Certificate of Compliance

Certificate:	70187832	**Master Contract:**	200600
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Issued To: **Endress+Hauser Wetzer GmbH Co. KG**
Obere Wank 1
Nesselwang, Bavaria, 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: *Mike Park*
Mike Park

C US

PRODUCTS

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity – For Hazardous Locations
CLASS 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations – Certified to US Standards

Ex ia IIC T6…T4 Ga
Ex ia IIC T6…T4 Gb
Class I, Zone 0, AEx ia IIC T6…T4 Ga
Class I, Zone 1, AEx ia IIC T6…T4 Gb
I.S. Class I, Division 1, Groups A, B, C, D; T6…T4

iTEMP Temperature Transmitter Head. Type TMT71,TMT72, L20221 and L20222 without optional display or field housing. Intrinsically Safe when installed per drawing 10000010389.
Models TMT71-CEb1deA1gh, and TMT72-CEb1deA1gh
Models L20221-CEb1deA1NNgh, and L20222-CEb1deA1NNgh Where:
b = Output signal: A (for TMT71/L20221: 4-20mA; DTM, for TMT72/L20222: 4-20 mA; HART), or P (for TMT71/L20221: 4-20mA; DTM / Bluetooth, for TMT72/L20222: HART / Bluetooth).
d = Electrical connections: A (screw terminals), or B (spring terminals).

e = Field housing: AA (without), AB (W/o, mounting set DIN standard), AC (W/o, mounting set US - M4 screws)
g = Input: B1 (RTD/Ohm 2-wire), B2 (RTD/Ohm 3-wire), B3 (RTD/Ohm 4-wire), B4 (TC/mV).
h = Sensor type: Two alphanumeric characters representing different software versions to adapt different sensor types
Ambient temperature T6: -50 °C ≤ Ta ≤ +40 °C, T5…T4: -50 °C ≤ Ta ≤ +60 °C.

Terminals	Entity Parameters		
Terminals / function… 1/+ and 2/-	Ui = 30 V Ii = 100 mA Pi = 800 mW Li = negligibly small Ci = negligibly small		
Terminals / function… In each case for 3 and 4; 5 and 6	U_O / V_{OC} = 4.3 V I_O / I_{SC} = 4.8 mA P_O = 5.2 mW Maximum permissible external inductance (Lo) and capacitance (Co)		
	Groups	Lo	Co
	Group IIC	10 mH	100 µF
	Group IIB	1 H	10 µF
	Group IIA	1 H	10 µF

iTEMP Temperature Transmitter Head. Type TMT86 without optional display or field housing.
Intrinsically Safe when installed per drawing 10000013591.
Models TMT86-CEb1deeA1
Where:
b = Output signal: A (PROFINET w. Ethernet-APL/SPE, 10Mbit/s, 2-wire)
d = Electrical connections: A (screw terminals), or B (Push-in terminals).
ee = Field housing: AA (without), AB (W/o, mounting set DIN standard), AC (W/o, mounting set US - M4 screws)

Ambient temperature T6: -52 °C ≤ Ta ≤ +40 °C, T5…T4: -52 °C ≤ Ta ≤ +60 °C

Terminals	Entity Parameters
Terminals / function… 1/+ and 2/-	Ui = 17.5 V Ii = 380 mA Li = negligibly small Ci = negligibly small Respectively as a field device appropriate for connection to a field bus system according to the FISCO model
Terminals / function… In each case for 3 and 4; 5 and 6	U_O / V_{OC} = 3.71 V I_O / I_{SC} = 5.24 mA P_O = 4.86 mW Maximum permissible external inductance (Lo) and capacitance (Co)

Terminals	Entity Parameters		
	Groups	Lo	Co
	Group IIC	50 mH	4 µF
	Group IIB	100 mH	24 µF
	Group IIA	100 mH	64 µF

Conditions of Acceptability:

1. This equipment is for use under atmospheric conditions only, the permissible pressure range is 0.8 to 1.1 bar (80 to 110 kPa) and the permissible normal oxygen content is typically 21 % v/v.

2. These models are provided without enclosure. They shall be installed within a suitable end-use enclosure, providing a degree of protection of not less than IP20 according to CSA/UL 60079-0 and CSA/UL 60079-11. The ambient temperature within the end-use enclosure shall not exceed the limits of the permissible ambient temperature range. Clearances, creepage distances and separations as defined in CSA/UL 60079-11 must be considered for the installation. The final combination shall be subjected to acceptance of the local authority having jurisdiction.

3. The end user shall ensure appropriate earthing of the metallic accessories if used, and the DIN rail clip upon installation.

4. Only simple apparatus shall be connected to the sensor terminals. Simple apparatus is defined as a device that neither generates or stores more than 1.2V, 0.1A, 0.25 mW, or 20 uJ. Examples are thermocouples and RTDs.

5. If the transmitter head TMT71 / TMT72 / L20221 / L20222 / TMT86 has been used in a Zone 1 (EPL Gb), Zone 2 (EPL Gc) or Class I, Division 2 application, it is not allowed to be used in Zone 0 (EPL Ga) or Class I, Division 1 applications in the future.

