# CERTIFICATE OF CONFORMITY



1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. Certificate No: FM17US0288X

3. Equipment: TMT142 and TMT162 iTemp (Type Reference and Name)

4. Name of Listing Company: Endress + Hauser Wetzer GmbH + Co KG

5. Address of Listing Company: Obere Wank 1, D-87484 Nesselwang, Germany

6. The examination and test results are recorded in confidential report number:

3016218 dated 14<sup>th</sup> April 2003

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM 3600:2022, FM 3610:2021, FM 3611:2004, FM 3615:2022, FM 3810:2021, NEMA 250:1991, ANSI/UL 60079-0:2013, ANSI/UL 60079-11:2014, ANSI/IEC 60529:2004, ANSI/UL 61010-1:2012

- 8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
- 9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
- 10. Equipment Ratings:

See Annex

11. The marking of the equipment shall include:

See Annex

12. Description of Equipment:

**General** - The iTemp series TMT142 and TMT162 are temperature transmitters. Model TMT162 consists of Four items (terminal block, adapter, main and LC Display board), connected together by matching pins connectors

Certificate issued by:

9.8. Maywoling

19 June 2024

J.E. Marquedant

Date

VP, Manager - Electrical Systems

To verify the availability of the Approved product, please refer to <a href="www.approvalguide.com">www.approvalguide.com</a>

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pressed together in three layers in plastic snap-on cases and secured to enclosure by screws. The TMT162 also has an integrated surge protector board.

**Construction** - The mechanical construction of the transmitter consists of an aluminum dual compartment housing with a terminal compartment and an electronics compartment.

## **Operation Temperature Ranges** - See Annex

Electrical Data - For Entity, FISCO, NIFW and FNICO Parameters reference control drawings.

See Annex for model codes

### 13. Specific Conditions of Use:

See Annex

#### 14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

#### 15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

## 16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description	
14 April 2003	Original Issue.	
20 November 2017	Supplement 10:  Report Reference: 3061689 dated 20 <sup>th</sup> November 2017  Description of the Change:  1. Clarification and updates to temperature ranges 2. Clarification of model codes 3. Added additional model code options for certain models.	
9 March 2018	Supplement 11:  Report Reference: RR212794 dated 9 <sup>th</sup> March 2018  Description of the Change:  1. Overvoltage protection option "k" added as standard part to all TMT162 models	

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Date	Description
1 April 2018	Supplement 12:
	Report Reference: RR213530 dated 1 <sup>st</sup> April 2018
	Description of the Change:
	Updated model code option "k = NA" to match marketing documents.
	2. FM3600:2011, FM3610:2015 and FM3810 were updated to the 2018 edition.
1 April 2019	Supplement 13:
	Report Reference: RR218088 dated 1st April 2019
	Description of the Change: Addition of option codes to TMT142 and TMT162 models.
19 June 2024	Supplement 14:
	Report Reference: RR241511 dated 19 June 2024
	Description of the Change(s): Minor model code update to include additional firmware
	option. Standards updated to latest editions where changes between versions are
	considered non-technical.

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# **ANNEX**

#### TMT142 iTEMP

# **Equipment Ratings:**

The TMT142 Series iTEMP Temperature Transmitter is FM Approved as Explosionproof for Class I, Division 1, Groups A, B, C and D; Class I, Zone 1, Group IIC and Dust Ignitionproof for Class II, III, Division 1, Groups E, F and G hazardous (classified) locations when installed in accordance with control drawing 14 25 00 113 or 14 25 00 133; Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D and Class I, Zone 0, Group IIC Ga when installed in accordance with Entity requirements and control drawing 14 25 00 111; Nonincendive for use in Class I, Division 2, Groups A, B, C and D indoor and outdoor hazardous (classified) locations when installed in accordance with control drawing 14 25 00 111. See Equipment marking section for ambient temperature range and T-code. Environmental examination and testing for Type 4X, IP66 and IP67.

## Markings:

Class I, Division 1, Groups A, B, C, D; T\* T\*\*; 14 25 00 113 or 14 25 00 133; Class II,III, Division 1, Groups E, F and G; T\* T\*\*; 14 25 00 113 or 14 25 00 133; Class I, Zone 1, IIC T\* T\*\*; 14 25 00 113 or 14 25 00 133; Type 4X; IP66, IP67 Intrinsically safe for Class I, Division 1, Groups A, B, C and D; T\* T\*\*\*; 14 25 00 111; Entity\*\*\*\*; Class I, Division 2, Groups A, B, C, and D; T\* T\*\*\*; 14 25 00 111; NIFW\*\*\*\*; Intrinsically safe for Class 1, Zone 0; AEx ia IIC T\* T\*\*\* Ga; 14 25 00 111; Entity\*\*\*\*; Type 4X; IP66, IP67;

\*\*\*\*For Entity and NIFW Parameters reference control drawings.

