

# **Technical Information**

# STT850 SmartLine Temperature Specification 34-TT-03-14



#### Introduction

Part of the SmartLine® family of products, the STT850 is a high performance Temperature transmitter offering high accuracy and stability over a wide range of process and ambient temperatures. The SmartLine family is also fully tested and compliant with Experion <sup>®</sup> PKS providing the highest level of compatibility assurance and integration capabilities. SmartLine easily meets the most demanding needs for temperature measurement applications.

#### **Best in Class Features:**

# Industry leading performance

- Digital Accuracy up to 0.08 Deg C for RTD\*
- Stability up to 0.01% of URL per year for ten years
- 125 mSec update time for single input models
- o 250 mSec update time for dual input models
- Sensor Matching Facility for higher accuracy\*

#### Reliable measurement

- Built in Galvanic Isolation
- Differential/Averaging/Redundant/Split Range measurements
- Dual Compartment Housing
- o Sensor Break detection
- Comprehensive on-board diagnostic capabilities
- o Full compliance to SIL 2/3 requirements.
- Available with 15 year warranty
- Supports Namur 107\* Extended Diagnostics
- Supports Namur 89 Wire break



Figure 1- Smartline STT850 Temperature transmitter

#### **Lower Cost of Ownership**

- Universal input
- Dual sensor option
- o Multiple local display capabilities
- Modular construction
- External zero, span, & configuration capability
- o Polarity insensitive loop wiring
- Digital Output Option\*

# **Communications/Output Options:**

- o 4-20mA dc
- Honeywell Digitally Enhanced (DE)
- o HART ® (version 7.0)
- FOUNDATION™ Fieldbus\* compliant to ITK 6.1.1

All transmitters are available with the above listed communications protocols.

\*Check with the factory for availability

# **Description**

The SmartLine Temperature transmitter is designed and manufactured to deliver very high performance across varying ambient temperature. The total accuracy level of the transmitter including the ambient temperature effect in, harsh industrial environments, allows the STT850 to replace virtually any competitive transmitter available today.

# **Unique Indication/Display Options**

The STT 850 modular design accommodates a basic alphanumeric LCD display or a unique advanced graphics LCD display with many unparalleled features.

#### **Basic Alphanumeric LCD Display Features**

- Modular (may be added or removed in the field)
- o 0, 90,180, & 270 degree position adjustments
- o Deg C , F, R and Kelvin measurement units
- o 2 Lines 16 Characters (4.13H x 1.83W mm)
- Up to 8 display screens with similar formats
- Configurable screen rotation timing (1 to 30 sec)
- Auto/Manual selection for screen rotation
- Displays up to 9 Datapoints Loop PV,CJ
   Temperature, Sensor 1, Sensor 2, Sensor Delta,
   RTD 1 Resistance, RTD 2 Resistance,
   Loop output, Percent Loop.
- Out of Range Indication

# **Advanced Graphics LCD Display Features**

- Modular (may be added or removed in the field)
- o 0, 90, 180, & 270 degree position adjustments
- Up to eight display screens with 3 formats are possible (Large PV with Bar Graph or PV with Trend Graph)
- Configurable screen rotation timing (1 to 30 sec)
- Sensor health Trend and warning\*
- Provides instant visibility for diagnostics
- Multiple language capability. (EN, GE, FR, IT, SP, RU, & TR)

#### **Configuration Tools**

# **Integral Three Button Configuration Option**

Suitable for all electrical and environmental requirements, SmartLine offer the ability to configure the transmitter and display via three externally accessible buttons when either display option is selected. Zero/span capabilities are also optionally available via these buttons with or without selection of a display option.

# **Hand Held Configuration**

SmartLine transmitters feature two-way communication and configuration capability between the operator and the transmitter. This is accomplished via Honeywell's field-rated Multiple Communication Configuration.

The Honeywell Handheld MC Toolkit is capable of field configuring DE and HART Devices and can also be ordered for use in intrinsically safe environments.

All Honeywell transmitters are designed and tested for compliance with the offered communication protocols and are designed to operate with any properly validated hand held configuration device.

#### **Personal Computer Configuration**

Honeywell's SCT 3000 Configuration Toolkit provides an easy way to configure Digitally Enhanced (DE) instruments using a personal computer as the configuration interface. Field Device Manager (FDM) Software and FDM Express are also available for managing HART & Fieldbus device configurations.

