



Member of the FM Global Group

FM Approvals  
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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

### **Model TTH200-ab, Temperature Transmitter**

IS/I,II,III/1/ABCDEFGF/ T\*; - TTH200-L1P/F(IS) or TTH200-R1P/F(IS); Entity;  
I/O/AEx ia IIC; T\*- TTH200-L1P/F(IS) or TTH200-R1P/F(IS);  
NI/II/2/ABCD/ T\*; NI/2/II T\* = Ta = \*- TTH200-L1P/F(NI) or TTH200-R1P/F(NI);  
S/II,III/2/EFG T\*

a = Type of protection; L1, L2, R1 or R2.

b = Communication protocol; P or F.

#### Entity Parameters:

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H  
Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H

#### Output Terminals (1, 2, 3, 4, 5 and 6)

Group AB:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 1.55 $\mu$ F,  $L_o$  (La) = 5mH  
Group CD:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 8.75 $\mu$ F,  $L_o$  (La) = 5mH

#### Output Terminals (JP1)

$U_o$  (Voc) = 6.2V,  $I_o$  (Isc) = 65.2mA,  $P_o$  = 101mW,  $C_o$  (Ca) = 1.4 $\mu$ F,  $L_o$  (La) = 5mH

#### NonIncendive Field Wiring parameters

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W  
Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W

#### Special Conditions of Use:

- 1 For Intrinsic Safety and Non Incendive Approvals the Temperature code and Ambient temperatures are as follows:

T\* = Temperature Code T6 for a Maximum Ambient Temperature of 56°C.

T\* = Temperature Code T5 for a Maximum Ambient Temperature of 71°C

T\* = Temperature Code T4 for a Maximum Ambient Temperature of 85°C.

- 2 The product will be required in a enclosure which fulfill the NEMA 4X Standard for Class II and III.

### **Model TTH300-ab, Temperature Transmitter**

IS/I,II,III/1/ABCDEFGF/ T\*; - TTH300-L1P/F(IS) or TTH300-R1P/F(IS); Entity;  
I/O/AEx ia IIC; T\*- TTH300-L1P/F(IS) or TTH300-R1P/F(IS);  
NI/II/2/ABCD/ T\*; NI/2/II T\* = Ta = \*- TTH300-L1P/F(NI) or TTH300-R1P/F(NI);  
S/II,III/2/EFG T\*



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a = Type of protection; L1, L2, R1 or R2.

b = Communication protocol; P or F.

**Entity Parameters:**

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H

Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H

**Output Terminals (1, 2, 3, 4, 5 and 6)**

Group AB:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 1.55 $\mu$ F,  $L_o$  (La) = 5mH

Group CD:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 8.75 $\mu$ F,  $L_o$  (La) = 5mH

**Output Terminals (JP1)**

$U_o$  (Voc) = 6.2V,  $I_o$  (Isc) = 65.2mA,  $P_o$  = 101mW,  $C_o$  (Ca) = 1.4 $\mu$ F,  $L_o$  (La) = 5mH

**NonIncendive Field Wiring parameters**

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W

Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W

**Special Conditions of Use:**

1. For Intrinsic Safety and Non Incendive Approvals the Temperature code and Ambient temperatures are as follows:

T\* = Temperature Code T6 for a Maximum Ambient Temperature of 56°C.

T\* = Temperature Code T5 for a Maximum Ambient Temperature of 71°C

T\* = Temperature Code T4 for a Maximum Ambient Temperature of 85°C.

2. The product will be required in a enclosure which fulfill the NEMA 4X Standard for Class II and III.

**Model TTR200-ab, Temperature Transmitter**

IS/I,II,III/1/ABCDEFGF/ T\*; - TTR200\_TTR200-L6H(IS); Entity;

I/O/AEx ia/IIC; T\*- TTR200\_TTR200-L6H(IS);

NI/I/2/ABCD/ T\*; NI/2/II T\* = Ta = \*- TTR200\_TTR200-L6H(NI).

a = Type of protection; L6, R6.

b = Communication protocol; P or F.