T*=T-Code	T**=Tambient	T***=Tambient
T4	-40°C < Ta < +85°C	-40°C < Ta < +85°C
T5	-40°C < Ta < +70°C	-40°C < Ta < +70°C
T6	-40°C < Ta < +55°C	-40°C < Ta < +55°C

#### **Description of Equipment:**

#### TMT142-abcdefghijkl. iTEMP Temperature Transmitter.

- a = Certification C, F.
- b = Housing display 1, 2, 3 or 4.
- c = Cable entry 1, 2, 4 or 6.
- d = Mounting bracket not safety relevant.
- e = Configuration transmitter connection A. 1. 2. 3 or 4.
- f = Configuration temperature sensor not safety relevant.
- g = Configuration not safety relevant.
- h = Additional option A, B, C, D, K or L.

To verify the availability of the Approved product, please refer to www.approvalguide.com

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i = Sensor Input A.

j = Version 1.

k = Customer specific modification not safety relevant.

I = marking not safety relevant.

# **Specific Conditions of Use:**

None

# TMT162 iTEMP

# **Equipment Ratings:**

The Type TMT162 iTEMP Temperature Transmitter is FM Approved as Explosionproof for Class I, Division 1, Groups A, B, C and D; Class I, Zone 1, Group IIC Ga and Dust Ignitionproof for Class II, III, Division 1, Groups E, F and G hazardous (classified) locations; Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D and Class I, Zone 0, Group IIC Ga indoor / outdoor hazardous (classified) locations in accordance with Entity requirements and control drawing 14 12 00 111 and Nonincendive for use in Class I, Division 2, Groups A, B, C and D indoor / outdoor hazardous (classified) locations; See Equipment marking section for ambient temperature range and T-code. Environmental examination and testing for Type 4X, IP66 and IP67.

# Markings:

Class I, Division 1, Groups A, B, C, D; T\* T\*\*; 14 12 00 113;
Class II,III, Division 1, Groups E, F and G; T\* T\*\*; 14 12 00 113
Class I, Zone 1, IIC T\* T\*\*; 14 12 00 113; Type 4X; IP66, IP67
Intrinsically safe for Class I, Division 1, Groups A, B, C and D; T\* T\*\*\*; 14 12 00 111; Entity\*\*\*\*;
Class I, Division 2, Groups A, B, C, and D; T\* T\*\*\*; 14 12 00 111; NIFW\*\*\*\*;
Intrinsically safe for Class 1, Zone 0; AEx ia IIC T\* T\*\*\* Ga; 14 12 00 111; Entity\*\*\*\*; Type 4X; IP66, IP67;

\*\*\*\*For Entity and NIFW Parameters reference control drawings.

T*=T-Code	T**=Tambient	T***=Tambient (m=77)	T***=Tambient (m= 73,75)
T4	-40°C < Ta < +85°C	-40°C < Ta < +85°C	-50°C < Ta < +85°C
T5	-40°C < Ta < +70°C	-40°C < Ta < +70°C	-50°C < Ta < +70°C
Т6	-40°C < Ta < +55°C	-40°C < Ta < +55°C	-50°C < Ta < +55°C

#### **Description of Equipment:**

## TMT162-abcdefghijklmn. iTEMP Temperature Transmitter.

a = Certification F, C, J or M.

b = Housing display 1, 2, 3 or 4.

c = Cable entry 1 or 2.

d = Mounting bracket not safety relevant.

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- e = Configuration transmitter connection A, 1, 2, 3 or 4.
- f = Configuration sensor type not safety relevant.
- g = Communication Configuration A, B, C, D, E, F, K or L.
- h = Additional option A, B, C, D, S, K, L, M or N.
- i = Sensor Input A, B, C, D or E.
- j = Additional approval not safety relevant.
- k = Accessory Mounted NA.
- I = Customer specific modifications not safety relevant.
- m = Firmware version 73, 75, 76, 77 or 78.
- n = Marking not safety relevant.

## **Specific Conditions of Use:**

None

# **TMT162 iTEMP (T17)**

# **Equipment Ratings:**

The Type TMT162 iTEMP Temperature Transmitter is FM Approved as Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D and Class I, Zone 0, Group IIC Ga indoor / outdoor hazardous (classified) locations in accordance with Entity requirements and control drawing 14 12 00 111 and Nonincendive for use in Class I, Division 2, Groups A, B, C and D indoor / outdoor hazardous (classified) locations; See Equipment marking section for ambient temperature range and T-code. Environmental examination and testing for Type 4X, IP66 and IP67.

