SmartLine

Honeywell

## Technical Information

# STT650 SmartLine DIN Rail Temperature Transmitter Specification 34-TT-03-15, August 2020

## Introduction

Part of the SmartLine® family of products, the STT650 is a DIN Rail mounted high performance Temperature transmitter offering high measurement accuracy, stability and reliability over a wide range of process and ambient temperatures. SmartLine easily meets the most demanding needs for temperature measurement applications.

## Description

The SmartLine Temperature transmitter is designed and manufactured to deliver very high performance. The total accuracy level of the transmitter including the ambient temperature effect in, harsh industrial environments, allows the STT650 to replace virtually any competitive transmitter available today.


**Figure 1– SmartLine STT650 DIN Rail Temperature Transmitter**

## Best in Class Features:

### Leading performance

- High accuracy – 0.1 Deg C for RTD
- Faster response, up to 135 msec update
- Stable measurement, 0.12% of span for two years

### Reliable measurement

- Built in 1500VAC Galvanic Isolation
- Superior noise performance
- Sensor error detection in accordance with Namur 89

### Lower Cost of Ownership

- Universal input
- Dual channel option saves panel space
- Easy to configure, install and commission
- Can double up as position and level transmitters for valves and ohmic level sensors.

### Communications/Output Options:

- 4-20mA dc
- HART ® (version 7.0)
- FOUNDATION™ Fieldbus* compliant to ITK 4.6.
- PROFIBUS® PA* ver. 3.0

## Common for all the Models

### EMC Specifications:

All the STT650 DIN Rail models with universal input are tested for the following parameters:

- Conducted Noise - 10Vrms in the range of 15Hz to 100MHz
- Radiated Noise - 10V/m in the range of 80 to 1000MHz
- Surge test - 1KV Differential mode ; 2 KV Common mode
- Burst Noise - 2.5KV

## STT650 RTD Input type

### Features

- Analog 4-20 mA output
- RTD or Ohm input
- Single or dual channel option
- NAMUR NE43 sensor error response
- Programmable using the STT17C PC Configuration tool

## Performance specifications

| Sensor Type RTD (2,3 wire) | Basic Accuracy* | | Rated Range | | Minimum Span** | Temperature Effects per 1.0 °C (1.8 °F)*** Change in Ambient Temperature | |
|---|---|---|---|---|---|---|---|
| | Fixed | % of span | °C | °F | | Fixed | % of span |
| Pt100 | 0.3°C (32.54°F) | +/- 0.1 | -200 to 850 | -328 to1562 | 25°C (45°F) | 0.01°C (0.018°F) | +/- 0.01 |
| Ni 100 | 0.3°C (32.54°F) | +/- 0.1 | -60 to 250 | -76 to 482 | 25°C (45°F) | 0.01°C (0.018°F) | +/- 0.01 |
| Ohms | 0.2Ω | +/- 0.1 | 0 to 10000Ω | | 30Ω | 20 mΩ | +/- 0.01 |

* Basic accuracy or +/- 0.1% of Span whichever is greater

** or 50% of upper range value, whichever is greater

*** reference temperature 20 Deg C, Ambient temp effect is greater of the fixed value or the applicable % of Span

| | |
|---|---|
| **Operating Conditions** | |
| Ambient temperature, rated | -40 to + 85°C (-40 – 185°F) |
| Humidity | 0 to 95% RH (non cond.) |
| **Electrical Input specification** | |
| Supply voltage | 8 to 30 VDC for Intrinsically Safe version.<br>8 to 35 VDC for non-Intrinsically Safe version |
| Power supply voltage effect | ≤ 0.005% of span per VDC |
| Warm-up time | 5 min |
| Damping (programmable) | 0.33 to 60 sec |
| **Current Output Specifications** | |
| Signal output range | 4 to 20 mA |
| Update time | 135 msec |
| Load resistance | ≤ (V supply -8) / 0.023 A<br>0 to 870Ω |
| **Alarm Levels** | |
| Programmable | 3.5 to 4 mA downscale<br>20 to 23 mA upscale |
| NAMUR NE43 Upscale<br>NAMUR NE43 Downscale | 23 mA<br>3.5 mA |

## STT650 Universal Input type – Analogue Output only

**Features**

- Analog 4-20 mA output
- RTD, T/C, Ohm or mV input
- NAMUR NE43 sensor error response
- Programmable using STT17C PC configuration tool
- Galvanic isolation