**Entity Parameters:**

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H

Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H

**Sensor Terminals (1, 2, 3, 4, 5 and 6)**

Group AB:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 1.55 $\mu$ F,  $L_o$  (La) = 5mH

Group CD:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 8.75 $\mu$ F,  $L_o$  (La) = 5mH

**Display Connector**

$U_o$  (Voc) = 6.2V,  $I_o$  (Isc) = 65.2mA,  $P_o$  = 101mW,  $C_o$  (Ca) = 1.4 $\mu$ F,  $L_o$  (La) = 5mH

**NonIncendive Field Wiring parameters**

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W

Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W

**Special Conditions of Use:**

1. For Intrinsic Safety and Non Incendive Approvals the Temperature code and Ambient temperatures are as follows:

T\* = Temperature Code T6 for a Maximum Ambient Temperature of 56°C.

T\* = Temperature Code T5 for a Maximum Ambient Temperature of 71°C

T\* = Temperature Code T4 for a Maximum Ambient Temperature of 85°C.

2. For a Class II,III rating the instrument is required to be mounted into an Class II, Class III rated enclosure that is compliant to ANSI/ISA 61010 standard.

**Model TTR300-ab, Temperature Transmitter**

IS/I,II,III/1/ABCDEFGF/ T\*; - TTR200\_TTR300-L6H(IS); Entity;  
 I/O/AEx ia/IIC; T\*- TTR200\_TTR300-L6H(IS);  
 NI/I/2/ABCD/ T\*; NI/2/II T\* = Ta = \*- TTR200\_TTR300-L6H(NI).

a = Type of protection; L6, R6.  
 b = Communication protocol; P or F.

**Entity Parameters:**

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H  
 Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H

**Sensor Terminals (1, 2, 3, 4, 5 and 6)**

Group AB:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 1.55 $\mu$ F,  $L_o$  (La) = 5mH  
 Group CD:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 8.75 $\mu$ F,  $L_o$  (La) = 5mH

**Display Connector**

$U_o$  (Voc) = 6.2V,  $I_o$  (Isc) = 65.2mA,  $P_o$  = 101mW,  $C_o$  (Ca) = 1.4 $\mu$ F,  $L_o$  (La) = 5mH

**NonIncendive Field Wiring parameters**

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W  
 Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W

**Special Conditions of Use:**

1. For Intrinsic Safety and Non Incendive Approvals the Temperature code and Ambient temperatures are as follows:

T\* = Temperature Code T6 for a Maximum Ambient Temperature of 56°C.  
 T\* = Temperature Code T5 for a Maximum Ambient Temperature of 71°C  
 T\* = Temperature Code T4 for a Maximum Ambient Temperature of 85°C.

2. For a Class II,III rating the instrument is required to be mounted into an Class II, Class III rated enclosure that is compliant to ANSI/ISA 61010 standard.

**Model TTF300-abcd, Temperature Transmitter**

IS/I,II,III/1/ABCDEFGF/ T\*; - TTF300-L1..P/F(IS) or TTF300-R1..P/F(IS); Entity;  
 I/O/AEx ia IIC; T\*- TTF300-L1..P/F(IS) or TTF300-R1..P/F(IS);  
 NI/I/2/ABCD/ T\*; NI/2/II T\* = Ta = \*- TTF300-L2..P/F(NI) or TTF300-R2..P/F(NI);  
 S/II,III/2/EFG T\*\*,  
 XP/II/ABCD/ T\*;  
 DIP/II,III/EFG/ T\*\*

a = Type of protection; L1, L2, L3,R1, R2 or R3.  
 b = Housing/Display; A or B or C or D.  
 c = Cable Entry; 1 or 2 or 3 or 4  
 d = Communication protocol; P or F.

