

STT850/750 SmartLine Temperature Transmitter Quick Start Guide

34-TT-25-04, Revision 6, April 2019

This document provides descriptions and procedures for the Quick Installation of Honeywell's family of SmartLine Temperature Transmitters.

The SmartLine Temperature Transmitter is available in a variety of models for measuring Ohms, mV and temperature from RTD's and thermocouples.

For full details refer to the manuals listed below for Protocols, User Interface (HMI) Operation, Installation, Configuration, Calibration, Maintenance, Parts, Safety and Approvals etc. including options.

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Documentation

To access complete documentation, including language variants, scan the QR code below using your smart phone/device or QR code scanner.

Go to the APP store for your free Smartphone QR scanner

Or you can follow the URL to access the online SmartLine HUB page.

The HUB page will contain direct links to open SmartLine product documentation.

URL

<https://hwl.co/SmartLineHUB>

QR Code



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Note

This is a generic Quick Start Guide for both STT850 and STT750 transmitters. Please note the following do not apply to the STT750: Foundation Fieldbus, Dual Inputs, Advanced Display, Advanced Diagnostic, MID and Marine approvals.

Installation

Evaluate the site selected for the Transmitter installation with respect to the process system design specifications and Honeywell's published performance characteristics for your particular model. Temperature extremes can affect display quality. The display can become unreadable at temperature extremes; however, this is only a temporary condition. The display will again be readable when temperatures return to within operable limits.

Features and options

The STT850 and STT750 are packaged in one major assembly: the Electronics Housing.

The elements in the Electronic Housing are connected to the process sensors, measure the process variables, respond to setup commands and execute the software and protocol for the different temperature measurement types. Figure 1 shows the assemblies in the Electronics Housing with available options.

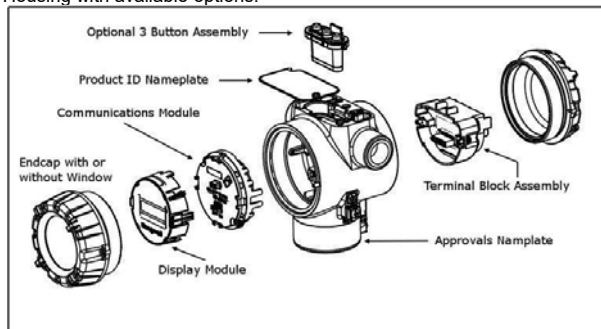


Figure 1 – Electronics Housing Components

An optional 3-button assembly is located under the nameplate and provides a user interface and operation capability without opening the transmitter to set up and make adjustments to the transmitter.

Mounting the Transmitter

Transmitter models can be attached to a two-inch (50 millimeter) vertical or horizontal pipe using Honeywell's optional angle; alternately you can use your own bracket.

Honeywell's optional wall mounting bracket is also shown below:

For Housing with Adaptor refer to Honeywell drawings 50095917 (Pipe mount) and 50095918 (Wall mount) for detailed mounting specifications. For Housing without adaptor refer to Honeywell drawings 32306827 (No-Adaptor, Pipe mount) and 32306828 (No-adaptor, Wall mount). TRANSMITTER ENCLOSURE CAN BE ROTATED A TOTAL OF 90° FROM THE STANDARD MOUNTING POSITION

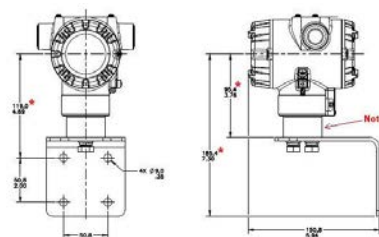


Figure 2 –STT with adapter housing - Horizontal Wall Mounting

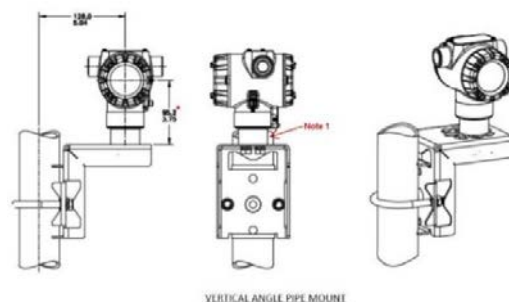


Figure 3 - Pipe Mount, Vertical

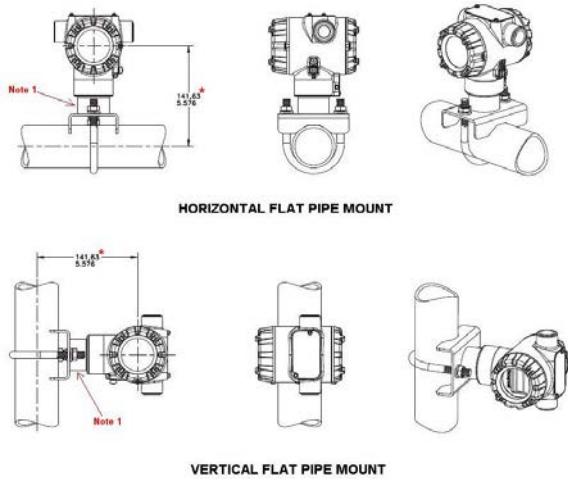


Figure 4 - Pipe Mount with adapter housing - Horizontal & Vertical

Bracket Mounting

If you are using an optional bracket, start with Step 1.

1. Align the two mounting holes in the transmitter with the two slots in the mounting bracket and assemble the (2) M8 hex cap screws, (2) lockwashers and (2) flat washers provided. Rotate transmitter assembly to the desired position and torque the M8 hex cap screws to 27,0 Nm/20,0 Lb-ft maximum.
2. Pipe Mount Option: Refer to Figure 5. Position the bracket on a 2-inch (50.8 mm) horizontal or vertical pipe, and install a "U" bolt around the pipe and through the holes in the bracket. Secure the bracket with the nuts, flat washers and lock washers provided.
3. Wall Mount Option: Position the bracket on the mounting surface at the desired location and secure the bracket to the mounting surface using the appropriate hardware (Wall mounting hardware requirements to be determined and supplied by the end user). Existing mounting bracket, see Figure 5

Optional Mounting Bracket

Position bracket on 2-inch (50.8 mm) and install "U" bolt around pipe and through holes in bracket. Secure with nuts and lock washers provided. Optional mounting bracket, see Figure 5

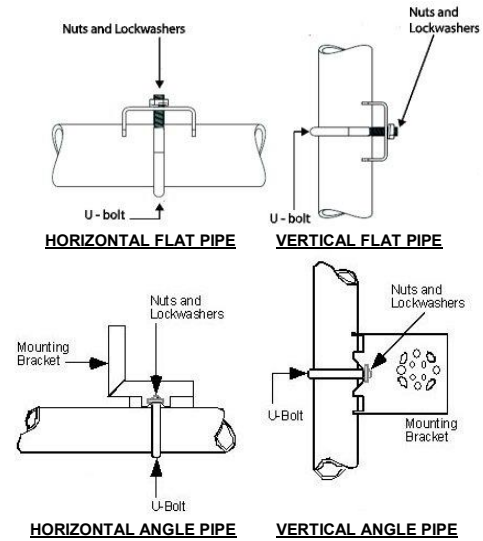


Figure 5: Flat and Angle Mounting Brackets secured to Horizontal or Vertical Pipe

Conduit Entry Plugs and Adapters

Procedures

It is the User/Installer's responsibility to install the Transmitters in accordance with national and local code requirements. Conduit entry plugs and adapters shall be suitable for the environment, shall be certified for the hazardous location when required and acceptable to the authority having jurisdiction for the plant.