## Performance specifications

| Sensor Type RTD (2,3,4 wire) | Basic Accuracy* | | Rated Range | | Minimum Span** | Temperature Effects per 1.0 °C (1.8 °F)*** Change in Ambient Temperature | |
|---|---|---|---|---|---|---|---|
| | Fixed | % of span | °C | °F | | Fixed | % of span |
| Pt100 | 0.2°C (0.36°F) | 0,05% | -200 to 850 | -328 to1562 | 25°C (45°F) | 0.01°C (0.018°F) | +/- 0.01 |
| Ni 100 | 0.2°C (0.36°F) | 0,05% | -60 to 250 | -76 to 482 | 25°C (45°F) | 0.01°C (0.018°F) | +/- 0.01 |
| B | 2°C (3.6°F) | 0,05% | 400 to 1820 | +752 to 3308 | 100°C (180°F) | 0.2°C (0.36°F) | +/- 0.01 |
| E | 1°C (1.8°F) | 0,05% | -100 to 1000 | -148 to 1832 | 50°C (90°F) | 0.05°C (0.09°F) | +/- 0.01 |
| J | 1°C (0.1.8°F) | 0,05% | -100 to 1200 | -148 to 2192 | 50°C (90°F) | 0.05°C (0.09°F) | +/- 0.01 |
| K | 1°C (0.1.8°F) | 0,05% | -180 to 1372 | -292 to 2501 | 50°C (90°F) | 0.05°C (0.09°F) | +/- 0.01 |
| L | 1°C (0.1.8°F) | 0,05% | -100 to 900 | -148 to 1652 | 50°C (90°F) | 0.05°C (0.09°F) | +/- 0.01 |
| N | 1°C (0.1.8°F) | 0,05% | -180 to 1300 | -292 to 2372 | 50°C (90°F) | 0.05°C (0.09°F) | +/- 0.01 |
| R | 2°C (3.6°F) | 0,05% | -50 to 1760 | -58 to 320 | 100°C (180°F) | 0.2°C (0.36°F) | +/- 0.01 |
| S | 2°C (3.6°F) | 0,05% | -50 to 1760 | -58 to 3200 | 100°C (180°F) | 0.2°C (0.36°F) | +/- 0.01 |
| T | 1°C (1.8°F) | 0,05% | -200 to 400 | -328 to 752 | 50°C (90°F) | 0.05°C (0.09°F) | +/- 0.01 |
| U | 1°C (1.8°F) | 0,05% | -200 to 600 | -328 to 1112 | 50°C (90°F) | 0.05°C (0.09°F) | +/- 0.01 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| W3 | 2°C (3.6°F) | 0,05% | 0 to 2300 | +32 to 4172 | 100°C (180°F) | 0.2°C (0.36°F) | +/- 0.01 |
| W5 | 2°C (3.6°F) | 0,05% | 0 to 2300 | +32 to 4172 | 100°C (180°F) | 0.2°C (0.36°F) | +/- 0.01 |
| +Lr | 2°C (3.6°F) | 0,05% | -200 to 800 | -328 to 1472 | 50°C (90°F) | 0.2°C (0.36°F) | +/- 0.01 |
| Ohms | 0.1Ω | 0,05% | 0 to 5000Ω | | 30Ω | 10 mΩ | +/- 0.01 |
| mV | 10µ | 0,05% | -12 to 800 mV | | 5 mV | 1µ | +/- 0.01 |

* Basic accuracy or +/- 0.1% of Span whichever is greater

** or 50% of upper range value, whichever is greater

*** reference temperature 20 Deg C, Ambient temp effect is greater of the fixed value or the applicable % of Span

| **Operating Conditions** | |
|---|---|
| Ambient temperature, rated | -40 to + 85°C (-40 – 185°F) |
| Humidity | 0 to 95% RH (non cond) |
| Cold junction Accuracy | +/- 1°C |
| **Electrical Input specification** | |
| Supply voltage | 8 to 30 VDC for Intrinsically Safe version.<br>8 to 35 VDC for non-Intrinsically Safe version |
| Power supply voltage effect | ≤ 0.005% of span per VDC |
| Warm-up time | 5 min |
| Response time (programmable) | 1 to 60 sec |
| Galvanic isolation | 1500 VAC |
| **Current Output Specifications** | |
| Signal output range | 4 to 20 mA |
| Update time | 440 msec |
| Load resistance | ≤ (V supply -7.2) / 0.023 A<br>0 to 904Ω |
| **Alarm Levels** | |
| Programmable | 3.5 to 4 mA downscale<br>20 to 23 mA upscale |
| NAMUR NE43 Upscale | 23 mA |
| NAMUR NE43 Downscale | 3.5 mA |

## STT650 Universal Input type - HART protocol

### Features

- HART™/4-20 mA output
- RTD, T/C, Ohm or mV input
- Single or dual channel option
- Supports Differential or Averaging measurement
- NAMUR NE43 sensor error response
- Programmable using MCT404 or STT17C PC configuration tool
- Galvanic isolation

HART is a registered trademark of the HART Communication Foundation.