#### Markings:

Intrinsically safe for Class I, Division 1, Groups A, B, C and D; T\* T\*\*\*; 14 12 00 111; Entity\*\*\*\*; NI Class I, Division 2, Groups A, B, C, and D; T\* T\*\*\*; 14 12 00 111; NIFW\*\*\*\*; Intrinsically safe for Class 1, Zone 0; AEx ia IIC T\* T\*\*\* Ga; 14 12 00 111; Entity\*\*\*\*; Type 4X; IP66, IP67;

\*\*\*\*For Entity and NIFW Parameters reference control drawings.

T*=T-Code	T**=Tambient	T***=Tambient (m=77)	T***=Tambient (m= 73,75)
T4	-40°C < Ta < +85°C	-40°C < Ta < +85°C	-50°C < Ta < +85°C
T5	-40°C < Ta < +70°C	-40°C < Ta < +70°C	-50°C < Ta < +70°C
T6	-40°C < Ta < +55°C	-40°C < Ta < +55°C	-50°C < Ta < +55°C

# **Description of Equipment:**

TMT162-abcdefghijklmn. iTEMP Temperature Transmitter - Housing T17.

- a = Certification C.
- b = Housing display 5 or 6.
- c = Cable entry A, B, C, D, E, 1 or 2.

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- d = Mounting bracket not safety relevant.
- e = Configuration transmitter connection A, 1, 2, 3 or 4.
- f = Configuration sensor type not safety relevant.
- g = Communication Configuration A, B, C, D, E, F, K or L.
- h = Additional option A, B, C, D, S, K, L, M or N.
- i = Sensor input A, B, C, D or E.
- j = Additional approval not safety relevant.
- k = Accessory Mounted NA.
- I = Customer specific modifications not safety relevant.
- m = Firmware version 73, 75, 76, 77 or 78.
- n = Marking not safety relevant.

# **Specific Conditions of Use:**

When cable entry option is A, B, C, D or E use TURCK installation drawing QCF-00147.

# TMT162 iTEMP FF/PA

#### **Equipment Ratings:**

The Type TMT162 iTEMP FF/PA Temperature Transmitter is FM Approved as Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D and Class I, Zone 0, Group IIC Ga indoor / outdoor hazardous (classified) locations in accordance with Entity and FISCO requirements and control drawing 14 12 00 211 and Nonincendive for use in Class I, Division 2, Groups A, B, C and D indoor / outdoor hazardous (classified) locations; See Equipment marking section for ambient temperature range and T-code. Environmental examination and testing for Type 4X.

#### Markings:

Intrinsically safe for Class I, Division 1, Groups A, B, C and D; T\* T\*\*\* - 14 12 00 211, Entity\*\*\*\* or FISCO\*\*\*\*; Class I, Division 2, Groups A, B, C, and D; T\* T\*\*\* - 14 12 00 211, NIFW\*\*\* or FNICO\*\*\*\*; Intrinsically safe for Class 1, Zone 0; AEx ia IIC T\* T\*\*\* Ga- 14 12 00 211, Entity\*\*\*\* or FISCO\*\*\*\*; Type 4X

\*\*\*\*For Entity, FISCO, NIFW and FNICO Parameters reference control drawings.

T*=T-Code	T***=Tambient (m=76, 78)
T4	-40°C < Ta < +85°C
T5	-40°C < Ta < +70°C
T6	-40°C < Ta < +55°C

## **Description of Equipment:**

TMT162-abcdefghijklmn. iTEMP FF/PA Temperature Transmitter.

a = Certification F, C, J or M.

b = Housing display 1, 2, 3 or 4.

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- c = Cable entry 1 or 2.
- d = Mounting bracket not safety relevant.
- e = Configuration transmitter connection A, 1, 2, 3 or 4.
- f = Configuration sensor type not safety relevant.
- g = Communication Configuration A, B, C, D, E, F, K or L.
- h = Additional option A, B, C, D, S, K, L, M or N.
- i = Sensor input A, B, C, D or E.
- j = Additional approval not safety relevant.
- k = Accessory Mounted NA.
- I = Customer specific modifications not safety relevant.
- m = Firmware version 73, 75, 76, 77 or 78.
- n = Marking not safety relevant.

# **Specific Conditions of Use:**

None



# **Equipment Ratings:**

The Type TMT162 iTEMP FF/PA Temperature Transmitter is FM Approved as Explosionproof for Class I, Division 1, Groups A, B, C and D; Class I, Zone 1, Group IIC Ga and Dust Ignitionproof for Class II, III, Division 1, Groups E, F and G hazardous (classified) locations; Environmental examination and testing for Type 4X, IP66 and IP67. Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D and Class I, Zone 0, Group IIC Ga indoor / outdoor hazardous (classified) locations in accordance with Entity and FISCO requirements and control drawing 14 12 00 211 or 14 12 00 213 and Nonincendive for use in Class I, Division 2, Groups A, B, C and D indoor / outdoor hazardous (classified) locations; See Equipment marking section for ambient temperature range and T-code. Environmental examination and testing for Type 4X, IP66 and IP67.

