

SMART ISOLATED 2-WIRE TRANSMITTER

Signal Transmission - The Smart Way

Series **SST-200**



The SST-200 is one of the most advanced, user-friendly and powerful, smart 2-wire transmitters. The state of the art micro-processor design combines simplicity, precision and ruggedness to produce a unique product suitable for industrial measurements in countless applications.

STANDARD FEATURES:

- Universal input capability in 3 variations to accept most of today's process parameters: Thermocouples, RTD's, DCmV, Potentiometers, Resistance sensors, DCmA, DCV, AC Amps, Frequency and Pulse.
- Fully software driven. All input parameters are programmable. An external hand-held programmer or an integral transmitter mounted programmer (both optional) enables on-site calibration and indication of process parameters.
- Heavy-duty all metal case construction and carefully designed input and output circuitry ensures a high degree of protection from adverse environmental conditions to maximize RFI/EMI immunity.
- High precision linearization for Thermocouple and RTD sensor inputs, Inverse output capability, variable input signal damping, Sensor breakdown indication, full display scaling capability, auto-zero input, and more.
- Advanced signal processing technology provides features not commonly found among other smart transmitters such as: Square-root function, Loop-simulation, and optional capabilities for Dual Inputs and Mathematical manipulations.
- The SST is available for surface or DIN rail mounting, and can be furnished in NEMA 4 and Explosion-Proof enclosures.

OPTIONAL FEATURES:

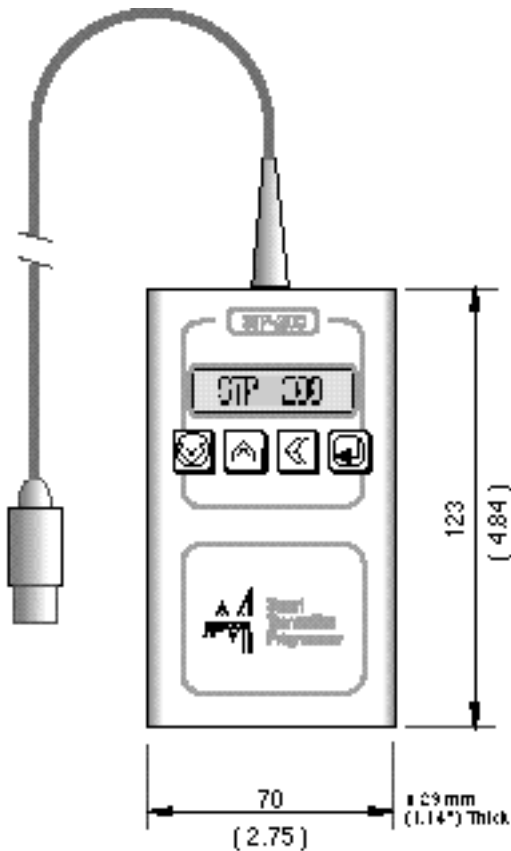
- LCD Display.
- Programmers, hand-held or integrally mounted, both with LCD display.
- Digital communication for interfacing with PC, PLC, and remote programmers (HART® Protocol).

HART®-Smart Communications Protocol Specification is a trademark of Rosemount, Inc.

