TEL-TRU MANUFACTURING COMPANY

NPAA3 INDUSTRIAL RTD PROBE ASSEMBLY

FEATURES:

- Configured to meet your exact needs
- High accuracy, long term stability, consistent repeatability
- Fast response time
- All welded construction
- Options include various termination and transmitter selections
- NIST traceable calibration certificate available

Tel-Tru RTD probe assemblies are designed for the most demanding industrial applications. A wide range of configurations are available to meet the requirements of many markets including Chemical Processing, Oil and Gas, Construction, Cold Storage, Water / Wastewater, HVAC, and OEMs.

SPECIFICATIONS:

Environmental

Protection:	IP67 (NEMA 6)
Operating temp. range:	-40°F to 176°F (-40°C to 80°C)

Mechanical

Probe lengths:	2.5" to 12" (6.35cm to 30.48cm)
Probe diameters:	0.187" or 0.250" (0.47cm to 0.64cm)
Probe and housing material:	316SS with threaded fitting
Max operating pressure:	1500 PSIG max (probe only)
Connection head:	Polypropylene, 316SS, Cast Aluminum

Electrical

Input:	RTD, type Pt100 (α=0.00385), 3-wire
Sensor:	Thin film Pt100 RTD TCR .00385 Accuracy Class A +/- .06% at 0°C Conforms to IEC 751
Lead wires:	3 wires, Teflon insulated
Termination:	Options include unterminated (bare wire), connection heads, M12 connector
Output (transmitter equipped)	4 to 20mA or HART See individual transmitter specification sheets for more details (below)
Temperature ranges:	See temperature chart for standard ranges Custom ranges available from -103 to 392°F (-75 to 200°C) Minimum span 45°F (25°C)

Transmitter specifications:

XTRC-1202	4-20mA output, RTD only
XTRC-1220	4-20mA output, RTD and T/C
XTRC-1330	4-20mA output, RTD, T/C, ohm and mV
XTRC-1530	4-20mA/HART output, RTD, T/C, ohm and mV

Temperature Range Chart

Ranges available with no transmitter

Code	Range
01	-60/500°F (-50/260°C)

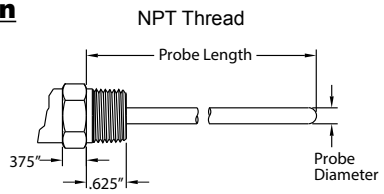
Ranges available with Universal and Hart programmable transmitters - *Other ranges available, minimum span 18°F or 10°C, factory configured*

Code	Range°F	Code	Range°C
52	-50/120	71	-50/100
53	-40/160	72	-50/25
54	0/140	73	-50/50
55	0/180	84	-40/70
50	0/200	86	-20/120
56	0/220	74	-10/110
67	0/250	75	0/50
57	0/300	95	0/60
59	20/240	EI	0/80
60	25/125	76	0/100
61	50/250	77	0/150
62	50/300	78	0/200
58	0/500		
63	50/400		

➤ DIMENSIONS:

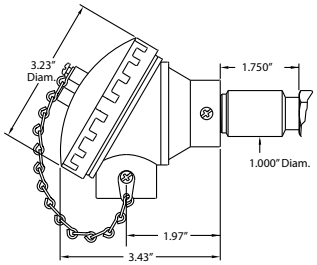
Process Connection

Minimum probe length 2.5"
Maximum probe length 12"

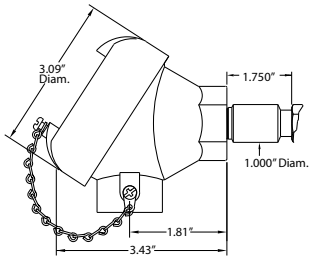


Connection Heads

D01
White Polypropylene Head (FDA Approved)
and D03
Cast Aluminum Head

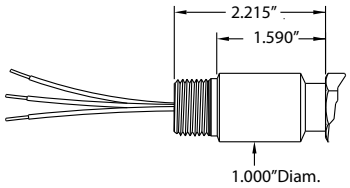


D02
316SS Head

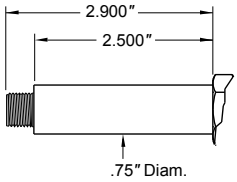


Termination

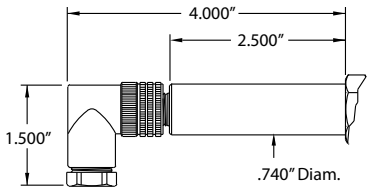
C06
1/2" NPT w/Leads



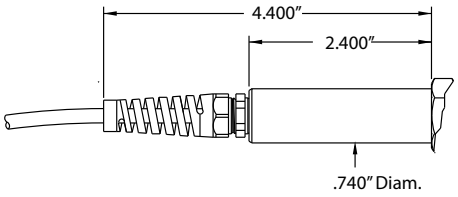
E00
M12 Connector w/o Mate



AXX
M12 w/Mating Connector



BXX
Strain Relief

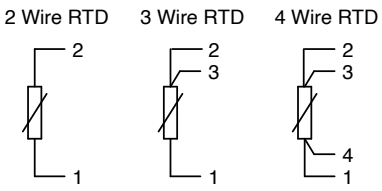


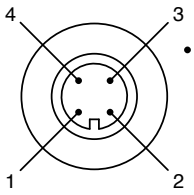
➤ ELECTRICAL CONNECTION AND WIRING (without built-in transmitter):

Termination Options

DXX (Connection Head) w/Terminal

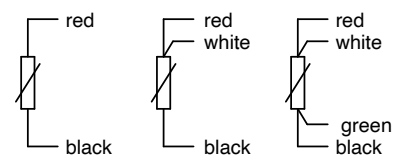
- **AXX** (M12 w/Mating Connector) and **E00** (M12)



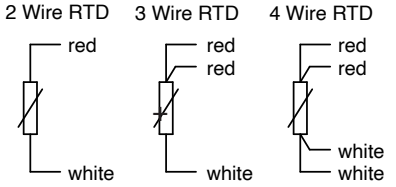


- **AXX** Wiring (w/o transmitter)
  1 = black
  2 = red
  3 = white (3-&4-wire)
  4 = green (4-wire)