**Entity Parameters:**

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H  
 Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W,  $C_i$  = 5 nF,  $L_i$  = 10 $\mu$ H

**Output Terminals (1, 2, 3, 4, 5 and 6)**

Group AB:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 1.55 $\mu$ F,  $L_o$  (La) = 5mH  
 Group CD:  $U_o$  (Voc) = 6.5V,  $I_o$  (Isc) = 25.0mA,  $P_o$  = 38mW,  $C_o$  (Ca) = 8.75 $\mu$ F,  $L_o$  (La) = 5mH

**Output Terminals (JP1)**

$U_o$  (Voc) = 6.2V,  $I_o$  (Isc) = 65.2mA,  $P_o$  = 101mW,  $C_o$  (Ca) = 1.4 $\mu$ F,  $L_o$  (La) = 5mH

**NonIncendive Field Wiring parameters**

FISCO:  $U_i$  (Vmax) = 17.5V,  $I_i$  (Imax) = 380mA,  $P_i$  (Pmax) = 5.32W  
 Entity I.S.:  $U_i$  (Vmax) = 24V,  $I_i$  (Imax) = 250mA,  $P_i$  (Pmax) = 1.2W

**Special Conditions of Use:**

- 1 For Intrinsic Safety and Non Incendive Approvals the Temperature code and Ambient temperatures are as follows:

T\* = Temperature Code T6 for a Maximum Ambient Temperature of 44°C.  
 T\* = Temperature Code T5 for a Maximum Ambient Temperature of 56°C  
 T\* = Temperature Code T4 for a Maximum Ambient Temperature of 84°C.

- 2 For Explosionproof and Dust-Ignitionproof Approvals the Temperature code and Ambient temperatures are as follows:

T\*\* = Temperature Code T6 for a Maximum Ambient Temperature of 56°C.  
 T\*\* = Temperature Code T5 for a Maximum Ambient Temperature of 71°C  
 T\*\* = Temperature Code T4 for a Maximum Ambient Temperature of 85°C.

**Model TTF350-abcd, Temperature Transmitter**

IS/I,II,III/1/ABCDEFG/ T\*; - TTF350-L4..P/F(IS); Entity;  
 I/O/AEx ia IIC; T\*-TTF350-L4..P/F;  
 NI/II/2/ABCD/ T\*; NI/2/II T\* = Ta = \*-TTF350-L5..P/F(NI) or TTF350-L5..P/F(NI);  
 S/II,III/2/EFG T\*\*;  
 XP/II/ABCD/ T\*;  
 DIP/II,III/EFG/ T\*\*; Type 4X; IP66 IP67 TTF350-L3..(FM).

a = Type of protection; L3, L4, L5, R3, R4 or R5.

b = Housing/Display; N, or R.

c = Cable Entry; 5,6 or 8.

d = Communication protocol; P or F.

Entity Parameters:

FISCO:  $U_i (V_{max}) = 17.5V$ ,  $I_i (I_{max}) = 380mA$ ,  $P_i (P_{max}) = 5.32W$ ,  $C_i = 5 nF$ ,  $L_i = 10\mu H$   
 Entity I.S.:  $U_i (V_{max}) = 24V$ ,  $I_i (I_{max}) = 250mA$ ,  $P_i (P_{max}) = 1.2W$ ,  $C_i = 5 nF$ ,  $L_i = 10\mu H$

$V_{max}=30v$ ,  $I_{max}= 130mA$ ,  $P_{max}= 0.8W$   $C_i=5nF$ ,  $L_i=500\mu H$

Output Terminals (1, 2, 3, 4, 5 and 6)

Group AB:  $U_o (V_{oc}) = 6.5V$ ,  $I_o (I_{sc}) = 25.0mA$ ,  $P_o = 38mW$ ,  $C_o (C_a) = 1.55\mu F$ ,  $L_o (L_a) = 5mH$

Group CD:  $U_o (V_{oc}) = 6.5V$ ,  $I_o (I_{sc}) = 25.0mA$ ,  $P_o = 38mW$ ,  $C_o (C_a) = 8.75\mu F$ ,  $L_o (L_a) = 5mH$

Output Terminals (JP1)

$U_o (V_{oc}) = 6.2V$ ,  $I_o (I_{sc}) = 65.2mA$ ,  $P_o = 101mW$ ,  $C_o (C_a) = 1.4\mu F$ ,  $L_o (L_a) = 51mH$