Ex ia IIC T6…T4 Gb
Class I, Zone 1, AEx ia IIC T6…T4 Gb

iTEMP Temperature Transmitter. Type TMT71,TMT72, L20221 and L20222 with optional display. Intrinsically Safe when installed per drawing 10000010389.
Models TMT71-CEb1deA1gh, and TMT72-CEb1deA1gh
Models L20221-CEb1deA1NNgh, and L20222-CEb1deA1NNgh
Where:

b = Output signal: A (for TMT71/L20221: 4-20mA; DTM, for TMT72/L20222: 4-20 mA; HART), or P (for TMT71/L20221: 4-20mA; DTM / Bluetooth, for TMT72/L20222: HART / Bluetooth).
d = Electrical connections: A (screw terminals), or B (spring terminals).
e = Field housing: AA (without), AB (W/o, mounting set DIN standard), AC (W/o, mounting set US - M4 screws)
g = Input: B1 (RTD/Ohm 2-wire), B2 (RTD/Ohm 3-wire), B3 (RTD/Ohm 4-wire), B4 (TC/mV).
h = Sensor type: Two alphanumeric characters representing different software versions to adapt different sensor types

Ambient temperature: T6: -50 °C ≤ Ta ≤ +55 °C, T5: -50 °C ≤ Ta ≤ +70 °C, T4: -50 °C ≤ Ta ≤ +85 °C

Terminals	Entity Parameters		
Terminals / function… 1/+ and 2/-	Ui = 30 V Ii = 100 mA Pi = 800 mW Li = negligibly small Ci = negligibly small		
Terminals / function… In each case for 3 and 4; 5 and 6	U_O / V_{OC} = 4.3 V I_O / I_{SC} = 4.8 mA P_O = 5.2 mW Maximum permissible external inductance (Lo) and capacitance (Co)		
	Groups	Lo	Co
	Group IIC	10 mH	100 µF
	Group IIB	1 H	10 µF
	Group IIA	1 H	10 µF

iTEMP Temperature Transmitter. Type TMT86 with optional display. Intrinsically Safe when installed per drawing 10000013591.
Models TMT86-CEb1deeA1
Where:
b = Output signal: A (PROFINET w. Ethernet-APL/SPE, 10Mbit/s, 2-wire)
d = Electrical connections: A (screw terminals), or B (Push-in terminals).
ee = Field housing: AA (without), AB (W/o, mounting set DIN standard), AC (W/o, mounting set US - M4 screws)

Ambient temperature: T6: -52 °C ≤ Ta ≤ +55 °C, T5: -52 °C ≤ Ta ≤ +70 °C, T4: -52 °C ≤ Ta ≤ +85 °C

Terminals	Entity Parameters		
Terminals / function… 1/+ and 2/-	Ui = 17.5 V Ii = 380 mA Li = negligibly small Ci = negligibly small Respectively as a field device appropriate for connection to a field bus system according to the FISCO model		
Terminals / function… In each case for 3 and 4; 5 and 6	U_O / V_{OC} = 3.71 V I_O / I_{SC} = 5.24 mA P_O = 4.86 mW Maximum permissible external inductance (Lo) and capacitance (Co)		
	Groups	Lo	Co
	Group IIC	50 mH	4 µF
	Group IIB	100 mH	24 µF
	Group IIA	100 mH	64 µF

Conditions of Acceptability:

1. This equipment is for use under atmospheric conditions only, the permissible pressure range is 0.8 to 1.1 bar (80 to 110 kPa) and the permissible normal oxygen content is typically 21 % v/v.

2. These models are provided without enclosure. They shall be installed within a suitable end-use enclosure, providing a degree of protection of not less than IP20 according to CSA/UL 60079-0 and CSA/UL 60079-11. The ambient temperature within the end-use enclosure shall not exceed the limits of the permissible ambient temperature range. Clearances, creepage distances and separations as defined in CSA/UL 60079-11 must be considered for the installation. The final combination shall be subjected to acceptance of the local authority having jurisdiction.

3. The end user shall ensure appropriate earthing of the metallic accessories if used, and the DIN rail clip upon installation.

4. Only simple apparatus shall be connected to the sensor terminals. Simple apparatus is defined as a device that neither generates or stores more than 1.2V, 0.1A, 0.25 mW, or 20 uJ. Examples are thermocouples and RTDs.

5. If the transmitter head TMT71 / TMT72 / L20221 / L20222/ TMT86 has been used in a Zone 1 (EPL Gb), Zone 2 (EPL Gc) or Class I, Division 2 application, it is not allowed to be used in Zone 0 (EPL Ga) or Class I, Division 1 applications in the future.

6. The CDI interface is only allowed to be used for connecting the display type TID10. Irrespective of inside or outside the hazardous area, no other circuits/equipment are allowed to be connected to the CDI Interface.

Ex ia [ia Ga] IIC T6…T4 Gb
Class I, Zone 1, AEx ia [ia Ga] IIC T6…T4 Gb
Class I, Division 2, Groups A, B, C, D; T6…T4 (Non Incendive Field Wiring (NIFW))
Class I, Division 2, Groups A, B, C, D; T6…T4 – NIFW and Associated Apparatus for Class I, Division 1, Groups A, B, C, D

iTEMP Temperature Transmitter. Type TMT71,TMT72, L20221 and L20222 with optional field housing. With, or without optional display. With, or without optional display. Intrinsically Safe /Non-Incendive Field Wiring when installed per drawing 10000010389.
Models TMT71-CEb1deA1gh, and TMT72-CEb1deA1gh
Models L20221-CEb1deA1NNgh, and L20222-CEb1deA1NNgh
Where:
b = Output signal: A (for TMT71/L20221: 4-20mA; DTM, for TMT72/L20222: 4-20 mA; HART), or P (for TMT71/L20221: 4-20mA; DTM / Bluetooth, for TMT72/L20222: HART / Bluetooth).
d = Electrical connections: A (screw terminals), or B (spring terminals).
e = Field housing:
A1 (TA30A, Alu, 2x M20x1.5, w/o display window, universal housing with hinged cover)
A2 (TA30A, Alu, 2x M20x1.5, glass display window, universal housing with hinged cover)
A3 (TA30A, Alu, 2x NPT1, w/o display window, universal housing with hinged cover)