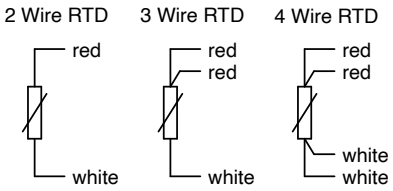
- **BXX** (Strain Relief w/Cable)



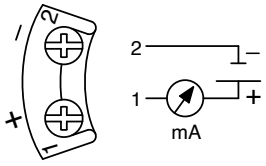
- **CXX** (1/2" NPT w/Leads)



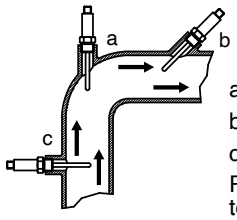
- **DXX** (Connection Head) w/Terminal Block A1



- **DXX** (Connection Head) w/Transmitter B1 or B2



Installation Instructions



- **Mounting Location**
  NP100

a. At angle sections, against the direction of flow.
b. In smaller pipe, against the direction of flow.
c. Perpendicular to the direction of flow.

Refer to *www.teltru.com/rtd_trans.asp* for temperature and pressure limits.

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TEL-TRU MANUFACTURING COMPANY

NTAA3 INDUSTRIAL RTD PROBE ASSEMBLY WITH BUILT-IN TRANSMITTER

FEATURES:

- Configured to meet your exact needs
- High accuracy, long term stability, consistent repeatability
- Fast response time
- All welded construction
- Various termination options available
- NIST traceable calibration certificate available

Tel-Tru RTD probe assemblies are designed for the most demanding industrial applications. A wide range of configurations are available to meet the requirements of many markets including Chemical Processing, Oil and Gas, Construction, Cold Storage, Water / Wastewater, HVAC, and OEMs.

SPECIFICATIONS:

Environmental

Protection:	IP67 (NEMA 6)
Operating temp. range:	-40°F to 176°F (-40°C to 80°C)

Mechanical

Probe lengths:	2.5" to 18" (6.35cm to 45.72cm)
Probe diameters:	0.187" or 0.250" (0.47cm to 0.64cm)
Probe and housing material:	316SS with threaded fitting
Max operating pressure:	1500 PSIG max (probe only)
Connection head:	Polypropylene, 316SS, Cast Aumlinum

Electrical

Input:	RTD, type Pt100 (α=0.00385), 3-wire
Sensor:	Thin film Pt100 RTD TCR .00385 Accuracy Class A +/- .06% at 0°C, Conforms to IEC 751
Lead wires	3 wires, Teflon insulated
Termination:	M12 connector with or without mate and cable, strain relief with cable *See configurator at teltru.com*
Output (transmitter equipped)	4-20mA loop powered Induced current required < 2.5mA Current limit < 25mA
Power supply:	9-32VDC, polarity protected
Supply effect:	0.001%/V
Accuracy:	±(.25°C + 0.40% of span) with one-point calibration[1] ±(.10°C + 0.10% of calibrated span) with two-point calibration[2]
Maximum loop resistance:	[(Vsupply – 7) / 0.025A] ohms
Sensor open circuit:	Upscale 24mA or Downscale 2.5mA
Undershooting measurement range:	Decreases to 3.5mA
Exceeding measurement range:	Increases to 23mA
Switch on delay:	2s
Electronic response time:	1s at startup

RFI effect:	1% or less typical
Isolation:	500VDC Input/Output
Temp. effects:	±0.001% of Span/°C
Long term drift:	<0.1% FS/Year

[1] Max. error on complete span. Error at calibration point <0.1% of Span.
[2] Max. error on complete calibrated span. Error at calibration points <0.1% of Span.

Temperature ranges: See temperature chart for standard ranges
Custom ranges available from -103 to 392°F (-75 to 200°C)
Minimum span 45°F (25°C)

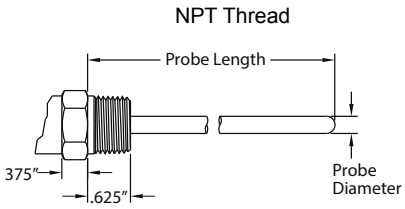
Temperature Range Chart

Ranges available
(factory configured, built-in transmitters)

Code	Range°F	Code	Range°C
52	-50/120	**71**	-50/100
53	-40/160	**72**	-50/25
54	0/140	**73**	-50/50
55	0/180	**84**	-40/70
50	0/200	**86**	-20/120
56	0/220	**74**	-10/110
67	0/250	**75**	0/50
57	0/300	**95**	0/60
59	20/240	**EI**	0/80
60	25/125	**76**	0/100
61	50/250	**77**	0/150
62	50/300		

➤ DIMENSIONS:

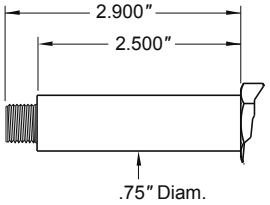
Process Connection



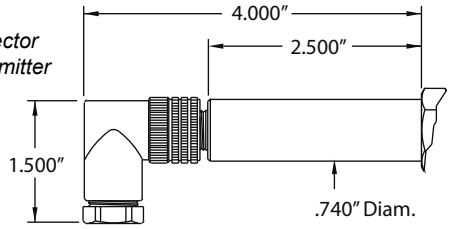
Minimum probe length 2.5"
Maximum probe length 18"

Termination

E00
M12 Connector w/o Mate



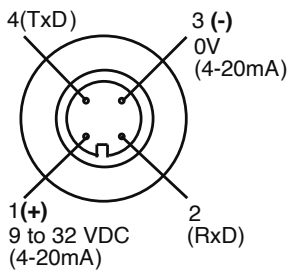
AXX
M12 w/Mating Connector and Integrated Transmitter