## Performance specifications

| Sensor Type RTD (2,3,4 wire) | Basic Accuracy* | | Rated Range | | Minimum Span** | Temperature Effects per 1.0 °C (1.8 °F)*** Change in Ambient Temperature | |
|---|---|---|---|---|---|---|---|
| | Fixed | % of span | °C | °F | | Fixed | % of span |
| Pt50 | 0.1°C (1.8°F) | 0,05% | -200 to 850 | -328 to1562 | 25°C (45°F) | 0.005°C (0.009°F) | +/- 0.005 |
| Pt100 | 0.1°C (1.8°F) | 0,05% | -200 to 850 | -328 to1562 | 25°C (45°F) | 0.005°C (0.009°F) | +/- 0.005 |
| Pt200 | 0.1°C (1.8°F) | 0,05% | -200 to 850 | -328 to1562 | 25°C (45°F) | 0.005°C (0.009°F) | +/- 0.005 |
| Pt500 | 0.1°C (1.8°F) | 0,05% | -200 to 850 | -328 to1562 | 25°C (45°F) | 0.005°C (0.009°F) | +/- 0.005 |
| Pt1000 | 0.1°C (1.8°F) | 0,05% | -200 to 850 | -328 to1562 | 25°C (45°F) | 0.005°C (0.009°F) | +/- 0.005 |
| Ni 100 | 0.2°C (0.36°F) | 0,05% | -60 to 250 | -76 to 482 | 25°C (45°F) | 0.1°C (0.18°F) | +/- 0.005 |
| B[1,2,3] | 1°C (1.8°F) | 0,05% | 0 to 1820 | +32 to 3308 | 100°C (180°F) | 0.1°C (0.18°F) | +/- 0.005 |
| E | 0.5°C (0.9°F) | 0,05% | -100 to 1000 | -148 to 1832 | 50°C (90°F) | 0.025°C (0.045°F) | +/- 0.005 |
| J | 0.5°C (0.9°F) | 0,05% | -100 to 1200 | -148 to 2192 | 50°C (90°F) | 0.025°C (0.045°F) | +/- 0.005 |
| K | 0.5°C (0.9°F) | 0,05% | -180 to 1372 | -292 to 2501 | 50°C (90°F) | 0.025°C (0.045°F) | +/- 0.005 |
| L | 0.5°C (0.9°F) | 0,05% | -100 to 900 | -148 to 1652 | 50°C (90°F) | 0.025°C (0.045°F) | +/- 0.005 |
| N | 0.5°C (0.9°F) | 0,05% | -180 to 1300 | -292 to 2372 | 50°C (90°F) | 0.025°C (0.045°F) | +/- 0.005 |
| R | 1°C (1.8°F) | 0,05% | -50 to 1760 | -58 to 3200 | 100°C (180°F) | 0.1°C (0.18°F) | +/- 0.005 |
| S | 1°C (1.8°F) | 0,05% | -50 to 1760 | -58 to 3200 | 100°C (180°F) | 0.1°C (0.18°F) | +/- 0.005 |
| T | 0.5°C (0.9°F) | 0,05% | -200 to 400 | -328 to 752 | 25°C (45°F) | 0.025°C (0.045°F) | +/- 0.005 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| U | 0.5°C (0.9°F) | 0,05% | -200 to 600 | -328 to 1112 | 50°C (90°F) | 0.025°C (0.045°F) | +/- 0.005 |
| W3 | 1°C (1.8°F) | 0,05% | 0 to 2300 | +32 to 4172 | 130°C (234°F) | 0.1°C (0.18°F) | +/- 0.005 |
| W5 | 1°C (1.8°F) | 0,05% | 0 to 2300 | +32 to 4172 | 130°C (234°F) | 0.1°C (0.18°F) | +/- 0.005 |
| +Lr | 1°C (1.8°F) | 0,05% | -200 to 800 | -328 to 1472 | 50°C (90°F) | 0.1°C (0.18°F) | +/- 0.005 |
| Ohms | 0.1Ω | 0,05% | 0 to 7000Ω | | 25Ω | 5 mΩ | +/- 0.005 |
| mV | 10µ | 0,05% | -800 to 800 mV | | 2.5 mV | 0.5µ | +/- 0.005 |

* Basic accuracy or +/- 0.1% of Span whichever is greater

** or 50% of upper range value, whichever is greater

*** reference temperature 20 Deg C, Ambient temp effect is greater of the fixed value or the applicable % of Span

[1,2,3] TC B[1] accuracy specification range ..... > 400°C

TC B[2] accuracy specification range ..... > 160°C < 400°C

TC B[3] accuracy specification range ..... > 85°C < 160°C

| **Operating Conditions** | |
|---|---|
| Ambient temperature, rated | -40 to + 85°C (-40 – 185°F) |
| Humidity | 0 to 95% RH (non cond) |
| Cold junction Accuracy | +/- 1°C |
| **Electrical Input specification** | |
| Supply voltage | 8 to 30 VDC for Intrinsically Safe version.<br>8 to 35 VDC for non-Intrinsically Safe version |
| Power supply voltage effect | ≤ 0.005% of span per VDC |
| Warm-up time | 30 sec |
| Response time (programmable) | 1 to 60 sec |
| Galvanic isolation | 1500 VAC |
| **Current Output Specifications** | |
| Signal output range | 4 to 20 mA |
| Update time | 440 msec |
| Load resistance | ≤ (V supply -8) / 0.023 A<br>0 to 870Ω |
| **Alarm Levels** | |
| Programmable<br>(Sensor error detection) | 3.5 to 23 mA downscale<br>3.5 to 23 mA upscale |
| NAMUR NE43 Upscale | 23 mA |
| NAMUR NE43 Downscale | 3.5 mA |

## STT650 Universal Input type – FF/PA Protocol

Fieldbus and Profibus are separate models

### Features

- FOUNDATION™ Fieldbus protocol*
- PROFIBUS® PA protocol*
- RTD, T/C, Ohm or mV input +mA +/- 100mA
- Single or dual (difference, average or redundant) sensor input
- Function blocks: 2 analogue, 1 PID
- FISCO certified
- Basic or LAS capability
- Galvanic isolation

FOUNDATION is a registered trademark of the Fieldbus Foundation.