A4 (TA30A, Alu, 2x NPT1, glass display window, universal housing)
D1 (TA30D, Alu, 2x M20x1.5, universal housing with hinged cover high)
D2 (TA30D, Alu, 2x NPT1/2, universal housing with hinged cover high)
H1 (TA30H, Alu, 2x M20x1.5, w/o display window, explosion-proof enclosure)
H2 (TA30H, Alu, 2x M20x1.5, glass display window, explosion-proof enclosure)
H3 (TA30H, Alu, 2x NPT1/2, w/o display window, explosion-proof enclosure)
H4 (TA30H, Alu, 2x NPT1/2, glass display window, explosion-proof enclosure)
H5 (TA30H, 316L, 2x M20x1.5, w/o display window, explosion-proof enclosure)
H6 (TA30H, 316L, 2x M20x1.5, glass display window, explosion-proof enclosure)
H7 (TA30H, 316L, 2x NPT1/2, w/o display window, explosion-proof enclosure)
H8 (TA30H, 316L, 2x NPT1/2, glass display window, explosion-proof enclosure)

g = Input: B1 (RTD/Ohm 2-wire), B2 (RTD/Ohm 3-wire), B3 (RTD/Ohm 4-wire), B4 (TC/mV).
h = Sensor type: Two alphanumeric characters representing different software versions to adapt different sensor types

Ambient temperature: T6: -50 °C ≤ Ta ≤ +55 °C, T5: -50 °C ≤ Ta ≤ +70 °C, T4: -50 °C ≤ Ta ≤ +85 °C

Terminals	NIFW/ Entity Parameters		
Terminals / function… 1/+ and 2/-	Ui = 30 V Ii = 100 mA Pi = 800 mW Li = negligibly small Ci = negligibly small		
Terminals / function… In each case for 3 and 4; 5 and 6	U_O / V_{OC} = 4.3 V I_O / I_{SC} = 4.8 mA P_O = 5.2 mW Maximum permissible external inductance (Lo) and capacitance (Co)		
	Groups	Lo	Co
	Group IIC	10 mH	100 µF
	Group IIB	1 H	10 µF
	Group IIA	1 H	10 µF

iTEMP Temperature Transmitter. Type TMT86 with optional field housing. With, or without optional display. Intrinsically Safe /Non-Incendive Field Wiring when installed per drawing 10000013591.
Models TMT86-CEb1deeA1
Where:
b = Output signal: A (PROFINET w. Ethernet-APL/SPE, 10Mbit/s, 2-wire)
d = Electrical connections: A (screw terminals), or B (Push-in terminals).
e = Field housing:
A1 (TA30A, Alu, 2x M20x1.5, w/o display window, universal housing with hinged cover)

A2 (TA30A, Alu, 2x M20x1.5, glass display window, universal housing with hinged cover)
A3 (TA30A, Alu, 2x NPT1, w/o display window, universal housing with hinged cover)
A4 (TA30A, Alu, 2x NPT1, glass display window, universal housing)
D1 (TA30D, Alu, 2x M20x1.5, universal housing with hinged cover high)
D2 (TA30D, Alu, 2x NPT1/2, universal housing with hinged cover high)
H1 (TA30H, Alu, 2x M20x1.5, w/o display window, explosion-proof enclosure)
H2 (TA30H, Alu, 2x M20x1.5, glass display window, explosion-proof enclosure)
H3 (TA30H, Alu, 2x NPT1/2, w/o display window, explosion-proof enclosure)
H4 (TA30H, Alu, 2x NPT1/2, glass display window, explosion-proof enclosure)
H5 (TA30H, 316L, 2x M20x1.5, w/o display window, explosion-proof enclosure)
H6 (TA30H, 316L, 2x M20x1.5, glass display window, explosion-proof enclosure)
H7 (TA30H, 316L, 2x NPT1/2, w/o display window, explosion-proof enclosure)
H8 (TA30H, 316L, 2x NPT1/2, glass display window, explosion-proof enclosure)

Ambient temperature: T6: -50 °C ≤ Ta ≤ +55 °C, T5: -50 °C ≤ Ta ≤ +70 °C, T4: -50 °C ≤ Ta ≤ +85 °C

<table>
<tr><th>Terminals</th><th colspan="3">Entity Parameters</th></tr>
<tr><td>Terminals / function…
1/+ and 2/-</td><td colspan="3">Ui = 17.5 V
Ii = 380 mA
Li = negligibly small
Ci = negligibly small

Respectively as a field device appropriate for connection to a field bus system according to the FISCO model</td></tr>
<tr><td rowspan="5">Terminals / function…
In each case for 3 and 4;
5 and 6</td><td colspan="3">U_O / V_{OC} = 3.71 V
I_O / I_{SC} = 5.24 mA
P_O = 4.86 mW
Maximum permissible external inductance (Lo) and capacitance (Co)</td></tr>
<tr><td>Groups</td><td>Lo</td><td>Co</td></tr>
<tr><td>Group IIC</td><td>50 mH</td><td>4 µF</td></tr>
<tr><td>Group IIB</td><td>100 mH</td><td>24 µF</td></tr>
<tr><td>Group IIA</td><td>100 mH</td><td>64 µF</td></tr>
</table>

Conditions of Acceptability:

1. Due to the risk of discharge the non-metallic parts of the equipment and of all non-metallic accessories have to be protected from electrostatic charging during installation and operation (e.g. only wipe with damp cloth and do not expose to high voltage fields).

2. The equipment is for use under atmospheric conditions only, the permissible pressure range is 0.8 to 1.1 bar (80 to 110 kPa) and the permissible normal oxygen content is typically 21 % v/v.

3. The end user shall ensure appropriate earthing of the metallic field housing (optional) and all metallic accessories if used (wall or pipe mounting accessories for the field housing and the DIN rail clip for the head transmitter) upon installation.

4. Only simple apparatus shall be connected to the sensor terminals. Simple apparatus is defined as a device that neither generates nor stores more than 1.2V, 0.1A, 0.25 mW, or 20 uJ. Examples are thermocouples and RTDs.