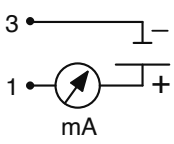
➤ ELECTRICAL CONNECTION AND WIRING (with built-in transmitter):

Electrical connection of the compact thermometer (view from above) – M12 plug, 4-pin
Pin 1: Power supply 9 to 32Vdc; Current output 4 to 20mA
Pin 2: PC configuration cable connection
Pin 3: Power supply 0Vdc; Current output 4 to 20mA
Pin 4: PC configuration cable connection

AXX (M12 w/Mating Connector) and
E00 (M12) w/out Mate



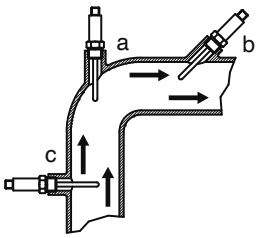
Wiring
1 = red
3 = black



10 to 35 VDC
4 to 20mA

Installation Instructions

- **Mounting Location**



a. At angle sections, against the direction of flow.
b. In smaller pipe, against the direction of flow.
c. Perpendicular to the direction of flow.

Refer to *www.teltru.com/rtd_trans.asp* for temperature and pressure limits.

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TEL-TRU MANUFACTURING COMPANY

SPAA3 SANITARY RTD PROBE ASSEMBLY

FEATURES:

- Configured to meet your exact needs, including compatability with Clean-in-Place (CIP) processes
- High accuracy, long term stability, consistent repeatability
- Fast response time
- All welded construction
- Options include various termination and transmitter selections
- NIST traceable calibration certificate available

Standard sanitary assemblies include a proven thin film PT100 platinum RTD sensing element, packaged in an all welded 316SS stainless steel probe. Configurations feature Tri-Clover® fittings and surface finishes that comply with 3A Standard Number 74-07 for food, dairy, beverage, pharmaceutical and chemical processing applications.

SPECIFICATIONS:

Environmental

Protection:	IP67 (NEMA 6)
Operating temp. range:	-40°F to 176°F (-40°C to 80°C)

Mechanical

Probe lengths:	2.5" to 12" (6.35cm to 30.48cm)
Probe diameters:	0.187" or 0.250" (0.47cm to 0.64cm)
Probe and housing material:	316SS with Tri-Clamp CIP fitting
Max operating pressure:	1500 PSIG max (probe only)
Connection head:	Polypropylene, 316SS, Cast Aluminum

Electrical

Input:	RTD, type Pt100 (α=0.00385), 3-wire
Sensor:	Thin film Pt100 RTD TCR .00385 Accuracy Class A +/- .06% at 0°C Conforms to IEC 751
Lead wires:	3 wires, Teflon insulated
Termination:	Options include unterminated (bare wire), connection heads, M12 connector
Output (transmitter equipped)	4 to 20mA or HART See individual transmitter specification sheets for more details (below)
Temperature ranges:	See temperature chart for standard ranges Custom ranges available from -103 to 392°F (-75 to 200°C) Minimum span 45°F (25°C)
Transmitter specifications:	XTRC-1202 4-20mA output, RTD only XTRC-1220 4-20mA output, RTD and T/C XTRC-1330 4-20mA output, RTD, T/C, ohm and mV XTRC-1530 4-20mA/HART output, RTD, T/C, ohm and mV

Temperature Range Chart

Ranges available with no transmitter

Code	Range
01	-60/500°F (-50/260°C)

Ranges available with Universal and Hart programmable transmitters - *Other ranges available, minimum span 18°F or 10°C, factory configured*

Code	Range°F	Code	Range°C
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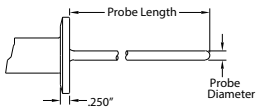
53	-40/160	72	-50/25
54	0/140	73	-50/50
55	0/180	84	-40/70
50	0/200	86	-20/120
56	0/220	74	-10/110
67	0/250	75	0/50
57	0/300	95	0/60
59	20/240	EI	0/80
60	25/125	76	0/100
61	50/250	77	0/150
62	50/300	78	0/200
58	0/500		
63	50/400		

➤ DIMENSIONS:

Process Connection

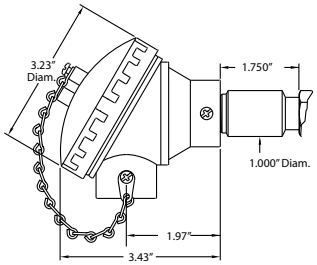
Minimum probe length 2.5"
Maximum probe length 12"

Tri-Clamp

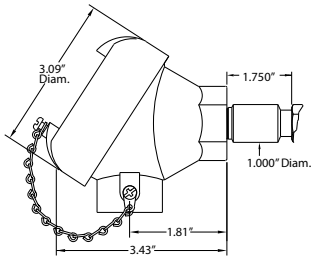


Connection Heads

D01
White Polypropylene Head (FDA Approved)
and D03
Cast Aluminum Head

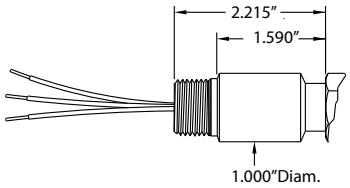


D02
316SS Head

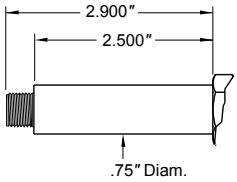


Termination

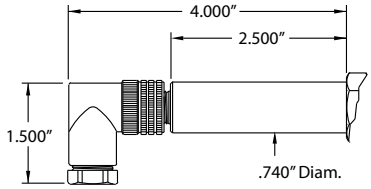
C06
1/2" NPT w/Leads



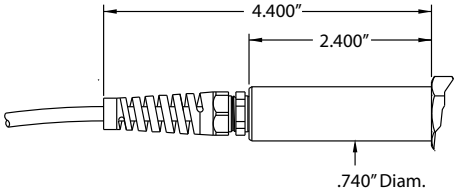
E00
M12 Connector w/o Mate



AXX
M12 w/Mating Connector



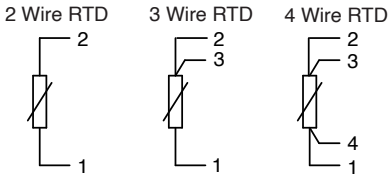
BXX
Strain Relief

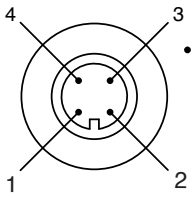


➤ ELECTRICAL CONNECTION AND WIRING (without built-in transmitter):

