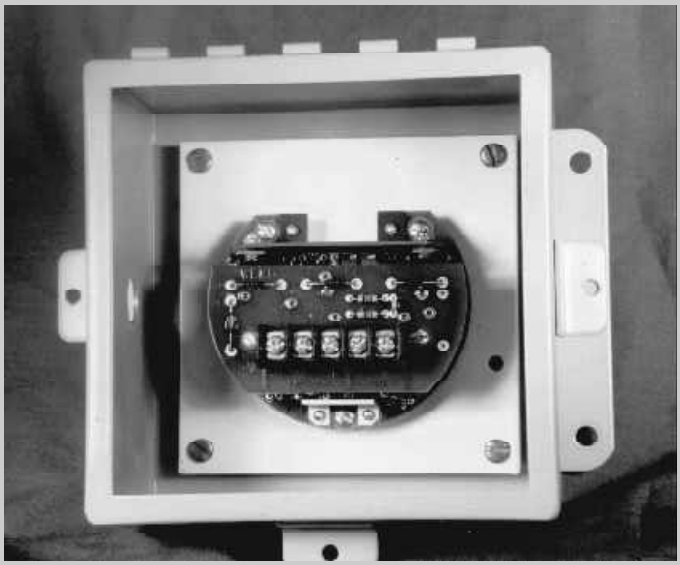
Weed Instrument

Temperature, Pressure, and Fiber Optic Technology

N4000R-99 Series RTD Temperature Transmitter

Nuclear Qualified

- **Seismic qualification to IEEE 344-75 and 344-87**
- **Environmental qualification to IEEE 323-74 and 323-83**
- **TID 1 MRad**
- **2 or 3-Wire RTD**
- **4-20 mA or 10-50 mA linearized output**
- **Wide zero and span adjustability**



The Weed Instrument 4000R-99 two-wire transmitter is designed to provide accurate, reliable temperature measurement in a wide variety of applications. It has been seismically qualified to IEEE 344-75 & -87 and environmentally qualified to IEEE 323-74 & -83 outside containment MSLB/LOCA.

Each transmitter features solid state circuit boards that combine integral and discrete components. Measurement is by 2 or 3-wire 100 ohm RTD (.003902 or .00385 curve). The RTD signal is linearized to provide an output that represents the percentage of span value of the measured temperature.

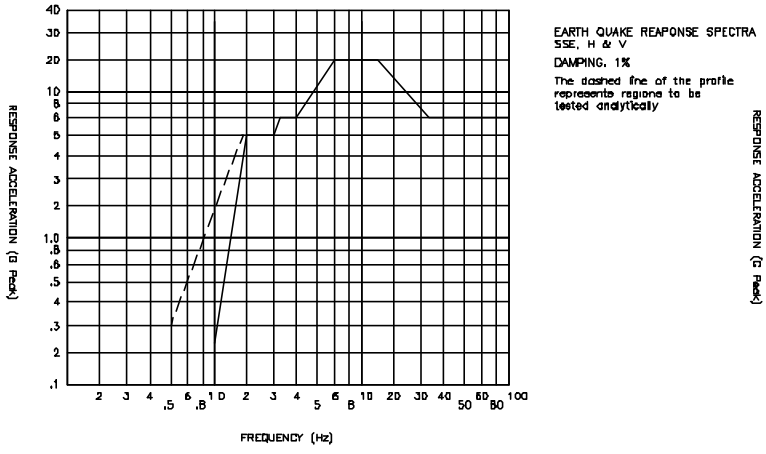
The 4000R-99 is compatible with virtually any standard two-wire control loop. The output is field selectable (4-20mA or l0-50mA) and a wide range of power supply voltages may be used. A wide variety of zero and span ranges are available through the field changeable circuit card. Optional enclosures allow the transmitters to be field or control room mounted.

