



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx IBE 09.0007X** Issue No.: **0** Certificate history:
Status: **Current**
Date of Issue: **2009-05-25** Page 1 of 4

Applicant: **Hans Turck GmbH & Co. KG**
Witzlebenstrasse 7
45472 Mülheim an der Ruhr
Germany

Electrical Apparatus: **Temperature Measuring Amplifier IM34-14Ex-CDRI**
Optional accessory:

Type of Protection: **Intrinsic Safety; Type 'n'**

Marking: **[Ex ia] IIC/IIB**
[Ex iaD]
Ex nA nC [nL] IIC/IIB T4

Approved for issue on behalf of the IECEx
Certification Body:

Prof. Dr. Tammo Radeker

Position:

Head of Certification Body

Signature:
(for printed version)

2009-05-25

Date:

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 the Official IECEx Website.

Certificate issued by:
IBExU Institut für Sicherheitstechnik GmbH
Certification Body
Fuchsmühlweg 7
09599 Freiberg
Germany

IBExU



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Manufacturer: **Werner Turck GmbH & Co. KG**
Goethestrasse 7
53533 Halver
Germany

Manufacturing location(s):

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 electrical apparatus 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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2005-03 Edition: 3	Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety "ID"

This Certificate does not indicate compliance with electrical 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/BE/ExTR09.0006/00

Quality Assessment Report:

DE/PTB-QAR06.0012/00



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The temperature measuring amplifier type IM34-14Ex-CDRI is an associated electrical apparatus for installation outside of the explosion hazardous area (acc. IEC 60079-11) resp. an apparatus for use in Zone 2 explosion hazardous areas (acc. IEC 60079-15).
It is used for the detection of measuring signals (Pt100, Ni100 in 2-, 3- resp. 4 wire technique) and thermocouple-signals/mV-signals as well as for the safe galvanic separation of the intrinsically safe resp. energy limited measuring circuit and the non intrinsically safe circuits.

Technical data:

Ambient temperature T_a -25 ... +70 °C
Type of ingress protection > IP 20

Supply circuit (Terminal: 19; 20):

Nominal voltage U_N 20...250 V AC / 20...125 V DC
Rated Power P_N ≤ 3 W
Maximum r.m.s or d.c. voltage U_m 250 V AC / 125 V DC

CONDITIONS OF CERTIFICATION: YES as shown below:

Special conditions for safe use in zone 2:

At the installation within the hazardous area of zone 2, the temperature measuring amplifier IM34-14Ex-CDRI must be built in into enclosures which meet the requirements of the IEC 60079-15 (at least IP54).

Connecting and disconnecting of the connections of not energy-limited electrical circuits under voltage is only permitted at installation and for maintenance and repair purposes.



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EQUIPMENT(continued):

Intrinsically safe measuring circuit (Terminal: 1 ... 10):

Level of protection ia, nL
Maximum output voltage U_o 5.0 V
Maximum output current I_o 2.09 mA
Maximum output power P_o 2.61 mW
 C_p , L_p negligible
Characteristic linear, $R_i = 2391 \Omega$
Galvanic separated up to a peak voltage 375 V

The following maximum external values apply for the measuring circuit if there are C and L:

	Ex Ia IIC		
C_o	2.3 μF	3.0 μF	4.5 μF
L_o	50 mH	5 mH	0.5 mH
	Ex Ia IIB		
C_o	11 μF	15 μF	25 μF
L_o	50 mH	5 mH	0.5 mH
	Ex nL IIC		
C_o	3.8 μF	4.9 μF	7.7 μF
L_o	50 mH	5 mH	0.5 mH
	Ex nL IIB		
C_o	19 μF	26 μF	45 μF
L_o	50 mH	5 mH	0.5 mH

Output circuit (Terminal: 11+; 16-):

Level of protection nA
Voltage U ≤ 35 V
Current I 25 mA
Maximum r.m.s or d.c. voltage U_m 250 V AC / 125 V DC

Relay contact circuits (Terminal: 12 and 13; 14 and 15; 17 and 18)

Level of protection nA, nC
Breaking capacity 250 V AC / 2 A
120 V DC / 0.5 A
30 V DC / 2 A
500 VA / 60 W

Configuration interface RS 232C (Terminal: jack socket at front panel):

Level of protection nA
Nominal voltage U_N ≤ 5 V
Maximum r.m.s or d.c. voltage U_m 250 V AC / 125 V DC