CONDUIT ENTRY PRECAUTIONARY NOTICE

THE CONDUIT/CABLE GLAND ENTRIES OF THIS PRODUCT ARE SUPPLIED WITH PLASTIC DUST CAPS WHICH ARE NOT TO BE USED IN SERVICE.

IT IS THE USER'S RESPONSIBILITY TO REPLACE THE DUST CAPS WITH CABLE GLANDS, ADAPTORS AND/OR BLANKING PLUGS WHICH ARE SUITABLE FOR THE ENVIRONMENT INTO WHICH THIS PRODUCT WILL BE INSTALLED. THIS INCLUDES ENSURING COMPLIANCE WITH HAZARDOUS LOCATION REQUIREMENTS AND REQUIREMENTS OF OTHER GOVERNING AUTHORITIES AS APPLICABLE.

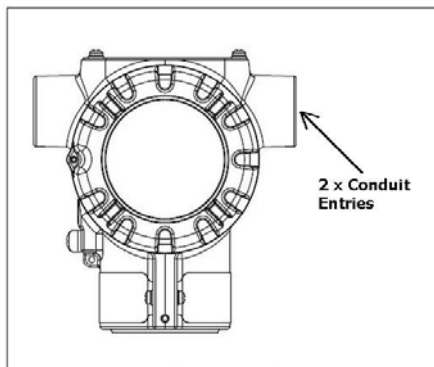


Figure 6: Electronic Housing Conduit Entries

Note. No plugs come installed in the housings. All housings come with temporary plastic dust protectors (red) installed and are not certified for use in any installation.

Wiring Connections and Power Up

Summary

The transmitter is designed to operate in a two-wire power/current loop with loop resistance and power supply voltage within the HART operating range shown in Figure 7.

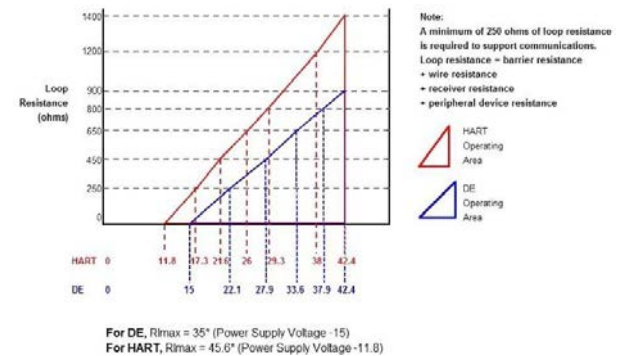


Figure 7: HART and DE Transmitter Operating Ranges

For DE operation, add 3.0V to these values.

Loop wiring is connected to the Transmitter by simply attaching the positive (+) and negative (-) loop wires to the positive (+) and negative (-) terminals on the transmitter terminal block in the Electronics Housing, shown in Figure 8.

Connect the Loop Power wiring shield to earth ground only at the power supply end.

Note that the Transmitter is not polarity-sensitive.

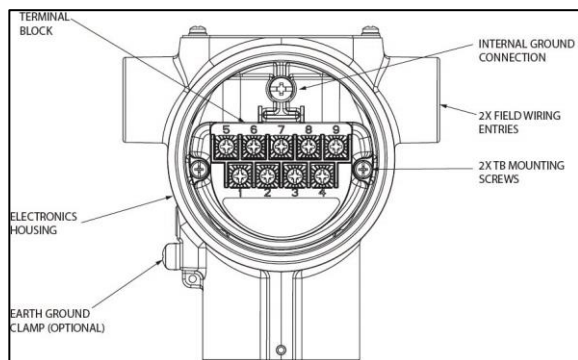


Figure 8: Transmitter 9-Screw Terminal Board and Grounding Screw

As shown in [Figure 8](#), each Transmitter has an internal terminal to connect it to earth ground. Optionally, a ground terminal can be added to the outside of the Electronics Housing. Grounding the Transmitter for proper operation is required, as doing so tends to minimize the possible effects of noise on the output signal and affords protection against lightning and static discharge. An optional lightning terminal block can be installed in place of the non-lightning terminal block for Transmitters that will be installed in areas that are highly susceptible to lightning strikes. As noted above, the Loop Power wiring shield should only be connected to earth ground at the power supply end.



Wiring must comply with local codes, regulations and ordinances. Grounding may be required to meet various approval body certification, for example CE conformity. Refer to Appendix A of this document for details.

Note: Terminal #3 is for loop test and is not applicable for Fieldbus option. Terminal #4 is for Digital Output and is not applicable for Fieldbus option.

For HART and DE the Transmitter is designed to operate in a two-wire power/current loop with loop resistance and power supply voltage within the operating range; see [Figure 7](#). With an optional remote meter, the voltage drop for this must be added to the basic power supply voltage requirements to determine the required Transmitter voltage and maximum loop resistance. Additional consideration is required when selecting intrinsic safety barriers to ensure that they will supply at least minimum Transmitter voltage, including the required 250 ohms of resistance (typically within the barriers) needed for digital communications.

Wiring Variations

The above procedures are used to connect power to a Transmitter. For loop wiring and external wiring, detailed drawings are provided for Transmitter installation in non-intrinsically safe areas and for intrinsically safe loops in hazardous area locations. This procedure shows the steps for connecting power to the transmitter.



Wiring must comply with local codes, regulations and ordinances. Grounding may be required to meet various approval body certification, for example CE conformity. Refer to the SmartLine Transmitter User's Manual 34-TT-25-03 (STT850) or 34-TT-25-06 (STT850) for details.

Input Sensor Wiring

Connect the input sensors as shown in Figures below:

Figure 9: HART/DE/FF Single Input Wiring Diagram.

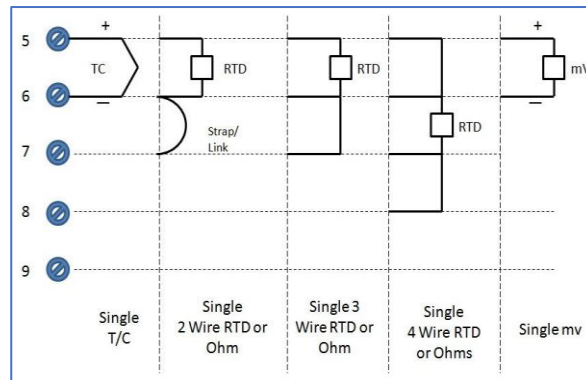


Figure 9: HART/DE/FF Single Input Wiring Diagram
RTD Thermocouple, mV and Ohm Connections

Figure 10: DE Dual Input Wiring Diagram

- Resistance temperature detector (RTD) measurements use the 3 or 4 wire approach.
- Dual-input units wired for a 4-wire RTD will automatically disable Input 2.
- To minimize common noise problems in the application, a strap/jumper should be wired between terminals 6 and 8.

For differential T/C operation on DE Models, a second strap/jumper should be wired between terminals 6 and 7. Do not install this strap for Non-DE models. The output for differential operation is calculated as T/C 1 - T/C 2.