NonIncendive Field Wiring parameters

FISCO:  $U_i (V_{max}) = 17.5V$ ,  $I_i (I_{max}) = 380mA$ ,  $P_i (P_{max}) = 5.32W$ ,  $C_i = 5 nF$ ,  $L_i = 10\mu H$

Entity I.S.:  $U_i (V_{max}) = 24V$ ,  $I_i (I_{max}) = 250mA$ ,  $P_i (P_{max}) = 1.2W$ ,  $C_i = 5 nF$ ,  $L_i = 10\mu H$

Special Conditions of Use:

1. For Intrinsic Safety and Non Incendive Approvals the Temperature code and Ambient temperatures are as follows:

T\* = Temperature Code T6 for a Maximum Ambient Temperature of 44°C.

T\* = Temperature Code T5 for a Maximum Ambient Temperature of 56°C

T\* = Temperature Code T4 for a Maximum Ambient Temperature of 84°C.

2. For Explosionproof and Dust-Ignitionproof Approvals the Temperature code and Ambient temperatures are as follows:

T\*\* = Temperature Code T6 for a Maximum Ambient Temperature of 56°C.

T\*\* = Temperature Code T5 for a Maximum Ambient Temperature of 71°C

T\*\* = Temperature Code T4 for a Maximum Ambient Temperature of 85°C.

T\*\* = Temperature Code T3 for a Maximum Ambient Temperature of 120°C.



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## Equipment Ratings:

The TTH200-.P/F, TTH300-.P/F, TTF300-.P/F, TTF350-.P/F, TTR200-.P/F and TTR300-.P/F Profibus/Fieldbus Series Temperature Transmitters are FM Approved for Intrinsic Safety for Class I, II, III, Division 1, Groups A, B, C, D, E, F and G; Non Incendive for Class I, Division 2, Groups A, B, C, D and Suitable for Class II, III, Division 2, Groups E, and G when connected in conjunction with Control Drawings. In addition, the TTF300-.P/F, TTF350-.P/F Temperature Transmitter is FM Approved for Explosionproof For Class I, Division 1, Groups A, B, C and D and Dust-Ignition Proof for Class II, III, Division 1, Groups E, F and G Hazardous(classified ) Locations Indoors and Outdoors Type 4X, IP66, IP67.

## FM Approved for:

ABB Automation Products GmbH  
Alzenau, Germany



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This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	1999
Class 3611	2004
Class 3615	2006
Class 3616	1989
ISAS12.00.01	2002
Class 3810	2005
Nema 250	2003
IEC60529	2004


Original Project ID: 3027610

Approval Granted: January 5, 2007

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
070801	November 2, 2007		
3028938	December 10, 2007		
3031178	October 9, 2008		
3037064	<i>December 18, 2009</i>		

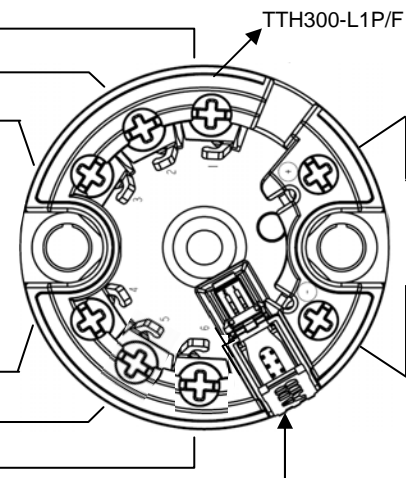
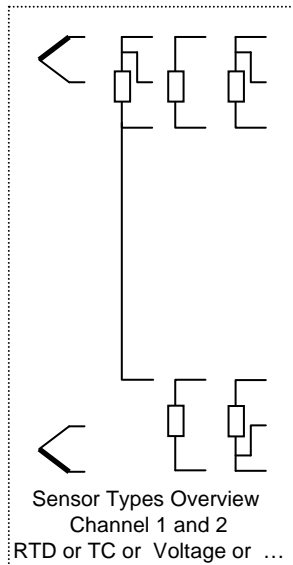
FM Approvals LLC