5. The CDI interface is only allowed to be used for connecting the display type TID10. Irrespective of inside or outside the hazardous area, no other circuits/equipment is allowed to be connected to the CDI Interface.

Ex ib [ia Ga] IIC T6…T4 Gb
Class I, Zone 1, AEx ib [ia Ga] IIC T6…T4 Gb
Class I, Division 2, Groups A, B, C, D; T6…T4 (Non Incendive Field Wiring (NIFW))
Class I, Division 2, Groups A, B, C, D; T6…T4 – NIFW and Associated Apparatus for Class I, Division 1, Groups A, B, C, D

iTEMP Temperature Transmitter. Type TMT71,TMT72, L20221 and L20222 DINrail. Intrinsically Safe /Non-Incendive Field Wiring when installed per drawing 10000010382.
Models TMT71-CEbcdAAA1gh, and TMT72-CEbcdAAA1gh
Models L20221-CEbcdAAA1NNgh, and L20222-CEbcdAAANN1gh
Where:
- b = Output signal: A (for TMT71/L20221: 4-20mA; DTM, for TMT72/L20222: 4-20 mA; HART), or P (for TMT71/L20221: 4-20mA; DTM / Bluetooth, for TMT72/L20222: HART / Bluetooth).
- c = 2 (DIN rail, IEC 60751, on top terminal for power supply), 3 (DIN rail, IEC 60751, on bottom terminal for power supply)
- d = Electrical connections: A (screw terminals), or B (spring terminals)
- g = Input: B1 (RTD/Ohm 2-wire), B2 (RTD/Ohm 3-wire), B3 (RTD/Ohm 4-wire), B4 (TC/mV).
- h = Sensor type: Two alphanumeric characters representing different software versions to adapt different sensor types

Ambient temperature: T6: -50 °C ≤ Ta ≤ +43 °C, T5: -50 °C ≤ Ta ≤ +58 °C, T4: -50 °C ≤ Ta ≤ +85 °C

Terminals	NIFW/ Entity Parameters		
Terminals / function… 1/+ and 2/-	Ui = 30 V Ii = 100 mA Pi = 700 mW Li = negligibly small Ci = negligibly small		
Terminals / function… In each case for 3 and 4; 5 and 6	U_O / V_{OC} = 4.3 V I_O / I_{SC} = 4.8 mA P_O = 5.2 mW Maximum permissible external inductance (Lo) and capacitance (Co)		
	Groups	Lo	Co
	Group IIC	10 mH	100 µF
	Group IIB	1 H	10 µF
	Group IIA	1 H	10 µF

Conditions of Acceptability:

1. Due to the risk of discharge, the non-metallic parts of the equipment and of all non-metallic accessories have to be protected from electrostatic charging during installation and operation (e.g. only wipe with a damp cloth and do not expose to high voltage fields).

2. These models are provided without enclosure. They shall be installed within a suitable end-use enclosure, providing a degree of protection of not less than IP20 according to CSA/UL 60079-0 and CSA/UL 60079-11. The ambient temperature within the end-use enclosure shall not exceed the limits of the permissible ambient temperature range. Clearances, creepage distances, and separations as defined in CSA/UL 60079-11 must be considered for the installation. The final combination shall be subjected to acceptance of the local authority having jurisdiction.

3. The equipment is for use under atmospheric conditions only, the permissible pressure range is 0.1 to 1.1 bar (80 to 110 kPa) and the permissible normal oxygen content is typically 21 % v/v.

4. In hazardous area it is not permitted to use the CDI interface for configuration.

5. Only simple apparatus shall be connected to the sensor terminals. Simple apparatus is defined as a device that neither generates or stores more than 1.2V, 0.1A, 0.25 mW, or 20 uJ. Examples are thermocouples and RTDs.

6. The end user shall ensure appropriate earthing of the metallic field housing (optional) and all metallic accessories if used (wall or pipe mounting accessories for the field housing and the DIN rail clip for the head transmitter) upon installation.

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations –Certified to US Standards

Class I, Division 1, Groups A, B, C & D; Class II, Division 1 Groups E, F & G; Class III:

iTEMP Temperature Transmitter. Type TMT71, TMT72, L20221 and L20222. Rated 10…36 Vdc, 23 mA with optional Display Module type TID10 or iTEMP Temperature Transmitter. Type TMT86. Rated 9…30 Vdc, 0.7W with optional Display Module type TID10. Provided with die cast aluminum or stainless steel enclosure. Conduit entry sizes 1/2 inch NPT or M20 x 1.5, assembled with one or dual sensors; Enclosure Type 4X; IP66/67. Explosion-proof when installed per Drawing 10000010390.
Models TMT71-CFb1deA1gh, TMT72-CFb1deA1gh, and TMT86-CFb1deeA1
Models L20221-CFb1deA1NNgh, and L20222-CFb1deA1NNgh
Where:
b = Output signal: A (for TMT71/L20221: 4-20mA; DTM, for TMT72/L20222: 4-20 mA; HART), for TMT86: PROFINET w. Ethernet APL/SPE, 10Mbit/s, 2-wire) or P (for TMT71/L20221: 4-20mA; DTM / Bluetooth, for TMT72/L20222: HART / Bluetooth).
d = Electrical connections: A (screw terminals), or B (spring terminals).
e = Field housing:
H1 (TA30H, Alu, 2x M20x1.5, w/o display window, explosion-proof enclosure)