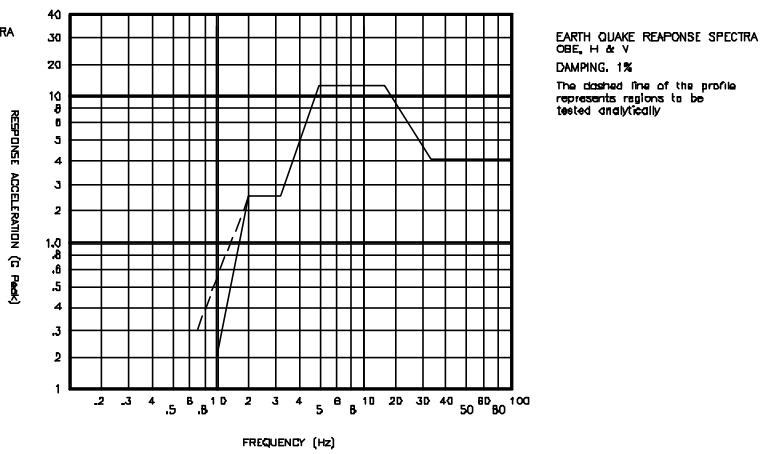
These combined features make the 4000R-99 transmitter an extremely useful tool in any temperature measurement loop.

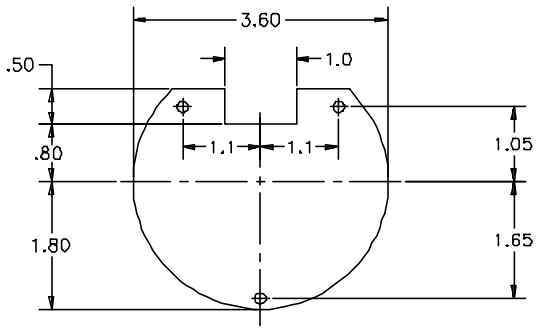
Weed Instrument Company, P.O. Box 300, 707 Jeffrey Way, Round Rock, TX 78680
Phone: (512) 434-2950, Fax: (512) 434-2801, E-Mail: nuclear@weedinstrument.com
Home Page: http://www.weedinstrument.com

Specifications - Model 4000R-99

	Specification	Comments
Input	100 ohm RTD (.003902 or .00385 curve) Max. sensor current is 1mA	Lead wire compensation is provided for 3-wire RTD
Output	4-20 mA or 10-50 mA, linear with temperature	Field selectable
Accuracy	± 0.1% of calibrated span, or $\pm 0.1^0$ F	Does not include sensor error
Drift	± 0.1% of calibrated span per six months	
Ambient Temperature Effect	Span shift ±0.3% of span per $l00^0$F ~ Zero shift +0.5% of span per 100^0F, ±0.15% of elevation above 0^0F	
Ambient Temperature Range	-15 to $+185^0$F (-24^0 to 100^0C)	
Storage Temperature	-40 to $+212^0$F (-40^0 to 100^0C)	
PowerSupply	13 to 85VDC	See chart for load resistance
Power Supply Effect	+0.01% per 10 VDC change	
Load Resistance Effect	+0.01% per 100 ohm change	
Warm Up Time	5 seconds to reach rated accuracy	
Radiation	1 Mrad TID gamma (10 kgray)	Max rate .436Mrad/hour (4.36 kgray/hour)
Environmental	Class lE, outside containment to IEEE 323-74 & -83	10 year Qualified Life at 101^0F (40 years by analysis)
Seismic	IEEE 344-75 & -87	See attached Profile
Post Accident Radiation Effect Seismic Effect	9.9% span negligible	
Options	Enclosures	Hoffman or Guab 47
Qualification Report	3077-338022-003	