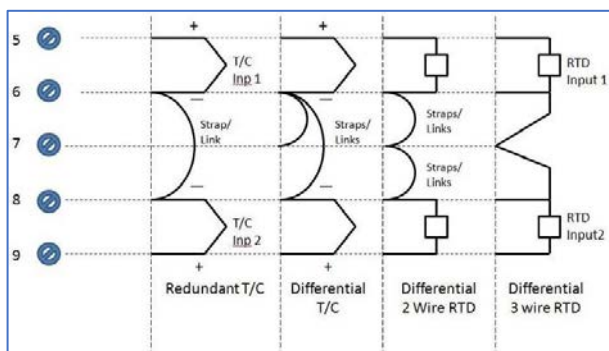


Figure 10: DE Dual Input Wiring Diagram
Thermocouple and RTD Connections (not applicable to single input sensor)

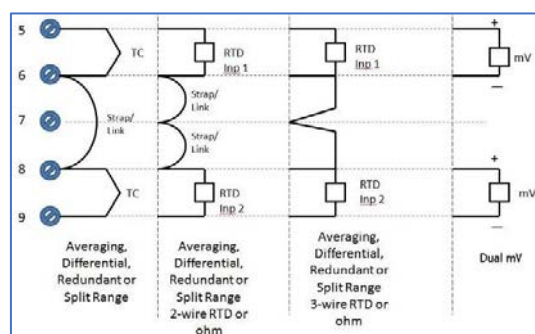


Figure 11: HART/FF - Dual Input Wiring Diagram
RTD Thermocouple, mV and Ohm Connections

Figure 12: HART/FF Dual Input Wiring Diagram

- For External C/J compensation, the first input is a thermocouple type and the second input is a 3-wire PT100 ohm RTD
- The STT850 can have different sensor types on its inputs for split range or averaging applications

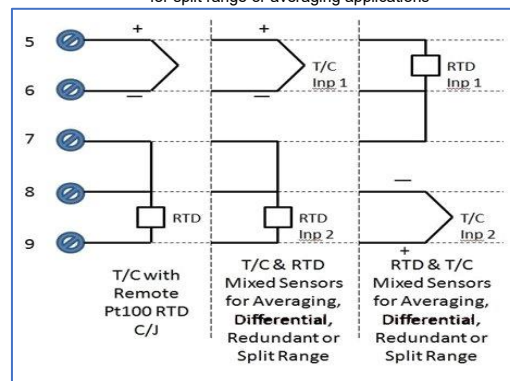


Figure 12: HART/FF Dual Input Wiring Diagram, mixed sensors
Remote C/J and Mixed Sensors Connections

Digital Output Wiring

Digital Output is available only on HART transmitters. The Digital Output should not use the same power supply as used to support the 4-20mA transmitter output. See [Figure 13](#) and [Figure 14](#).

For Intrinsically Safe (IS) applications, the 4-20mA and the Digital Output must use separate IS Barriers.

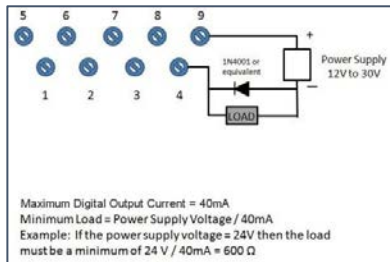


Figure 13: Digital Output Connections for mA Load (HART only)

For best performance, it is recommended that:

- Digital Output wires should be in a separate shielded twisted pair cable, do not use the same cable as used for the Loop or the Sensor wires
- If using the same power supply to operate both the 4-20mA Loop and the Digital Output, then make the interconnections to the power supply terminals directly at the power supply

NOTE: Intrinsically Safe Installations require the use of separate IS Barriers for the 4-20mA output and for the Digital Output connections

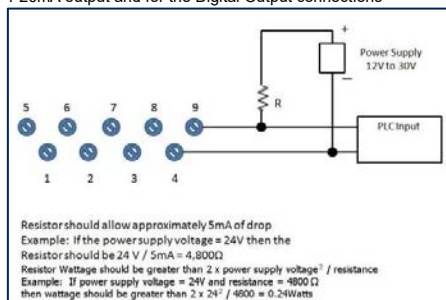


Figure 14: Digital Output Connections for PLC Counting Input (HART only)

Explosion-Proof Conduit Seal



When installed as explosion proof in a Division 1 Hazardous Location, keep covers tight while the Transmitter is energized. Disconnect power to the Transmitter in the non-hazardous area prior to removing end caps for service.

When installed as non-incendive equipment in a Division 2 hazardous location, disconnect power to the Transmitter in the non-hazardous area, or determine that the location is non-hazardous before disconnecting or connecting the Transmitter wires.

Transmitters installed as explosion proof in Class I, Division 1, Group A Hazardous (classified) locations in accordance with ANSI/NFPA 70, the US National Electrical Code, require a LISTED explosion proof seal to be installed in the conduit, within 18 inches (457.2 mm) of the Transmitter. Crouse-Hinds type EYS/EYD or EYSX/EYDX are examples of LISTED explosion proof seals that meet this requirement. Transmitters installed as explosion proof in Class I, Division 1, Group B, C or D hazardous (classified) locations do not require that explosion proof seal be installed in the conduit.

Step	Action
1	See Figure 8 , above, for parts locations. Loosen the end cap lock using a 1.5 mm Allen wrench.
2	Remove the end cap cover from the terminal block end of the Electronics Housing
3	Feed loop power leads through one end of the conduit entrances on either side of the Electronics Housing. The Transmitter accepts up to 16 AWG wire.
4	Connect the positive loop power lead to the positive (+) terminal and the negative loop power lead to the negative (-) terminal. Note that the Transmitter is not polarity-sensitive.
5	Feed input sensor wires through the 2 nd conduit entrance and connect wire per wiring diagrams
6	Replace the end cap, and secure it in place

Configuration Guide

This transmitter comes with a standard factory configuration. Consult the nameplate for basic information.

Reconfiguration for your particular application can be accomplished by following instructions in the Transmitter User's manual.

This can be found by following the website URL or QR code on page 1 of this document.

Set the Jumpers For HART/DE

Setting Failsafe Direction and Write Protect Jumpers

The SmartLine Temperature Transmitter (DE or HART) provides two jumpers to set the desired failsafe action and Write Protect option. See [Figure 15](#)

The top jumper on the electronics module sets the Failsafe direction. The default setting is up-scale failsafe.

Up Scale drives the loop to a value greater than 21mA while Down Scale drives the loop to a value less than 3.8mA.

You can change the failsafe direction by moving the Failsafe Jumper (top jumper) to the desired position (UP or DOWN).

If your transmitter is operating in DE mode, the upscale failsafe action will cause the transmitter to generate a "+ infinity" digital signal, while a downscale failsafe will cause the transmitter to generate a "- infinity" digital signal.

The bottom jumper sets the Write Protect. The default setting is OFF (Un-protected).

When set to the On (Protected) position, Changed configuration parameters cannot be written to the transmitter.

When set to the OFF (Un-protected) position, Changed configuration parameters can be written to the transmitter.

ATTENTION: Electrostatic Discharge (ESD) hazards. Observe precautions for handling electrostatic sensitive devices	
Step	Action
1	Turn OFF Transmitter power.
2	Loosen the end-cap lock, and unscrew the end cap from the Electronics side of the Transmitter housing.
3	If there is a Display module, carefully depress the tabs on the sides of the Display Module and pull it off. If necessary, move the interface connector from the Communication Module. Do not discard connector
4	Set the Failsafe Jumper (top jumper) to the desired action (UP or DOWN). And the Write Protect jumper (Bottom jumper) to the desired behavior (Protected or Unprotected) See Figure 16 for jumper positioning.
5	If applicable, re-install the Display module as follows: <ul style="list-style-type: none"> Orient the display as desired. Install the Interface Connector in the Display module such that it will mate with the socket for the display in the Communication module. Carefully line up the display, and snap it into place. Verify that the two tabs on the sides of the display latch.
6	Screw on the end cap and tighten the end-cap lock. Turn ON Transmitter power.

