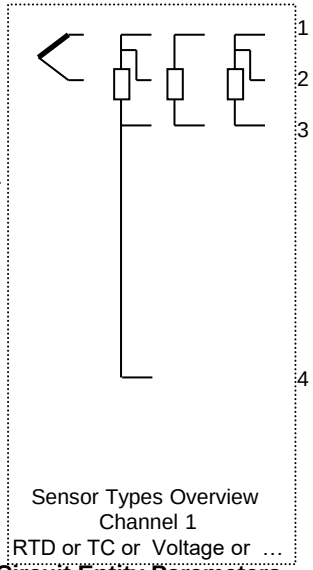
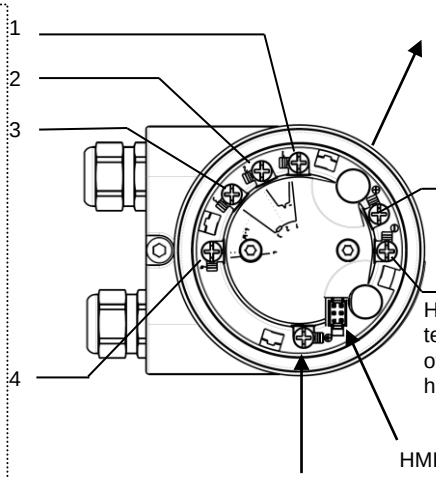
Class I Division 2 Hazardous Location

Non – Hazardous Location

Sensors
must be FM approved or be a simple apparatus. Simple apparatus is a device which will neither generate nor store more than 1.5 V; 0.1 A; 25mW resp. 20 µJ such as switches, RTD's, TC.



Sensor Types Overview
Channel 1
RTD or TC or Voltage or …



TTF200-L2..H (Hardware Rev.: ≥ 02.00.00)
in AGLF, AGSF, AGLFD, AGSFD Enclosure Type 4X

Apparatus Input Values
N.I. V_{max} ≤ 30.0 V DC ;
I_{max} ≤ 130 mA ; P_i ≤ 0.8W
C_i = 0,57nF L_i = 160uH

Heat-resistant connection cables shall be used if the temperature at the cable entries or inside the enclosure of the TTF200 temperature measuring transducer is higher than 60°C.

HMI / Display Interface

Ground terminal for
shield support for sensors and supply / signal lines

Associated Apparatus | **< 250 V**

" 2 wire hookup - Nonincendive Field Circuit"

N.I. Sensor Field Circuit Entity Parameters
V_{oc} = 6.5 V; I_{sc} = 17.8 mA; P_o = 29 mW
Terminals: 1,2,3,4: GP: A,B C_a = 1.65 µF; L_a = 5.0 mH
C,D C_a = 8.85 µF; L_a = 5.0 mH

FM Nonincendive field circuit approval
Tem. Ident.: T6, T5 at T_{amb} = 56 °C;
T4 … T1 at T_{amb} = 85 °C;
Class I Div. 2; Groups A,B,C,D or
Class I Zone 2 AEx/Ex na IIC or
Class I Zone 2 AEx/Ex ec IIC

FM approved HMI / Display Interface with Output Parameters
Class I Div 2; Groups: A,B,C,D
V_{oc} = 6.2 V; I_{sc} < 65.2 mA; P_o = 101 mW
Terminals: 6 PIN Connector
GP A,B C_a = 1.4 µF; L_a = 5.0 mH
C,D C_a = 8.9 µF; L_a = 5.0 mH

Associated Apparatus
Nonincendive Parameters must meet the following Requirements :
V_{oc} or $V_t \leq V_{max}$; $C_a \leq C_i + C_{cable}$;
I_{sc} or $I_t \leq I_{max}$; $L_a \leq L_i + L_{cable}$
The temperature transmitter is FM approved for nonincendive field circuits when installed per Canadian Electrical Code C22.1 Annex J18 or national electrical code (NEC) article 501-10(B)(3), 502-10(B)(4) or 503-10(B)(4) with FM approved nonincendive field circuit output apparatus which meet the parameters indicated above.

Temperature Transmitter Model "TTF200" Ordering Code "TTF200-L2..H" is a Temperature Transmitter Type, which is installed in an enclosure type AGLF, AGSF or AGLFD, AGSFD w/wo FM Approved display HMI-Ex type B, BS.

Warning:

„The apparatus enclosure AGL… contains aluminum and is considered to constitute a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction".