  
 \_\_\_\_\_  
 James E. Marquedant  
 Group Manager, Electrical

*18 December 2009*  
 \_\_\_\_\_  
 Date

## Hazardous Location

Sensors must be FM approved or be a simple apparatus. Simple apparatus is a device which will neither generate or store more than 1.5 V; 0.1 A; 25 mW or 20 µJ such as switches; RTD's, TC or LED's



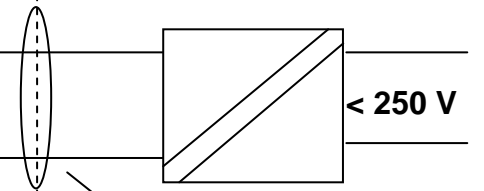
HMI / Display – Interface  
( Protection Cover,  
open with screw before connect ! )

### Apparatus input Values

FISO-Model I.S. V max = 17.5 V ;  
I max = 380 mA ; Pi = 5.32 W  
Ci = 5 nF Li = 0,5 mH, lo <= 50 µA  
Entity-Model I.S V max = 24 V ;  
I max = 250 mA, Pi = 1.2 W  
Li <= 10 µH, Ci <= 5 nF  
lo <= 50 µA

## Non – Hazardous Location

### Barrier Galvanic Isolator



- Barrier or Galvanic Isolator must be FM approved and must be installed in accordance with manufactures instructions.
- Barrier or Galvanic Isolator parameters must meet the following Requirements :
- |                    |                   |
|--------------------|-------------------|
| Voc or Vt * V max; | Ca ] Ci + Ccable; |
| Isc or It * I max; | La ] Li + Lcable  |
| Po or Pt * P max   |                   |
- Maximum non hazardous area voltage must not exceed 250V
- Install in accordance with the NEC (ANSI/NFPA 70) and ANSI/ISA RP12.6. " Installation of intrinsically safe systems" Do not alter without FM authorization

### I.S. Sensor Field Circuit Entity Parameters

Voc = 6.5 V; Isc < 25.0 mA; Po = 38 mW  
Tem. Ident. for Class I Div. 1 and Div. 2; Groups A,B,C,D  
T6 at Tamb = 56 °C; T5 at Tamb = 71 °C;  
T4 at Tamb = 85 °C  
Tem. Ident. For Class I Zone 0 AEx ia IIC  
T6 at Tamb = 44 °C; T5 at Tamb = 56 °C;  
T4 at Tamb = 84 °C  
Terminals: 1,2,3,4,5,6  
GP: A,B Ca = 1.55 µF; La = 5.0 mH  
C,D Ca = 8.75 µF; La = 5.0 mH

### HMI / Display Interface

**Intrinsically Safe Output Parameters**  
Voc = 6.2 V; Isc < 65.2 mA; Po = 101 mW  
Class I Div 1 and Div 2; ; Groups: A,B,C,D or  
Class I Zone 0 AEx ia IIC  
Terminals: 6 PIN Connector  
GP A,B Ca = 1.4 µF; La = 5.0 mH  
C,D Ca = 8.9 µF; La = 5.0 mH

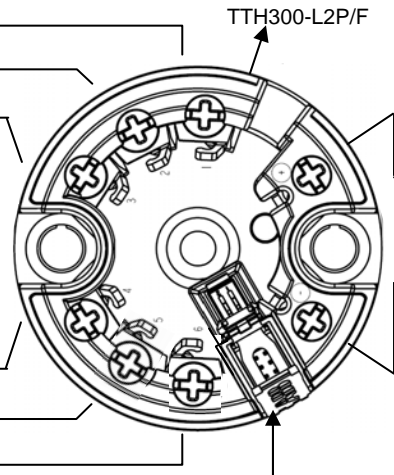
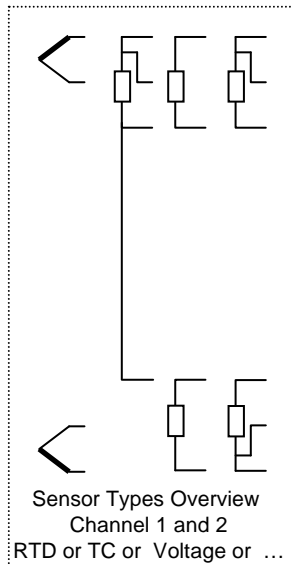
Temperature Transmitter Model "TTH300"  
Ordering Code "TTH300-L1P/F" is an open type Unit which must be installed within an enclosure appropriate for environmental protection accordance with ANSI/ISA S82 01 and S82 03 standards.

