



# Certificate of Compliance

**Certificate:** 80047477

**Master Contract:** 200600

**Project:** 80047477

**Date Issued:** 2020-07-30

**Issued To:** Endress+Hauser Wetzler GmbH Co. KG  
Obere Wank 1  
Nesselwang, Bayern, 87484  
Germany

**Attention:** Michael Pfanzelt

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*

**Issued by:** Amandeep Singh Khatra  
Amandeep Singh Khatra



## PRODUCTS

**CLASS 2258 02** - Process Control equipment for Hazardous Locations

**CLASS 2258 82** - Process Control equipment for Hazardous Locations - Certified for US Standards

**Ex ec IIC T6...T4 Gc**

**Class I, Zone 2, AEx ec IIC T6...T4 Gc**

**Class I, Division 2, Groups A, B, C, D; T6...T4**

Temperature Transmitter iTEMP Type TMT142 with HART7, input rated 11-36 Vdc, 4-20mA, Suitable for Increased safety/ Division 2 when installed per drawing 10000011430 Sheet 2. Enclosure Type 4X, IP66/67

Models TMT142B-CEbc\*\*\*\*\*j\*1\*\*

Where:

b = Communication; Output Signal; Operation: A (HART; 4-20mA; HART configuration) or P (HART; 4-20mA; HART/Bluetooth)



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c = Housing: 1 (Alu, without display) or 2 (Alu with display) or 3 (316L, without display) or 4 (316L with display)  
 j = Accessory Mounted: NA (Integrated overvoltage protection)  
 l = Cable Gland; Temp. Range; Protect. Type: Not in the scope of certification

\* mean value is not related to Explosion Safety

| T-class | iTEMP TMT142 with HART7<br>Ambient temperature range                    |                                                                         |
|---------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
|         | Without display                                                         | With display                                                            |
| T4      | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$ | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$ |
| T5      | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$ | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$ |
| T6      | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$ | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$ |

**Conditions of Acceptability**

1. For the use as an equipment in type of protection increased safety, and for Zone 2 (EPL Gc), and Class I, Division 2 applications, the field transmitter TMT142 shall not be connected or disconnected unless the area is known to be non-hazardous.
2. If the field transmitter TMT142 was used in a Zone 2 (EPL Gc) or Class I, Division 2 application it is not allowed to use it in Zone 1 (EPL Gb), Zone 0 (EPL Ga) or Class I, Division 1 applications in the future.
3. Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection having authority.
4. The end user shall ensure appropriate earthing of the metallic field housing upon installation.
5. The equipment shall only be powered by limited energy circuits such as Class 2 SELV circuits.

**Class I, Div. 1, Groups A, B, C & D; T6...T4**  
**Class II, Div. 1 Groups E, F & G; Class III: T135°C...T85°C**

4-20mA Temperature Transmitter, Type iTEMP TMT142 with HART7, rated 11 - 36 Vdc max, 3W. Explosion proof or Dust Ignition proof when installed as per drawing 10000011429. Enclosure Type 4X, IP66/67. Seal conduits within 18”.

Models TMT142B-CFbcd\*\*\*\*\*j\*1\*\*

Where:

- b = Communication; Output Signal; Operation: A (HART; 4-20mA; HART configuration) or P (HART; 4-20mA; HART/Bluetooth)
- c = Housing: 1 (Alu, without display) or 2 (Alu with display) or 3 (316L, without display) or 4 (316L with display)
- d = Cable Entry: 1 (3x NPT1/2 female thread) or 2 (3x M20x1.5 female thread) or 4 (3x G1/2 female thread)
- j = Accessory Mounted: NA (Integrated overvoltage protection)



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l = Cable Gland; Temp. Range; Protect. Type: Not allowed

\* mean value is not related to Explosion Safety

| T-class   | iTEMP TMT142 with HART7<br>Ambient temperature range |                      |
|-----------|------------------------------------------------------|----------------------|
|           | Without display                                      | With display         |
| T4/T135°C | -40 °C ≤ Ta ≤ +85 °C                                 | -40 °C ≤ Ta ≤ +70 °C |
| T5/T100°C | -40 °C ≤ Ta ≤ +70 °C                                 | -40 °C ≤ Ta ≤ +70 °C |
| T6/T85°C  | -40 °C ≤ Ta ≤ +55 °C                                 | -40 °C ≤ Ta ≤ +55 °C |

**Conditions of Acceptability**

1. Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection having authority.
2. The end user shall ensure appropriate earthing of the metallic field housing upon installation.
3. The equipment shall only be powered by limited energy circuits such as Class 2 SELV circuits.
4. All conduits must be assembled with a minimum of five full threads engagement
5. Seal all conduits within 18 inches of enclosures
6. For Class II i.e. Dust application, use dust tight seals.

**CLASS 2258 04** - PROCESS CONTROL - Intrinsically Safe, Entity - For Hazardous Locations

**CLASS 2258 84** - PROCESS CONTROL - Intrinsically Safe, Entity - For Hazardous Locations - Certified for US Standards

**Ex ia IIC T6...T4 Ga**

**Class I, Zone 0, AEx ia IIC T6...T4 Ga**

**I.S. Class I, Division 1, Groups A, B, C, D; T6...T4**

**Class I, Division 2, Groups A, B, C, D; T6...T4 (NIFW for Sensor connections)**

Temperature Transmitter iTEMP Type TMT142 with HART7, input rated 11 - 36V, 4 - 20mA; with entity parameters: Intrinsically Safe when connected according to Installation drawing 10000011430 Sheet 1.