# **Diagnostics**

SmartLine transmitters all offer digitally accessible diagnostics which aid in providing advanced warning of possible failure events minimizing unplanned shutdowns, providing **lower overall operational costs** 

## **System Integration**

- SmartLine communications protocols all meet the most current published standards for HART/DE/Fieldbus.
- Integration with Honeywell's Experion PKS offers the following unique advantages.
  - Transmitter messaging
  - Maintenance mode indication
  - Tamper reporting
  - o FDM Plant Area Views with Health summaries
  - All STT 850 units are Experion tested to provide the highest level of compatibility assurance

#### **Modular Design**

To help contain maintenance & inventory costs, all STT 850 transmitters are modular in design supporting the user's ability to replace Temperature boards, add indicators or change electronic modules without affecting overall performance or approval body certifications. Each Temperature board is uniquely characterized to provide intolerance performance over a wide range of application variations in temperature and due to the Honeywell advanced interface, electronic modules may be swapped with any electronics module without losing in-tolerance performance characteristics

## **Modular Features**

- Replace Temperature/Terminal board/Lightning protection\*
- Exchange/replace electronics/comms modules\*
- Add or remove integral indicators\*
- Add or remove external configuration buttons
- \* Field replaceable in all electrical environments (including IS) except flameproof without violating agency approvals.

With no performance effects, Honeywell's unique modularity results in *lower inventory needs and lower overall operating costs*.

<sup>\*</sup>Check with the factory for availability

# **Performance Specifications**<sup>1</sup>

**Reference Accuracy** <sup>2</sup> (conformance to +/-3 Sigma)

Input	Maximum Ra	ce to +/-3 Sigma ange Limits	Digital	Output D/A	Standards
Туре			Accuracy (+/-)	Accuracy (% of span)	
RTD (2,3,4 wire)	°C	°F	°C	%	
Pt25	-200 to 850	-328 to 1562	0.50	0.005	IEC751:1990 (=0.00385)
Pt100	-200 to 850	-328 to 1562	0.10	0.005	IEC751:1990 (=0.00385)
Pt200	-200 to 850	-328 to 1562	0.20	0.005	IEC751:1990 (=0.00385)
Pt500	-200 to 850	-328 to 1562	0.12	0.005	IEC751:1990 (=0.00385)
Pt1000	-200 to 300	-328 to 572	0.10	0.005	IEC751:1990 (=0.00385)
Thermocouples	°C	°F	°C	%	
В	100 to 1820	392 to 3308	0.60	0.005	IEC 584-1 (ITS-90)
E	-200 to 1000	-328 to 1832	0.20	0.005	IEC 584-1 (ITS-90)
J	-200 to 1200	-328 to 2192	0.25	0.005	IEC 584-1 (ITS-90)
К	-200 to 1370	-328 to 2498	0.25	0.005	IEC 584-1 (ITS-90)
N	-200 to 1300	-328 to 2372	0.40	0.005	IEC 584-1 (ITS-90)
R	-50 to 1760	-58 to 3200	0.50	0.005	IEC 584-1 (ITS-90)
S	-50 to 1760	-58 to 3200	0.50	0.005	IEC 584-1 (ITS-90)
Т	-250 to 400	-418 to 752	0.20	0.005	IEC 584-1 (ITS-90)
Input Type	Maximum Ra	ange Limits	Digital Accuracy (+/-)	Output D/A Accuracy (% of span)	Standards
Other Types	Rar	nge		%	
Millivolts	-100 to 1	200 mV	0.12 mV	0.005	
Millivolts	-20 to 1	25 mV	0.015 mV	0.005	
Ohms	0 to 5	500□	0.2 Ohms	0.005	-
Ohms	0 to 2	000□	0.3 Ohms	0.005	
Ohms	0 to 3	000□	0.45 Ohms	0.005	

<sup>1.</sup> Digital Accuracy is accuracy of the digital output accessed by the Host system and the handheld communicator

<sup>2.</sup> Total analog accuracy is the sum of digital accuracy and output D/A Accuracy

<sup>3.</sup> Output D/A Accuracy is applicable to the 4 to 20mA Signal output

<sup>4.</sup> For TC inputs, CJ accuracy shall be added to digital accuracy to calculate the total digital accuracy

# **Differential Temperature Measurement**

SmartLine Temperature supports differential temperature measurements between any two types of sensors. When the loop current mode is set to "Differential" then the input range is from A to B for sensor 1 & 2 where

A = Sensor 1 Minimum - Sensor 2 Maximum

B = Sensor 1 Maximum - Sensor 2 Minimum

Digital Accuracy for differential temperature measurement

If both the inputs are similar the digital accuracy equals 1.5 times the worst case accuracy of either sensor type.