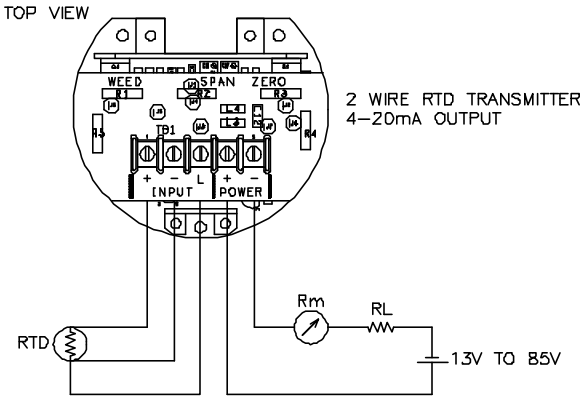


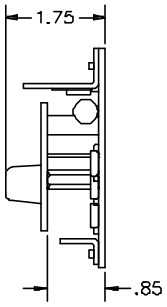




NOTES:

1. SEISMIC QUALIFICATION IN ACCORDANCE WITH IEEE-344-1975 AND IEEE-344-1987.
2. QUALIFICATION OF CLASS 1E DEVICES IN ACCORDANCE WITH IEEE-323-1974 AND IEEE-323-1983, OUTSIDE CONTAINMENT.
3. WEED INSTRUMENT TEST REPORT 3077-338022-003.





MODEL 4000R-99

Maximum Loop Resistance vs Power Supply
Model 4000R-99

4-20 mA, Supply Voltage	R-Load, ohms
13	0
23	500
33	1000
53	2000
73	3000
85	3600
10-50 mA Supply Voltage	R-Load, ohms
13	0
23	200
33	400
53	800
73	1200
85	1440

Ordering Information

1. Model	
4000R-99	RTD Temperature transmitter

2. Output	
A	4 – 20 mA
B	10 - 50 mA

3. Range Card Code	Zero Range	Span Range
EAF	-100°F to –50°F	25°F to 100°F
FAF	-50°F to 0°F	25°F to 100°F
GAF	0°F to 50°F	25°F to 100°F
HAF	50°F to 100°F	25°F to 100°F
IAF	100°F to 150°F	25°F to 100°F
JAF	150°F to 200°F	25°F to 100°F
KAF	200°F to 250°F	25°F to 100°F
LAF	250°F to 300°F	25°F to 100°F
MAF	300°F to 350°F	25°F to 100°F
NAF	350°F to 400°F	25°F to 100°F
EBF	-100°F to 0°F	100°F to 200°F
GBF	0°F to 100°F	100°F to 200°F
IBF	100°F to 200°F	100°F to 200°F
KBF	200°F to 300°F	100°F to 200°F
MBF	300°F to 400°F	100°F to 200°F
ECF	-100°F to 0°F	200°F to 400°F
GCF	0°F to 100°F	200°F to 400°F
ICF	100°F to 200°F	200°F to 400°F
KCF	200°F to 300°F	200°F to 400°F
MCF	300°F to 400°F	200°F to 400°F
FAC	-50°C to 0°C	25°C to 100°C
GAC	0°C to 50°C	25°C to 100°C
HAC	50°C to 100°C	25°C to 100°C
IAC	100°C to 150°C	25°C to 100°C
JAC	150°C to 200°C	25°C to 100°C
FBC	-50°C to 0°C	100°C to 200°C
GBC	0°C to 50°C	100°C to 200°C
HBC	50°C to 100°C	100°C to 200°C
IBC	100°C to 150°C	100°C to 200°C
JBC	150°C to 200°C	100°C to 200°C
FCC	-50°C to 0°C	200°C to 400°C
GCC	0°C to 50°C	200°C to 400°C
HCC	50°C to 100°C	200°C to 400°C
ICC	100°C to 150°C	200°C to 400°C
JCC	150°C to 200°C	200°C to 400°C

4. Enclosure Options	
0	None
1	Hoffman A606CHNF
2	Crouse Hinds GUAB47SA

4000R-99 -A -FAC -0 **Sample Model Number**

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Round Rock, Texas 78680-0300
Phone: 512-434-2950, Fax: 512-434-2801
E-Mail: nuclear@weedinstrument.com
Home Page: www.weedinstrument.com

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