Termination Options

- **AXX** (M12 w/Mating Connector) and **E00** (M12)





- **AXX** Wiring (w/o transmitter)
  1 = black
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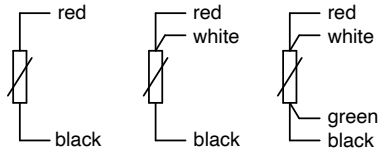
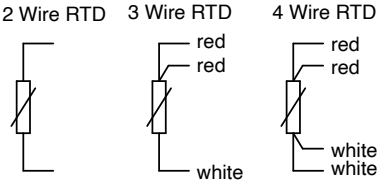
  4 = green (4-wire)

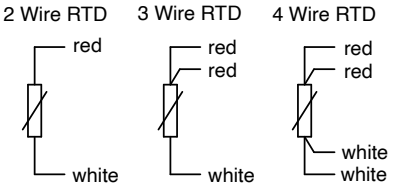
- **BXX** (Strain Relief w/Cable)



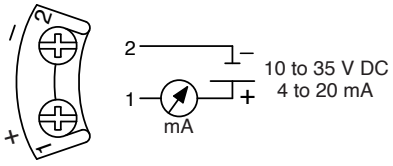
- **CXX** (1/2" NPT w/Leads)



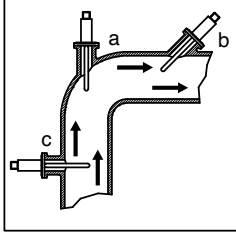
- **DXX** (Connection Head) w/Terminal Block A1



- **DXX** (Connection Head) w/Transmitter B1 or B2



Installation Instructions



Mounting Location

a. At angle sections, against the direction of flow.
b. In smaller pipe, against the direction of flow.
c. Perpendicular to the direction of flow.

Refer to *www.teltru.com/rtd_trans.asp* for temperature and pressure limits.

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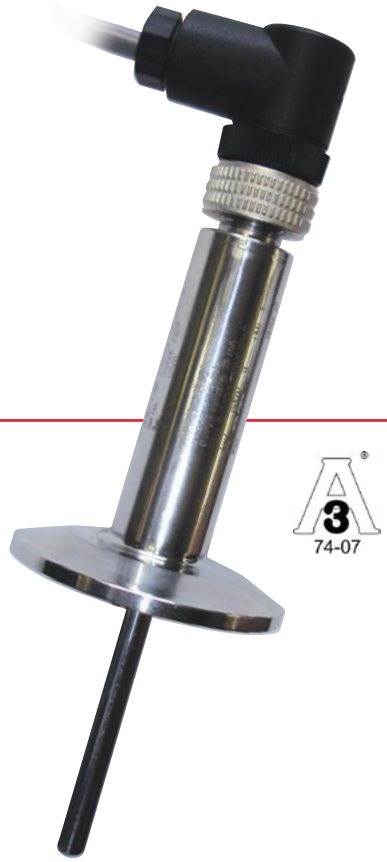
STAA3 SANITARY RTD PROBE ASSEMBLY WITH BUILT-IN TRANSMITTER

➤ FEATURES:

- Configured to meet your exact needs
- High accuracy, long term stability, consistent repeatability
- Fast response time
- All welded construction
- Options include various termination and transmitter selections
- NIST traceable calibration certificate available



Standard sanitary assemblies include a proven thin film PT100 platinum RTD sensing element, packaged in an all welded 316SS stainless steel probe. Configurations feature Tri-Clover® fittings and surface finishes that comply with 3A Standard Number 74-07 for food, dairy, beverage, pharmaceutical and chemical processing applications. A compact programmable transmitter can also be built into the probe assembly.

➤ SPECIFICATIONS:

Environmental

Protection:	IP67 (NEMA 6)
Operating temp. range:	-40°F to 176°F (-40°C to 80°C)

Mechanical

Probe lengths:	2.5" to 18" (6.35cm to 45.72cm)
Probe diameters:	0.187" or 0.250" (0.47cm to 0.64cm)
Probe and housing material:	316SS with Tri-Clamp CIP fitting
Max operating pressure:	1500 PSIG max (probe only)
Connection head:	Polypropylene, 316SS, Cast Aluminum

Electrical

Input:	RTD, type Pt100 (α=0.00385), 3-wire
Sensor:	Thin film Pt100 RTD TCR .00385 Accuracy Class A +/- .06% at 0°C, Conforms to IEC 751
Lead wires:	3 wires, Teflon insulated
Termination:	M12 connector with or without male and cable, strain relief with cable
Output (transmitter equipped)	4-20mA loop powered Induced current required < 2.5mA Current limit < 25mA
Power supply:	9-32VDC, polarity protected
Supply effect:	0.001%/V
Accuracy:	±(.25°C + 0.40% of span) with one-point calibration[1] ±(.10°C + 0.10% of calibrated span) with two-point calibration[2]
Maximum loop resistance:	[(Vsupply – 7) / 0.025A] ohms
Sensor open circuit:	Upscale 24mA or Downscale 2.5mA
Undershooting measurement range:	Decreases to 3.5mA
Exceeding measurement range:	Increases to 23mA
Switch on delay:	2s
Electronic response time:	1s at startup

RFI effect:	1% or less typical
Isolation:	500VDC Input/Output
Temp. effects:	±0.001% of Span/°C
Long term drift:	<0.1% FS/Year

[1] Max. error on complete span. Error at calibration point <0.1% of Span.
[2] Max. error on complete calibrated span. Error at calibration points <0.1% of Span.