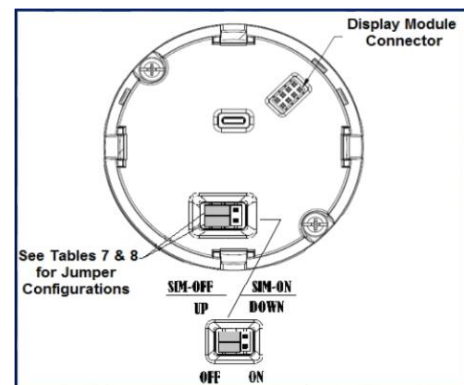


Figure 15: Jumper Location HART/DE

Jumper Settings	Description
	Failsafe = UP (High) Write Protect = OFF (Not Protected)
	Failsafe = DOWN (Low) Write Protect = OFF (Not Protected)
	Failsafe = UP (High) Write Protect = ON (Protected)
	Failsafe = DOWN (Low) Write Protect = ON (Protected)

Figure 16: Jumper Settings

Write Protect Jumper on Foundation Fieldbus (FF)

On Foundation Fieldbus transmitters there is no Failsafe jumper selection but there is a Write Protect jumper.

The bottom jumper sets the Write Protect. The default setting is OFF (Un-protected).

When set to the On (Protected) position, changed configuration parameters cannot be written to the transmitter.

When set to the OFF (Un-protected) position, changed configuration parameters can be written to the transmitter.



	ATTENTION: Electrostatic Discharge (ESD) hazards. Observe precautions for handling electrostatic sensitive devices.
	WARNING! PERSONAL INJURY: Risk of electrical shock. Disconnect power before proceeding. HAZARDOUS LIVE voltages greater than 30 Vrms, 42.4 Vpeak, or 60 VDC may be accessible. Failure to comply with these instructions could result in death or serious injury.
Step	Action
1	Turn OFF Transmitter power.
2	Loosen the end-cap lock, and unscrew the end cap from the Electronics side of the Transmitter housing.
3	If applicable, carefully depress the tabs on the sides of the Display Module and pull it off. If necessary, move the interface connector from the Communication Module to the display module to provide the preferred orientation of the display module in the window.
4	Set the Write Protect jumper (Bottom jumper) to the desired behavior
5	Screw on the end cap and tighten the end-cap lock.
6	Turn ON Transmitter power.




Image	Description
	Fieldbus SIM Mode = OFF Write Protect = OFF (Not Protected)
	Fieldbus SIM Mode = OFF Write Protect = ON (Protected)
	Fieldbus SIM Mode = ON Write Protect = OFF (Not Protected)

Figure 17: Fieldbus Write Protect

Appendix A. PRODUCT CERTIFICATIONS

A1. Safety Instrumented Systems (SIS) Installations

For Safety Certified Installations, please refer to STT850/750 Safety Manual 34-TT-25-05 for installation procedure and system requirements.

A2. European Directive Information (EU)



50094560 Revision: E

EC DECLARATION OF CONFORMITY

We, **Honeywell International Inc.**
Honeywell Field Solutions
512 Virginia Drive
Fort Washington, PA 19034 USA

declare under our sole responsibility that the following products,
STT 850 – Smart Series Temperature Transmitter
STT 750 – Smart Series Temperature Transmitter

to which this declaration relates, is in conformity with the provisions of the European Community Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the harmonized standards and when applicable or required, a European Community notified body certification, as shown in the attached schedule.

The authorized signatory to this declaration, on behalf of the manufacturer, and the Responsible Person is identified below.


Owen J. Murphy
Product Safety & Approvals Engineering
Issue Date: 24 July 2015



SCHEDULE

50094560 Revision: E

EMC Directive (2004/108/EC)

IEC 61326-1:2005	Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements.
IEC 61326-3-1:2008	Electrical Equipment for Measurement, Control and Laboratory Use- Part 3-1: Immunity Requirements for safety related systems and equipment intended to perform safety-related functions.

Overview of EMC Testing
Equipment Tested (EUT): ST 850 TRANSMITTER

Summary of Tests Performed:

PORT	TEST	STANDARD	CRITERIA (IEC 61326-1)	CRITERIA (IEC 61326-3-1)	RESULTS
Enclosure	Radiated Emission	CISPR 11	30 – 230 MHz: 40 dB 230 – 1000 MHz: 47 dB	30 – 230 MHz: 40 dB 230 – 1000 MHz: 47 dB	PASS
	ESD Immunity	IEC 61000-4-2	+/- 4KV Contact +/- 8KV Air	+/- 8KV Contact +/- 8KV Air	PASS
	EM Field- RF Radiated Susceptibility	IEC 61000-4-3	10 V/m- 80 MHz to 1GHz 3 V/m - 1.4 GHz to 2.0 GHz 1 V/m- 2.0 GHz to 2.7 GHz	20 V/m- 80MHz to 1GHz 10 V/m - 1.4GHz to 2.0 GHz 3 V/m- 2.0GHz to 2.7GHz	PASS PASS PASS
	50Hz/60Hz Magnetic Field Immunity	IEC 6100-4-8	30 A/m	30 A/m	N/A 1
	EFT(B) Immunity	IEC 61000-4-4	+/- 1KV	+/- 2KV	PASS
DC Power	Surge Immunity	IEC 61000-4-5	+/- 1KV	+/- 2KV	PASS
	RF Conducted Susceptibility	IEC 61000-4-6	3V	3 V Except the following: 10 V 3.39 to 3.410MHz 10 V 6.765 to 6.795MHz 10 V 13.553 to 13.567MHz 10 V 26.957 to 27.283MHz 10 V 40.66 to 40.70MHz	PASS



SCHEDULE

50094560 Revision: E

PORT	TEST	STANDARD	CRITERIA (IEC 61326-1)	CRITERIA (IEC 61326-3-1)	RESULTS
I/O Signal/ Control (Including Earth Lines)	EFT(Burst) Immunity	IEC 61000-4-4	+/- 1KV	+/- 2KV	2
	Surge Immunity	IEC 61000-4-5	+/- 1KV	+/- 2KV	2
	RF Conducted Susceptibility	IEC 61000-4-6	3V	3 V Except the following: 10 V 3.39 to 3.410MHz 10 V 6.765 to 6.795MHz 10 V 13.553 to 13.567MHz 10 V 26.957 to 27.283MHz 10 V 40.66 to 40.70MHz	2
AC Power	Voltage Dip	IEC 61000-4-11	0% during 1 Cycle 40% during 10-12 Cycles 70% during 25-30 Cycles		N/A 1
	Short Interruptions	IEC 61000-4-11	0% during 250-300 Cycles		N/A 1
	EFT(Burst) Immunity	IEC 61000-4-4	2KV		N/A 1
	Surge Immunity	IEC 61000-4-5	1KV/ 2KV		N/A 1
	RF Conducted Susceptibility	IEC 61000-4-6	3V		N/A 1

- There is no magnetic sensitive circuitry.
- Done as part of the DC Power Testing.
- Product is DC Powered.