**Warning: Resistance between barrier ground and earth ground must be less then 1.0 Ohm!**

				Title:		Scale:	
				TTH300 Fieldbus I.S. Temperature Transmitter Control Drawing		-----	
				Approv.	13.02.09	Müller	
				Date		Name	
				<b>ABB</b> Automation Products		Drawing / Part No.:	
						TTH300-L1P (IS) TTH300-L1F (IS)	
				Replacement of: -----		Page : of 1 / 1	
1.00	Release	13.02.09	Zeiger				
Rev.	Desc.	Date	Name				

## Hazardous Location

The sensor must be FM approved or be a simple apparatus. Simple apparatus is a device which will neither generate or store more than 1.5 V; 0.1 A; 25 mW or 20 µJ such as switches; RTD's, TC or LED's

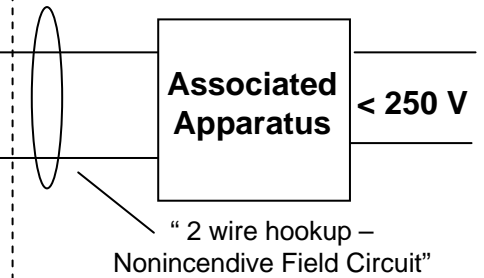


HMI / Display – Interface  
( Protection Cover,  
open with screw before connect ! )

### Apparatus input Values

FISO-Model I.S. V max = 17.5 V ;  
I max = 380 mA ; Pi = 5.32 W  
Ci = 5 nF Li = 0,5 mH, lo <= 50 µA  
Entity-Model I.S V max = 24 V ;  
I max = 250 mA, Pi = 1.2 W  
Li <= 10 µH, Ci <= 5 nF  
lo <= 50 µA

## Non – Hazardous Location



### Associated Apparatus

Nonincendive Parameters must meet the following Requirements :

Voc or Vt \* V max; Ca ] Ci + Ccable;  
Isc or It \* I max; La ] Li + Lcable

The temperature transmitter is FM approved for nonincendive field circuits when installed per national electrical code (NEC) article 501-4(B) exception or 502-4(B) exception with FM approved nonincendive field circuit output apparatus which meet the parameters indicated below. Article 501-4(B)/502-4(B)

Exception: Wiring in nonincendive circuits shall be permitted using any of the methods suitable for wiring in ordinary locations !

### HMI / Display Interface Output Parameters

N.I. Cass I Div 2; Group: A,B,C,D or  
N.I. Class 1 Zone 2 Groups IIC T6  
Voc = 6.2 V; Isc < 65.2 mA; Po = 101 mW  
Terminals: 6 PIN Connector  
GP A,B Ca = 1.4 µF; La = 5.0 mH  
C,D Ca = 8.9 µF; La = 5.0 mH

### FM nonincendive field circuit approval

Temp.Ident:T6 at Tamb = 56 °C;  
T5 at Tamb = 71 °C;  
T4 at Tamb = 85 °C;  
Cass I Div 2; Groups: A,B,C,D or  
Cass 1 Zone 2 Group IIC T6

### Sensor Field Circuit Entity Parameters

Voc = 6.5 V; Isc < 25.0 mA; Po = 38 mW  
Terminals: 1,2,3,4,5,6  
GP: A,B = Ca = 1.55 µF; La = 5.0 mH  
C,D = Ca = 8.75 µF; La = 5.0 mH