Temperature ranges:	See temperature chart for standard ranges Custom ranges available from -103 to 392°F (-75 to 200°C) Minimum span 45°F (25°C)

Temperature Range Chart

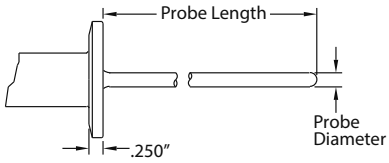
Ranges available
(factory configured, built-in transmitters)

Code	Range°F	Code	Range°C
52	-50/120	**71**	-50/100
53	-40/160	**72**	-50/25
54	0/140	**73**	-50/50
55	0/180	**84**	-40/70
50	0/200	**86**	-20/120
56	0/220	**74**	-10/110
67	0/250	**75**	0/50
57	0/300	**95**	0/60
59	20/240	**EI**	0/80
60	25/125	**76**	0/100
61	50/250	**77**	0/150
62	50/300		

➤ DIMENSIONS:

Process Connection

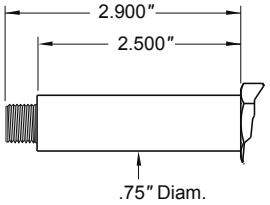
Tri-Clamp



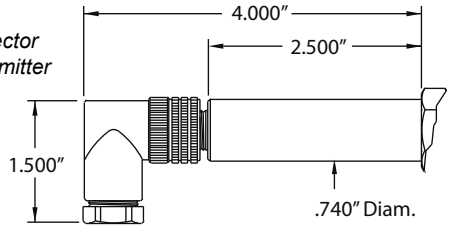
Minimum probe length 2.5"
Maximum probe length 18"

Termination

E00
M12 Connector w/o Mate



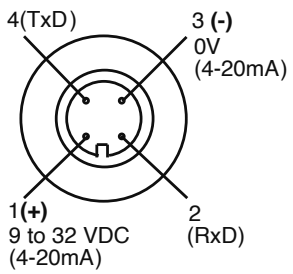
AXX
M12 w/Mating Connector and Integrated Transmitter



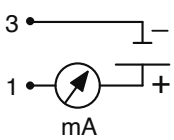
➤ ELECTRICAL CONNECTION AND WIRING (with built-in transmitter):

Electrical connection of the compact thermometer (view from above) – M12 plug, 4-pin
Pin 1: Power supply 9 to 32Vdc; Current output 4 to 20mA
Pin 2: PC configuration cable connection
Pin 3: Power supply 0Vdc; Current output 4 to 20mA
Pin 4: PC configuration cable connection

AXX (M12 w/Mating Connector) and
E00 (M12) w/out Mate



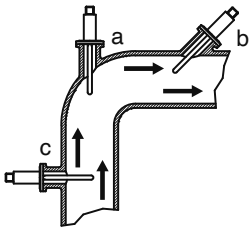
Wiring
1 = red
3 = black



10 to 35 VDC
4 to 20mA

Installation Instructions

Mounting Location



a. At angle sections, against the direction of flow.
b. In smaller pipe, against the direction of flow.
c. Perpendicular to the direction of flow.

Refer to *www.teltru.com/rtd_trans.asp* for temperature and pressure limits.

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XTRC-1202 PC-PROGRAMMABLE TRANSMITTER FOR PT100 INPUT

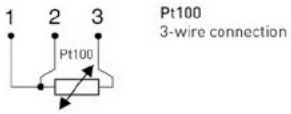
The XTRC-1202 is a digital, easy-to-use temperature transmitter for measurement with a Pt100 resistance sensor. Its robust design and high quality gives excellent performance and accuracy also under harsh conditions. XTRC-1202 combines competitive cost with easy and user friendly functionality and reliable accuracy during the lifetime.

FEATURES:

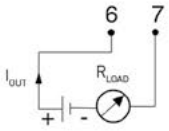
- Robust terminals with test connections
- Input: Pt100 in 3-wire connection
- PC configurable measuring ranges without need for calibration
- Temperature linear output
- Very short response time
- Excellent EMC immunity
- Configuration without external power
- Easy-to-use Windows configuration software
- USB communication
- Withstands vibrations up to 10 g
- Runtime counter
- Only 0.72 inch / 19.5 mm high

CONNECTIONS

Input connections



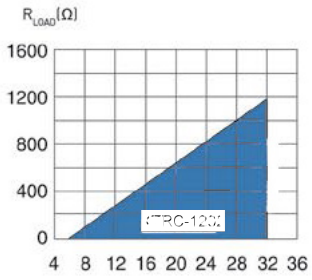
Output connections



SPECIFICATIONS:

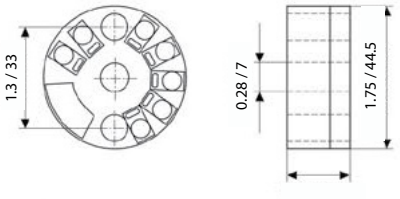
Input RTD	3-wire connection
Pt100 (α =0.00385)	-32/1562°F or -200/850°C
Sensor failure	Upscale (≥21.0 mA) or downscale (≤3.6 mA) action
Adjustments	
Zero adjustment	Any value within range limits
Minimum span	36°F or 20°C
Sensor error compensation	±10% of span for span < 180°F/100°C otherwise ±18°F /±10°C
Output	4...20 mA, temperature linear
Adjustable filtering level	0.13 to 54 s, (default 0.9 s)
Response time	< 50 ms
Environment conditions	
Ambient temperature	-40/185°F or -40/85°C
Humidity	0...98% RH (non-condensing)
Vibrations	Acc. to IEC 60068-2-6, test Fc, 10...2000 Hz, 10 g
EMC	Directive: 2014/30/EU Harmonized standards: EN 61326-1, EN 61326-2-3
Galvanic isolation	No
Power supply	6.0...32.0 VDC
Intrinsic safety	Call for information on ATEX, IECEx, FM US/CA models
Accuracy	Max of ±0,1K or ±0,1% of span
Long-term stability	±0.1% of span per year
Connection head	DIN B or larger
Weight	0.07 lb / 32 g
Protection, housing / terminals	IP 65 / IP 00

