



# 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](http://www.iecex.com)

Certificate No.: **IECEX TUN 06.0009X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 3 [Issue 2 \(2018-12-12\)](#)  
[Issue 1 \(2014-03-06\)](#)  
Date of Issue: 2024-05-06  
Applicant: **Hans Turck GmbH & Co. KG**  
Witzlebenstraße 7  
45472 Mülheim an der Ruhr  
Germany  
Equipment: **Isolating Switch Amplifier IM33-\*\*\*Ex-\*\*\*/24VDC**  
Optional accessory:  
Type of Protection: **Intrinsic safety and increased safety**  
Marking: **[Ex ia Ga] IIC or**  
**[Ex ia Da] IIICor**  
**Ex ec [ia Ga] IIC T4 Gc**

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)

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Hanover Office  
Am TÜV 1, 30519 Hannover  
Germany





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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 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

[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/ExTR13.0028/02](#)

Quality Assessment Reports:

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

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



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Date of issue: 2024-05-06

Issue No: 3

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

### **Description:**

The Isolating Switch Amplifier type IM33-\*\*\*Ex-\*\*\*/24VDC is used as power supply for intrinsically safe 2 wire (and optional 3 wire) transmitters operated in explosive gas atmospheres and also for the galvanically separated transmission of standardised analogue signals into non-explosive atmospheres.

The device is executed with 1 or 2 channels.

### **Type Code:**

IM33-\*\*\*Ex-\*\*\*/24VDC

### **Electrical and thermal data:**

Refer to the attachment to IECEx TUN 06.0009X issue No.3

### **SPECIFIC CONDITIONS OF USE: YES as shown below:**

1. For EPL Gc applications the Isolating Switch Amplifier type IM33-\*\*\*Ex-\*\*\*/24VDC has to be installed in a suitable enclosure according to IEC 60079-7 in such a way that a degree of protection of at least IP54 is achieved.
2. For EPL Gc applications the Isolating Switch Amplifier type IM33-\*\*\*Ex-\*\*\*/24VDC has to be erected in such a way that a pollution degree 2 or less, according to IEC 60664-1, is achieved
3. For EPL Gc applications, the connection and disconnection of the terminals of non-intrinsically safe circuits is only permitted if no explosive atmosphere is present.



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

Proof of conformity of the Isolating Switch Amplifier type IM33-\*\*\*Ex-\*\*\*/24VDC to the current versions of the standards IEC 60079-0:2017/  
COR1:2020, IEC 60079-7:2017 and IEC 60079-11:2011/COR1:2012

**Annex:**

[Attachment to IECEx TUN 06.0009X issue No. 3.pdf](#)

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**Attachment to IECEx TUN 06.0009 X issue No.: 3**

**Description:**

The Isolating Switch Amplifier type IM33-\*\*\*Ex-\*\*\*/24VDC is used as power supply for intrinsically safe 2 wire (and optional 3 wire) transmitters operated in explosive gas atmospheres and also for the galvanically separated transmission of standardised analogue signals into non-explosive atmospheres.  
The device is executed with 1 or 2 channels.

**Type code:**

IM33-\*\*\*Ex-\*\*\*/24VDC

**Electrical data:**

Supply circuits  
(Terminals 11/12)

For connection to non-intrinsically safe circuits with the following maximum values:

$$U \leq 35 \text{ V d.c.}; P \leq 3.2 \text{ W}$$

$$U_m = 253 \text{ V a.c. resp. } 125 \text{ V d.c.}$$

Output circuits  
(Terminals 7/10 and 8/9 resp. 7/10 with one channel)

For connection to non-intrinsically safe circuits with the following maximum values:

$$U \leq 15 \text{ V d.c.}; I \leq 25 \text{ mA}$$

$$U_m = 253 \text{ V a.c. resp. } 125 \text{ V d.c.}$$

Control circuits  
(Terminals 1/2/3 and 4/5/6 resp. 1/2/3 with one channel)

In type of protection intrinsic safety Ex ia IIC/IIIC with following maximum values per circuit:

Version xxx	11, 12, 22 221 221...K39 221...K40	222 222...K39	223
$U_o$	21.9 V	19.8 V	19.8 V
$I_o$	95 mA	75 mA	90 mA
R	331 $\Omega$	419 $\Omega$	316 $\Omega$
Characteristic line:		trapezoidal	
$C_o$	Ex ia IIC	57 nF	64 nF
$L_o$	Ex ia IIC	2.8 mH	1.7 mH
$C_o$	Ex ia IIIC	370 nF	350 nF
$L_o$	Ex ia IIIC	11 mH	21 mH

The connection of the control circuits to certified intrinsically safe circuits with the following maximum values is possible:

(Terminals 2/3 resp. 5/6)

$$U_i = 40 \text{ V (device with one channel)}$$

$$U_i = 30 \text{ V (device with 2 channels)}$$

$$P_i = 650 \text{ mW}$$

The intrinsically safe control circuits are safely galvanically separated from all non-intrinsically safe circuits up to a peak value of the voltage of 375 V.

The intrinsically safe control circuits are safely galvanically separated up to a sum of the voltages of 60 V.

**Thermal data:**

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

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**Attachment to IECEx TUN 06.0009 X issue No.: 3**

**Specific Conditions of Use:**

1. For EPL Gc applications the Isolating Switch Amplifier type IM33-\*\*\*Ex-\*\*\*/24VDC has to be installed in a suitable enclosure according to IEC 60079-7 in such a way that a degree of protection of at least IP54 according to IEC 60529 is achieved.
2. For EPL Gc applications the Isolating Switch Amplifier type IM33-\*\*\*Ex-\*\*\*/24VDC has to be erected in such a way that a pollution degree 2 or less, according to IEC 60664-1, is achieved.
3. For EPL Gc applications, the connection and disconnection of the terminals of non-intrinsically safe circuits is only permitted if no explosive atmosphere is present.

**Details of change:**

Proof of conformity of the Isolating Switch Amplifier type IM33-\*\*\*Ex-\*\*\*/24VDC to the current versions of the standards IEC 60079-0:2017/COR1:2020, IEC 60079-7:2017 and IEC 60079-11:2011/COR1:2012