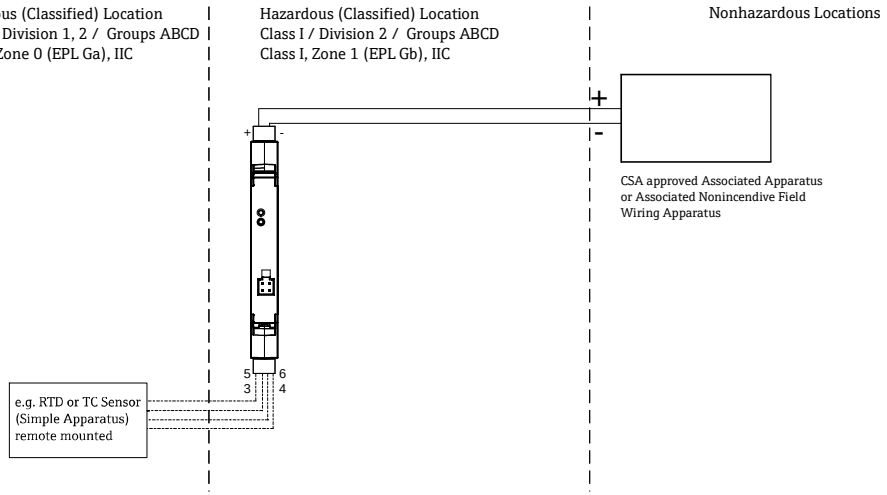


Temperature range:		Sensor circuits (Terminals 3...6):			
T4	-50°C ... +85°C	Uo or Voc or Vt = 4.3 V	Io or Isc	= 4.8 mA	Po = 5.2 mW
T5	-50°C ... +58°C	Group A, B resp. IIC	Co or Ca	= 100 µF	Lo or La = 10 mH
T6	-50°C ... +43°C	Group C, D resp. IIB	Co or Ca	= 10 µF	Lo or La = 1H
		Group C, D resp. IIA	Co or Ca	= 10 µF	Lo or La = 1H

Applicable requirements see CSA certificate **70187832**

Installation Notes TMT71, TMT72, L20221 and 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.
- 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.

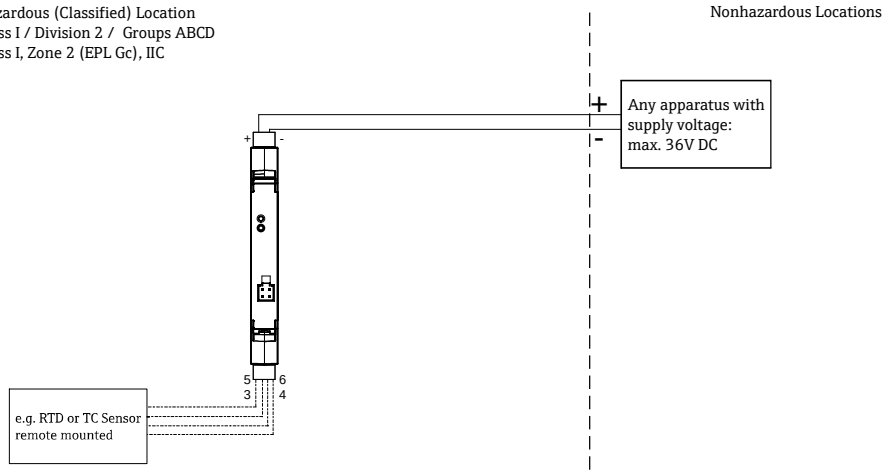
INTRINSICALLY SAFE
Ex ib [ia Ga] IIC T6...T4 Gb
Class I, Zone 1, AEx ib [ia Ga] IIC T6...T4 Gb
Class I, Division 2, Groups A, B, C, D; T6...T4 (Non Incendive Field Wiring (NIFW))
Class I, Division 2, Groups A, B, C, D; T6...T4 – NIFW and Associated Apparatus for Class I, Division 1, Groups A, B, C, D

- 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 ≤ 700 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).
- 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.
- 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.
- In hazardous area it is not permitted to use the CDI interface for configuration.
- 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.
- The end user shall ensure appropriate earthing of the metallic field housing (optional) and all metallic accessories if used upon installation.

	Approved	Date (yyyy-mm-dd)	Drawing No.	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material	
	Pfanzelt	2019-09-04	10000010382	A	-	2023-02-02	MP	71619966 XA02098T/09/EN/02.23-00	Endress+Hauser
Volume (mm³)	Designed	Date (yyyy-mm-dd)	Unit	Scale	Title			Series	
	Pfanzelt	2019-09-03	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:

T4	-50°C ... +85°C
T5	-50°C ... +58°C
T6	-50°C ... +43°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 DECHARGES ELECTROSTATIQUES – VOIR CONSIGNES.

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

- 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.
- If the DINrail 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.
- 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 metallic field housing (optional) and all metallic accessories if used 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/58°C/43°C respectively.

	Approved	Date (yyyy-mm-dd)	Drawing No.	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material	
	Pfanzelt	2019-09-04	10000010382	A	-	2023-02-02	MP	71619966 XA02098T/09/EN/02.23-00	Endress+Hauser
Volume (mm³)	Designed	Date (yyyy-mm-dd)	Unit	Scale	Title			Series	
	Pfanzelt	2019-09-03	iTEMP TMT71, TMT72 and L20221, L20222	1:1	CONTROL DRAWING CSA Increased Safety			Objekt version / Sheet 2 of 2	
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No. -	Format A4					Endress + Hauser Wetzer GmbH+Co. KG Nesselwang / Germany