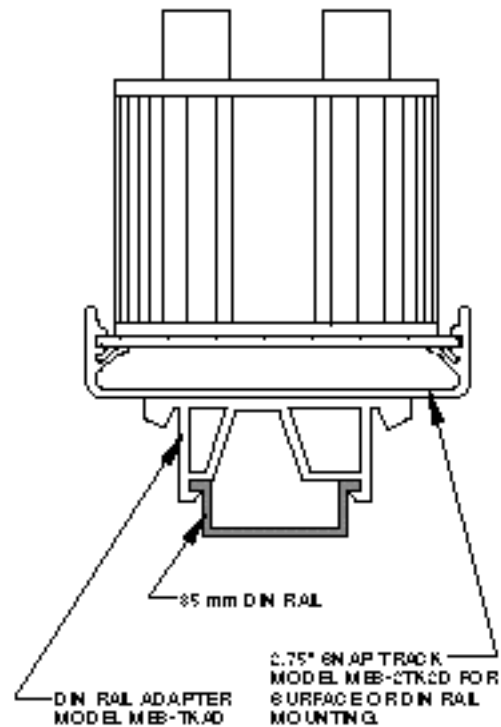


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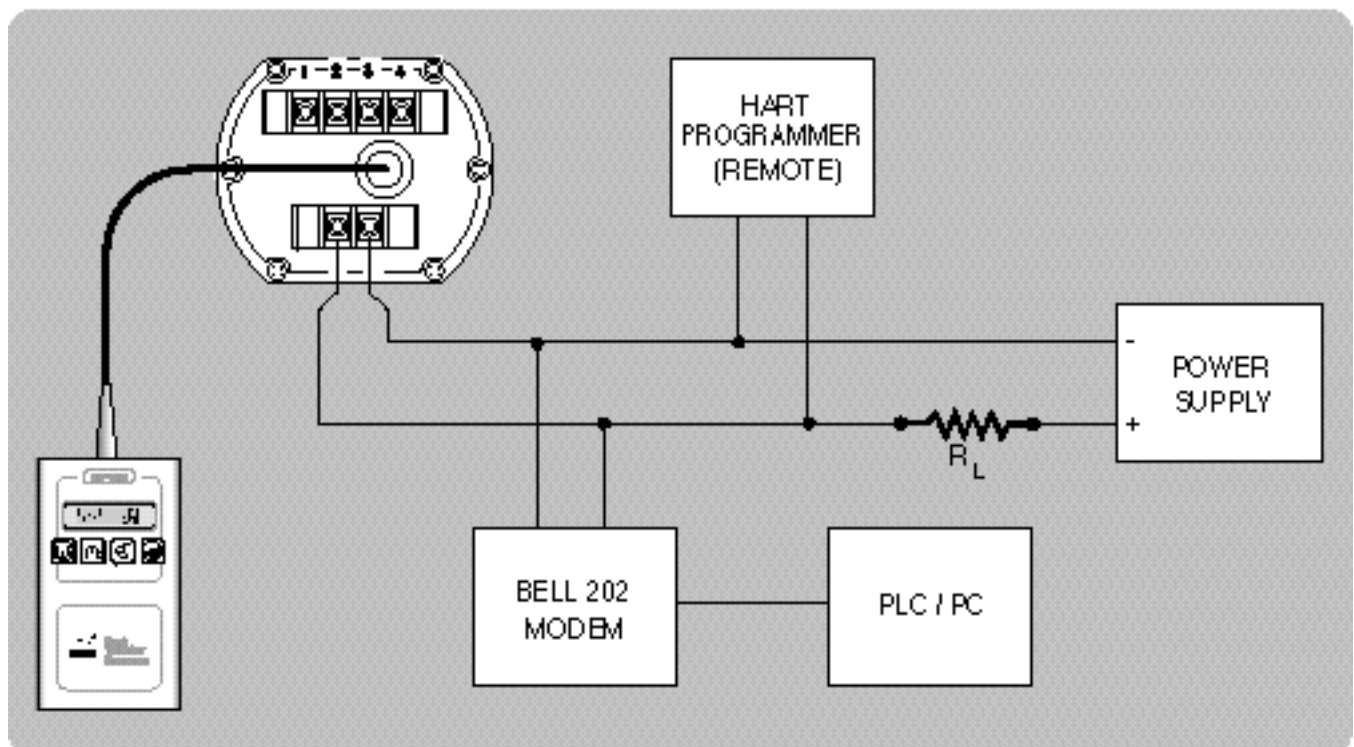
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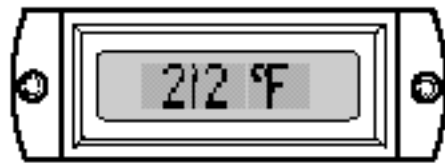
Hand-Held Programmer



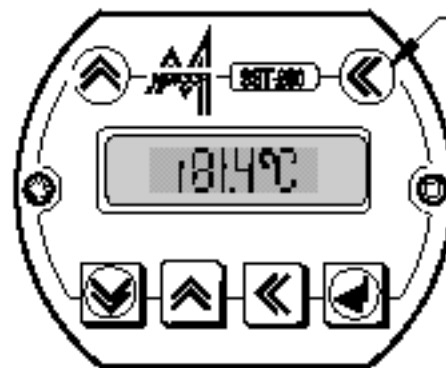
Transmitter mounting arrangement



Sample loop showing the SST-200 with both Analog and digital devices.