* Device registration in progress

## Performance specifications

| Sensor Type RTD (2,3,4 wire) | Basic Accuracy* | | Rated Range | | Temperature Effects per 1.0 °C (1.8 °F)*** Change in Ambient Temperature | |
|---|---|---|---|---|---|---|
| | Fixed | % of reading | °C | °F | Fixed | % of reading |
| Pt100 | 0.1°C (1.8°F) | 0,05% | -200 to 850 | -328 to1562 | 0.002°C (0.0036°F) | +/- 0.002 |
| Pt1000 | 0.1°C (1.8°F) | 0,05% | -200 to 850 | -328 to1562 | 0.002°C (0.0036°F) | +/- 0.002 |
| Ni 100 | 0.15°C (0.27°F) | 0,05% | -60 to 250 | -76 to 482 | 0.002°C (0.0036°F) | +/- 0.002 |
| Cu10 | 01.3°C (0.2.3°F) | 0,05% | -200 to 260 | -328 to 500 | 0.02°C (0.0036°F) | +/- 0.002 |
| B | 1°C (1.8°F) | 0,05% | 0 to 1820 | +32 to 3308 | 0.025°C (0.045°F) | +/- 0.002 |
| E | 0.5°C (0.9°F) | 0,05% | -100 to 1000 | -148 to 1832 | 0.01°C (0.018°F) | +/- 0.002 |
| J | 0.5°C (0.9°F) | 0,05% | -100 to 1200 | -148 to 2192 | 0.01°C (0.018°F) | +/- 0.002 |
| K | 0.5°C (0.9°F) | 0,05% | -180 to 1372 | -292 to 2501 | 0.01°C (0.018°F) | +/- 0.002 |
| L | 0.5°C (0.9°F) | 0,05% | -200 to 900 | -328 to 1652 | 0.01°C (0.018°F) | +/- 0.002 |
| N | 0.5°C (0.9°F) | 0,05% | -180 to 1300 | -292 to 2372 | 0.01°C (0.018°F) | +/- 0.002 |
| R | 1°C (1.8°F) | 0,05% | -50 to 1760 | -58 to 3200 | 0.025°C (0.045°F) | +/- 0.002 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S | 1°C (1.8°F) | 0,05% | -50 to 1760 | -58 to 3200 | 0.025°C (0.045°F) | +/- 0.002 |
| T | 0.5°C (0.9°F) | 0,05% | -200 to 400 | -328 to 752 | 0.01°C (0.018°F) | +/- 0.002 |
| U | 0.5°C (0.9°F) | 0,05% | -200 to 600 | -328 to 1112 | 0.01°C (0.018°F) | +/- 0.002 |
| W3 | 1°C (1.8°F) | 0,05% | 0 to 2300 | +32 to 4172 | 0.025°C (0.045°F) | +/- 0.002 |
| W5 | 1°C (1.8°F) | 0,05% | 0 to 2300 | +32 to 4172 | 0.025°C (0.045°F) | +/- 0.002 |
| mA | +/-1μA | 0,05% | -100 to 100 | | 0.06μA | +/- 0.003 |
| Ohms | 0.05Ω | 0,05% | 0 to 7000Ω | | 2 mΩ | +/- 0.002 |
| mV | 10μ | 0,05% | -800 to 800 mV | | 0.2μ | +/- 0.002 |

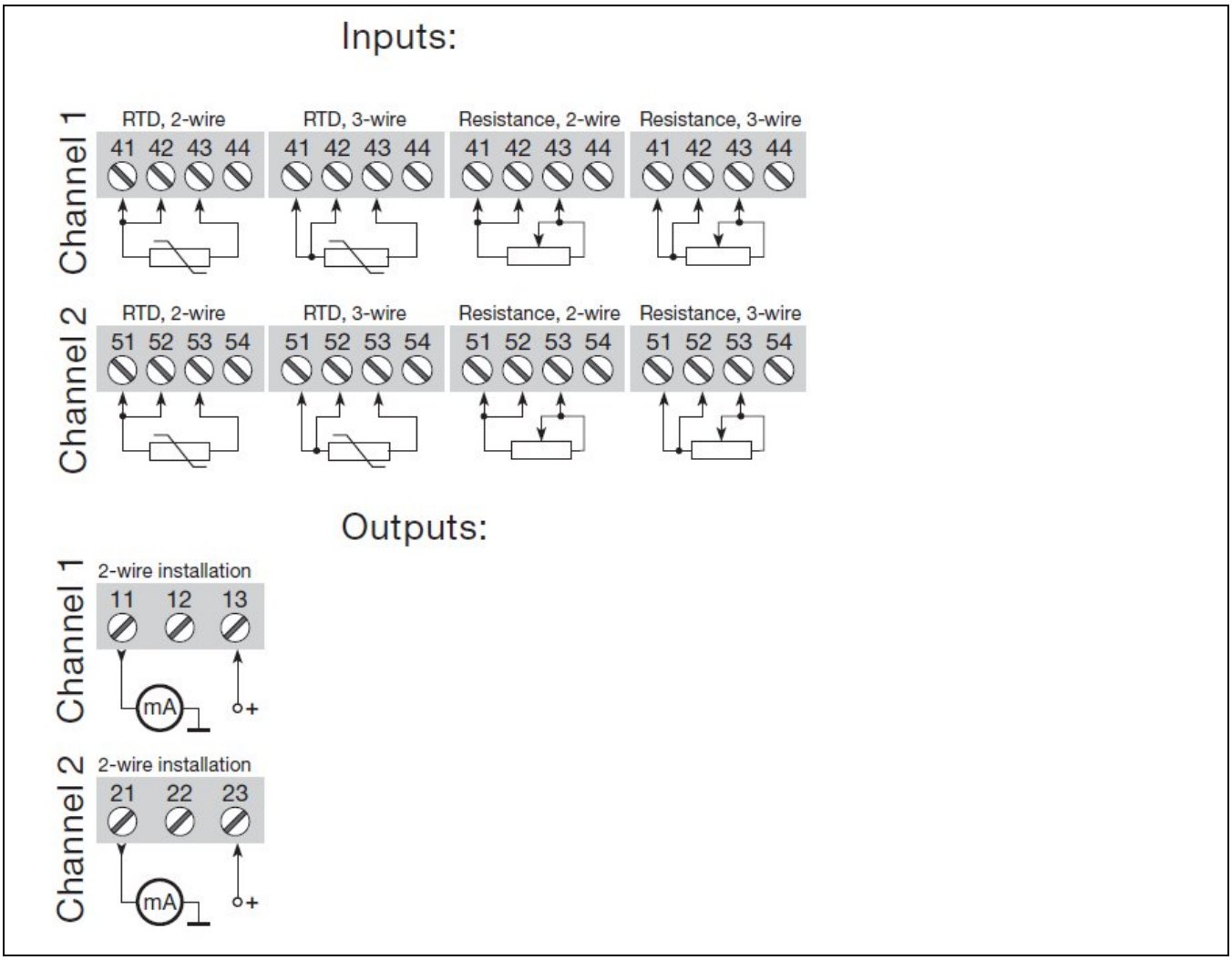
* Basic accuracy or +/- 0.1% of Span whichever is greater