SCHEDULE

50094560 Revision: E

ATEX Directive (94/9/EC)

EC-Type Examination Certificate No: SIRA 14ATEX0020X

Protection: Flameproof "d" and Intrinsically Safe "ia" Certificate

EN 60079-0: 2012 EN 60079-1: 2007 EN 60079-11: 2011
EN 60079-26: 2006 EN 60079-31: 2009

Type Examination Certificate No: SIRA 14ATEX4052X

Protection: Non Sparking "n" Certificate
EN 60079-0: 2012 EN 60079-15: 2010

ATEX Notified Body for EC Type Certificates

SIRA Certification Service
Rake Lane, Eccleston
Chester, CH4 9JN
England

ATEX Notified Body for Quality Assurance

DEKRA Certification B.V. [Notified Body Number: 0344]
Maender 1051
6825 MJ Arnhem
The Netherlands

A3. Hazardous Locations Certifications

AGENCY	TYPE OF PROTECTION	COMM OPTION	Electrical Parameters	Ambient Temperature
FM Approvals™ (USA)	Explosion proof, Certificate: FM16US0157X: Class I, Division 1, Groups A, B, C, D; Dust Ignition Proof: Class II, III, Division 1, Groups E, F, G; T6..T5 Class 1, Zone 1, AEx d IIC T6..T5 Gb Class 2, Zone 21, AEx tb IIIC T 95°C IP 66 Db	4-20 mA/ DE/HART/ FF/ PROFIBUS	Note 1	T5: Ta= -50°C to 85°C T6: Ta= -50°C to 65°C
	Intrinsically Safe, Certificate: FM16US0157X: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; T4 Class I Zone 0 AEx ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4	4-20 mA/ DE/HART /FF/ PROFIBUS	Note 2	-50°C to 70°C
	Non-Incendive, Certificate: FM16US0157X: Class I, Division 2, Groups A, B, C, D; T4 Class I Zone 2 AEx nA IIC T4 Gc AEx nA IIC T4	4-20 mA/ DE/HART /FF/ PROFIBUS	Note 1	-50°C to 85°C
	Standards: FM 3600:2011; ANSI/ ISA 60079-0: 2013 FM 3615:2006; ANSI/ ISA 60079-1 : 2015 FM 3616 : 2011 ; ANSI/ ISA 60079-31 : 2015 FM 3610:2010; ANSI/ ISA 60079-11 : 2014 FM 3810 : 2005 ; FM 3611:2004; ANSI/ ISA 60079-15 : 2012 ; FM 3810 : 2005 ; NEMA 250 : 2003 ; ANSI/ IEC 60529 : 2004 Enclosure: Type 4X/ IP66/ IP67			
	IP66/ IP67	ALL	ALL	ALL

CSA- Canada	Explosion proof, Certificate: 2689056: Class I, Division 1, Groups A, B, C, D; Dust Ignition Proof: Class II, III, Division 1, Groups E, F, G; T4 Zone 1 Ex d IIC T4 Gb Ex tb IIIC T 95°C IP 66 Db DIP A21 Class II, III	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C
	Intrinsically Safe, Certificate: 2689056: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; T4 Ex ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4	4-20 mA/ DE/HART/FF	Note 2	-50°C to 70°C
	Non-Incendive, Certificate: 2689056: Class I, Division 2, Groups A, B, C, D; T4 Class I Zone 2 Ex nA IIC T4 Gc Ex nA IIC T4 Gc	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C
	Enclosure: Type 4X/ IP66/ IP67	ALL	ALL	ALL
	Standards: CSA C22.2 No. 0-10; CSA 22.2 No. 25-1966 (reaffirmed 2009); CSA C22.2 No. 30-M1986 (reaffirmed 2012); CSA C22.2 No. 94-M91; CSA C22.2 No. 142-M1987 (reaffirmed 2009); CSA-C22.2No.157-92 (reaffirmed 2012); C22.2 No. 213-M1987(reaffirmed 2012); C22.2 No. 60529-05 C22.2 No. CSA 60079-0:2011; C22.2 No. 60079-1: 2011; C22.2 No. 60079-11: 2011; C22.2 No. 60079-15: 2012; C22.2 No. 60079-31: 2012; ANSI/ ISA12.12.01-2012; ANSI/ ISA 60079-0 (12.00.01): 2009 ; ANSI/ ISA 60079-1 (12.22.01): 2009 ; ANSI/ ISA 60079-11(12.02.01) : 2012 ; ANSI/ ISA 60079-26 (12.00.03) : 2011; ANSI/ ISA 60079-15(12.12.02) : 2012 ; ANSI/ ISA 60079-27 (12.02.04) : 2006; ANSI/ ISA 60079-31(12.10.03) : 2009 ; FM Class 3615: Aug 2006; FM Class 3616: Dec 2011; ANSI/ IEC 60529 : Edition 2.1 ANSI/ UL 913: Edition 7; ANSI/ UL 916 : Edition 4 ;			

ATEX	Flameproof, Sira 14ATEX2046X: II 2 G Ex d IIC T4 Gb II 2 D Ex tb IIIC T 95°C Db IP 66/ IP67	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C
	Intrinsically Safe, Sira 14ATEX2046X: II 1 G Ex ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4	4-20 mA/ DE/HART/FF	Note 2	-50°C to 70°C FISCO: -50°C to 45°C
	Enclosure: IP66/ IP67	ALL	ALL	ALL
	Standards: EN 60079-0: 2012; EN 60079-1 : 2007; EN 60079-31 : 2009 EN 60079-11: 2011; EN 60079-26 : 2006; EN 60529 : 2000 + A1			
IECEx	Non Sparking, Sira 14ATEX4052X: II 3 G Ex nA IIC T4 Gc	4-20 mA/ DE/HART FF	Note 1	-50°C to 85°C
	Enclosure: IP66/ IP67	ALL	ALL	ALL
	Standards: EN 60079-0: 2012; EN 60079-15 : 2010; IEC 60529 : 2009 with Corr 3			
	Flameproof, SIR 14.0020X Ex d IIC T4 Gb Ex tb IIIC T 95°C IP 66/ IP67	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C
SAEx (South Africa)	Intrinsically Safe, SIR 14.0020X Ex ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4	4-20 mA/ DE/HART/ FF	Note 2	-50°C to 70°C FISCO: -50°C to 45°C
	Non Sparking, SIR 14.0020X Ex nA IIC T4 Gc	4-20 mA/ DE/HART/ FF	Note 1	-50°C to 85°C
	Enclosure: IP66/ IP67	ALL	ALL	ALL
	Standards: IEC 60079-0: 2011, Edition 6; IEC 60079-1 : 2007-04, Edition 6; IEC 60079-11 : 2011, Edition 6; IEC 60079-15 : 2010, Edition 4, IEC 60079-26 : 2006, Edition 2; IEC 60079-31 : 2008, Edition 1, IEC 60529 : 2009 with Corr 3			
SAEx (South Africa)	Flameproof: Ex d IIC T4 Gb Ex tb IIIC T 85°C IP 66 Db	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C
	Intrinsically Safe: Ex ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4	4-20 mA/ DE/HART/FF	Note 2	-50°C to 70°C
	Non Sparking: Ex nA IIC T4 Gc	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C
	Enclosure: IP66/ IP67	ALL	ALL	ALL