H2 (TA30H, Alu, 2x M20x1.5, glass display window, explosion-proof enclosure)
H3 (TA30H, Alu, 2x NPT1/2, w/o display window, explosion-proof enclosure)
H4 (TA30H, Alu, 2x NPT1/2, glass display window, explosion-proof enclosure)
H5 (TA30H, 316L, 2x M20x1.5, w/o display window, explosion-proof enclosure)
H6 (TA30H, 316L, 2x M20x1.5, glass display window, explosion-proof enclosure)
H7 (TA30H, 316L, 2x NPT1/2, w/o display window, explosion-proof enclosure)
H8 (TA30H, 316L, 2x NPT1/2, glass display window, explosion-proof enclosure)

g = Input: B1 (RTD/Ohm 2-wire), B2 (RTD/Ohm 3-wire), B3 (RTD/Ohm 4-wire), B4 (TC/mV).

h = Sensor type: Two alphanumeric characters representing different software versions to adapt different sensor types

T-class	iTEMP TMT71/TMT72/L20221/L20222 and TMT86 **Ambient temperature range**	
	Without display TID10	**With** display TID10
T4/T135°C	-50 °C ≤ Ta ≤ +85 °C	-40 °C ≤ Ta ≤ +85 °C
T5/T100°C	-50 °C ≤ Ta ≤ +80 °C	-40 °C ≤ Ta ≤ +80 °C
T6/T85°C	-50 °C ≤ Ta ≤ +70 °C	-40 °C ≤ Ta ≤ +70 °C

Conditions of Acceptability:

1. The equipment is for use under atmospheric conditions only, the permissible pressure range is 0.8 bar to 1.1 bar (80 to 110 kPa) and the permissible normal oxygen content is typically 21 % v/v.

2. The end user shall ensure appropriate earthing of the metallic field housing and all metallic accessories if used (wall or pipe mounting accessories for the field housing and the DIN rail clip for the head transmitter) upon installation.

3. The CDI interface is only allowed to be used for connecting the display type TID10. Irrespective of inside or outside the hazardous area, no other circuits/equipment is allowed to be connected to the CDI Interface.

4. This equipment may only be powered by a power supply unit with a limited energy electric circuit in accordance with CAN/CSA C22.2 No. 61010-1-12 and ANSI/UL 61010-1 chapter 6.3.1/6.3.2 and 9.4, or Class 2 as defined in the Canadian Electrical Code C22.1, Section 16-200 and/or National Electrical Code (NFPA 70), article 725.121.

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - - For Hazardous Locations - Certified to US Standards

Ex ec IIC Gc
Class I, Zone 2, AEx ec IIC Gc
Class I, Division 2, Groups A, B, C, D;

- COMPONENT: iTEMP Temperature Transmitter. Type TMT71, TMT72, L20221 and L20222 DINrail. Rated 11…36 Vdc, 23 mA-Suitable for Division 2 or Zone 2 when installed per drawing 10000010382. Pollution degree 2. Ambient temperature range -50°C up to +85°C as per Conditions of Acceptability for Component/Schedule of limitations

Models TMT71-CEbcdAAA1gh, and TMT72-CEbcdAAA1gh
Models L20221-CEbcdAAA1NNgh, and L20222-CEbcdAAA1NNgh
Where:
b = Output signal: A (for TMT71/L20221: 4-20mA; DTM, for TMT72/L20222: 4-20 mA; HART), or P (for TMT71/L20221: 4-20mA; DTM / Bluetooth, for TMT72/L20222: HART / Bluetooth).
c = 2 (DIN rail, IEC 60751, on top terminal for power supply), 3 (DIN rail, IEC 60751, on bottom terminal for power supply)
d = Electrical connections: A (screw terminals), or B (spring terminals)
g = Input: B1 (RTD/Ohm 2-wire), B2 (RTD/Ohm 3-wire), B3 (RTD/Ohm 4-wire), B4 (TC/mV).
h = Sensor type: Two alphanumeric characters representing different software versions to adapt different sensor types

Conditions of Acceptability for Component / Schedule of limitations:

1. Due to the risk of discharge, the non-metallic parts of the equipment and of all non-metallic accessories have to be protected from electrostatic charging during installation and operation (e.g. only wipe with a damp cloth and do not expose to high voltage fields).

2. For use in the type of protection increased safety Ex ec, and for Zone 2 (EPL Gc), and Class I, Division 2 applications, the transmitter TMT71/TMT72/L20221/L20222 shall be installed completely inside an additional enclosure, providing a degree of protection of not less than IP54 according to CSA/UL 60079-0 and CSA/UL 60079-7. The ambient temperature within the end use enclosure shall not exceed the limits of the permissible ambient temperature range. Clearances, creepage distances, and separations as defined in CSA/UL 60079-7 must be considered for the installation.

3. If the TMT71/TMT72/L20221/L20222 transmitter 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.

4. The use of the display type TID10 with the head transmitter TMT71/TMT72/L20221/L20222 by connecting display to the CDI interface of the head transmitter is only permitted for Zone 2 (EPL Gc) and Class I, Division 2 applications.

5. The use of the CDI interface is not allowed in Hazardous locations.

6. Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection authority.

7. The end user shall ensure appropriate earthing of the metallic field housing (optional) and all metallic accessories if used (wall or pipe mounting accessories for the field housing and the DIN rail clip for the head transmitter) upon installation.

8. These components do not have any surface that achieves a temperature greater than 135°C/100°C/85°C with a 5K safety factor when operated under full load conditions at an ambient of range of 85°C/58°C/43°C respectively.