#### Markings:

Class I, Division 1, Groups A, B, C, D; T\* T\*\*; 14 12 00 113;

Class II, III, Division 1, Groups E, F and G; T\* T\*\*; 14 12 00 113;

Class I, Zone 1, IIC T\* T\*\*; 14 1200 113; Type 4X;IP66,IP67

Intrinsically safe for Class I, Division 1, Groups A, B, C and D; T\* T\*\*\*- 14 12 00 211 or 14 12 00 213, Entity\*\*\*\* or FISCO\*\*\*\*;

Class I, Division 2, Groups A, B, C, and D; T\* T\*\*\* - 14 12 00 211 or 14 12 00 213, Entity\*\*\*\* or FNICO\*\*\*\*; Intrinsically safe for Class 1, Zone 0; AEx ia IIC T\* T\*\*\* Ga - 14 12 00 211 or 14 12 00 213, Entity\*\*\*\* or FISCO\*\*\*\* Type 4X; IP66, IP67

\*\*\*\*For Entity, FISCO, NIFW and FNICO Parameters reference control drawings.

T*=T-Code	T**=Tambient (m=76, 78)	T***=Tambient (m=76, 78)
T4	-40°C < Ta < +85°C	-40°C < Ta < +85°C

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T5	-40°C < Ta < +70°C	-40°C < Ta < +70°C
T6	-40°C < Ta < +55°C	-40°C < Ta < +55°C

### **Description of Equipment:**

#### TMT162-abcdefghijklmn. iTEMP FF/PA Temperature Transmitter.

- a = Certification F, C, J or M.
- b = Housing display 1, 2, 3 or 4.
- c = Cable entry 1 or 2.
- d = Mounting bracket not safety relevant.
- e = Configuration transmitter connection A, 1, 2, 3 or 4.
- f = Configuration sensor type not safety relevant.
- g = Communication, Configuration A, B, C, D, E, F, K or L.
- h = Additional option A, B, C, D, S, K, L, M or N.
- i = Sensor input A, B, C, D or E.
- j = Additional approval not safety relevant.
- k = Accessory Mounted NA.
- I = Customer specific modifications not safety relevant.
- m = Firmware version 73, 75, 76, 77 or 78.
- n = Marking not safety relevant.

# **Specific Conditions of Use:**

None

# TMT162 iTEMP FF/PA (T17)

# **Equipment Ratings:**

The Type TMT162 iTEMP FF/PA Temperature Transmitter is FM Approved as Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D and Class I, Zone 0, Group IIC Ga indoor / outdoor hazardous (classified) locations in accordance with Entity and FISCO requirements and control drawing 14 12 00 211 and Nonincendive for use in Class I, Division 2, Groups A, B, C and D indoor / outdoor hazardous (classified) locations; See Equipment marking section for ambient temperature range and T-code. Environmental examination and testing for Type 4X.

# Markings:

Intrinsically safe for Class I, Division 1, Groups A, B, C and D; T\* T\*\*\*- 14 12 00 211, Entity\*\*\*\* or FISCO\*\*\*\*; Class I, Division 2, Groups A, B, C, and D; T\* T\*\*\*- 14 12 00 211, NIFW \*\*\*\* or FNICO\*\*\*\*; Intrinsically safe for Class 1, Zone 0; AEx ia IIC T\* T\*\*\* Ga- 14 12 00 211, Entity\*\*\*\* or FISCO\*\*\*\*; Type 4X;

\*\*\*\*For Entity, FISCO, NIFW and FNICO Parameters reference control drawings.

T*=T-Code	T***=Tambient (m=76, 78)

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T4	-40°C < Ta < +85°C
T5	-40°C < Ta < +70°C
T6	-40°C < Ta < +55°C

# **Description of Equipment:**

# TMT162-abcdefghijklmn. iTEMP FF/PA Temperature Transmitter - Housing T17.

- a = Certification C.
- b = Housing display 5 or 6.
- c = Cable entry A, B, C, D, E, 1 or 2.
- d = Mounting bracket not safety relevant.
- e = Configuration transmitter connection A, 1, 2, 3 or 4.
- f = Configuration sensor type not safety relevant.
- g = Communication Configuration A, B, C, D, E, F, K or L.
- h = Additional option A, B, C, D, S, K, L, M or N.
- i = Sensor input A, B, C, D or E.
- j = Additional approval not safety relevant.
- k = Accessory Mounted NA.
- I = Customer specific modifications not safety relevant.
- m = Firmware version 73, 75, 76, 77 or 78.
- n = Marking not safety relevant.

# **Specific Conditions of Use:**

When cable entry option is A, B, C, D or E use TURCK installation drawing QCF-00147.

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