

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 EPS 17.0077X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 2	Issue 1 (2018-01-19) Issue 0 (2017-11-29)
Date of Issue:	2020-04-21		
Applicant:	Endress+Hauser Wetzer GmbH + Co. KG Obere Wank 1 D-87484 Nesselwang Germany		
Equipment:	Temperature transmitter type TMT162-xxxxxxxxxxxxxxxx75xx, Temperature Field Transmitter iTEMP type TMT142		
Optional accessory:			
Type of Protection:	ia		
Marking:	Ex ia IIC T6...T4 Ga Ex ia IIIC T85°C...T110°C Db		

Approved for issue on behalf of the IECEx
Certification Body:

Holger Schaffer

Position:

Head of Certification

Signature:
(for printed version)



Date:

2020-04-21

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:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany





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

Additional manufacturing locations: **Endress+Hauser Wetzer (India) Pvt. Ltd.** **Endress+Hauser Wetzer (Suzhou) Co. Ltd.**
M-171/173, MIDC, Waluj Su-Hong-Zhong-Lu No. 465, 215021 Suzhou-
Aurangabad – 431 136 SIP (P.R. China)
India **China**

Endress+Hauser Wetzer USA INC
2413 Endress Place
Greenwood, IN 46143
United States of America

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 Report:

[DE/EPS/ExTR17.0071/02](#)

Quality Assessment Report:

[DE/TUN/QAR06.0009/08](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Temperature transmitters iTEMP Type TMT162-xxxxxxxxxxxxx75xx consists of an enclosure, made of aluminium or stainless steel, containing electronic circuits, terminals and optionally a display. The transmitter is used to convert the measurement signal of an external or an integral assembled temperature sensor into an output signal.

Temperature Transmitters iTEMP Type TMT142 consist of an enclosure, made of aluminium or stainless steel, containing electronic circuits, terminals and optionally a display. The transmitter is used to convert the measurement signal of an external or an integral assembled temperature sensor into an output signal.

The transmitter provides a 4-20 mA current output signal with HART communication.

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

SPECIFIC CONDITIONS OF USE: YES as shown below:

When the enclosure of the Temperature transmitter iTEMP Type TMT162 or TMT142 is made of aluminum, if it is mounted in an area where the use of EPL Ga apparatus is required, it must be installed such, that, even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Description of equipment modification:

Revision 1:

Supplementation of an optional over voltage protection circuit (0057_Surge protector) at the power supply of TMT162.

Revision 2:

Adaptation of the certificate to the current set of standards.

Adding another field transmitter iTEMP, type TMT142, with HART7 electronic.

Annex:

[IECEx EPS 17.0077X_2_Annex.pdf](#)



Electrical data:

Type TMT162-xxxxxxxxxxxxxxxx75xx:

Power supply

(Terminals + and -)

U _i	≤	30V DC
I _i	≤	300 mA
P _i	=	1000 mW
C _i	=	5 nF
L _i	=	negligible

Sensor circuit

(Terminals 1 to 6)

U _o	≤	7.6V DC
I _o	≤	13 mA
P _o	≤	24.7 mW

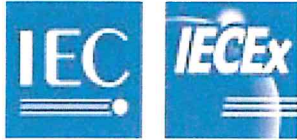
Max. connection values

Single values:

Ex ia IIC	Lo = 40 mH	Co = 10.4 µF
Ex ia IIB/ IIIC	Lo = 150 mH	Co = 160 µF
Ex ia IIA	Lo = 300 mH	Co = 1000 µF

Combined values:

Ex ia IIC	Lo = 10 mH and	Co = 1.1 µF
Ex ia IIB/ IIIC	Lo = 50 mH and	Co = 6.1 µF
Ex ia IIA	Lo = 100 mH and	Co = 15 µF



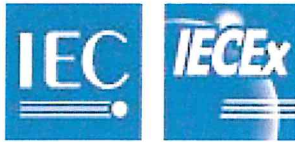
Annex to Certificate
IECEx EPS 17.0077X Issue No.: 2



The temperature class and the maximum surface temperature of the enclosure, applicable to a maximum dust layer thickness of 5 mm, are depending on the ambient temperature range, as listed in the following tables:

Type (order option)	Temperature class	Ambient temperature EPL Gb	Ambient temperature EPL Ga
TMT162-x1xxxxxxxxxxxx75xx TMT162-x2xxxxxxxxxxxx75xx	T6	$-50^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq \text{Ta} \leq +40^{\circ}\text{C}$
TMT162-x3xxxxxxxxxxxx75xx TMT162-x4xxxxxxxxxxxx75xx	T5	$-50^{\circ}\text{C} \leq \text{Ta} \leq +70^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$
TMT162-x5xxxxxxxxxxxx75xx TMT162-x6xxxxxxxxxxxx75xx	T4	$-50^{\circ}\text{C} \leq \text{Ta} \leq +85^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq \text{Ta} \leq +60^{\circ}\text{C}$

Type (order option)	Max surface temperature	Ambient temperature EPL Db
TMT162-x1xxxxxxxxxxxx75xx	T85°C	$-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$
TMT162-x2xxxxxxxxxxxx75xx	T100°C	$-40^{\circ}\text{C} \leq \text{Ta} \leq +70^{\circ}\text{C}$
TMT162-x3xxxxxxxxxxxx75xx TMT162-x4xxxxxxxxxxxx75xx	T110°C	$-40^{\circ}\text{C} \leq \text{Ta} \leq +85^{\circ}\text{C}$



Type TMT142:

Power supply

(Terminals + and -)

U _i	≤	30V DC
I _i	≤	300 mA
P _i	=	1000 mW
C _i	=	5 nF
L _i	=	negligible

Sensor circuit

(Terminals 1 to 6)

U _o	≤	4.3V DC
I _o	≤	4.8 mA
P _o	≤	5.2 mW

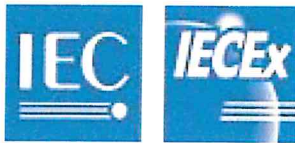
Max. connection values

Single values:

Ex ia IIC	Lo = 40 mH	Co = 10.4 μF
Ex ia IIB/ IIIC	Lo = 150 mH	Co = 160 μF
Ex ia IIA	Lo = 300 mH	Co = 1000 μF

Combined values:

Ex ia IIC	Lo = 50 mH and	Co = 3.0 μF
Ex ia IIB/ IIIC	Lo = 100 mH and	Co = 18 μF
Ex ia IIA	Lo = 100 mH and	Co = 48 μF



The temperature class and the maximum surface temperature of the enclosure, applicable to a maximum dust layer thickness of 5 mm, are depending on the ambient temperature range, as listed in the following tables:

Type (order option)	Temperature class	Ambient temperature EPL Gb	Ambient temperature EPL Ga
TMT142	T6	$-50^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq \text{Ta} \leq +40^{\circ}\text{C}$
TMT142	T5	$-50^{\circ}\text{C} \leq \text{Ta} \leq +70^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$
TMT142	T4	$-50^{\circ}\text{C} \leq \text{Ta} \leq +85^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq \text{Ta} \leq +60^{\circ}\text{C}$

Type (order option)	Max surface temperature	Ambient temperature EPL Db
TMT142	T85°C	$-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$
TMT142	T100°C	$-40^{\circ}\text{C} \leq \text{Ta} \leq +70^{\circ}\text{C}$
TMT142	T110°C	$-40^{\circ}\text{C} \leq \text{Ta} \leq +85^{\circ}\text{C}$