INMETRO	Flameproof: Ex d IIC T4 Gb Ex tb IIIC T 95°C IP 66 Db	4-20 mA/ DE/HART/ FF	Note 1	-50°C to 85°C
	Intrinsically Safe: Ex ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4	4-20 mA/ DE/HART/ FF	Note 2	-50°C to 70°C
	Non Sparking: Ex nA IIC T4 Gc	4-20 mA/ DE/HART/ FF	Note 1	-50°C to 85°C
	Enclosure: IP66/ IP67	ALL	ALL	ALL
NEPSI (CHINA)	Flameproof: Ex d IIC T4 Gb Ex tb IIIC T 85°C IP 66	4-20 mA/ DE/HART/ FF	Note 1	-50°C to 85°C
	Intrinsically Safe: Ex ia IIC T4 FISCO Field Device (Only for FF Option) Ex ia IIC T4	4-20 mA/ DE/HART/ FF	Note 2	-50°C to 70°C
	Non Sparking: Ex nA IIC T4	4-20 mA/ DE/HART/ FF	Note 1	-50°C to 85°C
	Enclosure: IP66/ IP67	ALL	ALL	ALL
KOSHA (KOREA)	Flameproof: Ex d IIC T4 Gb Ex td A21 T 95°C IP 66/ IP67	4-20 mA/ DE/HART/ FF	Note 1	-50°C to 85°C
	Intrinsically Safe: Ex ia IIC T4 FISCO Field Device (Only for FF Option) Ex ia IIC T4	4-20 mA/ DE/HART/ FF	Note 2	-50°C to 70°C
	Enclosure: IP66/ IP67	ALL	ALL	ALL

EAC Ex (Russia, Belarus and Kazakhstan)	Flameproof: 1 Ex d IIC T4 Gb Ex tb IIIC T95°C Db	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C
	Intrinsically Safe: 0 Ex ia IIC T4 Gb Ex ia IIIC T4 Db FISCO Field Device (Only for FF Option) 0 Ex ia IIC T4	4-20 mA/ DE/HART/FF	Note 2	-50°C to 70°C FISCO: -50°C to 45°C
	Non Sparking: 2 Ex nAEC IIC T4	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C
	Enclosure: IP66/ IP67	ALL	ALL	ALL
CCoe (India)	Ex ia IIC T4 Ga	4-20 mA/ DE/HART/FF	Note 2	-50°C to 70°C FISCO: -50°C to 45°C
	Ex d IIC T4 Gb	4-20 mA/ DE/HART/FF	Note 1	-50°C to 85°C

Notes

1. Operating Parameters:
4-20 mA/DE/HART (Loop Terminal)
Voltage= 11 to 42 V Current= 4-20 mA Normal (3.8 – 23 mA Faults)
FF (Loop Terminal)
Voltage= 9 to 32 V Current= 25 mA

2. Intrinsically Safe Entity Parameters
Terminals 1 and 2- LOOP: Ui = 30 Vdc, li = 225 mA, Pi = 900 mW, Ci = 4 nF, Li = 0 µH
Terminals 5, 6, 7, 8, 9- SENSOR: Ci = 4 nF, Li = 0 µH
DIGITAL OUTPUT OPTION:
Terminals 1 and 2- LOOP: Ui = 30 Vdc, li = 225 mA, Pi = 900 mW, Ci = 4 nF, Li = 0 µH
Terminals 4 and 9, DO OPTION: Ui = 30 Vdc, li = 40 mA, Pi = 500 mW, Ci = 4 nF, Li = 0 µH
Terminals 5, 6, 7, 8 - SENSOR: Ci = 4 nF, Li = 0 µH

SIL 2/3 Certification	IEC 61508 SIL 2 for non-redundant use and SIL 3 for redundant use according to EXIDA and TÜV Nord Sys Tec GmbH & Co. KG under the following standards: IEC61508-1: 2010; IEC 61508-2: 2010; IEC61508-3: 2010.
MID Approval	Issued by NMI Certin B.V. in accordance with WELMEC guide 8.8, OIML R117.1 Edition 2007 (E), and EN 12405-1+A2 Edition 2006. Applicable to Pt100 sensor only.
MARINE TYPE APPROVAL	Lloyd's Register Certificate Number: 16/60011 Environmental categories ENV1, ENV2, ENV3 and ENV5 as defined in Lloyd's Register Test Specification No. 1, February 2015

A4. Marking ATEX Directive


General:

The following information is provided as part of the labeling of the transmitter:

- Name and Address of the manufacturer
- Notified Body identification: DEKRA Quality B.V., Arnhem, the Netherlands

- For complete model number, see the Model Selection Guide for the particular model of Temperature Transmitter.
- The serial number of the transmitter is located on the Housing data-plate. The first two digits of the serial number identify the year (02) and the second two digits identify the week of the year (23); for example, 0223xxxxxxx indicates that the product was manufactured in 2002, in the 23 rd week.

Apparatus Marked with Multiple Types of Protection

The user must determine the type of protection required for installation the equipment. The user shall then check the box  adjacent to the type of protection used on the equipment certification nameplate. Once a type of protection has been checked on the nameplate, the equipment shall not then be reinstalled using any of the other certification types.

WARNINGS and Cautions:

Intrinsically Safe and Non-Incendive Equipment:

WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR USE IN HAZARDOUS LOCATIONS.

Explosion-Proof/ Flameproof:

WARNING: DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

Non-Incendive Equipment:

WARNING: DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAYBE PRESENT

All Protective Measures:

WARNING: FOR CONNECTION IN AMBIENTS ABOVE 60°C USE WIRE RATED 105°C

A.5 Conditions of Use” for Ex Equipment”, Hazardous Location Equipment or “Schedule of Limitations”:

Consult the manufacturer for dimensional information on the flameproof joints for repair.

Painted surface of the STT850 may store electrostatic charge and become a source of ignition in applications with a low relative humidity less than approximately 30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust or oil. Cleaning of the painted surface should only be done with a damp cloth.

Intrinsically Safe: Must be installed per drawing 50091227

Division 2: This equipment is suitable for use in a Class I, Division 2, Groups A, B, C, D; T4 or Non-Hazardous Locations Only.

The installer shall provide transient over-voltage protection external to the equipment such that the voltage at the supply terminal of the equipment does not exceed 140% of the voltage rating of the equipment.

The enclosure is manufactured from low copper aluminium alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during Installation, particularly if equipment is installed a Zone 0 location.

If a charge-generating mechanism is present, the exposed metallic part on the enclosure is capable of storing a level of electrostatic that could become incendive for IIC gases. Therefore, the user/ installer shall implement precautions to prevent the buildup of electrostatic charge, e.g. earthing the metallic part. This is particularly important if equipment is installed a Zone 0 location.