- COMPONENT: iTEMP Temperature Transmitter Head. Type TMT71, TMT72, L20221 and L20222. Rated 10…36 Vdc, 23 mA with or without optional display Suitable for Division 2 or Zone 2 when installed per drawing 10000010389. Pollution degree 2
  Models TMT71-CEb1deA1gh, and TMT72-CEb1deA1gh
  Models L20221-CFb1deA1NNgh, and L20222-CFb1deA1NNgh
  Where:
  B = Output signal: A (for TMT71/L20221: 4-20mA; DTM, for TMT72/L20222: 4-20 mA; HART), or P (for TMT71/L20221: 4-20mA; DTM / Bluetooth, for TMT72/L20222: HART / Bluetooth).
  d = Electrical connections: A (screw terminals), or B (spring terminals).
  e = Field housing: AA (without), AB (W/o, mounting set DIN standard), AC (W/o, mounting set US - M4 screws)
  g = Input: B1 (RTD/Ohm 2-wire), B2 (RTD/Ohm 3-wire), B3 (RTD/Ohm 4-wire), B4 (TC/mV).
  h = Sensor type: Two alphanumeric characters representing different software versions to adapt different sensor types

- COMPONENT: iTEMP Temperature Transmitter Head. Type TMT86. Rated 9…30 Vdc, 0.7W with or without optional display Suitable for Division 2 or Zone 2 when installed per drawing 10000013591. Pollution degree 2
  Models TMT86-CEb1deeA1
  Where:
  b = Output signal: A (PROFINET w. Ethernet-APL/SPE, 10Mbit/s, 2-wire)
  d = Electrical connections: A (screw terminals), or B (Push-in terminals).

T-class compatibility	iTEMP TMT71/TMT72/L20221/L20222 and TMT86 **Ambient temperature range**	
	Without display TID10	**With** display TID10
T4	-50 °C ≤ Ta ≤ +85 °C	-40 °C ≤ Ta ≤ +85 °C
T5	-50 °C ≤ Ta ≤ +70 °C	-40 °C ≤ Ta ≤ +70 °C
T6	-50 °C ≤ Ta ≤ +55 °C	-40 °C ≤ Ta ≤ +55 °C

Conditions of Acceptability for Component / Schedule of limitations:

1. Due to the risk of discharge, the non-metallic parts of the equipment and of all non-metallic accessories have to be protected from electrostatic charging during installation and operation (e.g. only wipe with a damp cloth and do not expose to high voltage fields).

2. For use in the type of protection increased safety Ex ec, and for Zone 2 (EPL Gc), and Class I, Division 2 applications, the transmitter TMT71/TMT72/L20221/L20222/TMT86 shall be installed completely inside an additional enclosure, providing a degree of protection of not less than IP54 according to CSA/UL 60079-0 and CSA/UL 60079-7. The ambient temperature within the end use enclosure shall not exceed the limits of the permissible ambient temperature range. Clearances, creepage distances, and separations as defined in CSA/UL 60079-7 must be considered for the installation.

3. For the use as an equipment in type of protection increased safety Ex ec, and for Zone 2 (EPL Gc), and Class I, Division 2 applications, the head transmitter TMT71/TMT72/L20221/L20222/TMT86 shall not be connected or disconnected unless the area is known to be non-hazardous. The same applies for the connection and disconnection of the display type TID10.

4. If the head transmitter TMT71/TMT72/L20221/L20222/TMT86 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.

5. The use of the display type TID10 with the head transmitter TMT71/TMT72/L20221/L20222/TMT86 by connecting display to the CDI interface of the head transmitter is only permitted for Zone 2 (EPL Gc) and Class I, Division 2 applications.

6. The CDI interface is only allowed to be used for connecting the display type TID10 for head transmitter Type TMT71/TMT72/TMT86. Irrespective of inside or outside the hazardous area, no other circuits/equipment is allowed to be connected to the CDI Interface.

7. The use of the additional field housing (optional) with the head transmitter TMT71/TMT72/L20221/L20222/TMT86 is only permitted for Zone 2 (EPL Gc) and Class I, Division 2 applications.

8. If the head transmitter TMT71/TMT72/L20221/L20222/TMT86, in type of protection increased safe and for use in Zone 2 (EPL Gc) and Class I, Division 2 applications, is mounted in an optional field housing the field housing must be equipped with suitable cable glands, certified according to CSA/UL 60079-0 and CSA/UL 60079-7, providing a degree of ingress protection of not less than IP54.

9. Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection authority.

10. The end user shall ensure appropriate earthing of the end enclosure and all metallic accessories if used (wall or pipe mounting accessories for the field housing and the DIN rail clip for the head transmitter upon installation.

11. These components do not have any surface that achieves a temperature greater than 135°C/100°C/85°C with a 5K safety factor when operated under full load conditions at an ambient of range of 85°C/70°C/55°C respectively.

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

- iTEMP Temperature Transmitter. Type TMT71, TMT72, L20221 and L20222. Rated 10…36 Vdc, 23 mA with or without optional Display Module type TID10. Provided with die cast aluminum or stainless steel enclosure. Conduit entry sizes 1/2 inch NPT or M20 x 1.5; Enclosure Type 4X; IP66/67 Suitable for Division 2 or Zone 2 when installed per drawing 10000010389. Pollution degree 2

- iTEMP Temperature Transmitter. Type TMT86. Rated 9…30 Vdc, 0.7 W with or without optional Display Module type TID10. Provided with die cast aluminum or stainless steel enclosure. Conduit entry sizes 1/2 inch NPT or M20 x 1.5; Enclosure Type 4X; IP66/67 Suitable for Division 2 or Zone 2 when installed per drawing 10000013591. Pollution degree 2

