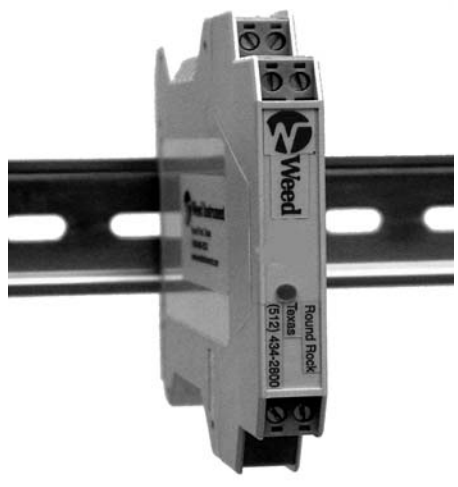


Model 9100D DIN Rail Mount Sensor-Mate[®] HART Temperature Transmitter



- DIN Rail Mounting Design
- 0.08% Accuracy
- Universal Inputs
- Microprocessor-Based Design
- HART[®] Communications
 - Handheld Configuration
 - PC Configuration
- Excellent Long-term Stability
- Input - Output Isolation
- Custom Input / Linearization Capabilities
- Narrow Profile
- Two Year Warranty

The Model 9100D Sensor-Mate[®] HART Temperature Transmitter is a highly accurate microprocessor-based temperature transmitter. The 9100D accepts a wide range of inputs - RTDs, Thermocouples, Resistance and Millivolt. The 9100D is loop-powered and provides 4-20mA and HART output signals. Configure the 9100D through HART Communications with HART Communicator or a PC and WeedComm Software. The slim DIN rail design allows for several transmitters to be mounted in a small area.

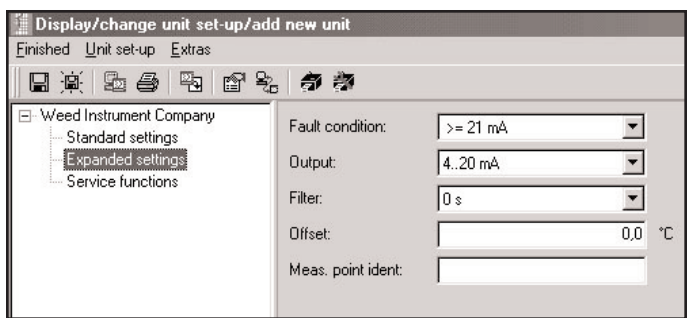
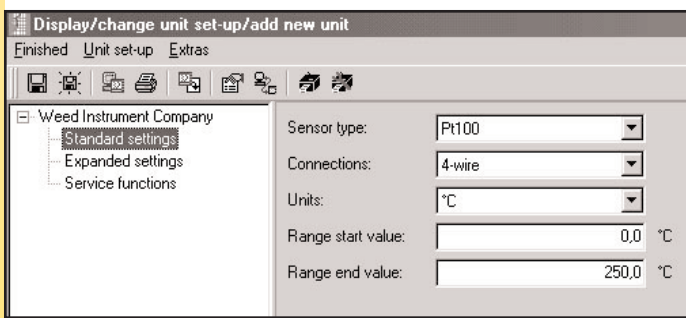
HART Communications

Configuration of the Model 9100D temperature transmitter can be achieved with the HC275 HART Communicator. You must have the 9100D Sensor-Mate[®] Device Description (DD) loaded on the HC275 to achieve full functionality between the handheld device and the transmitter.



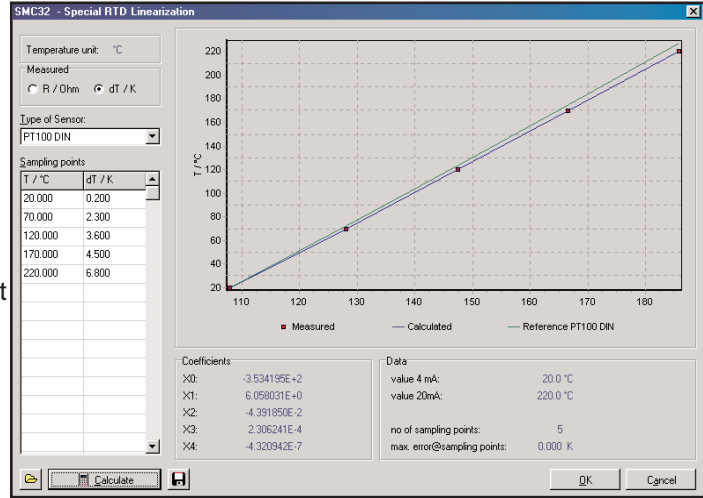
WeedComm Software

The WeedComm Software allows users to configure the 9100D transmitter using a PC and HART Modem. The software is menu driven, clear and concise. Configurations can be completed off-line, saved and loaded to the transmitter at a later time. Saved configurations can be looked up by filename. Use the WeedComm Software for Custom Linearization features.