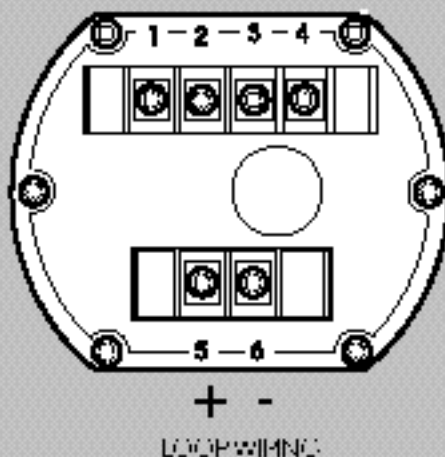
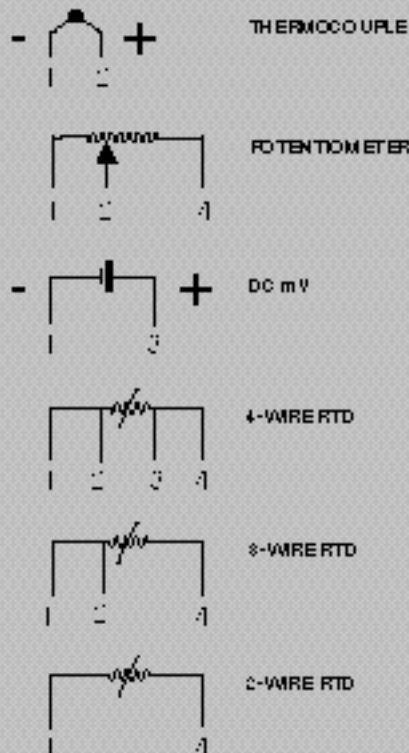


Optional Display

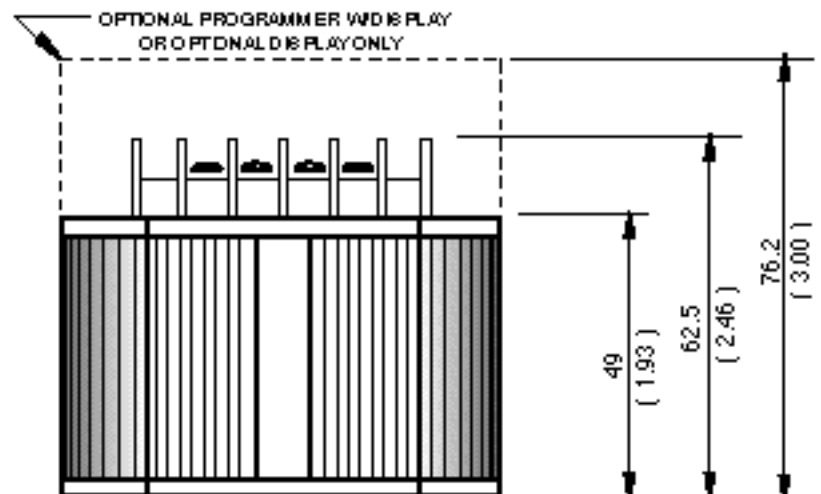
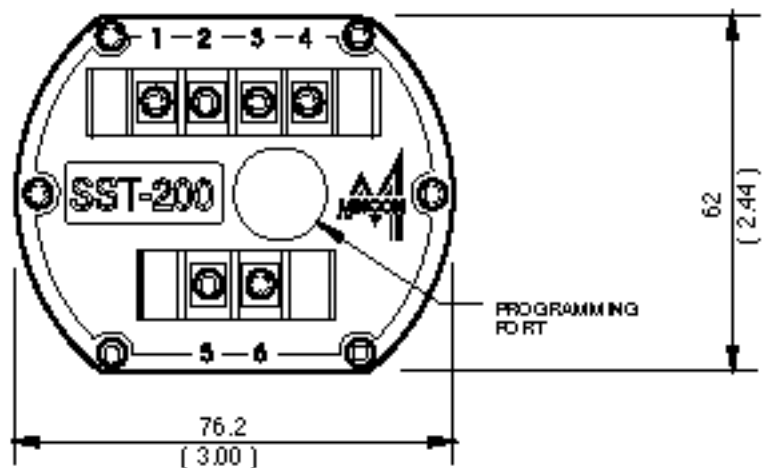


OPTIONAL MAGNETIC SWITCHES FOR PROGRAMMING THROUGH ENCLOSURE WINDOW

Optional Programmer With Display



Input-Wiring Diagram



DIMENSIONS ARE IN MM (INCHES).