A6 Control Drawing

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PRE REL	ISS	REVISION & DATE	APPD
	D	11/25/2015 ECN 2015-5886	OJM

STT750/850 Series Temperature Transmitter ANALOG, HART/DE and FF/ PA Communications

- Intrinsically safe installation shall be in accordance with:
 - FM (USA): ANSI/NFPA 70, NEC Articles 504 and 505.
 - CSA (Canada): Canadian Electrical Code (CEC), part I, section 18.
 - ATEX: Requirements of EN 60079-14, 12.3 (See also 5.2.4).
 - IECEx: Requirements of IEC 60079-14, 12.3 (See also 5.2.4).
- ENTITY approved equipment shall be installed in accordance with the manufacturer's Intrinsic Safety Control Drawing.
- The Intrinsic Safety ENTITY concept allows the interconnection of two ENTITY Approved Intrinsically safe devices with ENTITY parameters not specifically examined in combination as a system when:

$U_o, V_o, \text{ or } V_t \leq U_i \text{ or } V_{max}; I_o, I_{sc}, \text{ or } I_t \leq I_i \text{ or } I_{max}; C_a \text{ or } C_o \geq C_i + C_{cable}, L_a \text{ or } L_o \geq L_i + L_{cable}, P_o \leq P_i$

Where two separate barrier channels are required, one dual-channel or two single-channel barriers may be used, where in either case, both channels have been Certified for use together with combined entity parameters that meet the above equations.
- System Entity Parameters:

STT750/ STT850 Transmitter: $V_{max} V_o \text{ or } U_o, I_{max} I_{sc} \text{ or } I_o$;
 STT750/ STT850 Transmitter: $C_i + C_{cable} \leq \text{Control Apparatus } C_a$;
 STT750/ STT850 Transmitter: $L_i + L_{cable} \leq \text{Control Apparatus } L_a$.
- When the electrical parameters of the cable are unknown, the following values may be used:

Capacitance: 197pF/m (60 pF/ft)
 Inductance: 0.66μH/m (0.020μH/ft).
- Control equipment that is connected to Associated Equipment must not use or generate more than 250 V.
- Associated equipment must be FM, CSA ATEX or IECEx (depending on location) listed. Associated equipment may be installed in a Class I, Division 2 or Zone 2 Hazardous (Classified) location if so approved.
- Non-Galvanically isolated equipment (grounded Zener Barriers) must be connected to a suitable ground electrode per:
 - FM (USA): NFPA 70, Article 504 and 505. The resistance of the ground path must be less than 1.0 ohm.
 - CSA (Canada): Canadian Electrical Code (CEC), part I, section 10.
 - ATEX: Requirements of EN 60079-14, 12.2.4.
 - IECEx: Requirements of IEC 60079-14, 12.2.4.
- Intrinsically Safe DIVISION 1/ Zone 0 WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR USE IN HAZARDOUS LOCATIONS.
- Division 2/ Zone 2: WARNING: DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT.
- NO REVISION OF THIS CONTROL DRAWING IS PERMITTED WITHOUT AUTHORIZATION FROM THE AGENCIES listed.
- For release approvals see ECO-0110873.

20. For Release appropriate to your facility					
MASTER FILE TYPE: MS WORD	DRAWN	OJM	03/28/14	Honeywell	
	CHECKED				
	DEV ENG				
	MFG ENG				
	QA ENG				
	TOLERANCE UNLESS NOTED			A/ A4	50091227
	ANGULAR DIMENSION				
SCALE: None		USED ON	SH. 1 OF 6		

INSTRUCTIONS FOR INMETRO

- Instalação de segurança intrínseca devem estar de acordo com Requisitos de IEC 60079-14, 12.3 (See also 5.2.4).
- ENTIDADE equipamento aprovado deve ser instalado de acordo com a segurança intrínseca Desenho de Controle do fabricante.
- O conceito de Segurança Intrínseca ENTIDADE permite a interligação de dois entidade credenciada dispositivos de segurança intrínseca com parâmetros de entidade não examinados especificamente em combinação como um sistema quando:

$U_o, V_o, \text{ or } V_t \leq U_i \text{ or } V_{max}; I_o, I_{sc}, \text{ or } I_t \leq I_i \text{ or } I_{max}; C_a \text{ or } C_o \geq C_i + C_{cable}, L_a \text{ or } L_o \geq L_i + L_{cable}, P_o \leq P_i$

Quando forem necessários dois canais separados de barreira, um dual-channel ou duas barreiras de canal único pode ser usado, onde em ambos os casos, ambos os canais foram certificados para uso em conjunto com os parâmetros entidade combinada que atendam as equações acima.
- Parâmetros da Entidade de sistema:

$V_{max} V_o \text{ or } U_o, I_{max} I_{sc} \text{ or } I_o$;
 $C_i + C_{cable} \leq \text{Control Apparatus } C_a$;
 $L_i + L_{cable} \leq \text{Control Apparatus } L_a$.
- Quando os parâmetros eléctricos do cabo não são conhecidos, podem ser utilizados os seguintes valores:

Capacidade: 197pF/m (60 pF/ft)
 Indutância: 0.66μH/m (0.020μH/ft).
- Os equipamentos de controle que está ligado à Associated Equipment não deve usar ou gerar mais de 250 V.
- Equipamentos associados devem ser IECEx (dependendo da localização) listados. Equipamentos associados podem ser instalados em uma perigosos (classificados) local Classe I, Divisão 2 ou Zona 2 se for aprovado.
- O equipamento não Galvanicamente isolado (Barreiras Zener aterradas) deve ser conectado a um eletrodo de aterramento adequado por IECEx: Requisitos de IEC 60079-14, 12.2.4.
- Intrinssecamente seguro Divisão 1/ Zona 0 AVISO: substituição de componentes pode prejudicar a adequação para uso em locais perigosos.
- Divisão 2/ Zona 2: AVISO: NÃO aberto quando uma atmosfera de gás explosiva.
- Nenhuma revisão deste desenho CONTROL é permitida sem autorização dos órgãos listados.
- Para aprovações de liberação ver ECO # 0094464.

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SCALE: None REV D DATE 11-25-2015 SH. 2 of 6

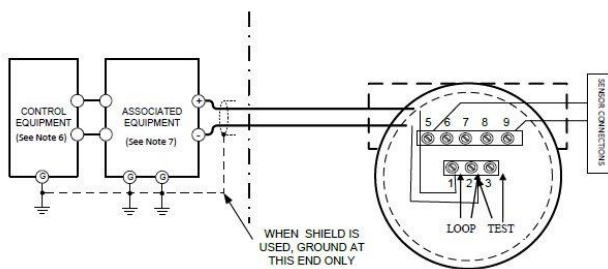
HART/DE

TERMINAL	ENTITY PARAMETERS	ASSOCIATED APPARATUS
1, 2 (LOOP)	$U_i \text{ or } V_{max} \leq 30V$	$U_o, V_o \text{ or } V_t \leq 30V$
	$I_i \text{ or } I_{max} \leq 225 \text{ mA}$	$I_o (I_{sc} \text{ or } I_t) \leq 225 \text{ mA}$
	$P_i \text{ or } P_{max} = 0.9W$	$P_o \leq 0.9W$
	$C_i = 4 \text{ nF}$	$C_a \text{ or } C_o \geq C_{cable} + C_{ITT850}$
5, 6, 7, 8, 9 (SENSOR- SEE Page 5)	$L_i = 0 \mu H$	$L_a \text{ or } L_o \geq L_{cable} + L_{ITT850}$
	$C_o = 39 \mu F$	---
	$L_o = 4.99 \text{ H}$	---

NON-HAZARDOUS LOCATION

HAZARDOUS (CLASSIFIED) LOCATION

CLASS I, DIVISION 1, GROUPS A, B, C, D, E, F & G;
 ZONE 0 IIC & ZONE 2 IIC,
 CLASS I DIVISION 2, GROUPS A, B, C, D;



FOR DIV 2 / ZONE 2 INSTALLATIONS

CONTROL EQUIPMENT PARAMETERS
 $U_{max} = U_i = 42V, 4-20 \text{ mA}, P_o \leq 1W$
 NOTE : ASSOCIATED EQUIPMENT NOT REQUIRED

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SCALE: None REV D DATE 11-25-2015 SH. 3 of 6