Models TMT142B-CEbc\*\*\*\*\*j\*\*\*\*\*

Where:

- b = Communication; Output Signal; Operation: A (HART; 4-20mA; HART configuration) or P (HART; 4-20mA; HART/Bluetooth)
- c = Housing: 1 (Alu, without display) or 2 (Alu with display) or 3 (316L, without display) or 4 (316L with display)
- j = Accessory Mounted: NA (Integrated overvoltage protection)

\* mean value is not related to Explosion Safety

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|                |                                                                         |                                                                         |
|----------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>T-class</b> | iTEMP TMT142 with HART7<br>Ambient temperature range                    |                                                                         |
|                | <b>Without display</b>                                                  | <b>With display</b>                                                     |
| T4             | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$ | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$ |
| T5             | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$ | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$ |
| T6             | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$ | $-40\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$ |

Entity parameters

| Terminals                   | Entity Parameters                                                                                                                                                                                    |        |                  |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------|
| Supply terminals<br>+ and - | $U_i / V_{\max} = 30\text{ V}$<br>$I_i / I_{\max} = 300\text{ mA}$<br>$P_i = 1000\text{ mW}$<br>$L_i = \text{negligibly small}$<br>$C_i = 5\text{ nF}$                                               |        |                  |
| Sensors (Terminals 1 to 4)  | $U_o / V_{oc} = 4.3\text{ V}$<br>$I_o / I_{sc} = 20.5\text{ mA}$<br>$P_o = 22\text{ mW}$<br>Maximum permissible external inductance ( $L_o$ ) and capacitance ( $C_o$ ) for <u>single</u> appearance |        |                  |
|                             | Gas Groups                                                                                                                                                                                           | $L_o$  | $C_o$            |
|                             | Group IIC / Group A & B                                                                                                                                                                              | 80 mH  | 1 $\mu\text{F}$  |
|                             | Group IIB / Group C                                                                                                                                                                                  | 300 mH | 10 $\mu\text{F}$ |
|                             | Group IIA / Group D                                                                                                                                                                                  | 600 mH | 10 $\mu\text{F}$ |

**Conditions of Acceptability**

1. Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection having authority.
2. The end user shall ensure appropriate earthing of the metallic field housing upon installation.
3. The hand held programming device shall be used only in non-hazardous area.
4. When the enclosure of the Temperature Transmitter iTEMP Type 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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**APPLICABLE REQUIREMENTS**

|                                                                    |                                                                                                                                           |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| CAN/CSA-C22.2 No. 0-10                                             | General Requirements – Canadian Electrical Code, Part II                                                                                  |
| CAN/CSA-C22.2 No. 61010-1-12                                       | Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements - Second Edition |
| UL Std. No. 61010-1 (3rd Edition)                                  |                                                                                                                                           |
| CAN/CSA-C22.2 No. 60079-0:19                                       | Explosive Atmospheres - Part 0: Equipment - General requirements                                                                          |
| UL 60079-0:2019                                                    |                                                                                                                                           |
| CAN/CSA-C22.2 No. 60079-11:14                                      | Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety "i"                                                             |
| UL 60079-11(6th Edition 2013)                                      |                                                                                                                                           |
| CAN/CSA-C22.2 No. 60079-7:16                                       | Explosive atmospheres — Part 7: Equipment protection by increased safety “e”                                                              |
| ANSI/UL 60079-7:2017                                               |                                                                                                                                           |
| CAN/CSA C22.2 No. 213-17<br>UL-121201-2017 9 <sup>th</sup> Edition | Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations |
| CSA Std. C22.2 No. 25- 1966(R2009)                                 | Enclosures for Use in Class II, Groups E, F and G – Hazardous Locations                                                                   |
| CSA Std. C22.2 No. 30-M1986(R2007)                                 | Explosion-Proof Enclosures for Use in Class I, Hazardous Locations                                                                        |
| CSA Std. C22.2 No. 94.2-07                                         | Enclosures for Electrical Equipment, Environmental Considerations                                                                         |
| FM 3600:2018                                                       | Approval Standard for Electrical Equipment for Use in Hazardous (Classified) Locations - General Requirements                             |
| FM 3615:2018                                                       | Approval Standard for Explosionproof Electrical Equipment General Requirements                                                            |
| FM 3616:2011                                                       | Approval Standard for Dust-Ignitionproof Electrical Equipment General Re-quirements                                                       |
| UL 50E: 2007 ( First Edition)                                      | Enclosures for Electrical Equipment, Environmental Considerations                                                                         |

**MARKINGS**

As per descriptive report



## *Supplement to Certificate of Compliance*

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**Master Contract:** 200600

*The products listed, including the latest revision described below,  
are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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| <b>Project</b> | <b>Date</b> | <b>Description</b>                                                                     |
|----------------|-------------|----------------------------------------------------------------------------------------|
| 80047477       | 2020-07-30  | Original C-US Certification for TMT142 temperature transmitter with HART7 electronics. |