For mixed input types the digital accuracy is the sum of sensor 1 and sensor 2 digital accuracies.

# **Performance Under Rated Conditions – All Models**

Parameter	Description						
Input Span Adjustment Range	No limits to adjustments within the Maximum range except minimum span limit of 1 engineering unit						
Analog Output	Two-wire, 4 to 20	mA (HART & DE Transmitters	only)				
Digital Communications:	Honeywell DE, HART 7 protocol or FOUNDATION Fieldbus ITK 6.0.1 compliant						
	All transmitters, in	respective of protocol have pola	arity insensitive connections.				
Output Failure Modes		Honeywell Standard:	NAMUR NE 43 Compliance:				
(HART/DE only)	Normal Limits:	3.8 – 20.8 mA	3.8 – 20.5 mA				
	Failure Mode:	≤ 3.6 mA and ≥ 21.0 mA	≤ 3.6 mA and ≥ 21.0 mA				
Output Accuracy (HART/DE only)	±0.005% span						
Supply Voltage Effect	0.005% span per	volt.					
Transmitter Turn on Time (includes power up & test algorithms)	HART or DE: 2.5	sec. Founda	tion Fieldbus: Host dependant				
Stability	0.01% of URL per	year for 10 years					
Response Time (delay + time constant)	Single Input: Dual Input:	DE/HART Analog Output 130 - 230 mSec 305 - 455 mSec	FOUNDATION Fieldbus  Host Dependant  Host Dependant				
Update time	125 mSec for sing 250 mSec for dua	•					
Damping Time Constant	•	ues 0.0, 0.3, 0.7, 1.5, 3.1, 6.3, 1	crements. <b>Default:</b> 0.50 seconds 2.7, 25.5, 51.1, 102.3 seconds.				
Ambient Temperature Effect	For T/C Input Output D/A: 0.00	ts, 0.0015℃/℃ s: 0.005℃/℃					
Cold Junction Accuracy	±0.25℃						
Total Reference Accuracy	Analog Mode (HA Digital Accuracy Example: Tra	cy + Output D/A Accuracy + C/S	J Accuracy (T/C input types only) t100 sensor and 0 to 200 ℃ range				
Sensor Burnout		Burnout detection is user selectable. Upscale or down scale with critical status message. For RTD or ohm type inputs; broken wire/wires will be indicated					
Vibration Effect	Per IEC60770-1 fi max acceleration)		evel (10-2000Hz: 0.21 displacement/3g				
Electromagnetic Compatibility	IEC 61326-3-1						

Isolation	2000Vdc (1400Vr	2000Vdc (1400Vrms) Galvanic Isolation between inputs and output.				
Stray Rejection	Common Mode  AC (50 or 60 Hz): 120 dB (with maximum source impedance of 100 ohms) or ± 1 LSB (least significant bit) whichever is greater with line voltage applied.  DC: 120 dB (with maximum source impedance of 50 ohms) or a ±1 LSB whichever is greater with 120 Vdc applied.  DC (to 1 KHz): 50 dB (with maximum source of impedance of 50 ohms) or ±1 LSB whichever is greater with 50 Vac applied.  Normal Mode  AC (50 or 60 Hz): 60 dB (with 100% span peak-to-peak maximum)					
EMC Compliance	EN 61326-1 and EN 61326-3-1 (SIL)					
Lightning Protection Option	Leakage Current: 10uA max @ 42.4VDC 85 ℃					
	Impulse rating:	8/20uS 10/1000uS	5000A (>10 strikes) 200A (> 300 strikes)	10000A (1 strike min.)		

# **Operating Conditions – All Models**

Parameter		Reference Rated Condition Condition		Operative Limits		Transportation and Storage			
		°C °F °C °F		۰F	°C °F		°C	°F	
Ambient Temperature <sup>1</sup>									
	STT850	25±1	77±2	-40 to 85	-40 to 185	-40 to 85	-40 to 185	-55 to 120	-67 to 248
Humidity	%RH	10 1	to 55	0 to 100		0 to 100		0 to 100	
		HART Models: 10.8 to 42.4 Vdc at terminals (IS versions limited to 30 Vdc) 0 to 1,440 ohms (as shown in Figure 2)							
Supply Voltage Load Resistance		<b>DE Models:</b> 13.8 to 42.4 Vdc at terminals (IS versions limited to 30 Vdc)							
Luau nesistance		0 to 1,300 ohms (as shown in Figure 2)							
		FF Mo	<b>dels:</b> 9.0	0 to 32.0Vdc a	at terminals				

 $<sup>^1\,</sup>$  LCD Display operating temperature -20°C to +70°C . Storage temperature -30°C to 80°C.