Custom Linearization

The 9100D offers the capability of entering custom linearization for non-standard electrical inputs or increased accuracy of the temperature measurement system. The result is a linear 4-20mA output for nearly any type of RTD, Thermocouple, Resistance or Millivolt input. Data is entered through the WeedComm Software.



Input Range:

Resistance Temperature Detector (RTD)

Input	Designation	Settable Range	Minimum Span
IEC 751 (0.00385055)	Pt 100	-328 to 1562°F (-200 to 850°C)	18°F (10°C)
	Pt 500	-328 to 482°F (-200 to 250°C)	18°F (10°C)
	Pt 1000	-328 to 482°F (-200 to 250°C)	18°F (10°C)
	Ni 100	-76 to 356°F (-60 to 180°C)	18°F (10°C)
	Ni 500	-76 to 302°F (-60 to 150°C)	18°F (10°C)
	Ni 1000	-76 to 302°F (-60 to 150°C)	18°F (10°C)

- Connection type: 2, 3 or 4 wire configuration.
- Software compensation of cable resistance possible in the 2 wire system (0 to 30 ohms).
- Sensor cable resistance max. 20 ohms per cable in the 3 and 4 wire system.
- Sensor current: less than or equal to 0.2 mA.

Resistance Transmitter

Designation	Settable Range	Minimum Span
Resistance	10 to 400 ohms 10 to 2000 ohms	10 ohms 100 ohms

Thermocouples (T/C)

Input	Designation	Measuring Range Limits	Minimum Span
NIST Monograph 175 IEC 584	Type B	32 to 3308°F (0 to 1820°C)	900°F (500°C)
	Type E	-454 to 1832°F (-270 to 1000°C)	90°F (50°C)
	Type J	-346 to 2192°F (-210 to 1200°C)	90°F (50°C)
	Type K	-454 to 2501°F (-270 to 1372°C)	90°F (50°C)
	Type N	-328 to 2372°F (-200 to 1300°C)	90°F (50°C)
	Type R	-58 to 3214°F (-50 to 1768°C)	900°F (500°C)
	Type S	-58 to 3214°F (-50 to 1768°C)	900°F (500°C)
	Type T	-454 to 752°F (-270 to 400°C)	90°F (50°C)
ASTM E988	Type C	32 to 4208°F (0 to 2320°C)	900°F (500°C)
	Type D	32 to 4523°F (0 to 2495°C)	900°F (500°C)
	Type L	-328 to 1652°F (-200 to 900°C)	90°F (50°C)
	Type U	-328 to 1112°F (-200 to 600°C)	90°F (50°C)

- Internal cold junction (Pt 100)
- Accuracy of cold junction: +/- 1.8°F (1°C)

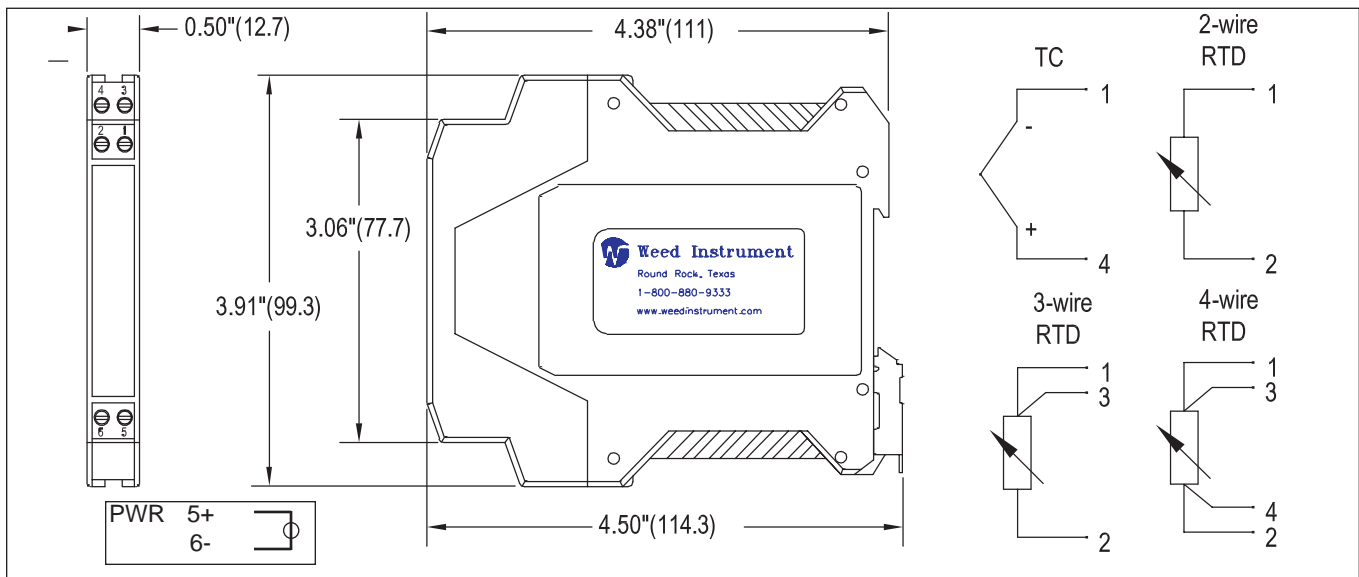
Input	Designation	Measuring Range Limits	Minimum Span
Voltage Transmitter(mV)	Millivolt transmitter (mV)	-10 to 75 mV	5mV

