



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 PTB 08.0001X	Page 1 of 5	<u>Certificate history:</u>
Status:	Current	Issue No: 3	Issue 2 (2020-08-17)
Date of Issue:	2023-11-14		Issue 1 (2017-07-31)
			Issue 0 (2008-02-04)
Applicant:	Endress + Hauser Wetzer GmbH + Co. KG Obere Wank 1, D-87484 Nesselwang Germany		
Equipment:	Head-type temperature transmitter iTEMP. Types TMT84, OTMT84, TMT85 and OTMT85		
Optional accessory:			
Type of Protection:	Intrinsic Safety		
Marking:	Ex ia IIC T6...T4 Ga resp. Ex ia IIC T6...T4 Gb		

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. Martin Thedens

Position:

**Head of Department "Explosion Protection in Sensor Technology
and Instrumentation"**

Signature:
(for printed version)

22.11.23

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany



Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin



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Manufacturer: **Endress + Hauser Wetzer GmbH + Co. KG**
Obere Wank 1, D-87484 Nesselwang
Germany

Manufacturing
locations:

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

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 Reports:

[DE/PTB/ExTR08.0001/02](#)

[DE/PTB/ExTR08.0001/03](#)

Quality Assessment Report:

[DE/TUN/QAR06.0009/11](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The head-type temperature transmitters iTEMP, type TMT8x respectively type OTMT8x are two-wire transmitters providing two measuring inputs. They transmit converted signals from resistance thermometers and thermocouples as well as resistance signals and signals in the mV-range using the FOUNDATION Fieldbus (TMT85) or PROFIBUS PA (TMT84). The apparatus is supplied from the FOUNDATION Fieldbus H1-bus or the PROFIBUS PA.

The equipment is intended for the application inside the hazardous area.

For further information see attachment of certificate.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The product shall be protected against electrostatic charging.
2. Optionally, only the display type TID10 certified under IECEx PTB 08.0013, shall be connected to the display interface of the temperature head transmitter. The EPL of the complete equipment is then reduced to the EPL Gb.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Use of alternative Component
- Revision of the documentation
- valid QAR selected



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Additional information:

For further information reference is made to the attachment of this certificate.

Annex:

[COCA080001-03.pdf](#)



Applicant: Endress+Hauser Wetzler GmbH+Co.KG
Electrical Apparatus: Head-type temperature transmitter iTEMP
types TMT84, OTMT84, TMT85, OTMT85

Description of equipment

The head-type temperature transmitters iTEMP, type TMT8x respectively type OTMT8x are two-wire transmitters providing two measuring inputs. They transmit converted signals from resistance thermometers and thermocouples as well as resistance signals and signals in the mV-range using the FOUNDATION Fieldbus™ (TMT85) or PROFIBUS PA® (TMT84). The apparatus is supplied from the FOUNDATION Fieldbus™ H1-bus or the PROFIBUS PA®.

The equipment is intended for the application inside the hazardous area.

Optionally, the display, types TID10 and OTID10, certified by IECEx Certificate of Conformity IECEX PTB 08.0013 can be used. In this case, it is only used as EPL Gb equipment.

For relationship between the temperature class, equipment protection level and the permissible ranges of the ambient temperature, reference is made to the following table:

	EPL Ga	EPL Gb
T6	-20 °C ... 40 °C	-40 °C ... 55 °C
T5	-20 °C ... 50 °C	-40 °C ... 70 °C
T4	-20 °C ... 60 °C	-40 °C ... 85 °C

Application as EPL Ga equipment

For applications requiring equipment of EPL Ga the process pressure of the media shall range from 0.8 to 1.1 bar. When deviating from these specified operating conditions at the sensor it is to be considered that the head-type temperature transmitter does not (not even in the event of fault) show a temperature rise higher than 20 K at the surface of the encapsulation and that the operating company is responsible for the safe operation of the system regarding the pressures/temperatures of the media used.

Electrical Data

Supply circuit
(terminals 1+ und 2-)

type of protection Intrinsic Safety Ex ia IIC
only for connection to a certified intrinsically safe circuit

Maximum values:

$U_i = 24 \text{ V DC}$
 $I_i = 250 \text{ mA}$
 $P_i = 1400 \text{ mW}$
 $C_i = 5 \text{ nF}$
 $L_i = 2.75 \text{ } \mu\text{H}$

or

$U_i = 17.5 \text{ V DC}$
 $I_i = 380 \text{ mA}$
 $C_i = 5 \text{ nF}$
 $L_i = 2.75 \text{ } \mu\text{H}$

resp. as a field device appropriate for connection to a field bus system according to the FISCO-model.

Sensor circuit
(terminals 3 ... 7)

type of protection Intrinsic Safety Ex ia IIC

Maximum values:

$U_o = 7.2 \text{ V DC}$
 $I_o = 25.9 \text{ mA}$
 $P_o = 46.7 \text{ mW}$

linear characteristic

$C_i = 5 \text{ nF}$
 L_i negligibly low

The relationship between the gas group and the permissible commonly occurring external reactances is shown in the following table. The effective internal capacity C_i shall be taken into account.

(acc. ISPART-6.2)

Ex ia	IIC	IIB	IIA
L_o	20 mH	50 mH	100 mH
C_o	0.97 μF	4.6 μF	6 μF

Display-interface

type of protection Intrinsic Safety Ex ia IIC
only for connection to the display, types TID10-.. and OTID10-..
certified by IECEX PTB 08.0013

If the temperature head transmitter is operated with the display the EPL of the complete equipment is reduced to EPL Gb.

The supply circuit is safely electrically isolated from the sensor circuit up to a maximum voltage of 30 V.



Special conditions for safe use

1. The product shall be protected against electrostatic charging.
2. Optionally, only the display type TID10 certified under IECEx PTB 08.0013, shall be connected to the display interface of the temperature head transmitter. The EPL of the complete equipment is then reduced to the EPL Gb.