  Models TMT71-CEb1deA1gh, TMT72-CEb1deA1gh, and TMT86-CEb1deeA1
  Models L20221-CEb1deA1NNgh, and L20222-CEb1deA1NNgh
  Where:
  b = Output signal: A (for TMT71/L20221: 4-20mA; DTM, for TMT72/L20222: 4-20 mA; HART), for TMT86: PROFINET w. Ethernet APL/SPE, 10Mbit/s, 2-wire, or P (for TMT71/L20221: 4-20mA; DTM / Bluetooth, for TMT72/L20222: HART / Bluetooth).
  d = Electrical connections: A (screw terminals), or B (spring terminals).
  e = Field housing:
  A1 (TA30A, Alu, 2x M20x1.5, w/o display window, universal housing with hinged cover)
  A2 (TA30A, Alu, 2x M20x1.5, glass display window, universal housing with hinged cover)
  A3 (TA30A, Alu, 2x NPT1, w/o display window, universal housing with hinged cover)
  A4 (TA30A, Alu, 2x NPT1, glass display window, universal housing with hinged cover)
  A4 (TA30A, Alu, 2x NPT1, glass display window, universal housing)
  D1 (TA30D, Alu, 2x M20x1.5, universal housing with hinged cover high)
  D2 (TA30D, Alu, 2x NPT1/2, universal housing with hinged cover high)
  H1 (TA30H, Alu, 2x M20x1.5, w/o display window, explosion-proof enclosure)
  H2 (TA30H, Alu, 2x M20x1.5, glass display window, explosion-proof enclosure)
  H3 (TA30H, Alu, 2x NPT1/2, w/o display window, explosion-proof enclosure)
  H4 (TA30H, Alu, 2x NPT1/2, glass display window, explosion-proof enclosure)
  H5 (TA30H, 316L, 2x M20x1.5, w/o display window, explosion-proof enclosure)

H6 (TA30H, 316L, 2x M20x1.5, glass display window, explosion-proof enclosure)
H7 (TA30H, 316L, 2x NPT1/2, w/o display window, explosion-proof enclosure)
H8 (TA30H, 316L, 2x NPT1/2, glass display window, explosion-proof enclosure)
g = Input: B1 (RTD/Ohm 2-wire), B2 (RTD/Ohm 3-wire), B3 (RTD/Ohm 4-wire), B4 (TC/mV).
h = Sensor type: Two alphanumeric characters representing different software versions to adapt different sensor types

T-class	iTEMP TMT71/TMT72/ L20221/ L20222 and TMT86 **Ambient temperature range**	
	Without display TID10	**With** display TID10
T4	-50 °C ≤ Ta ≤ +85 °C	-40 °C ≤ Ta ≤ +85 °C
T5	-50 °C ≤ Ta ≤ +80 °C	-40 °C ≤ Ta ≤ +80 °C
T6	-50 °C ≤ Ta ≤ +70 °C	-40 °C ≤ Ta ≤ +70 °C

Conditions of Acceptability:

1. Due to the risk of discharge, the non-metallic parts of the equipment and of all non-metallic accessories have to be protected from electrostatic charging during installation and operation (e.g. only wipe with a damp cloth and do not expose to high voltage fields).

2. For the use as an equipment in type of protection increased safety Ex ec, and for Zone 2 (EPL Gc), and Class I, Division 2 applications, the head transmitter TMT71/TMT72/L20221/L20222/TMT86 shall not be connected or disconnected unless the area is known to be non-hazardous. The same applies for the connection and disconnection of the display type TID10.

3. If the head transmitter TMT71/TMT72/L20221/L20222/TMT86 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.

4. The use of the display type TID10 with the head transmitter TMT71/TMT72/L20221/L20222/TMT86 by connecting display to the CDI interface of the head transmitter is only permitted for Zone 2 (EPL Gc) and Class I, Division 2 applications.

5. The CDI interface is only allowed to be used for connecting the display type TID10 for head transmitter Type TMT71/TMT72/L20221/L20222/TMT86. Irrespective of inside or outside the hazardous area, no other circuits/equipment is allowed to be connected to the CDI Interface.

6. The use of the additional field housing with the head transmitter TMT71/TMT72/L20221/L20222/TMT86 is only permitted for Zone 2 (EPL Gc) and Class I, Division 2 applications.

7. If the head transmitter TMT71/TMT72/L20221/L20222/TMT86, in type of protection increased safety (Ex ec) and for use in Zone 2 (EPL Gc) and Class I, Division 2 applications, is mounted in an optional field housing the field housing must be equipped with suitable cable glands, certified according to CSA/UL 60079-0 and CSA/UL 60079-7, providing a degree of ingress protection of not less than IP54.

8. Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection authority.

9. The end user shall ensure appropriate earthing of the field housing.

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 61010-1-12	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
CSA Std. C22.2 No. 25-17	Enclosures for Use in Class II, Groups E, F and G – Hazardous Locations
CSA Std. C22.2 No. 30-20	Explosion-Proof Equipment
CAN/CSA C22.2 No. 94.2-20	Enclosures for Electrical Equipment, Environmental Considerations
ANSI/UL 61010-1 (3rd Edition)	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
FM 3600:2018	Electrical Equipment for Use in Hazardous (Classified) Locations - General Requirements
FM 3615:2018	Explosionproof Electrical Equipment General Requirements
FM 3616:2011	Dust-Ignitionproof Electrical Equipment General Requirements
ANSI/UL 50E-20 (3rd Edition)	Enclosures for Electrical Equipment
CAN/CSA C22.2 NO. 213-17	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
CAN/CSA-C22.2 No. 60079-0:19	Explosive atmospheres — Part 0: Equipment — General Requirements
CAN/CSA-C22.2 No. 60079-7:16	Explosive atmospheres — Part 7: Equipment protection by increased safety “e”
CAN/CSA-C22.2 No. 60079-11:14	Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”

CAN/CSA C22.2 No. 60079-47:22	Explosive atmospheres — Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)
ANSI/UL-121201-2017 9th Edition	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
ANSI/UL 60079-0:2019	Explosive atmospheres — Part 0: Equipment — General Requirements
ANSI/UL 60079-7:2017	Explosive atmospheres — Part 7: Equipment protection by increased safety “e”
ANSI/UL 60079-11:2013	Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”
ANSI/UL 60079-47:2022	Explosive atmospheres — Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The marking shall be on stainless steel or AlMg1 with Mg portion < 0.6% nameplates. Alternatively, Markings are attached by laser printing on adhesive labels, see below.

