

Translation

(1) **EC-Type Examination Certificate**

TUV NORD



(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 94/9/EC**

(3) **Certificate Number** TÜV 05 ATEX 2910

(4) for the equipment: Transmitter Supply type IM33-***Ex-Hi

(5) of the manufacturer: Hans Turck GmbH & Co. KG

(6) Address: Witzlebenstraße 7
D-45472 Mülheim

Order number: 8000 2105

Date of issue: 2006-08-08

(7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 06 YEX 2105.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50 014:1997 + A1 + A2 EN 50 020:2002

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:

II (1) G D [EEx ia] IIC

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body

Schwedt

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(13)

SCHEDULE

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 05 ATEX 2910**

(15) Description of equipment or protective system

The transmitter supply type IM33-***Ex-Hi is used for the supply of passive two-pole or multipolar apparatus (e. g. two wire transmitters) as well as for the safe galvanic separation of the intrinsically safe circuits and the non intrinsically safe circuits.

The device is executed with 1 or 2 channels.

The permissible ambient temperature range is -25°C ... 70°C.

Electrical Data

Supply circuit
(Connections 19, 20)

$U = 20...250$ V a. c. resp. $20...125$ V d. c., P ca. 5 W
 $U_m = 250$ V a. c. resp. 125 V d. c.

IM33-1Ex-Hi**

Supply and measuring circuits
(Connections 1, 2, 3 resp. 6, 7, 8)

in type of protection Intrinsic Safety EEx ia IIC/IIB
Maximum values per circuit:

$U_o = 21.3$ V

$I_o = 92$ mA

$P_o = 722$ mW

$R = 341.2$ Ω

Characteristic line: trapezoidal

effective internal capacitance: see below

effective internal inductance: 30 μ H

EEx ia	IIC	IIB
max. permissible external inductance	0.09 mH	10 mH
max. permissible external capacitance	0.157 μ F	0.43 μ F

IM33-Ex-Hi**

Supply and measuring circuits
(Connections 1, 2, 3 resp. 6, 7, 8)

in type of protection Intrinsic Safety EEx ia IIC/IIB
Maximum values per circuit:

$U_o = 21.9$ V

$I_o = 86$ mA

$P_o = 675$ mW

$R = 365$ Ω

Characteristic line: trapezoidal

effective internal capacitance: see below

effective internal inductance: 30 μ H

EEx ia	IIC	IIB
max. permissible external inductance	0.47 mH	10 mH
max. permissible external capacitance	0.093 μ F	0.45 μ F

Schedule EC-Type Examination Certificate No. TÜV 05 ATEX 2910

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances.

The connection to intrinsically safe circuits with the following maximum values at the connections 2, 3 resp. 7, 8 is permissible:

$$P_i = 650 \text{ mW}$$
$$U_i = 40 \text{ V}$$

The rules for the interconnection of intrinsically safe circuits have to be observed; the voltage of internal capacitances (80nF) is limited safely to 3.8V.

Output circuits
(Connections 11[+], 12[-],
16[+], 17[-])

Electrical data per circuit:
 $U \leq 30 \text{ V}$, 30 mA
 $U_m = 250 \text{ V a. c. resp. } 125 \text{ V d. c.}$

The intrinsically safe supply and measuring circuits are safely galvanically separated from the non intrinsically safe circuits up to the peak crest value of the voltage of 375 V.

IM33-2**Ex-Hi: The intrinsically safe supply and measuring circuit of channel 1 is safely galvanically separated from the intrinsically safe supply and measuring circuit of channel 2.

(16) Test documents are listed in the test report No. 06 YEX 552105.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

Translation
1. SUPPLEMENT

to Certificate No.

Equipment:
Manufacturer:
Address:

TÜV 05 ATEX 2910

Transmitter supply type IM33-***Ex-Hi
Hans Turck GmbH & Co. KG
Witzlebenstraße 7
45472 Mülheim an der Ruhr
Germany

Order number:
Date of issue:

8000424687
2013-12-10

In future, the transmitter supply type IM33-***Ex-Hi is manufactured according to the documents listed in the test report.

The required tests were performed according to the current standards.

The following changes were performed:

- Some new components resp. component changes
- New routine test for the transformers
- Actualization of the manual
- New marking; this reads:
II (1) G [Ex ia Ga] IIC, II (1) D [Ex ia Da] IIIC

Electrical data

Supply circuit
(Connections 19, 20)

$U = 20 \dots 250 \text{ V a. c. resp. } 20 \dots 125 \text{ V d. c.}, P \text{ ca. } 5 \text{ W}$
 $U_m = 250 \text{ V a. c. resp. } 125 \text{ V d. c.}$

Output circuits
(Connections 11[+], 12[-],
16[+], 17[-])

Electrical data per circuit:
 $U \leq 30 \text{ V}, 30 \text{ mA}$
 $U_m = 250 \text{ V a. c. resp. } 125 \text{ V d. c.}$

IM33-1Ex-Hi**

Supply and measuring circuits
(Connections 1, 2, 3 resp. 6, 7, 8)

in type of protection Intrinsic Safety Ex ia IIC/IIB
resp. Ex ia IIIC

Maximum values per circuit:

$U_o = 21.3 \text{ V}$
 $I_o = 92 \text{ mA}$
 $P_o = 722 \text{ mW}$
 $R = 341.2 \text{ } \Omega$