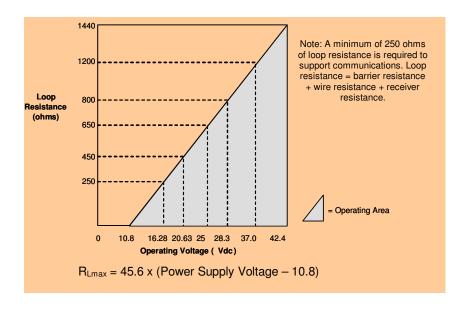


Figure 2 - Supply voltage and loop resistance chart & calculations

For DE Models, add 3.0V to all values. Maximum voltage for DE is 42.4Vdc and maximum load resistance is  $1300\Omega$ .

Materials Specifications (see model selection guide for availability/restrictions with various models)

Parameter	Description
Mounting Bracket	Wall or 2" Pipe, Carbon Steel (Zinc-plated) or 316 Stainless Steel
Electronic Housing	Pure Polyester Powder Coated Low Copper (<0.4%)-Aluminum. Meets Type 4X, IP66, & P67. All stainless steel housing is optional. Cover O Ring Material: Silicone
Sensor/Cable Entry	1/2 NPT electrical connection or M20x1.5
Mounting	Can be mounted in virtually any position using the standard mounting bracket. Bracket is designed to mount on 2-inch (50 mm) vertical or horizontal pipe.
Wiring	Accepts up to 16 AWG (1.5 mm diameter).
Dimensions	See Figure 3, Figure 4 and Figure 5
Net Weight Lbs (kg)	Alum Transmitter with Display – 2.7 Lbs (1.22kg)
	Alum Transmitter w/o Display – 2.6 Lbs (1.18kg)
	SS Transmitter with Display – 4.9 Lbs (2.22kg)
	SS Transmitter w/o Display – 4.8 Lbs (1.18kg)

# **Communications Protocols & Diagnostics**

#### **HART Protocol**

#### Version:

HART 7

#### **Power Supply**

Voltage: 10.8 to 42.4Vdc at terminals Load: Maximum 1440 ohms See figure 2

Minimum Load: 0 ohms. (For handheld communications a

minimum load of 250 ohms is required)
IEC 61508 Safety Certified SIL 2 and SIL 3

# **Honeywell Digitally Enhanced (DE)**

DE is a Honeywell proprietary protocol which provides digital communications between Honeywell DE enabled field devices and Hosts.

# **Power Supply**

Voltage: 10.8 to 42.4Vdc at terminals Load: Maximum 1440 ohms See figure 2

# Foundation Fieldbus (FF)

#### **Power Supply Requirements**

Voltage: 9.0 to 32.0Vdc at terminals Steady State Current: 17.6 mA Software Download Current: 27.6 mA

#### **Available Function Blocks**

Block Type	Qty	Execution Time
Resource	1P	n/a
Transducer	1P	n/a
Diagnostic	1P	n/a
Analog Input	1P, 4l	30 ms
PID w/Autotune	1P, 2l	45 ms
Discrete Input Block	1P, 2l	30 ms
Signal Char (SC)	1P	30 ms
LCD Display	1P	n/a
Input Selector	1P	30 ms
Arithmetic	1P, 2l	30 ms
Output Splitter	1P	30 ms

P = Permanent I = Instantiable

The AI function block allows the user to configure the alarms to HIGH-HIGH, HIGH, LOW, or LOW-LOW with a variety of priority levels and hysteresis settings

All available function blocks adhere to FOUNDATION Fieldbus standards. PID blocks support ideal & robust PID algorithms with full implementation of Auto-tuning.

#### **Link Active Scheduler**

Transmitters can perform as a backup Link Active Scheduler and take over when the host is disconnected. Acting as a LAS, the device ensures scheduled data transfers typically used for the regular, cyclic transfer of control loop data between devices on the Fieldbus.

