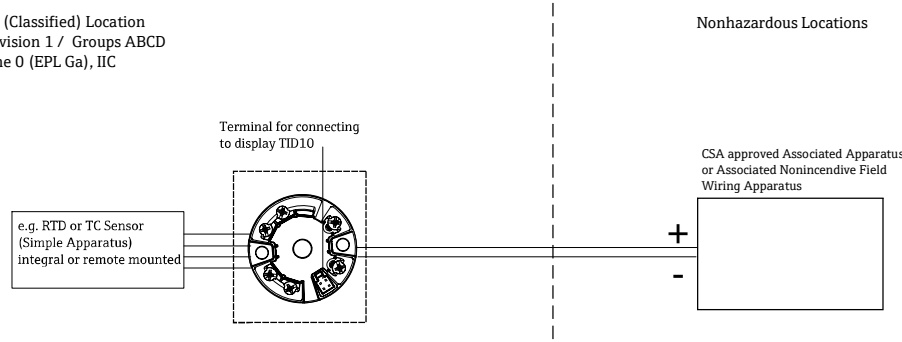


Temperature range

without display, TID10		with display, TID10	
T4	-50°C ... +85°C	T4	-40°C ... +85°C
T5	-50°C ... +70°C	T5	-40°C ... +70°C
T6	-50°C ... +55°C	T6	-40°C ... +55°C

Sensor circuits (Terminals 3...6)

Uo or Voc or Vt = 4.3 V	Io or Isc = 4.8 mA	Po = 5.2 mW
Group A, B resp. IIC	Co or Ca = 100 µF	Lo or La = 10 mH
Group C, D resp. IIB	Co or Ca = 10 µF	Lo or La = 1H
Group C, D resp. IIA	Co or Ca = 10 µF	Lo or La = 1H

Applicable requirements see CSA certificate **70187832**

Installation Notes TMT71, TMT72, L20221 and L202222

- CSA approved apparatus must be installed in accordance with manufacturer's instructions.
- Install per Canadian Electrical Code or National Electrical Code (NFPA 70).
- Use supply wires suitable for 5°C above surroundings.
- Stating that only simple apparatus should be terminated to the sensor connection. Simple apparatus is defined as a device that will neither generate nor store more than 1.2V, 0.1A, 0.25mW or 20µJ. Examples are Thermocouples or RTDs.
- WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.
  AVERTISSEMENT: RISQUE POTENTIEL DE DÉCHARGES ELECTROSTATIQUES – VOIR CONSIGNES.

INTRINSICALLY SAFE **Class I / Div. 1 / Groups ABCD Ex ia IIC/AEx ia IIC**

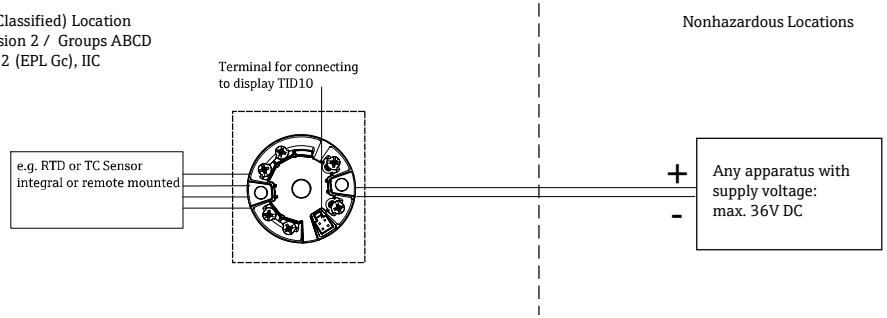
- CSA Approved Associated Apparatus must meet the following parameters:
  Uo ≤ Ui Io ≤ Ii Po ≤ Pi Ca ≥ Ci + Ccable La ≥ Li + Lcable
  Transmitter entity parameters are as follows:
  Ui or Vmax ≤ 30 V DC Ci = 0
  Ii or Imax ≤ 100 mA Li = 0
  Pi ≤ 800 mW
- Voc + Voc of Handheld device < Vmax, Isc + Isc of Handheld device < Imax, Po + Po of Handheld device < Pi, Ca > Ci + Ccable + Ci of Handheld device, La > Li + Lcable + Li of Handheld device, when Programming Handheld device is used.
- WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
  AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SÉCURITÉ INTRINSÈQUE

CONDITIONS OF ACCEPTABILITY

- 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).
- The equipment is for use under atmospheric conditions only, the permissible pressure range is to 1.1 bar (80 to 110 kPa) and the permissible normal oxygen content is typically 21 % v/v.
- 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.
- For the use as an intrinsically safe equipment, and for Zone 0 (EPL Ga), Zone 1 (EPL Gb) and Class I, Division 1 applications, the head transmitter TMT71/TMT72/L20221/L20222 shall be installed completely inside an additional 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.
- If the head transmitter TMT71/TMT72/L20221/L20222 was used in a Zone 1 (EPL Gb), Zone 2 (EPL Gc) or Class I, Division 2 application it is not allowed to use it in Zone 0 (EPL Ga) or Class I, Division 1 applications in the future.
- When connecting the head transmitter TMT71/TMT72/L20221/L20222 with a certified circuit of category "ib" into an IIC or IIB hazardous area the ignition class changes to: Ex ib IIC or Ex ib IIB.
- 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 1 (EPL Gb), Zone 2 (EPL Gc) and Class I, Division 2 applications.
- 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.
- The use of the additional field housing (optional) with the head transmitter TMT71/TMT72/L20221/L20222 is only permitted for Zone 1 (EPL Gb), Zone 2 (EPL Gc) and Class I, Division 2 applications.
- Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection authority.