*** reference temperature 20 Deg C, Ambient temp effect is greater of the fixed value or the applicable % of Span

| **Operating Conditions** | |
|---|---|
| Ambient temperature, rated | -40 to + 85°C (-40 – 185°F) |
| Humidity | 0 to 95% RH (non cond) |
| Cold junction Accuracy | +/- 0.5°C |
| **Electrical Input Specification** | |
| Supply voltage<br>in FISCO installations | 9 to 30 VDC<br>9 to 17.5 VDC |
| Consumption | 11 mA / ch. max. |
| Warm-up time | 30 sec |
| Response time (programmable) | 1 to 60 sec |
| Galvanic isolation | 1500 VAC |
| Update time | < 400 msec |
| Execution time, PID controller | < 200 msec |
| Execution time, analogue input | < 50 msec |
| **Output Specifications**<br>**Foundation™ Fieldbus connection** | |
| Foundation Fieldbus version | ITK 4.6 |
| Foundation F.capability | Basic or LAS |
| Foundation F.function blocks | 2 analogue and PID |
| **PROFIBUS® PA connection** | |
| PROFIBUS PA protocol | Profile A&B, ver. 3.0 |
| PROFIBUS PA protocol standard | EN 50170 vol. 2 |
| PROFIBUS PA address (at delivery) | 126 |
| PROFIBUS PA function blocks | 2 analogue |