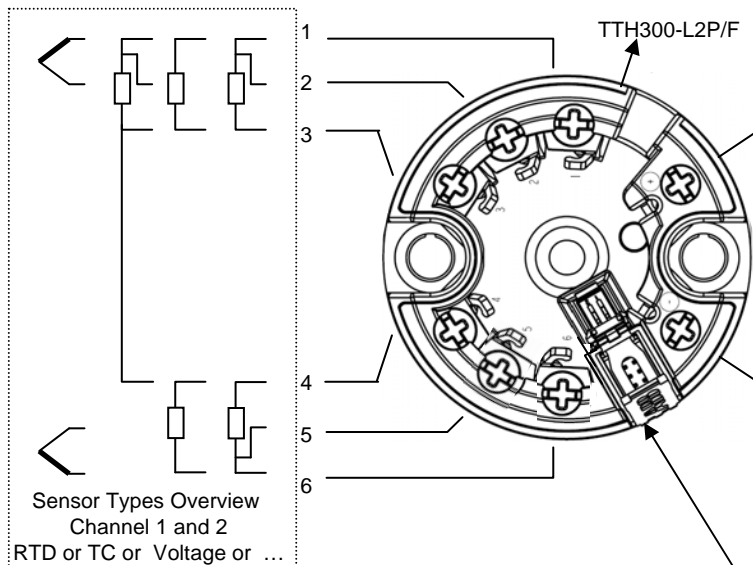
### Temperature Transmitter Model "TTH300"

Ordering Code "TTH300-L2P/F" is an open type unit which must be installed within an enclosure appropriate for environmental protection accordance with ANSI/ISA S82 01 and S82 03 standards.

				Title:		Scale:	
				TTH300 Fieldbus N. I. Temperature Transmitter Control Drawing		-----	
				Approv.	13.02.09	Müller	
				Date		Name	
						Drawing / Part No.:	
						TTH300-L2P (NI_AA) TTH300-L2F (NI_AA)	
				Replacement of: -----		Page : of 1 / 1	
1.00	Release	13.02.09	Zeiger				
Rev.	Desc.	Date	Name				

## Hazardous Location

Sensor must be a simple apparatus.  
RTD`s, TC, LED`s



Electrical Rating 30V dc;  
IEC 1158-2

**Warning: Explosion-Hazard do not disconnect equipment unless power has been switched-off or the area is known to be non-hazardous.**

## Non – Hazardous Location

Power Supply

< 250 V

„ 2 wire hookup“

**Install per National Electrical Code (NEC).**

**Suitable for use in Class I, Div. 2 Groups A, B, C, D, without safety barriers( ie. Conduit Connected), and provides non-incendive circuits to RTD`s, Thermocouples for passiv-resistive non-energy-storing switch devices.**  
**Temp. Ident T6 at Tamb = 56°C, T4 at Tamb = 85°C**  
**Sensor Field Circuit Nonincendive Entity Parameters**

### HMI / Display Interface

( Protection Cover, open with screw before connect ! )

#### Nonincendive output Parameters

Voc/Uo = 6.2 V; Isc/Io < 65.2 mA; Po = 101 mW

Terminals: 6 PIN Connector

GP A,B Ca = 1.4 µF; La = 5.0 mH

C,D Ca = 8.9 µF; La = 5.0 mH

Temperature Transmitter Model "TTH300" Ordering Code "TTH300-L2P/F" is an open type unit which must be installed within an enclosure appropriate for environmental protection accordance with ANSI/ISA S82 01 and 8S82 03 standards.

### Warning:

**Substitution of components may impair suitability for Class 1 Division 2**

				Title:		Scale:	
				TTH300 Fieldbus N. I. Temperature Transmitter Control Drawing		----	
				Approv.	13.02.09	Müller	
				Date		Name	
				 Automation Products		Drawing / Part No.:	
						TTH300-L2P (NI_PS) TTH300-L2F (NI_PS)	
1.00	FM Report	13.02.09	Zeiger	Replacement of: -----			
Rev.	Desc.	Date	Name				