Rev.	Desc.	Date	Name
2.01	misc	02.12.22	Peterich
2.00	HW02.00	30.03.22	Peterich

Do not alter without FM authorization

Approv.	17.07.07	Müller
	Date	Name

ABB
Automation Products

Title:
TTF200 HART (HW Rev. ≥ 02.00.00)
N.I. Temperature Transmitter
Control Drawing

Scale: -----

Drawing / Part No.: TTF200-L2H

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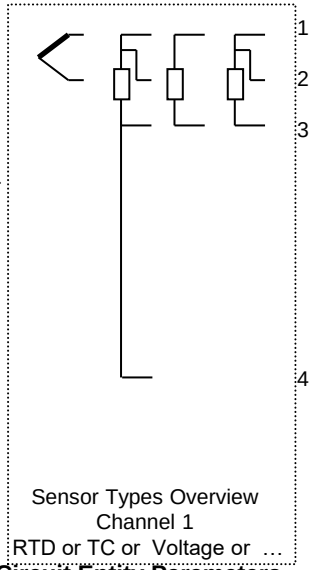
Replacement of: --------

Class I and II Division 2 Hazardous Location

Non – Hazardous Location

Sensors
must be FM approved or be a simple apparatus. Simple apparatus is a device which will neither generate nor store more than 1.5 V; 0.1 A; 25mW resp. 20 µJ such as switches, RTD's, TC.



Sensor Types Overview
Channel 1
RTD or TC or Voltage or …

TTF200-L2..H (Hardware Rev.: ≥ 02.00.00)
in AGLF, AGSF, AGLFD, AGSFD Enclosure Type 4X

Apparatus Input Values
N.I. $V_{max} \leq 30.0$ V DC ;
$I_{max} \leq 130$ mA ; $P_i \leq 0.8$W
$C_i = 0{,}57$nF $L_i = 160$uH

Heat-resistant connection cables shall be used if the temperature at the cable entries or inside the enclosure of the TTF200 temperature measuring transducer is higher than 60°C.

HMI / Display Interface

Ground terminal for
shield support for sensors and supply / signal lines

Power Supply

< 250 V

" 2 wire hookup -
Nonincendive Field Circuit"

N.I. Sensor Field Circuit Entity Parameters
$V_{oc} = 6.5$ V; $I_{sc} = 17.8$ mA; $P_o = 29$ mW
Terminals: 1,2,3,4: GP: A,B $C_a = 1.65$ µF; $L_a = 5.0$ mH
C,D $C_a = 8.85$ µF; $L_a = 5.0$ mH

FM Nonincendive field circuit approval
Tem. Ident.: T6, T5 at $T_{amb} = 56$ °C;
T4 … T1 at $T_{amb} = 85$ °C;
Class I Div. 2; Groups A,B,C,D or
Class I Zone 2 AEx/Ex ia IIC

FM approved HMI / Display Interface with Output Parameters
Class I Div 2 Groups: A,B,C,D or
Class I Zone 2 AEx/Ex ia IIC
$V_{oc} = 6.2$ V; $I_{sc} < 65.2$ mA; $P_o = 101$ mW
Terminals: 6 PIN Connector
GP A,B $C_a = 1.4$ µF; $L_a = 5.0$ mH
C,D $C_a = 8.9$ µF; $L_a = 5.0$ mH

Nonincendive Class I Div.2 Groups A, B, C, D and suitable for Class II and III Div.2 Groups E,F,G Hazardous Location Installations.

1. Install per National Electrical Code (NEC) or Canadian Electrical Code C22.1 annex J18 using Threaded Metal Conduit.
2. Warning:
   Explosion Hazard – 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.
3. A dust tight seal must be used at the conduit entry, when the transmitter is used in a class II & III Location.

Temperature Transmitter Model "TTF200" Ordering Code "TTF200-L2..H" is a Temperature Transmitter Type, which is installed in an enclosure type AGLF, AGSF or AGLFD, AGSFD w/wo FM Approved display HMI-Ex type B, BS.

Warning:

„The apparatus enclosure AGL… contains aluminum and is considered to constitute a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction".

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2.01	misc	02.12.22	Peterich
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Do not alter without FM authorization

	Date	Name
Approv.	17.07.07	Müller

ABB
Automation Products

Title:
TTF200 HART (HW Rev. ≥ 02.00.00)
N.I. Temperature Transmitter
Control Drawing

Scale: -----

Drawing / Part No.: TTF200-L2H

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Replacement of: --------