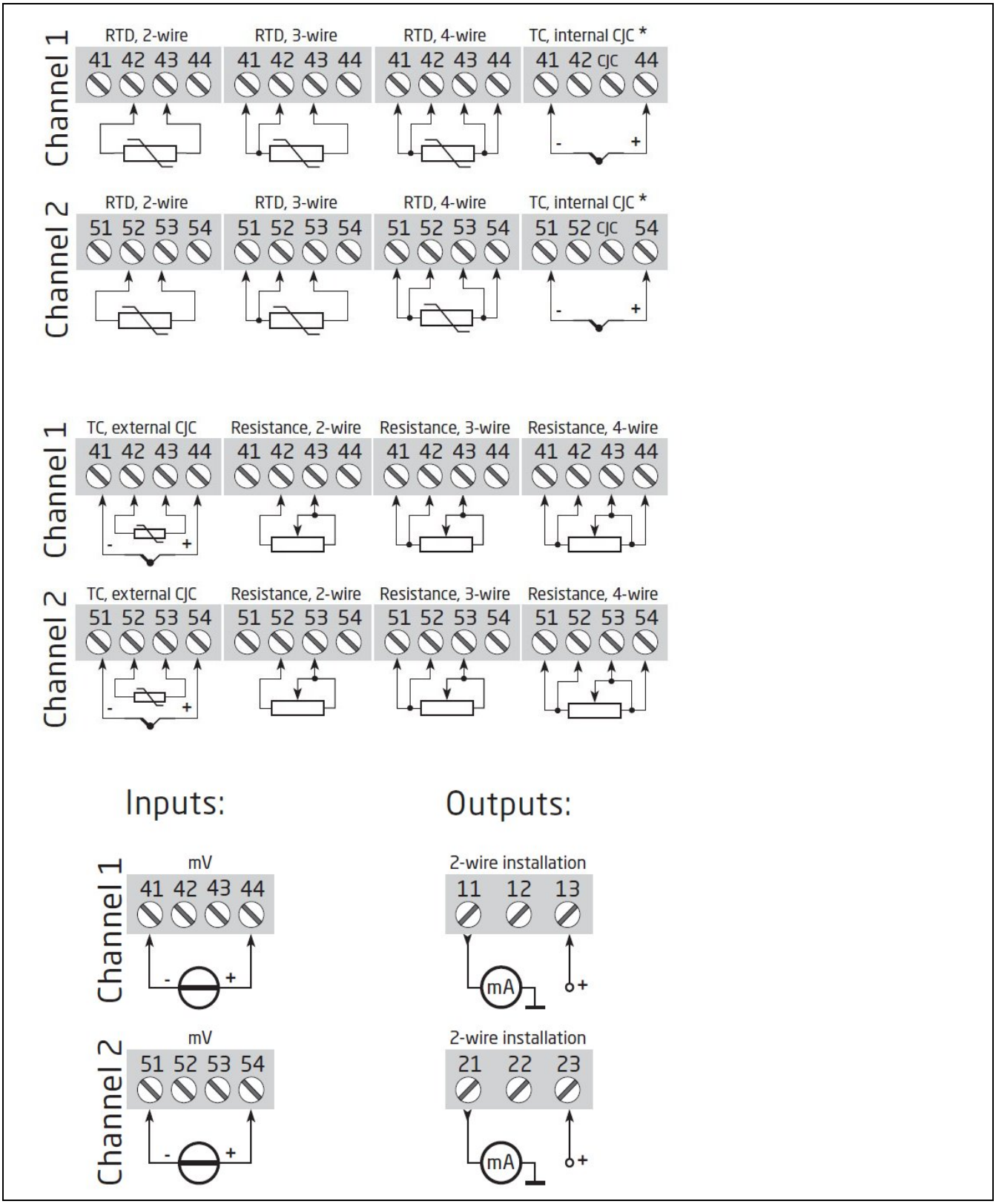
## Wiring Connections

**STT650 RTD Input type**



## Wiring Connections

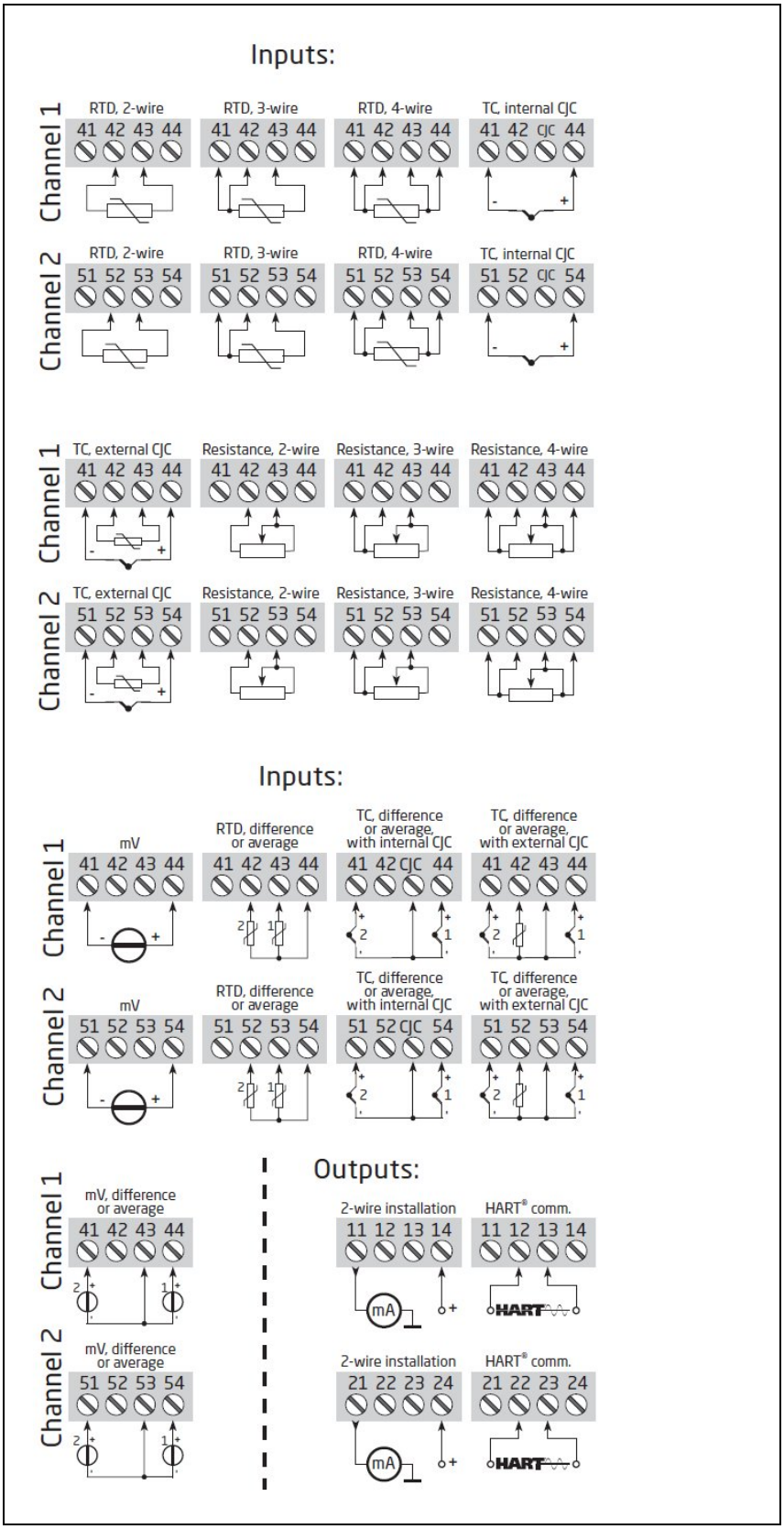
**STT650 Universal Input type (Analogue Output model)**




* Terminal Block with built in CJC is supplied as a standard accessory for all the universal input STT650 Models

## Wiring Connections

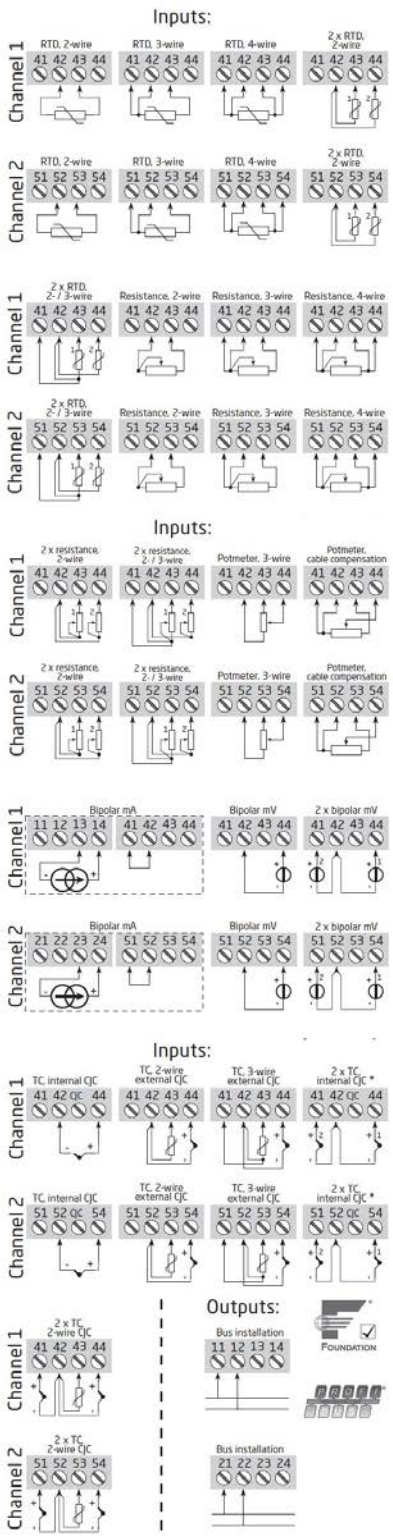
### STT650 Universal Input type - HART Protocol




* Terminal Block with built in CJC is supplied as a standard accessory for all the universal input STT650 Models

## Wiring Connections

### STT650 Universal Input type – FF/PA Protocol




* Terminal Block with built in CJC is supplied as a standard accessory for all the universal input STT650 Models

## Configuration Tools

The STT17C configures the STT650 programmable and HART units. The intuitive graphical user interface of the STT17C* virtually eliminates the need for operator training after installation on a PC. The STT17C includes all software and transmitter interface hardware necessary to configure the STT650 programmable and HART models in non-hazardous work environments.