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GENERAL SPECIFICATIONS

INPUTS:

Thermocouples (types E, J, K, T, R, S, N, B, C)
RTD 2, 3, and 4-wire Pt-100, (DIN & NIST curves) Pt-200,
Ni-100, Cu-10 and other RTDs.
DC mV ± 120.00 mV input span.
Potentiometers 100 to 20K .
Resistance 2, 3, and 4-wire 0 to 600 .
Optional: DCmA, DCV.

Optional: AC-Volts, AC-Amps, Frequency/Pulse.

MINIMUM RANGE:

None. limited only by signal quality.

DIGITAL RESOLUTION:

>17 Bits.

OUTPUTS:

4-20mA isolated analog current loop, standard.

Optional: Digital communication, HART® Protocol.

DISPLAY:

8x1 Character LCD indicator for programming and display
of input and output parameters and status.

SUPPLY:

12-45 VDC (@ no load). Reverse polarity protected.

OPERATING CONDITIONS:

-20°C TO +70°C. 0-95% RH, non-condensing.

STORAGE TEMPERATURE:

-55°C to +125°C

TURN-ON TIME:

Within 4 seconds to rated response.

RESPONSE TIME:

0.5 seconds to 99% of reading (2 updates per second).

DAMPING FACTOR:

Programmable 0.0 to 32.0 seconds.

LONG TERM STABILITY:

Better than $\pm 0.1\%$ of span for 6 months.

ISOLATION:

800 VDC or peak AC

RFI/EMI IMMUNITY:

Tested per SAMA PMC 33.1C from 20 to 1000 MHz and
for field strength up to 30 V/m.

C.M.R.R.:

>120db DC to 60 Hz

ENCLOSURE:

Extruded, anodized Aluminum.

DIMENSIONS:

3.00" x 2.44" x 2.46" (without display)

3.00" x 2.44" x 3.00" (with display)

(Hockey-puck housing. Suitable for mounting inside
3.5" diameter explosion-proof enclosures.

PERFORMANCE SPECIFICATIONS

ANALOG OUTPUT RESOLUTION:

0.025% of span ($\pm 4 \mu\text{A}$)

ANALOG OUTPUT (D/A) LINEARITY:

$\pm 0.025\%$ of span.

DIGITAL SENSOR LINEARIZATION:

$< \pm 0.02^\circ\text{C}$ for Pt-100 RTD.

$< \pm 0.1^\circ\text{C}$ for thermocouples.

COLD JUNCTION COMPENSATION:

Automatically corrected to within $\pm 0.3^\circ\text{C}$ for all T/C types.

TEMPERATURE STABILITY:

Zero: $< \pm 0.003\%$ /°C of span

Span: $< \pm 0.005\%$ /°C of span

SUPPLY VOLTAGE EFFECT:

$< \pm 0.001\%$ per Volt

CALIBRATION:

Automatic. Unit includes all of the calibration parameters.

It performs periodic "zero", "span", self-test, and auto
calibration. No field calibration is required.

ORDERING INFORMATION

SST-200-X-X

200 - T/C, RDT, mV, POT, RES
210 - DCmV, DCmA, DC-Volt.
220 - AC Volt/Amp/Frequency/Pulse.

A - Standard 4-20mA Output
H - HART® + Analog Output

D - Integral Display Option
K - Integral Programmer Option
R - Programmer + Reed Contacts

PROGRAMMERS

STP-200: Smart portable transmitter programmer.

SHP-200: Portable HART® transmitter programmer.

MGN-200: Pen magnet actuator.

ACCESSORIES

EXP-200: Explosion-proof housing for SST-200.

EXP-201: Window-type explosion-proof housing.

NEM-401: NEMA 4 enclosure for SST-200.

MTG-201: Mounting plate for bulkhead mounting.

MTG-202: Mounting plate for channel snap-track.

MTG-203: DIN rails mounting adapter.

MTG-204: 2" pipe mounting bracket for EXP-200.



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