dc: The connecting and disconnecting of the non-intrinsically safe circuit is not permitted when live.
2. For applications that require EPL Gc and EPL Dc: The metallic protective housing has to be connected to the equipotential bonding and to be safely screwed to a solid basement with the provided screws resp. with screws according to the manufacturer's operating instructions.
3. For applications that require EPL Gc and EPL Dc: The transmitter-power supply type IMC-AIA-11Ex-i/** resp. type IMC-AIA01-11Ex-i/24VDC has to be protected from UV radiation.
4. For applications that require EPL Dc: The transmitter-power supply type IMC-AIA-11Ex-i/** resp. type IMC-AIA01-11Ex-i/24VDC has to be protected from prolific charge generating mechanisms.