WARNING: The STT17C is not approved for use in Hazardous work environments.

## System Requirements:

Windows® XP, Vista and Windows 7/8/8.1 with the following recommendations:

| | |
|---|---|
| Memory: | 16 MB |
| Display resolution: | 800 x 600 |
| Hard disk space: | 12 MB |

## Approval Assessment

| | |
|---|---|
| **SIL Assessment** | Hardware assessed by EXIDA for use in SIL applications. |

## Mounting & Dimensional Drawings

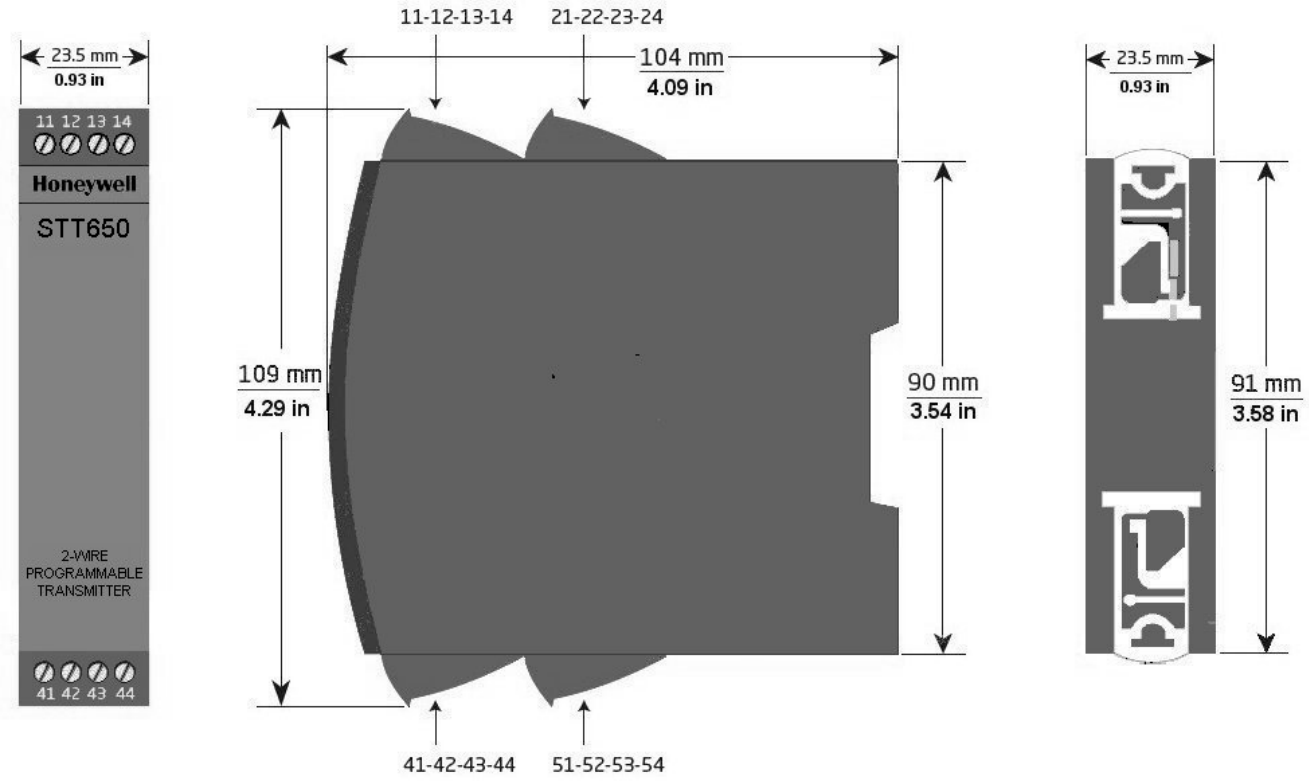



**Figure 2 – STT650 DIN Rail Dimensions**

## Approval Certifications:

| MSG Code | Table IV b. Protocol | Description |
|---|---|---|
| 0 | A, H, F or P | No Agency Certiifications, does include the CE Mark |
| A | A or H | IECEx- DEK 14.0084X<br>Ex ia IIC T6..T4 Ga<br>Ex ia IIIC Da<br>Ex ia I Ma<br><br>Entity Parameters: See Agency Control Drawing |
| | F or P | IECEx- DEK 14.0092X<br>Ex ia IIC T6..T4 Ga<br>Ex ia IIIC Da<br>Ex ia I Ma<br>Entity Parameters: See Agency Control Drawing |
| | A or H | DEKRA 14ATEX0134X<br>II 1 G Ex ia IIC T6..T4 Ga<br>II 1 D Ex ia IIIC Da<br>I M 1 Ex ia I Ma<br><br>Entity Parameters: See Agency Control Drawing |
| | F or P | DEKRA 14ATEX0139X<br>II 1 G Ex ia IIC T6..T4 Ga<br>II 1 D Ex ia IIIC Da<br>I M 1 Ex ia I Ma<br><br>Entity Parameters: See Agency Control Drawing |
| | A, H, F or P | CSA- 2214375<br>IS Class I, Division 1 Grps ABCD T6..T4<br>EX ia IIC T6..T4 Ga<br>Class I Zone 0 AEX ia IIC T6..T4 Ga<br><br>Entity Parameters: See Agency Control Drawing |
| | A, H, F or P | FM Approvals- 3054236<br>IS Class I, Division 1 Grps ABCD T6..T4<br>Class I Zone 0 AEX ia IIC T6..T4 Ga<br>NI Class I, Division 2 Grps ABCD T6..T4<br>ANI Class I Division 2 ABCD T6..T4<br><br>Entity Parameters: See Agency Control Drawing |

## Model Selection Guide

The Model Selection Guide is subject to change and is inserted into the specification as guidance only.