Specifications:

Output	4-20mA or 20-4mA. HART Signal (Superimposed on 4-20mA loop signal)	
Zero & Span Adjustments	Use HART Communicator or WeedComm Software. Can be set anywhere within sensor range under input section. Zero & Span are non interacting.	
Failsafe	Downscale 3.6 mA; Upscale 21.5 mA	
Response Time	1 second	
Damping	User settable from 0 to 100 seconds	
Isolation	2000 VAC, Input to Output	
Power Supply:	11.5 to 35 VDC	
Load Resistance:	$R_{Max} \text{ (ohms)} = (V_{Supply} - 11.5V) / .022A$	
Accuracy:	<u>Type</u>	<u>Measurement Accuracy</u>
RTD	Pt 100, Ni 100	0.36°F (0.2°C) or 0.08% of span
	Pt 500, Ni 500	0.9° F (0.5°C) or 0.20% of span
	Pt 1000, Ni 1000	0.54°F (0.3°C) or 0.12% of span
T/C	K, J, T, E, L, U	Typ. 0.9°F (0.5°C) or 0.08% of span
	N, C, D	Typ. 1.8°F (1.0°C) or 0.08% of span
	S, B, R	Typ. 3.6°F (2.0°C) or 0.08% of span
	<u>Measurement Range</u>	<u>Measurement Accuracy</u>
Resistance Transmitters (ohms)	10 to 400 ohms	+/- 0.1 ohms or 0.08%
Voltage Transmitters (mV)	10 to 2000 ohms	+/- 0.5 ohms or 0.12%
	-10 to 75mV	+/- 20 μV or 0.08%
	Whichever is greater.	
Long-Term Stability	±0.05% of calibrated span per year	
Cold Junction Compensation:	± 1°C (Measured with Pt 100 IEC 751, Class B)	
Temperature Limit	-40°F to 185°F (-40°C to 85°C)	
EMI/RFI Effect	Conforms to European Union Directives (CE Mark). Meets IEC 61326 Amend 1, 1998 and NAMUR NE21.	
Approvals & Standards	Factory Mutual (FM) / Canadian Standards Association (CSA) / ATEX CENELEC - Intrinsically Safe (IS) - Optional - See ordering information.	

Dimensions

Terminal Connections



Model	Description									
9D	DIN Rain Mount Sensor-Mate HART Temperature Transmitter									
1	Code Sensor Type - RTD									
	Q Pt. 100, a = 0.00385055									
	C Pt. 1000, a = 0.00385055									
	D Ni 100 (DIN 43760)									
	G Ni 1000 (DIN 43760)									
	P Programmable/Custom Configuration									
	Code Thermocouple Type									
	B Type B									
	E Type E									
	J Type J									
	K Type K									
N Type N										
R Type R										
S Type S										
T Type T										
C Type C										
D Type D										
L Type L										
U Type U										
Code Other										
O Potentiometer/Resistance										
M Millivolt										
2	Code Linearization									
	T With Temperature (RTD/TC)									
I With Input (Resistance/Milivolt)										
3	Code Connection									
	2 2-wires (RTD)									
	3 3-wires (RTD)									
	4 4-wires (RTD)									
	C Cold Junction Compensation (Thermocouple)									
N No Cold Junction Compensation (Millivolt or Potentiometer)										
4	Code Sensor Break (Burnout)									
	U Upscale									
D Downscale										
5	Code Temperature Sign - Lower Range (4mA)									
	+ Positive									
- Negative										
6	Code Temperature Value - Lower Range (4mA)									
	050 Example: 050 = 50°, 250 = 250°									
7	Code Temperature Sign - Upper Range (20mA)									
	+ Positive									
- Negative										
8	Code Temperature Value - Upper Range (20mA)									
	0300 Example: 0300 = 300°, 1000 = 1000°									
9	Code Temperature Units									
	C Degrees Centigrade									
F Degrees Fahrenheit With Input										
10	Code Approvals & Standards									
	N None									
	F FM									
	C CSA									
A ATEX										
11	Order "HART Modem" and "WeedComm" software as separate items.									
9D	Q	T	3	U	-	050	+	0300	C	N
Sample Part Number										
Your Part Number										