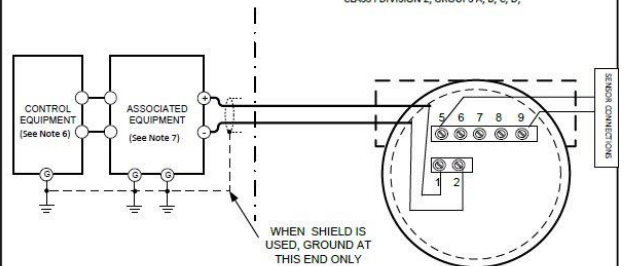
FOUNDATION FIELDBUS/ PROFIBUS (OPTION ONLY AVAILABLE ON THE STT850)

TERMINALS	NON FISCO		FISCO	
	ENTITY PARAMETERS	Associated Apparatus	ENTITY PARAMETERS	Associated Apparatus
1, 2 (FF CONNECTION)	$U_i \text{ or } V_{max} \leq 30V$	$U_o, V_o \text{ or } V_t \leq 30V$	$U_i \text{ or } V_{max} \leq 17.5$	$U_o, V_o \text{ or } V_t \leq 18V$
	$I_i \text{ or } I_{max} \leq 225 \text{ mA}$	$I_o (I_{sc} \text{ or } I_t) \leq 225 \text{ mA}$	$I_i \text{ or } I_{max} \leq 380 \text{ mA}$	$I_o (I_{sc} \text{ or } I_t) \leq 380 \text{ mA}$
	$P_i \text{ or } P_{max} = 1W$	$P_o \leq 1W$	$P_i \text{ or } P_{max} = 5.32W$	$P_o \leq 5.32W$
	$C_i = 0 \text{ nF}$	$C_a \text{ or } C_o \geq C_{cable} + C_{ITT850}$	$C_i = 0 \text{ nF}$	$C_a \text{ or } C_o \geq C_{cable} + C_{ITT850}$
5, 6, 7, 8, 9 (SENSOR- SEE Page 5)	$L_i = 0 \mu H$	$L_a \text{ or } L_o \geq L_{cable} + L_{ITT850}$	$L_i = 0 \mu H$	$L_a \text{ or } L_o \geq L_{cable} + L_{ITT850}$
	$C_o = 39 \mu F$	---	$C_o = 39 \mu F$	---
	$L_o = 4.99 \text{ H}$	---	$L_o = 4.99 \text{ H}$	---

NON-HAZARDOUS LOCATION

HAZARDOUS (CLASSIFIED) LOCATION

CLASS I, CLASS II, DIVISION 1, GROUPS A, B, C, D, E, F & G;
 ZONE 0 IIC & ZONE 2 IIC,
 CLASS I DIVISION 2, GROUPS A, B, C, D;



DIV 2 / ZONE 2 INSTALLATIONS

CONTROL EQUIPMENT PARAMETERS
 $U_{max} = U_i = 32V, 25 \text{ mA}, P_o \leq 1W$
 NOTE : ASSOCIATED EQUIPMENT NOT REQUIRED

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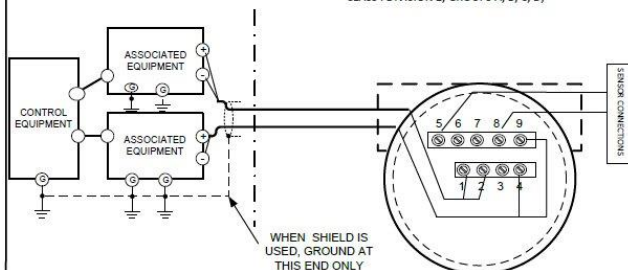
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HART/DE WITH DIGITAL OUTPUT OPTION

TERMINAL	ENTITY	Associated Apparatus
1,2 (LOOP)	Ui or Vmax ≤ 30V	Uo, Voc or Vt ≤ 30V
	Ii or Imax ≤ 225 mA	Io (Isc or It) ≤ 225 mA
	Pi or Pmax = 0.5W	Po ≤ 0.5 W
	Ci = 4 nF	Ca or Co ≥ C _{load} + C _{ITT 850}
	Li = 0 μH	La or Lo ≥ L _{load} + L _{ITT 850}
4,9 (DO OPTION)	Ui or Vmax ≤ 27V	Uo, Voc or Vt ≤ 27V
	Ii or Imax ≤ 30 mA	Io (Isc or It) ≤ 30 mA
	Pi or Pmax = 0.5W	Po ≤ 0.5 W
	Ci = 85 nF	Ca or Co ≥ C _{load} + C _{ITT 850,00}
	Li = 24 μH	La or Lo ≥ L _{load} + L _{ITT 850,00}
5,6,7,8 (SENSOR-SEE Page 6)	Co = 39 uF	---
	Lo = 4.99 H	---

NON-HAZARDOUS LOCATION

HAZARDOUS (CLASSIFIED) LOCATION
CLASS I, DIVISION 1, GROUPS A, B, C, D, E, F & G;
ZONE 0 IIC & ZONE 2 IIC,
CLASS I DIVISION 2, GROUPS A, B, C, D;



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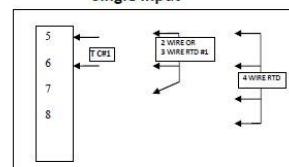
A/A4

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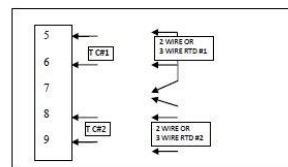
SCALE: None REV D DATE 11-25-2015 SH. 5 of 6

SENSOR CONNECTIONS

Single Input



Dual Input



Note:

1. DUAL INPUT OPTION IS ONLY AVAILABLE WITH HART/ DE COMMUNICATIONS ON THE STT850.

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50091227

SCALE: None REV D DATE 11-25-2015 SH. 6 of 6

Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

ASIA PACIFIC (TAC) hfs-tac-support@honeywell.com

Australia Honeywell Limited, Phone: +(61) 7-3846 1255, FAX: +(61) 7-3840 6481
Toll Free 1300-36-39-36, Toll Free Fax: 1300-36-04-70

China – PRC – Shanghai, Honeywell China Inc. Phone: (86-21) 5257-4568,
Fax: (86-21) 6237-2826

Singapore, Honeywell Pte Ltd. Phone: +(65) 6580 3278. Fax: +(65) 6445-3033

South Korea, Honeywell Korea Co Ltd. Phone: +(822)799 6114. Fax: +(822) 792 9015

EMEA, Phone: + 80012026455 or +44 (0)1202645583. FAX: +44 (0) 1344 655554
Email: (Sales) sc-cp-apps-salespa62@honeywell.com

or (TAC) hfs-tac-support@honeywell.com

Web: Knowledge Base search engine <http://bit.ly/2N5Vldi>

AMERICAS, Honeywell Process Solutions, Phone: 1-800-423-9883,

or 1-215/641-3610. (TAC) hfs-tac-support@honeywell.com.

Sales 1-800-343-0228. Email: (Sales) ask-ssc@honeywell.com

Web: Knowledge Base search engine <http://bit.ly/2N5Vldi>

WARRANTY/REMEDY

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While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For more information

To learn more about SmartLine transmitters, visit www.honeywellprocess.com.

Or contact your Honeywell Account Manager

Process Solutions

Honeywell

1250 W Sam Houston Pkwy S
Houston, TX 77042

Honeywell Control Systems Ltd
Honeywell House, Skimped Hill Lane
Bracknell, England, RG12 1EB

Shanghai City Centre, 100 Jungi Road
Shanghai, China 20061

www.honeywellprocess.com

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April 2019

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