# **Number of Devices/Segment**

Entity IS model: 15 devices/segment

#### **Schedule Entries**

30 maximum schedule entries

30 maximum Links

Number of VCR's: 40 max

Compliance Testing: Tested according to ITK 6.1.1

#### **Software Download**

Utilizes Class-3 of the Common Software Download procedure as per FF-883 which allows the field devices of any manufacturer to receive software upgrades from any host.

## **Standard Diagnostics**

STT850 top level diagnostics are reported as either critical or non-critical as listed below. All diagnostics are readable via the DD/DTM tools. All critical diagnostics will appear on the Basic and Advanced integral displays, non-critical diagnostics will appear on the Advanced integral display.

#### **Critical Diagnostics**

Sensor Module Fault

Communications Module Fault Sensor Communications Fault

Input 1 Fault

Input 2 Fault

## Non Critical Diagnostics (for Advanced Display only)

Cal 1 Correct

Cal 2 Correct

Sensor Temperature

Sensor 1 Health

Sensor 2 Health

Input 1 Range

Input 2 Range

CJ Range

Input 1

Input 2

Input 1 TB6 (for RTD types only)

Input 2 TB8 (for RTD types only)

**Factory Calibration** 

Loop Supply Voltage

Communications Module Temperature

**DAC Temperature Compensation** 

Sensor Communications

Display Setup

# **Approval Certifications:**

AGENCY	TYPE OF PROTECTION	COMM. OPTION	FIELD PARAMETERS	AMBIENT TEMP (Ta)
	Explosionproof: Class I, Division 1, Groups A, B, C, D; Dust Ignition Proof: Class II, III, Division 1, Groups E, F, G; T4 Class I, Zone 1, AEx d IIC Gb T4 Class II, Zone 21, AEx tb IIIC Db T 85°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G: T4	4-20 mA / DE/ HART	Note 2	-50 °C to 70°C
FM Approvals <sup>TM</sup>	Class 1, Zone 0, AEx ia IIC Ga T4  FISCO Field Device (Only for FF Option) Ex ia IIC Ga T4	Foundation Fieldbus	Note 2	-50 °C to 70°C
	Nonincendive: Class I, Division 2, Groups A, B, C, D locations, Class 1, Zone 2, AEx nA IIC Gc T4	All	-50 °C to 85°C	
	Enclosure: Type 4X/ IP66/ IP67	All	All	-
	Explosion Proof: Class I, Division 1, Groups A, B, C, D; Dust Ignition Proof: Class II, III, Division 1, Groups E, F, G; T4 Ex d IIC Gb T4 Ex tD A21 T 95°C IP 66	All	Note 1	-50 °C to 85°C
Canadian Standards Association	Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G: T4	4-20 mA / DE/ HART	Note 2	-50 °C to 70°C
(CSA)	Class 1, Zone 0, AEx ia IIC Ga T4  FISCO Field Device (Only for FF Option) Ex ia IIC Ga T4	Foundation Fieldbus	Note 2	-50 °C to 70°C
	Nonincendive: Class I, Division 2, Groups A, B, C, D; T4 Ex nA IIC Gc T4	All	Note 1	-50 °C to 85°C
	Enclosure: Type 4X/ IP66/ IP67	All	All	-
	Flameproof: II 2 G Ex d IIC Gb T4 II 2 D Ex tb IIIC Db T 85°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: II 1 G Ex ia IIC Ga T4	4-20 mA / DE/ HART	Note 2	-50 °C to 70°C
ATEX	FISCO Field Device (Only for FF Option) Ex ia IIC Ga T4	Foundation Fieldbus	Note 2	-50 °C to 70°C
	Nonincendive: II 3 G Ex nA IIC Gc T4	All	Note 1	-50 °C to 85°C
	Enclosure: IP66/ IP67	All	All	All

	Flameproof: Ex d IIC Gb T4 Ex tb IIIC Db T 85°C IP 66	All	Note 1	-50 °C to 85°C	
IECEx	Intrinsically Safe: Ex ia IIC Ga T4	4-20 mA / DE/ HART	Note 2	-50 °C to 70°C	
(World)	FISCO Field Device (Only for FF Option) Ex ia IIC Ga T4	Foundation Fieldbus	Note 2	-50 °C to 70°C	
	Nonincendive: Ex nA IIC Gc T4	All	Note 1	-50 °C to 85°C	
	Enclosure: IP66/IP67	All	All	All	

#### Notes:

1. Operating Parameters:

Analog/ DE/ HART Entity Values:

