

Signet 2350 Temperature Sensor



Features

- 4 to 20 mA or digital (S³L) output
- Standard 3/4 in. NPT process connection
- One-piece injection molded PVDF body
- PT1000 platinum RTD in extended tip for quick response
- Easy installation
- Threaded for in-line or submersible installation

Description

The Signet 2350 Temperature Sensor has a one piece injection molded PVDF body that is ideal for use in high purity applications. It also outlasts metal sensors in aggressive liquids and eliminates the need for costly custom thermowells. These sensors are available with a proprietary digital output (S³L) or field-scaleable 4 to 20 mA output.












Dual threaded ends (3/4 in. NPT) allow submersion in process vessels, or in-line installation with conduit connection. An integral adapter kit (sold separately) may be used to create a compact assembly with field mount versions of the Signet 8350 Temperature Transmitter.

Applications

- Plating Bath Temperature Control
- Heat Exchange Monitor
- R.O. and D.I. System Monitor
- Hot/Cold Mixing System Monitor
- Data Acquisition
- Cooling Loops
- Effluent Monitoring
- HVAC
- Chemical Processing

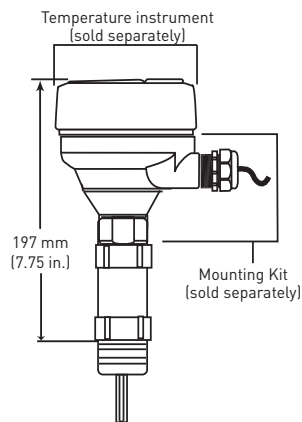
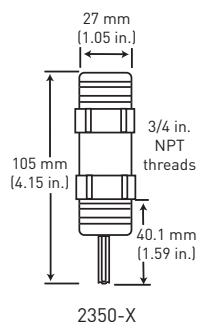


System Overview

In-Line Installation				Submersible Installation*
Panel Mount Signet 8350 or 8900 Instrument (sold separately) 	Pipe, Tank, Wall Mount Signet 8350 Instrument (sold separately)  Signet Universal Adapter Kit (3-8050) (sold separately) 	Integral Mount Signet 8350 Instrument (sold separately)  Signet Integral Adapter Kit (3-8052) (sold separately) 	4 to 20 mA Input Chart Recorder OR Programmable Logic Controller  	Panel, Pipe, Tank, Wall Mount Signet 8350 or 8900 Instrument (sold separately)  Pipe extension or conduit with 3/4 in. FNPT threads 
Signet 2350 Temperature Sensor 				Signet 2350 Temperature Sensor 
In-Line Installation - Fittings (Customer supplied)				

* For tank or wall mount installations, user must use the Universal Adapter Kit (3-8050).

Dimensions



Model 2350

Ordering Notes

Any sensor can be mounted with an instrument in an integral configuration by doing the following:

- 1) Order Integral adapter kit 3-8052 (sold separately) to connect the instrument (sold separately) directly onto the sensor.
- 2) Order an instrument (sold separately). The following instrument part numbers are compatible with the 2350 for integral mounting: 3-8350-1, 3-8350-2

Application Tips

- For submersible sensor mounting, always use a water tight conduit and a cable gland to prevent moisture intrusion.
- To extend the cable, use a 3-conductor shielded cable and junction box.

Please refer to **Wiring, Installation, and Accessories** sections for more information.

Specifications

General

Output: Digital (S³L) output or 4 to 20 mA
 Accuracy: $\pm 0.5\text{ }^{\circ}\text{C}$ ($\pm 0.9\text{ }^{\circ}\text{F}$)
 Response Time, τ : 10 secs.
 Repeatability: $\pm 0.1\text{ }^{\circ}\text{C}$ ($\pm 0.2\text{ }^{\circ}\text{F}$)
 Resolution: $0.01\text{ }^{\circ}\text{C}$ ($0.02\text{ }^{\circ}\text{F}$)
 Sensing-End Connection:
 $3/4\text{ in.}$ NPT male thread
 Cable-End Connection:
 $3/4\text{ in.}$ NPT male thread

Wetted Material

- Sensor Housing: PVDF

Electrical

Power Requirements:

Type of output is automatically selected when appropriate power is applied.

- Digital (S³L): 5 VDC $\pm 10\%$, $< 1\text{ mA}$
- 4 to 20 mA: 12 to 24 VDC $\pm 10\%$, regulated

Cable Type:

PVC jacketed, 3-conductor with shield
 22 AWG, Blk/Red/White/Shld

Cable Length:

- 4.6 m (15 ft)
- 15.2 cm (6 in.); cable length can also be extended up to 121 m (400 ft)

Digital (S³L) output:

- Serial ASCII, TTL Level 9600 bps.
- Reverse polarity and short circuit protected.

Electrical (continued)

4 to 20 mA Output:

- Accuracy: $\pm 32\text{ }\mu\text{A}$
- Resolution: $< 5\text{ }\mu\text{A}$
- Span:
 4 to 20 mA factory calibrated
 0 $^{\circ}\text{C}$ to 100 $^{\circ}\text{C}$ (32 $^{\circ}\text{F}$ to 212 $^{\circ}\text{F}$)
- Max. Loop Impedance:
 50 Ω @ 12 V
 325 Ω @ 18 V
 600 Ω @ 24 V
- Update Rate: $< 100\text{ ms}$

Max. Temperature/Pressure Rating

Operating Temperature:

- In-line Mounting:
 -10 $^{\circ}\text{C}$ @ 16 bar to 100 $^{\circ}\text{C}$ @ 7.5 bar
 (14 $^{\circ}\text{F}$ @ 232 psi to 212 $^{\circ}\text{F}$ @ 108 psi)
- Submersible Mounting:
 -10 $^{\circ}\text{C}$ @ 16 bar to 85 $^{\circ}\text{C}$ @ 7.5 bar
 (14 $^{\circ}\text{F}$ @ 232 psi to 185 $^{\circ}\text{F}$ @ 108 psi)

Storage Temperature:

-55 $^{\circ}\text{C}$ to 100 $^{\circ}\text{C}$ (-67 $^{\circ}\text{F}$ to 212 $^{\circ}\text{F}$)

Relative Humidity:

0 to 95% non-condensing

See Temperature and Pressure graphs for more information.

Shipping Weight 0.22 kg 0.5 lb

Standards & Approvals

- CE
- Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management

Ordering Information

Sensor Part Number	
3-2350	Temperature Sensor
↓	Output and Cable Length - Choose One
	-1 Digital (S ³ L) and 4.6 m (15 ft) cable
	-3 Current (4 to 20 mA) and 4.6 m (15 ft) cable
3-2350	-1 Example Part Number

Mfr. Part No.	Code
3-2350-1	159 000 021
3-2350-3	159 000 920

Accessories and Replacement Parts

Mfr. Part No.	Code	Description
5523-0322	159 000 761	Sensor cable (per ft), 3 cond. plus shield, 22 AWG
3-8052	159 000 188	$3/4\text{ in.}$ Integral mounting kit
3-8052-1	159 000 755	$3/4\text{ in.}$ NPT mount junction box with one liquid tight connector and cap with junction terminals
3-9000.392-1	159 000 839	Liquid tight connector kit, NPT (1 connector)
3-9000.392-2	159 000 841	Liquid tight connector kit, PG 13.5 (1 connector)
3-0250	159 001 538	USB to digital (S ³ L) configuration/diagnostic tool