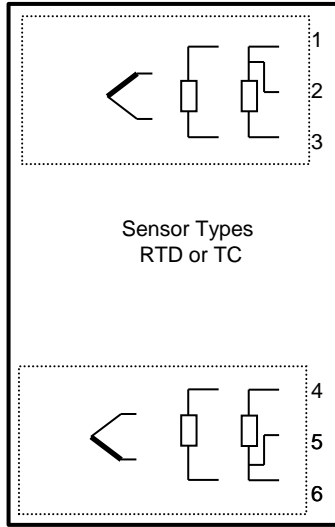


Class I Division 2 Hazardous Location

Non – Hazardous Location

Measuring inset
RTD's or TC,
which are simple
apparatus: neither
generate nor store
more than
1.5 V; 0.1 A; 25mW
resp. 20 μJ.

L_o and C_o are
negligible
(Wire length
< 1500 mm)



TTH300-N-L1..H* in AGLF, AGSF, AGLFD, AGSFD Enclosure Type 4X

Apparatus Input Values

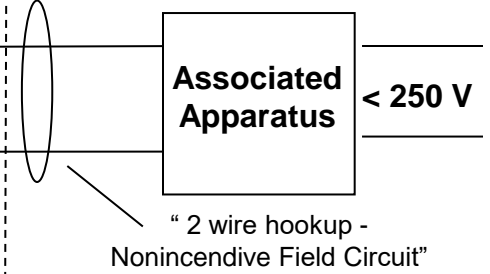
N.I. $V_{max} \leq 30.0$ V DC ;
 $I_{max} \leq 130$ mA ; $P_i \leq 0.8$ W
 $C_i = 0,57$ nF $L_i = 160$ uH (HW ≥ 2.00)
 $C_i = 0,57$ nF $L_i = 500$ uH (HW ≤ 1.07)

Heat-resistant connection cables shall be used if the temperature at the cable entries or inside the enclosure of the TSP341-N temperature measuring transducer is higher than 60°C.

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

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



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.

For use according Zone 2 AEx/Ex nA or ec a 55mA fuse must be used to supply the transmitter.

FM Nonincendive field circuit approval

Class I,II,III Div. 2; Groups A,B,C,D,E,F,G
Class III
Class I Zone 2 AEx/Ex nA IIC T6,T4 Gc
Class I Zone 2 AEx/Ex ec IIC T6,T4 Gc

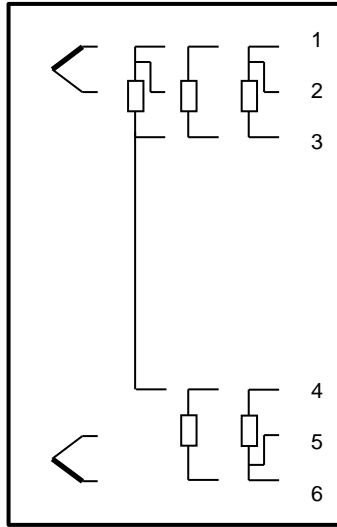
Temperature Sensor Model "TSP341-N" Ordering Code "TSP341-N-L2H" contains a TTH300-N transmitter, that is installed in an enclosure type AGLF, AGSF or AGLFD, AGSFD w/wo FM approved display.

Surface Temperature pipe T_{surf}	Maximum allowable Ambient temperature at enclosure T_{amb}			
	Aluminium enclosure		Stainless Steel enclosure	
	Pipe without insulation	Pipe with insulation	Pipe without insulation	Pipe with insulation
T6,T5 72°C/87°C	52°C	55°C	54°C	57°C
T4 122°C	77°C	81°C	75°C	81°C
T3 187°C	71°C	78°C	64°C	74°C
T2 282°C	62°C	74°C	49°C	65°C
T1 432°C	48°C	67°C	26°C	50°C

				Do not alter without FM authorization		Title:		Scale:	
				Approv. 2023-06-30		Peterich		TSP341-N	
				Date		Name		N.I. Non-Invasive Temperature Sensor with Transmitter Control Drawing	
				ABB		Drawing / Part No.:		Page : of	
1.00		release							
Rev.		Desc.		Date		Name		TSP341-N-L2H	
				Automation Products		Replacement of: -----		1 / 2	

Measuring inset
RTD's or TC.
which are simple
apparatus: neither
generate nor store
more than
1.5 V; 0.1 A; 25mW
resp. 20 µJ.

L_o and C_o are
negligible
(Wire length
< 1500 mm)



Connections integrated in housing

Class I and II Division 2 Hazardous Location

TTH300-N-L1..H* 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 (HW ≥ 2.00)
 $C_i = 0,57$ nF $L_i = 500$ uH (HW ≤ 1.07)

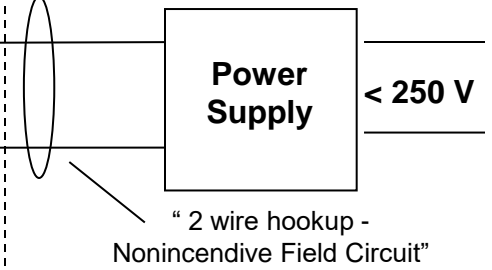
Heat-resistant connection cables shall be used if the temperature at the cable entries or inside the enclosure of the TSP341-N temperature measuring transducer is higher than 60°C.

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

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

Non – Hazardous Location



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 1 Div. 2.
- 3.A dust tight seal must be used at the conduit entry, when the transmitter is used in a Class II and III location.

Surface Temperature pipe T_{surf}	Maximum allowable Ambient temperature at enclosure T_{amb}			
	Aluminium enclosure		Stainless Steel enclosure	
	Pipe without insulation	Pipe with insulation	Pipe without insulation	Pipe with insulation
T6,T5 72°C/87°C	52°C	55°C	54°C	57°C
T4 122°C	77°C	81°C	75°C	81°C
T3 187°C	71°C	78°C	64°C	74°C
T2 282°C	62°C	74°C	49°C	65°C
T1 432°C	48°C	67°C	26°C	50°C

FM Nonincendive field circuit approval

Class I,II,III Div. 2; Groups A,B,C,D,E,F,G
Class III
Class I Zone 2 AEx/Ex nA IIC T6,T4 Gc
Class I Zone 2 AEx/Ex ec IIC T6,T4 Gc

Temperature Sensor Model "TSP341-N" Ordering Code "TSP341-N-L2H" contains a TTH300-N transmitter, that is installed in an enclosure type AGLF, AGSF or AGLFD, AGSFD w/wo FM approved display.

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“.

				Do not alter without FM authorization		Title:		Scale:	
				Approv. 2023-06-30		Peterich		TSP341-N HART	
				Date		Name		N.I. Non-Invasive Temperature Sensor with Transmitter Control Drawing	
				ABB		Drawing / Part No.:		Page : of	
1.00		release							
Rev.		Desc.		Date		Name		TSP341-N-L2H	
								Replacement of: -----	

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