Voltage= 11 to 42 V DC Current= 4-20 mA Normal (3.8 – 23 mA Faults)

**Foundation Fieldbus** 

Voltage = 9 to 32 V (FF) Current = 23 mA

2. Intrinsically Safe Entity Parameters

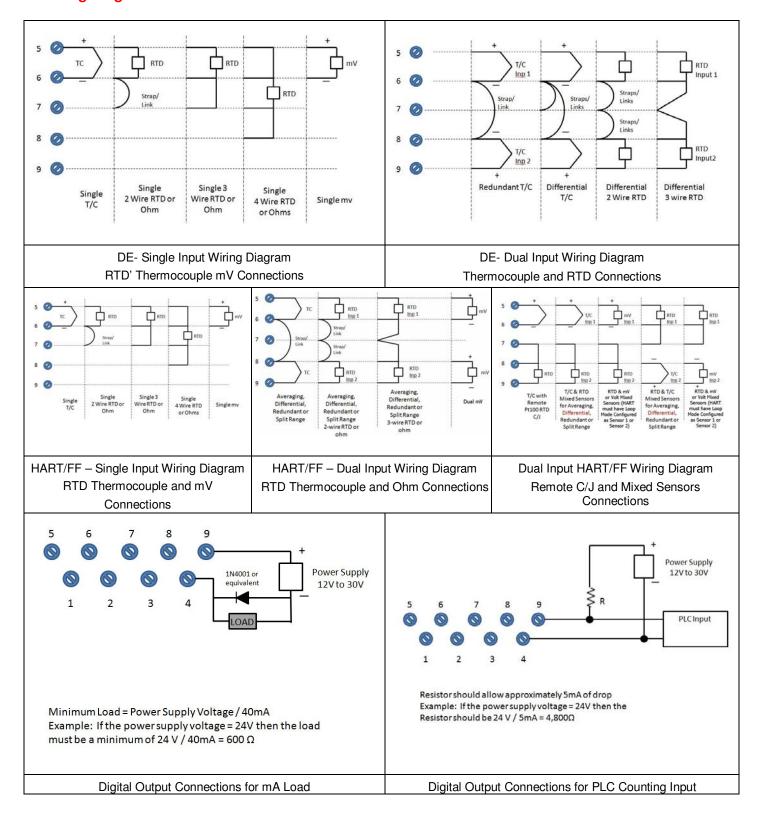
Analog/ DE/ HART Entity Values:

Vmax= Ui = 30V Imax= Ii= 225 mA Ci = OnFLi = 0Pi = 0.9WFoundation Fieldbus Entity Values: Vmax= Ui = 30V Imax= Ii= 225mA Ci = 0Li = 0Pi =1W FISCO Field Device Vmax= Ui = 17.5V Imax= Ii= 380 mA Ci = OnFLi = 0Pi =5.32 W

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.

# **Wiring Diagrams**



# **Mounting & Dimensional Drawings**

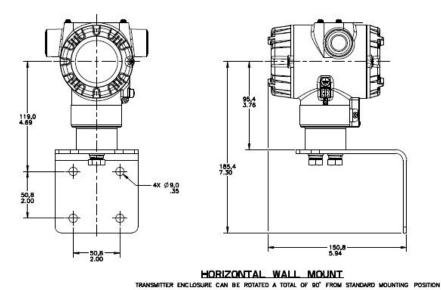
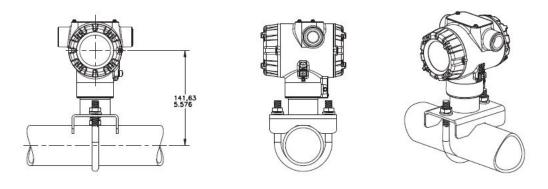
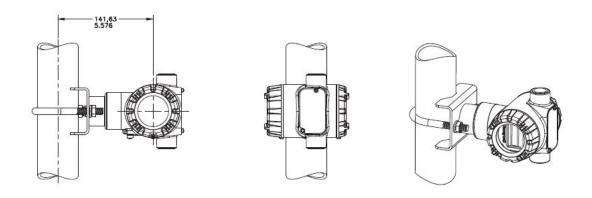


