

[1] **TYPE EXAMINATION CERTIFICATE**  
(Translation)



[2] for electrical equipment of Equipment Group II, Equipment Category 3

[3] Type Examination Certificate Number: **IBExU07ATEXB015 X**

[4] Equipment: Transmitter-power supply  
type IM33-\*\*Ex-\*\*\*\*\*

[5] Manufacturer: Hans Turck GmbH & Co. KG

[6] Address: Witzlebenstraße 7  
45472 Mülheim an der Ruhr  
GERMANY

[7] The design of the equipment mentioned under [4] and any acceptable variations thereto are specified in the schedule to this Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH certifies that the equipment mentioned under [4] has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive 94/9/EC.  
The test results are recorded in the test report IB-07-3-311 of 06<sup>th</sup> December 2007.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2004 and EN 60079-15:2005.

[10] If the sign „X“ is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified under [17] in the schedule to this Type Examination Certificate.

[11] This Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this directive apply to the manufacture and supply of this equipment.

[12] The marking of the equipment mentioned under [4] shall include the following:

**Ex II 3 G Ex nA nC [nL] IIC/IIB T4 X**  
-25 °C ≤ T<sub>a</sub> ≤ +70 °C

IBExU Institut für Sicherheitstechnik GmbH  
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Freiberg, 7<sup>th</sup> December 2007

By Order

(Dr. Lösch)

**IBExU**  
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- Stamp -

Certificates without signature and stamp are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

**Schedule**

[13] **Schedule**

[14] **to the TYPE EXAMINATION CERTIFICATE IBExU07ATEXB015 X**

[15] **Description of equipment**

The Transmitter-power supply type IM33-\*\*Ex-\*\*\*\*\* is used for the safe galvanic separation and evaluation of current- or voltage signals in 2- or 3-wire technology. The apparatus is for use in potentially hazardous areas which require category 3 G equipment.

Type code:  
**IM33- 1 4 Ex-C D R i**  
a b c d e f g h

a Type designation for Transmitter-power supply (IM33)  
b Number of channels (1)  
c Number of outputs (4)  
d Equipment with Ex-approval (Ex)  
e PC-connection (C)  
f Digital display (D)  
g Relay outputs (R)  
h Sort of analogue output (i or u for current or voltage output)

Ambient temperature range: -25 °C to +70 °C  
Degree of protection of the enclosure: ≥ IP 20

**Electrical data**  
**Supply current circuit**  
(Terminal 19,20)  
Rated voltage:

U<sub>B</sub> 20 ... 250 V AC or  
20 ... 125 V DC

**Sensor current circuit**

in type of protection energy limitation Ex nL IIC/IIB

(Terminal 1...4)

U <sub>o</sub>	21.6 V
I <sub>o</sub>	85 mA
P <sub>o</sub>	459 mW
L <sub>i</sub>	negligible
C <sub>i</sub>	negligible
U <sub>i</sub>	40 V
P <sub>i</sub>	600 mW

Trapezoidal characteristic: R<sub>i</sub> = 408 Ω

The following connection values can be indicated for together available concentrated outer capacities and inductivities:

	Ex nL IIC			Ex nL IIB		
C <sub>o</sub>	170 nF	210 nF	255 nF	1.0 μF	1.2 μF	1.4 μF
L <sub>o</sub>	4 mH	0.5 mH	0.15 mH	5 mH	1 mH	0.15 mH

**Output circuit (passive)**

(Terminal 11:16) U 13.5 V  
I 22.5 mA

Contact circuit  
(Terminal 12,13; 14,15; 17,18)

U	I	P
250 VAC	2 A	500VA / 60W
120 VDC	0.5 A	
30 VDC	2 A	

Configuration interface  
(front side stereo jack)

U 3.3 V

The energy limited circuits are safely galvanically separated from the non energy limited circuits up to the peak crest value of the voltage of 375 V.

[16] Test report

The Test results are recorded in the Test Report IB-07-3-311. The test documents are part of the test report and listed there.

Summary

The Transmitter-power supply type IM33-\*\*Ex-\*\*\*\*\* fulfills the requirements of explosion protection for associated apparatus for Equipment Group II and Category 3 G in type of protection non-sparking, sealed device and energy-limited apparatus for gases of Explosion Group IIC/IIB.

[17] Special conditions for safe use

- For installation in hazardous areas of zone 2 (equipment of category 3G), the transmitter-power supply type IM33-\*\*Ex-\*\*\*\*\* must be built in into enclosures to meet the requirements of the EN 60079-15 (at least IP54).
- The operation of front side push-buttons as well as connecting and disconnecting of energised non energy limited circuits is only permitted for reasons of installation, maintenance and repair.

[18] Essential Health and Safety Requirements  
Confirmed by compliance with standards (see [9])

By Order



(Dr. Lösch)

Freiberg, 07<sup>th</sup> December 2007

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

Universalmessumformer-Speisetrenner Typ IM33-14Ex-CDRI

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) IBExU 07 ATEX 1156, IBExU 07 ATEX B015 X /  
EC-type examination certificate (module B)

ausgestellt von / issued by: IBExU Institut für Sicherheitstechnik GmbH, Kenn-Nr. / number 0637  
Fuchsmühlenweg 7, D-09599 Freiberg

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