

	Approved Pfanzelt	Date (yyyy-mm-dd) 2022-05-13	Drawing No. 10000013282	Dwg.rev. -	Revision no. -	Revision date (yyyy-mm-dd) -	Name -	Material 71606925 XA02869T/09/EN/01.22	Endress + Hauser 
Volume (mm³)	Designed Pfanzelt	Date (yyyy-mm-dd) 2022-05-12	Unit TM371, TM372	Scale 1:1	Title CONTROL DRAWING CSA Ex ia IIC, Ex ia IIIC			Series	
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No. -	Format A4				Objekt version	

NONINCENDIVE Field WIRING

- CSA approved associated apparatus or barrier is required.
- Warning: Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Warning: Substitution of components may impair suitability for Class I, Division 2.
- Avertissement: La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de Class I, Division 2.
- Nonincendive field wiring installation:

The Nonincendive Field Wiring Circuit Concept allows interconnection of Nonincendive Field Wiring Apparatus with Associated Nonincendive Field Wiring Apparatus or Associated Intrinsically Safe Apparatus or Associated Apparatus not specifically examined in combination as a system using any of the wiring methods permitted for unclassified locations, when $V_{oc} \leq V_{max}$, $C_a \geq C_i + C_{cable}$, $L_a \geq L_i + L_{cable}$. For these current controlled circuits, the parameter I_{max} is not required and need not to be aligned with parameter I_{sc} and I_t of the Associated Nonincendive Field Wiring Apparatus or Associated Apparatus.

CONDITIONS OF ACCEPTABILITY

- The above model is permanently connected, Output of power supply below the limits of clause 6.3.1 and 9.4, max. 30 Vdc, supplied by an external certified power source, not part of this investigation. The DC output of this separately certified power source shall be below the limits of clause 6.3.1 of IEC 61010-1:2010), Pollution Degree 2. Mode of operation: Continuous.
- From the safety point of view, the thermometer shall be considered to be connected to earth (for details see first page of Control drawing).
- It is not permitted to use the configuration pins 2 and 4 when the thermometer is connected to electrical supply.
- Electrostatic charge on the M12 connector shall be avoided in dust explosive atmospheres during operation and maintenance.
- When installing the product within two different Zones (Zone 0/1 or Zone 20/21) containing parts with different EPLs i.e. either Ga/Gb or Da/Db, a thermowell as a partition wall (with a thickness at least 1mm) for the Zone 0 installation and a process connection with a tight joint of at least IP67 (according to IEC 60529) has to be installed between one hazardous zone area to the other as required in IEC 60079-26:2014.
- The temperature class of the transmitter and temperature sensor is dependent on the ambient temperature and the process temperature (see Thermal data).

Thermal data:

Type	Temperature class	Ambient temperature range housing Ta
TM371,	T6	$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$
TM372	T5	$-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$
	T4	$-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$

Type	Insert diameter	Process temperature range Tp	Temperature class
TM371, TM372	3mm, 6mm	$-50^{\circ}\text{C} \leq T_p \leq +75^{\circ}\text{C}$	T6
		$-50^{\circ}\text{C} \leq T_p \leq +90^{\circ}\text{C}$	T5
		$-50^{\circ}\text{C} \leq T_p \leq +125^{\circ}\text{C}$	T4
		$-50^{\circ}\text{C} \leq T_p \leq +190^{\circ}\text{C}$	T3
		$-50^{\circ}\text{C} \leq T_p \leq +285^{\circ}\text{C}$	T2
		$-50^{\circ}\text{C} \leq T_p \leq +435^{\circ}\text{C}$	T1

Type	Ambient temperature range housing Ta	Maximum surface temperature housing
TM371, TM372	$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	T135°C
	$-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	T135°C
	$-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	T135°C

Type	Insert diameter	Process temperature range Tp	Maximum surface temperature sensor
TM371, TM372	3mm, 6mm	$-50^{\circ}\text{C} \leq T_p \leq +75^{\circ}\text{C}$	T85°C
		$-50^{\circ}\text{C} \leq T_p \leq +90^{\circ}\text{C}$	T100°C
		$-50^{\circ}\text{C} \leq T_p \leq +125^{\circ}\text{C}$	T135°C
		$-50^{\circ}\text{C} \leq T_p \leq +150^{\circ}\text{C}$	T165°C

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