Figure 3 – STT850 Horizontal Wall Mounting



HORIZONTAL PIPE MOUNT TRANSMITTER ENCLOSURE CAN BE ROTATED A TOTAL OF 90° FROM STANDARD MOUNTING POSITION



VERTICAL PIPE MOUNT TRANSMITTER ENCLOSURE CAN BE ROTATED A TOTAL OF 90° FROM STANDARD MOUNTING POSITION

Figure 4 – STT850 Pipe Mount, Horizontal & Vertical

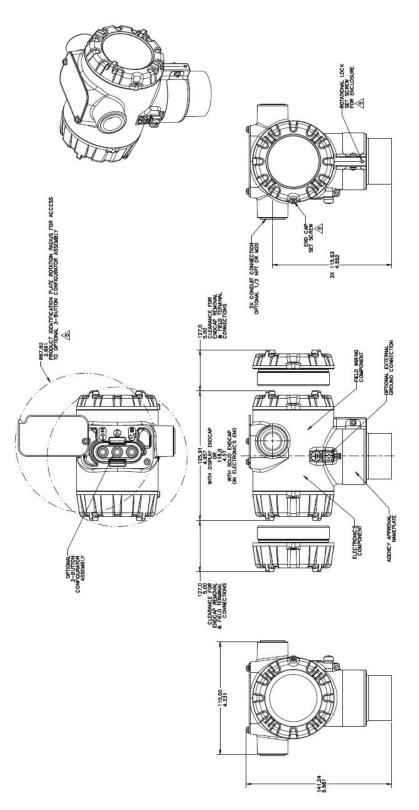


Figure 5 - STT850 Dimensions

Model Selection Guides are subject to change and are inserted into the specifications as guidance only. Prior to specifying or ordering a model check for the latest revision Model Selection Guides which are published at: <a href="https://www.honeywellprocess.com/en-US/pages/default.aspx">www.honeywellprocess.com/en-US/pages/default.aspx</a>

# **Model Selection Guide\_**

# Model STT850 Smart Temperature Transmitter

Model Selection Guide:

34-44-16-14 Issue 1



	selections from all Tables I				indicates
availability. Letter (a) r	efer to restrictions highligh				
Key I	II III IV	V VI	VII	VIII	IX
STT850  - _	- _ - _ -	<u> </u>	-     -	,,	XXXX
					Availability
KEY NUMBER	Input Type				Selection V
	Universal Input				STT850 *
Table I	No of Inputs				
Input Details	Single				S *
	Dual				T *
Table II	Digital output				
Digital Output	No				0 *
TABLE III	Agency Approvals (se	e data sheet for Ap	proval Code De	etails)	
	No Approvals Require				0 *
	FM Explosion proof, In		n-incendive, & D	Dustproof	A *
Approvals	CSA Explosion proof,	Intrinsically Safe, N	on-incendive, &	Dustproof	B *
	ATEX Explosion proof,	•			C *
	IECEx Explosion proof	f, Intrinsically Safe &	k Non-incendive	)	D *
TABLE IV	TRANSMITTER ELE	CTDONICS SELE	CTIONS		
IADLEIV	Housing and		Connection	Lightning prote	ction
	Polyester Powder C		1/2 NPT	None	A *
	Polyester Powder C		M20	None	B *
	Polyester Powder C		1/2 NPT	Yes	
a. Electronic	Polyester Powder C		M20	Yes	
Housing Material & Connection Type	,		1/2 NPT	None	——————————————————————————————————————
Connection Type	316 Stainless Stee	,			E *
	316 Stainless Stee		M20	None	F *
	316 Stainless Stee	,	1/2 NPT	Yes	G *
	316 Stainless Stee	l (Grade CF8M)	M20	Yes	H *
h Outmut/ Ductocal	Analog Output			Digital Protocol	
b. Output/ Protocol	4-20m A dc 4-20m A dc			HART Protocol DE Protocol	H_ + D *
	Indicator	Config Buttons	l	Languages	
	None	None		None	0 *
c. Customer	None	Yes (Zero/Sp	oan Only)	None	A *
Interface	Basic	None	• ,	English	B *
Selections	Basic	Yes		English	C *
	Advanced	None		EN,GR,FR,IT,SP,I	,
	Advanced	Yes		EN,GR,FR,IT,SP,I	RU,TUE *
TABLE V	CONFIGURATION S	ELECTIONS			
a. Application			gnostics		
Software	Standard Diagnostics				1 *
	Write Protect	Fail Mode	High	& Low Output Limits <sup>3</sup>	3
	Disabled	High> 21.0mAdc	Honeywell Sto		_1_ *
b. Output Limit,	Disabled	Low< 3.6mAdc	Honeywell Sto	,	
Failsafe & Write	Enabled	High> 21.0mAdc	Honeywell Sto	•	
Protect Settings	Enabled	Low< 3.6mAdc	Honeywell Sto	•	
	Enabled	N/A	N/A	Fieldbus or Profibus	_5_ g
c. General	Disabled	N/A	N/A	Fieldbus or Profibus	_6_ g
Configuration	Factory Standard				S *
	Custom Configuration				