Output load diagram



$R_{LOAD}=(U-6)/0.022$
$R_{LOAD}=(U-8)/0.022$

DIMENSIONS:



inches/mm

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XTRC-1220 BASIC PROGRAMMABLE TRANSMITTER

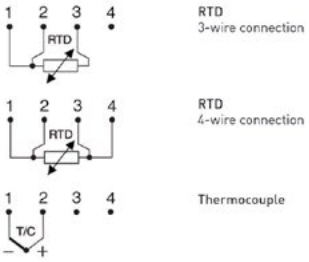
XTRC-1220 is a basic, programmable non-isolated, easy-to-use transmitter. The Low Profile housing has a hight of only 0.77 inch / 19.5 mm. Configuration is made in seconds with the user friendly Windows software. No external power supply required for configuration. The transmitter is programmable for RTDs in 3- and 4-wire connection according to different standards as well as for 11 T/C types. Useful error correction functions improve accuracy.

FEATURES:

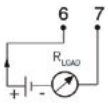
- Robust terminals with test connections
- Only 0.77 inch / 19.5 mm high
- Accepts RTD in 3- and 4-wire connection and 11 T/C types
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Configuration without external power through USB
- Easy-to-use Windows configuration software
- Rugged design tested for 10 g vibrations

CONNECTIONS

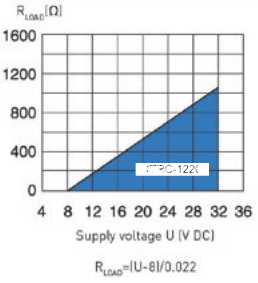
Input connections



Output connections



Output load diagram

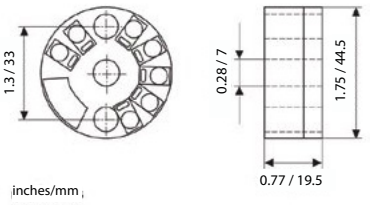


$R_{LOAD}=(U-8)/0.022$

SPECIFICATIONS:

Input RTD	3-, 4-wire connection
Pt100 (α =0.00385)[1]	-328/1832°F or -200/1000°C
Pt1000 (α=0.00385)[1]	-328/392°F or -200/200°C
PtX 10 ≤ X ≤ 1000 (α =0.00385)[1]	Upper range depending on X-value
Pt100 (α =0.003902)	-328/1832°F or -200/1000°C
Pt100 (α =0.003916)	-328/1832°F or -200/1000°C
Ni100[2]	-76/482°F or -60/250°C
Ni1000[2]	-14/302°F or -10/150°C
Ni120[3]	-94/572°F or -70/300°C
Cu10[4]	-328/500°F or -200/260°C
Input thermocouples	
Types	B, C, E, J, K, L, N, R, S, T, U
Sensor failure	Upscale, downscale or off
Adjustments - zero	Any value within range limits
Adjustments - minimum spans	
Pt100, Pt1000, Ni100, Ni1000	18°F / 10°C
T/C	2 mV
Output	4-20 mA, temperature linear
Operating temperature	-40/185°F or -40/85°C
Galvanic isolation	No
Power supply	8.0...32.0 VDC
Typical accuracy	±0.15% of temperature span
Connection head	DIN B or larger

DIMENSIONS:



[1] IEC 60751, [2] DIN43760, [3] Edison No.7, [4] Edison No.15

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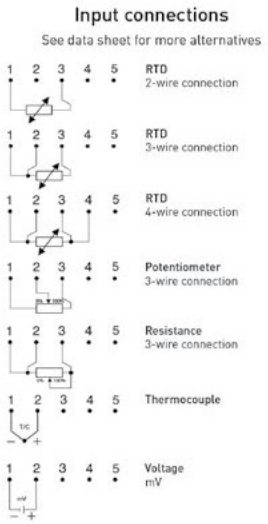
XTRC-1330 UNIVERSAL PC-PROGRAMMABLE TRANSMITTER

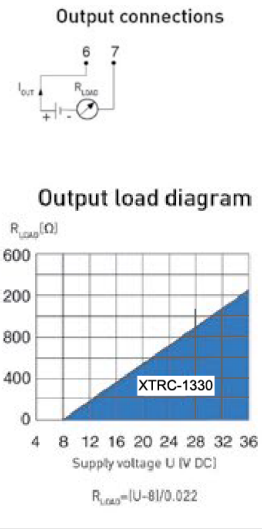
XTRC-1330 is a universal, isolated, temperature transmitter with additional voltage and resistance input. Its robust design and high quality gives excellent performance and accuracy also under harsh conditions.

FEATURES:

- High accuracy and long term stability
- 50-point Customized Linearization and Callendar-Van Dusen
- Accepts RTD, T/C, mV and Ω
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Low temperature drift
- Configuration via USB without external power
- Runtime counter - hour counter for elapsed operational time
- Rugged design tested for 10 g vibrations
- High security - Password protection and date of changes logged

CONNECTIONS

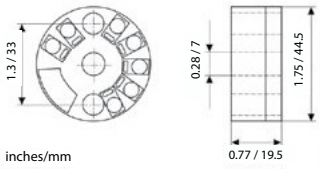




SPECIFICATIONS:

Input RTD	2-, 3-, 4-wire connection
Pt100 (α =0.00385)	-328/1562°F or -200/850°C
PtX 10 ≤ X ≤ 1000 (α =0.00385)	Upper range depending on X-value
Pt100 (α =0.003916)	-328/1562°F or -200/850°C
Ni100[1], Ni120[2]	-76/482°F or -60/250°C
Ni1000[1]	-58/356°F or -50/180°C
Cu10[3]	-58/392°F or -50/200°C
Input resistance / potentiometer	0 to 10,000 Ω / 100 to 10,000 Ω
Input thermocouples	Types B, C, D, E, J, K, N, R, S, T
Input mV	-10 to 1,000 mV
Sensor failure	Upscale (≥21.0 mA) or downscale (≤3.6 mA) action
Adjustments - zero	Any value within range limits
Adjustments - minimum spans	
Pt100, Pt1000, Ni100, Ni1000	18°F / 10°C
Potentiometer	10 Ω
T/C, mV	2 mV
Output	4-20 / 20-4 mA, temperature linear
Operating temperature	-40/185°F or -40/85°C
Galvanic isolation	1500 VAC, 1 min
Power supply	8.5...36.0 VDC
Intrinsic safety	Call for ATEX, IECEx, FM US/CA availability
Typical accuracy	±0.08°C or ±0.08% of span
Connection head	DIN B or larger