	Approved	Date (yyyy-mm-dd)	Drawing No.	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material	
	Pfanzelt	2018-03-29	10000010389	A	-	2023-02-02	MP	71620017 XA01904T/09/EN/03.23-00	Endress+Hauser
Volume (mm³)	Designed	Date (yyyy-mm-dd)	Unit	Scale	Title			Series	
	Pfanzelt	2018-03-28	iTEMP TMT71, TMT72 and L20221, L20222	1:1	CONTROL DRAWING CSA Intrinisic Safety				
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No. -	Format A4				Objekt version	Sheet 1 of 2

Endress + Hauser Wetzer GmbH+Co. KG Nesselwang / Germany



Temperature range for option field housing AA, AB and AC (head transmitter as component only):

without display, TID10		with display, TID10	
T4	-50°C ... +85°C	T4	-40°C ... +85°C
T5	-50°C ... +70°C	T5	-40°C ... +70°C
T6	-50°C ... +55°C	T6	-40°C ... +55°C

Temperature range for option field housing

A1, A3, D1, D2, H1, H3, H5, H7:		**A2, A4, H2, H4, H6, H8:**	
T4	-50°C ... +85°C	T4	-40°C ... +85°C
T5	-50°C ... +80°C	T5	-40°C ... +80°C
T6	-50°C ... +70°C	T6	-40°C ... +70°C

Applicable requirements see CSA certificate **70187832**

Installation Notes TMT71, TMT72, L20221 and L20222

- CSA approved apparatus must be installed in accordance with manufacturer's instructions.
- Install per Canadian Electrical Code or National Electrical Code (NFPA 70).
- Use supply wires suitable for 5°C above surroundings.
- Terminal specification:

	Torque	Cable version	Cable cross-section
Screw terminals	0.5Nm	Solid or flexible	= 2.5 mm² (14 AWG)
Push-in terminals (cable version, stripping length = min. 10 mm (0.39 in)	-	Solid or flexible	0.2 to 1.5 mm² (24 to 16 AWG)
	-	Flexible with wire end ferrules with/without plastic ferrule	0.25 to 1.5 mm² (24 to 16 AWG)

- WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.
  AVERTISSEMENT: RISQUE POTENTIEL DE DÉCHARGES ELECTROSTATIQUES – VOIR CONSIGNES.

INCREASED SAFETY

Applicable for option field housing AA, AB and AC (Component):	Applicable for option field housing A1, A2, A3, A4, D1, D2, H1, H2, H3, H4, H5, H6, H7 and H8:
Ex ec IIC Gc	Ex ec IIC T6...T4 Gc
Class I, Zone 2, AEx ec IIC	Class I, Zone 2, AEx ec IIC T6...T4 Gc
Class I, Division 2, Groups A, B, C, D	Class I, Division 2, Groups A, B, C, D; T6...T4

- Intrinsic safety barrier is not required. Vmax ≤ 36 V DC.
- WARNING: EXPLOSION HAZARD - DO NOT CONNECT OR DISCONNECT WHILE CIRCUITS ARE LIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.
- AVERTISSEMENT: RISQUE EXPLOSIF- NE JAMAIS BRANCHEZ OU DECONNECTEZ QUAND LES CIRCUITS INTERNES SONT SOUS TENSION Á MOINS QUE LA ZONE SOIT PAS À RISQUES.

Functional ratings

These ratings do not supersede Hazardous Location values
Unom ≤ 36 DC Inom ≤ 4 to 20 mA

CONDITIONS OF ACCEPTABILITY

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

Applicable for option field housing A1, A2, A3, A4, D1, D2, H1, H2, H3, H4, H5, H6, H7 and H8:

- Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection authority.
- The end user shall ensure appropriate earthing of the field housing.

Applicable for option field housing AA, AB and AC (head transmitter as component only):

- 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.
- 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.

	Approved	Date (yyyy-mm-dd)	Drawing No.	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material	
	Pfanzelt	2019-09-04	10000010389	A	-	2023-02-02	MP	71620017 XA01904T/09/EN/03.23-00	Endress+Hauser
Volume (mm³)	Designed	Date (yyyy-mm-dd)	Unit	Scale	Title			Series	
	Pfanzelt	2018-03-28	iTEMP TMT71, TMT72 and L20221, L20222	1:1	CONTROL DRAWING CSA Increased Safety				
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No. -	Format A4				Objekt version / Sheet 2 of 2	Endress + Hauser Wetzer GmbH+Co. KG Nesselwang / Germany