 $<sup>^{3}</sup>$  NAMUR Output Limits 3.8 - 20.5mAdc can be configured by the customer or select custom configuration Table Vc

TABLE VI	CALIBRATION & ACCURACY SELECTIONS							
a. Accuracy and	Accuracy	Calibrated Range		Calibration Qty				_
Calibration	Standard	Factory Std		Single Calibration		А	*	1
	Standard	Custom (Unit Data	Required)	Single Calibration		В	*	1
	ota i ota i	ouotom (omi outa	. 10 4 0	omgre ouneraner				_
TABLE VII	ACCESSORY SELECT	TONS						
	Bracket Type		Material					
	None		None			0	*	
a. Mounting	Pipe Mounting Bracket		Carbon Steel			1	*	
Bracket	Pipe Mounting Bracket		316 SS			3	*	
	Wall Mounting Bracket		Carbon Steel			5	*	
	Wall Mounting Bracket		316 SS			6	*	
	Customer Tag Type							_
b. Customer	No customer tag					_0	*	
Tag	One Wired Stainless S	teel Tag (Up to 4 line	s 26 char/line)			_1	*	
ray	Two Wired Stainless St	eel Tag (Up to 4 line	s 26 char/line)			2	*	
	One Wired Stainless S	One Wired Stainless Steel Blank Tag (Up to 4 lines 26 char/line)					*	
		Unassembled Conduit Plugs & Adapters						_
c. Unassembled	No Conduit Plugs or Adapters Required					A0	*	
Conduit	1/2 NPT Male to 3/4 NPT Female 316 SS Certified Conduit Adapter					A2	n	
Plune &	1/2 NPT 316 SS Certified Conduit Plug					A6	n	
Adaptore	M20 316 SS Certified C	•				A7	m	
Adapters	Minifast® 4 pin (1/2 NP	$\Gamma$ ) (not suitable for X-	Proof application	ns)		A8	n	
	Minifast® 4 pin (M20) (r	ot suitable for X-Pro	of applications)			A9	m	
TABLE VIII	Other Contifications and	Ontions						
I ADLE VIII	Other Certifications and				1	00	*	7
	None - No additional opt Certificate of Conformar					00 F3	*	╁
	Calibration Test Report		mance			F1	*	-  k
	Certificate of Origin	x ocitineate of como	marice			F5	*	╁
c. Certifications and						FE	i	1
Warranty	Extended Warranty Addi	tional 1 year				01	*	T
-	Extended Warranty Addi	tional 2 years				02	*	1
	Extended Warranty Additional 3 years					03	*	b
	Extended Warranty Addi					04	*	1
	<b>Extended Warranty Addi</b>	tional 15 years				15	*	

TABLE IX	Manufacturing Specials	_	
Factory	Factory Identification		0000
		_	

# MODEL RESTRICTIONS

Destriction Letter	Available Onl	y with	Not Available with		
Restriction Letter	Table	Selection(s)	Table	Selection(s)	
g			IVb	_ H,D_	
j	IVb	_H_	Vb	_ 1,2,5,6 _	
m	IVa	B,D,F,H			
n	IVa	A,C,E,G			
b	Select only one option from this group				

# Sales and Service

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

# **ASIA PACIFIC**

Honeywell Process Solutions, (TAC) <a href="https://hrstac-support@honeywell.com">hfs-tac-support@honeywell.com</a>

#### 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

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# **EMEA**

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<u>FP-Sales-Apps@Honeywell.com</u> or (TAC)

hfs-tac-support@honeywell.com

# **AMERICA'S**

Honeywell Process Solutions, Phone: (TAC) 1-800-423-9883 or 215/641-3610 (Sales) 1-800-343-0228

Email: (Sales)

FP-Sales-Apps@Honeywell.com

(TAC)

hfs-tac-support@honeywell.com

Specifications are subject to change without notice.

## For more information

To learn more about SmartLine Temperature, visit <a href="https://www.honeywellprocess.com">www.honeywellprocess.com</a>
Or contact your Honeywell Account Manager

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