DIMENSIONS:



[1] DIN43760, [2] Edison No.7, [3] Edison No.15

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XTRC-1530 UNIVERSAL HART®-COMPATIBLE TRANSMITTER

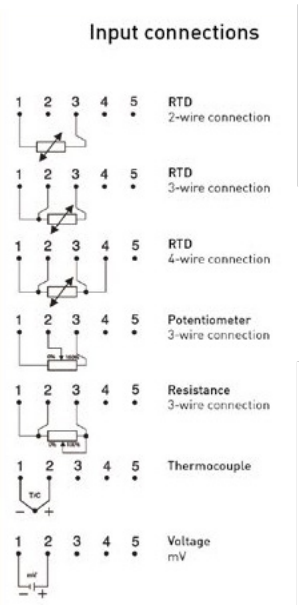
XTRC-1530 is a modern, HART temperature transmitter developed to meet the highest standards of accuracy and reliability. This universal transmitter is compatible with RTD, thermocouples, voltage and potentiometer sensors. It is fully compatible with HART 7 and offers extended diagnostic information, for example device error, sensor and wiring conditions.

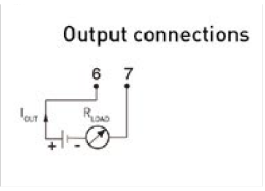
XTRC-1530 can be configured using the USB capable configuration kit (sold separately).

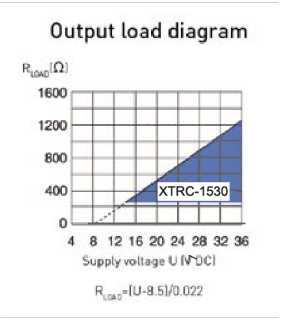
➤ FEATURES:

- High accuracy and long term stability
- Accepts RTD, T/C, mV and ohm
- Sensor error and system (sensor/transmitter) error correction
- 50-point Customized Linearization and Callendar-Van Dusen
- Rugged design tested for 10 g vibrations
- Configuration via USB, without external power
- Runtime counter - hour counter for elapsed operational time

➤ CONNECTIONS





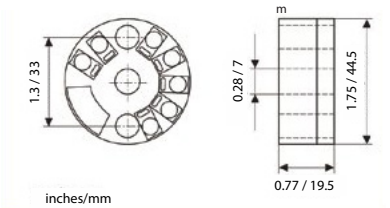


➤ SPECIFICATIONS:

Input RTD	2-, 3-, 4-wire connection
Pt100 (α =0.00385)	-328/1562°F or -200/850°C
PtX 10 ≤ X ≤ 1000 (α =0.00385)	Upper range depending on X-value
Pt100 (α =0.003916)	-328/1562°F or -200/850°C
Ni100[1], Ni120[2]	-76/482°F or -60/250°C
Ni1000[1]	-58/356°F or -50/180°C
Cu10[3]	-58/392°F or -50/200°C
Input resistance / potentiometer	0 to 10,000 Ω / 100 to 10,000 Ω
Input thermocouples	Types B, C, D, E, J, K, N, R, S, T
Input mV	-10 to 1,000 mV
Sensor failure	Upscale (≥21.0 mA) or downscale (≤3.6 mA) action
Adjustments - zero	Any value within range limits
Adjustments - minimum spans	
Pt100, Pt1000, Ni100, Ni1000	18°F or 10°C
Potentiometer	10 Ω
T/C, mV	2 mV
Output	4-20 / 20-4 mA, temperature linear
Operating temperature	-40/185°F or -40/85°C
Galvanic isolation	1500 VAC, 1 min
Power supply	8.5...36.0 VDC
Intrinsic safety	Call for information on ATEX, IECEx, FM US/CA models
Typical accuracy	±0.08°C or ±0.08% of span
Connection head	DIN B or larger

[1]IEC 60751, α=0.00385 and Pt100 acc. to JIS 1604, α=0.003916
[2]DIN 43760
[3]Temperature, resistance or voltage linear, customized linearization possible

➤ DIMENSIONS:



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XTRC1530
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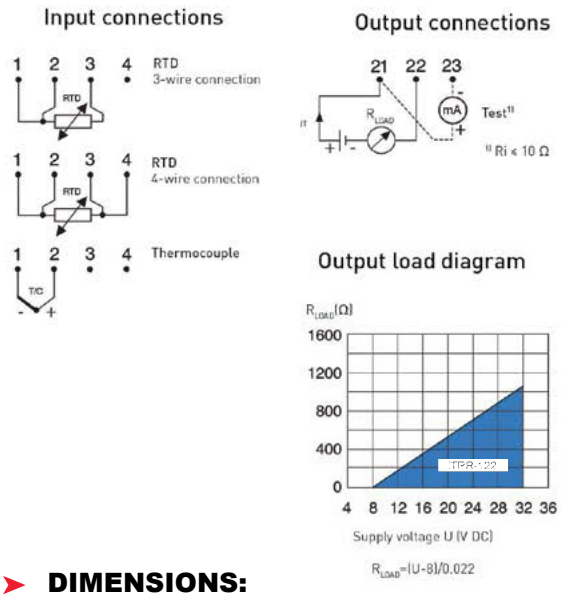
XTRR-1220 BASIC PROGRAMMABLE TRANSMITTER

XTRR-1220 is a basic, programmable non-isolated, easy-to-use transmitter. Configuration is made in seconds with the user friendly Windows software. No external power supply required for configuration. XTRR-1220 is programmable for RTDs in 3- and 4-wire connection according to different standards as well as for 11 T/C types. Useful error correction functions improve the accuracy.