- Manufacturer’s name: " Endress + Hauser Wetzer ", or CSA Master Contract Number “200600”, adjacent to the CSA Mark in lieu of manufacturer’s name.
- The CSA Mark, with or without the “C” and “US” indicators, as shown on the Certificate of Compliance
- Model Designation, as specified in the PRODUCTS section, above.
- Electrical Ratings, as specified in the PRODUCTS section, above.
- Ambient temperature range, as specified in the PRODUCTS section, above…
- Serial Number, Date Code or Month and Year of Manufacture.
- Enclosure ratings: As specified in the PRODUCTS section, above.

- Hazardous Location designation: As specified in the PRODUCTS section, above. The word "Class" may be abbreviated "CL", the word "Division" may be abbreviated "DIV", and the word "Groups" may be abbreviated "GRP" or "GP".
- Method of Protection markings (Ex -- markings): As specified in the PRODUCTS section, above.
- Temperature code: As specified in the PRODUCTS section, above.

For models in Class 2258 04 and 2258 84 (I.S.):
- The words "INTRINSICALLY SAFE" or "IS" or "I.S." or the symbol "Ex ia" for intrinsically safe models.
- The words "ASSOCIATED EQUIPMENT", "ASSOCIATED APPARATUS," "ASSOCIATED DEVICE", or the symbol "[Ex ia]" for associated apparatuses.
- CSA Certificate number: "CSA 19.70187832"
- Install per drawing 10000010389 (Head transmitter configuration) **OR**
- Install per drawing 10000010382 (DIN rail configuration)

For models in Class 2258 02 and 2258 82 (X.P.):
The following words:
- "DO NOT REMOVE COVER WHEN CIRCUITS ARE ALIVE" or "Keep cover tight while circuits are alive"; "Garder le couvercle bien fermé tant que les circuits sont sous tension"
- "SEAL ALL CONDUITS WITHIN 18 INCHES" or "A seal shall be installed within 18" of the enclosure"; "Un scellement doit être installé à moins de 18" du boîtier."
- Install per dwg. 10000010390

For models in Class 2258 02 and 2258 82 (Ex ec or Div 2):
- Install per drawing 10000010389 (Head transmitter configuration) **OR**
- Install per drawing 10000010382 (DIN rail configuration)
- The words: "WARNING: EXPLOSION HAZARD - DO NOT CONNECT OR DISCONNECT WHILE CIRCUITS ARE LIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS." **AND**
- The words - AVERTISSEMENT: RISQUE EXPLOSIF- NE JAMAIS BRANCHEZ OU DECONNECTEZ QUAND LES CIRCUITS INTERNES SONT SOUS TENSION Á MOINS QUE LA ZONE SOIT PAS À RISQUES.

Nameplate adhesive label material approval information:

The material of the label type TOP-SCRIPT 101 720 (manufacturer Eltex) and the label type 3105 2008 (manufacturer WOELCO) is accepted in the CSA Letter of Attestation 2089254.

INSTALLATION MANUAL AND DOCUMENTATION
An installation manual, data sheet, or other documentation shall be supplied with each unit, containing the following minimum information:
- A recapitulation of the information with which the equipment is marked, except for the serial number.
- Manufacturer's name and address
- Name and address of importer or repairer, when necessary to facilitate repair.
- A description of the intended use of the equipment.

- A statement that if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Equipment Ratings:

This includes equipment supply, description of I/O connections and operating environmental conditions.

1. Pollution degree 2;
2. Installation category: DC supplied;
3. Electrical supply 10-36 V dc
4. IP20;
5. Temperature -40°C up to +85°

Equipment Installation:

This includes instructions for Assembly and mounting, Location requirements.

Equipment Operation:

This includes explanations of warning symbols used, and instructions for interconnection, and cleaning and decontamination as required.

Notes:

Products certified under Class C225802, C225804, C225882, C225884 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

Supplement to Certificate of Compliance

Certificate: 70187832 **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

Project	Date	Description
80167999	2023-06-22	Update cCSAus report 70187832 for intrinsically safe, explosionproof, non-incendive, increased safety “ec” and dust igntionproof Temperature Transmitter Type TMT7* Series with addition of type designation L20221 and L20222
80155247	2023-04-21	Evaluation to update cCSAus report # 70187832 (last project 80101936) for intrinsically safe, explosionproof, non-incendive, increased safety “ec” and dust igntionproof Temperature Transmitter Type TMT7* Series for addition of temperature transmitter TMT86 partially based on IECEx ExTR EPS 22.0027X, and update to CSA C22.2 No. 25-17 per certification notice Hazardous Locations Products No. 35.
80101936	2022-01-24	Update of cCSAus report 70187832 for intrinsically safe, explosionproof, non-incendive, increased safety “ec” and dust igntionproof Temperature Transmitter Type TMT7* Series for adjustment of marking requirements to match CSA Report 1733312_80062682, and list nameplate drawings 10000010387 and 10000010388 in Descriptive documents. The project includes an update to CSA C22.2 No. 30-20 and CSA C22.2 No. 94.2-20.
80058240	2021-01-07	Update to cCSAus certificate # 70187832 for intrinsically safe Temperature transmitter models TMT7x for addition of an alternate terminal.
80027371	2020-06-29	Update report 70187832 to add TMT71/72 DIN rail version to the certificate, update to the list of applicable standards, and list TMT71/72 (head transmitter & DIN rail version) as “components” for increased safety.
80003763	2019-11-19	Update of CSA report 70187832 to include the transmitter TMT7x within classes 2258 02 (new) and 2258 82 (new class). The scope of this quote is to update Report 70187832 and classify the TMT7x transmitter for Class I, Div. 1 (XP), Class II, Div. 1 based on its use within an already certified enclosure TA30H.
70187832	2019-06-28	Original model certification of temperature transmitter iTEMP – type TMT71 and TMT72