Characteristic line: trapezoidal
effective internal capacitance: 3 nF
effective internal inductance: 30 μH

Ex ia	IIC	IIB
max. permissible external inductance	0.09 mH	10 mH
max. permissible external capacitance	0.157 μF	0.43 μF

IM33-Ex-Hi**

Supply and measuring circuits
(Connections 1, 2, 3 resp. 6, 7, 8)

in type of protection Intrinsic Safety Ex ia IIC/IIB
resp. Ex ia IIIC

Maximum values per circuit:

$$U_o = 21.3 \text{ V}$$

$$I_o = 86 \text{ mA}$$

$$P_o = 675 \text{ mW}$$

$$R = 365 \text{ } \Omega$$

Characteristic line: trapezoidal

effective internal capacitance: 3 nF

effective internal inductance: 30 μ H

Ex ia	IIC	IIB
max. permissible external inductance	0.47 mH	10 mH
max. permissible external capacitance	0.093 μ F	0.45 μ F

The values of the tables for IIB and for IIC are also permissible for explosive dust atmospheres.

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances.

The connection to intrinsically safe circuits with the following maximum values at the connections 2, 3 resp. 7, 8 is permissible:

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

$$U_i = 40 \text{ V}$$

The rules for the interconnection of intrinsically safe resp. energy limited circuits have to be observed.

The intrinsically safe supply and measuring circuits are safely galvanically separated from the non intrinsically safe circuits up to the peak crest value of the voltage of 375 V.

IM33-2**Ex-Hi: The intrinsically safe supply and measuring circuit of channel 1 is safely galvanically separated from the intrinsically safe supply and measuring circuit of channel 2.

All other details remain unchanged.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2009

EN 60079-11:2012

(16) The test documents are listed in the test report No. 13 203 127573.

(17) Special conditions for safe use
none

(18) Essential Health and Safety Requirements
no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body



Meyer

Wir/ We **HANS TURCK GMBH & CO KG**
WITZLEBENSTR. 7, D – 45472 MÜLHEIM A.D. RUHR

erklären in alleiniger Verantwortung, dass die Produkte
declare under our sole responsibility that the products

Transmitter-Speisetrenner Typ IM33-*-Ex-Hi**

auf die sich die Erklärung bezieht, den Anforderungen der folgenden EU-Richtlinien durch Einhaltung der
folgenden Normen genügen:
to which this declaration relates are in conformity with the requirements of the following EU-directives by compliance with the following standards:

EMV – Richtlinie / EMC Directive 2014 / 30 / EU 26. Feb. 2014
EN 61326-1:2013

Niederspannungsrichtlinie/ Low Voltage Directive 2014 / 35 / EU 26. Feb. 2014
(für die Geräte mit Versorgungsspannung / for equipment with supply voltage : >50V AC bzw. >75V DC)
EN 61010-1:2010

Richtlinie / Directive ATEX 2014 / 34 / EU 26. Feb. 2014
EN 60079-0:2012 EN 60079-11:2012 EN 60079-15:2010

Weitere Normen, Bemerkungen
additional standards, remarks

Das Produkt stimmt mit den Anforderungen der Richtlinie 2014 / 34 / EU überein. Eine oder mehrere in der zugehörigen EG-Baumusterprüfbescheinigung genannten Normen wurden bereits durch neue Ausgaben ersetzt. Der Hersteller erklärt für das Produkt auch die Übereinstimmung mit den neuen Normenausgaben, da die veränderten Anforderungen der neuen Normenausgaben für dieses Produkt nicht relevant sind.

The product complies with the directive 2014 / 34 / EU. One or more norms mentioned in the respective EC type examination certificate were already replaced by new ones. The manufacturer declares that the product complies with the new valid norms, as the changed requirements mentioned there are not relevant for the product.

Die Niederspannungsrichtlinie ist nicht anwendbar bei Betrieb des Produktes im explosionsgefährdeten Bereich. In diesem Fall sind alle grundlegenden Zielsetzungen im Hinblick auf die Niederspannung von der Richtlinie 2014 / 34 / EU Anhang II Punkt 1.2.7 abgedeckt.

The low voltage directive is not applicable when the product is installed in the hazardous area. In this case all Low Voltage essential objectives are covered by the Directive 2014 / 34 / EU Annex II 1.2.7.

Zusätzliche Informationen:

Supplementary information:

Angewandtes ATEX-Konformitätsbewertungsverfahren / ATEX - conformity assessment procedure applied:
Modul B + Modul D / E / module B + module D / E

EU-Baumusterprüfbescheinigung (Modul B) TÜV 05 ATEX 2910, TÜV 06 ATEX 2967 X /
EC-type examination certificate (module B)

ausgestellt von / issued by: TÜV NORD CERT GmbH, Kenn-Nr. / number 0044
Langemarckstraße 20, 45141 Essen

Zertifizierung des QS-Systems gemäß Modul D durch:
certification of the QS-system in accordance with module D by :

Physikalisch Technische Bundesanstalt, Kenn-Nr. / number 0102,
Bundesallee 100, D-38116 Braunschweig

Mülheim, den 20.04.2016



i.V. Dr. M. Linde, Leiter Zulassungen / Manager Approvals

Ort und Datum der Ausstellung /
Place and date of issue

Name, Funktion und Unterschrift des Befugten /
Name, function and signature of authorized person