# Model STT650
# SmartLine Temperature DIN Rail

Model Selection Guide:
34-44-16-16 Issue 12

**Instructions:** Make selections from all Tables Key through XIII using column below the proper arrow. Asterisk indicates availability. Letter (a) refer to restrictions highlighted in the restrictions table. Tables delimited with dashes.

| Key | | I | | II | | III | | IV | | V | | VI | | VII | | VIII |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STT650 | - | _ _ | - | _ | - | _ | - | _ _ _ | - | _ _ _ | - | _ | - | _ _, _ _, _ _ | - | 0000 |

| KEY NUMBER | Input Type | Availability Selection | |
|---|---|---|---|
| | DIN Rail Mount Temperature Transmitter | STT650 | * |

| Table I | No of Channels | Input | | |
|---|---|---|---|---|
| Channel Details | Single | RTD | S1 | * |
| | Single | Universal | S2 | * |
| | Dual | RTD | T1 | * |
| | Dual | Universal | T2 | * |

| Table II | No Selection | | |
|---|---|---|---|
| | No Selection | 0 | * |

| TABLE III | Agency Approvals (see data sheet for Approval Code Details) | | |
|---|---|---|---|
| Approvals | No Approvals | 0 | * |
| | Zone 0 Approvals - Intrinsically Safe, Non-incendive, & Dustproof - (FM/CSA/ATEX/IECEx) | A | * |
| | Zone 2/Div 2 Approvals-Intrinsically Safe,Non-incendive&Dustproof-(cCSAus/ATEX/IECEx) | B | k |

| TABLE IV | TRANSMITTER ELECTRONICS SELECTIONS | | | | |
|---|---|---|---|---|---|
| a. Electronic Housing Material & Input Type | Housing and Material | Input Type | Galvanic Isolation | | |
| | Plastic | RTD | No | A _ _ | h |
| | Plastic | Universal | Yes | C _ _ | i |
| b. Output/ Protocol | Analog Output | Digital Protocol | | | |
| | 4-20mA dc | PC Programable | | _ A _ | * |
| | 4-20mA dc | HART7 Protocol | | _ H _ | a |
| | none | Foundation Fieldbus | | _ F _ | a |
| | none | Profibus PA | | _ P _ | a |
| c. No selection | No Selection | | | _ _ 0 | * |

| TABLE V | CONFIGURATION SELECTIONS | | | | |
|---|---|---|---|---|---|
| a. Application Software | Diagnostics | | | | |
| | Standard Diagnostics | | | 1 _ _ | * |
| b. Output Limit, Failsafe & Write Protect Settings | Write Protect | Fail Mode | High & Low Output Limits[3] | | |
| | No | High> 21.0mAdc | Honeywell Std (3.8 - 20.8 mAdc) | _ 3 _ | f |
| | No | N/A | N/A Fieldbus or Profibus | _ 6 _ | g |
| c. General Configuration | Factory Standard | | | _ _ S | * |
| | Custom Configuration | | | _ _ C | * |

[3] NAMUR Output Limits 3.8 - 20.5mAdc can be configured by the customer or select custom configuration Table Vc

| TABLE VI | CALIBRATION & ACCURACY SELECTIONS | | | | |
|---|---|---|---|---|---|
| | Accuracy | Calibrated Range | Calibration Qty | | |
| a. Accuracy and Calibration | Standard | Factory Std | Single Calibration | A | * |
| | Standard | Custom (Unit Data Required) | Single Calibration - 3 Point | B | * |
| | Standard | Custom (Unit Data Required) | Single Calibration - 5 Point | C | * |

| TABLE VII | Other Certifications and Options | | | |
|---|---|---|---|---|
| c. Certifications and Warranty | None - No additional options | 00 | * | |
| | Certificate of Conformance | F3 | * | b |
| | Calibration Test Report & Certificate of Conformance | F1 | * | |
| | Certificate of Origin | F5 | * | |
| | SIL Hardware assessment document - EXIDA | FE | j | |
| | Extended Warranty Additional 1 year | 01 | * | |
| | Extended Warranty Additional 2 years | 02 | * | |
| | Extended Warranty Additional 3 years | 03 | * | b |
| | Extended Warranty Additional 4 years | 04 | * | |
| | Extended Warranty Additional 5 years | 05 | * | |

| TABLE VIII | Manufacturing Specials | | |
|---|---|---|---|
| Factory | Factory Identification | 0000 | * |

**MODEL RESTRICTIONS**

| Restriction Letter | Available Only with | | Not Available with | |
|---|---|---|---|---|
| | Table | Selection(s) | Table | Selection(s) |
| a | | | I | S1,T1 |
| f | | | IVb | _ F,P _ |
| g | | | IVb | _ H,A_ |
| h | | | IVb | _ H,F,P_ |
| | | | I | S2,T2 |
| i | | | I | S1,T1 |
| j | IVb | _ H_ | Vb | _ 6 _ |
| k | IVb | _ A, H _ | | |
| 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.

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Honeywell Process Solutions,
(TAC) hfs-tac-support@honeywell.com

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**Singapore**
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Phone: + 80012026455 or
+44 (0)1202645583

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**FP-Sales-Apps@Honeywell.com**
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**AMERICA'S**
Honeywell Process Solutions,
Phone: (TAC) 1-800-423-9883 or
215/641-3610
(Sales) 1-800-343-0228

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*Specifications are subject to change without notice.*

For more information
To learn more about SmartLine Temperature, visit
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