FEATURES:

- Accepts RTD in 3- and 4-wire connection and 11 T/C types
- Temperature linear output
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Configuration without external power through USB
- Easy-to-use Windows configuration software
- Test output without breaking the loop
- Withstands vibrations up to 5 g

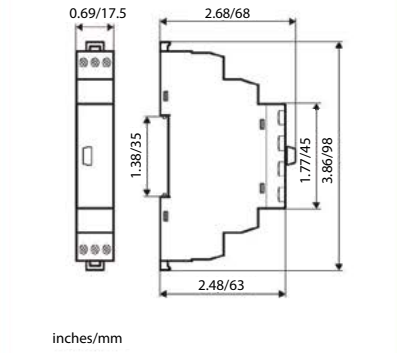
CONNECTIONS



SPECIFICATIONS:

Input RTD	3-, 4-wire connection
Pt100 (α =0.00385)[1]	-328/1832°F or -200/1000°C
Pt1000 (α=0.00385)[1]	-328/392°F or -200/200°C
PtX 10 ≤ X ≤ 1000 (α =0.00385)[1]	Upper range depending on X-value
Pt100 (α =0.003902)	-328/1832°F or -200/1000°C
Pt100 (α =0.003916)	-328/1832°F or -200/1000°C
Ni100[2]	-76/482°F or -60 /250°C
Ni1000[2]	14/302°F or -10/150°C
Ni120[3]	-94/572°F or -70/300°C
Cu10[4]	-328/500°F or -200/260°C
Input thermocouples	
Types	B, C, E, J, K, L, N, R, S, T, U
Sensor failure	Upscale, downscale or off
Adjustments - zero	Any value within range limits
Adjustments - minimum spans	
Pt100, Pt1000, Ni100, Ni1000	18°F / 10°C
T/C	2 mV
Output	4-20 mA, temperature linear
Operating temperature	-4/158°F or -20/70°C
Galvanic isolation	No
Power supply	8.0...32.0 VDC
Typical accuracy	±0.15% of temperature span
Connection head	Rail acc. to DIN EN 50022, 35 mm

DIMENSIONS:



[1]IEC 60751, [2]DIN43760, [3]Edison No.7, [4]Edison No.15

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XTRR-1330 UNIVERSAL PC-PROGRAMMABLE TRANSMITTER

XTRR-1330 is a universal, isolated, temperature transmitter designed to excel at flexability, accuracy and reliability. A wide range of inputs including RTD, thermocouple, voltage, and potentiometer sensors reduce the number of installed variants.

FEATURES:

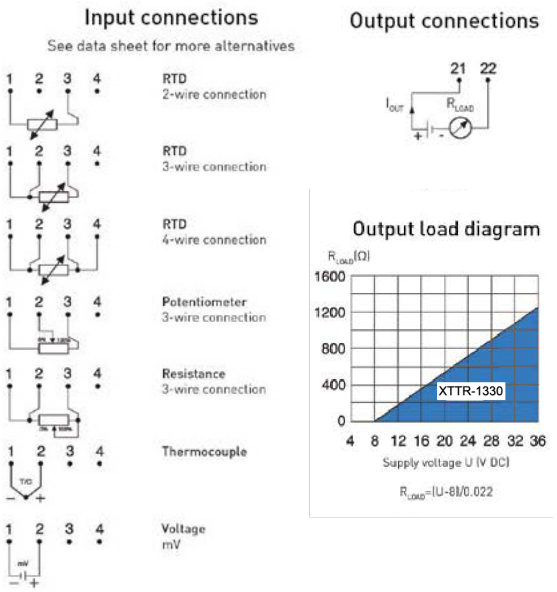
- High accuracy and long term stability
- 50-point Customized Linearization and Callendar-Van Dusen
- Accepts RTD, T/C, mV and Ω
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Low temperature drift
- Configuration via USB, without external power
- Runtime counter - hour counter for elapsed operational time

SPECIFICATIONS:

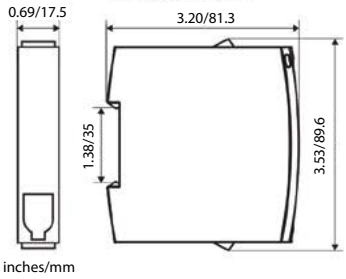
Input RTD	2-, 3-, 4-wire connection
Pt100 (α =0.00385)	-328/1562°F or -200/850°C
PtX 10 ≤ X ≤ 1000 (α =0.00385)	Upper range depending on X-value
Pt100 (α =0.003916)	-328/1562°F or -200/850°C
Ni100[1], Ni120[2]	-76/482°F or -60/250°C
Ni1000[1]	-58/356°F or -50/180°C
Cu10[3]	-58/392°F or -50/200°C
Input Resistance / potentiometer	0 to 10,000 Ω / 100 to 10,000 Ω
Input Thermocouples	Types B, C, D, E, J, K, N, R, S, T
Input mV	-10 to 1,000 mV
Sensor failure	Upscale (≥21.0 mA) or downscale (≤3.6 mA) action
Adjustments - Zero	Any value within range limits
Adjustments - Minimum spans	
Pt100, Pt1000, Ni100, Ni1000	18°F / 10°C
Potentiometer	10 Ω
T/C, mV	2 mV
Output	4-20 / 20-4 mA, temperature linear
Operating temperature	-40/185°F or -40/85°C
Galvanic isolation	1500 VAC, 1 min
Power supply	8.5...36.0 VDC
Intrinsic safety	Call for ATEX, IECEx, FM US/CA availability
Typical accuracy	±0.08°C or ±0.08% of span
Connection head	Rail acc. to DIN EN 50022, 35 mm

[1]DIN43760, [2]Edison No.7, [3]Edison No.15

CONNECTIONS



DIMENSIONS:



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XTRR-1530 UNIVERSAL HART®-COMPATIBLE TRANSMITTER

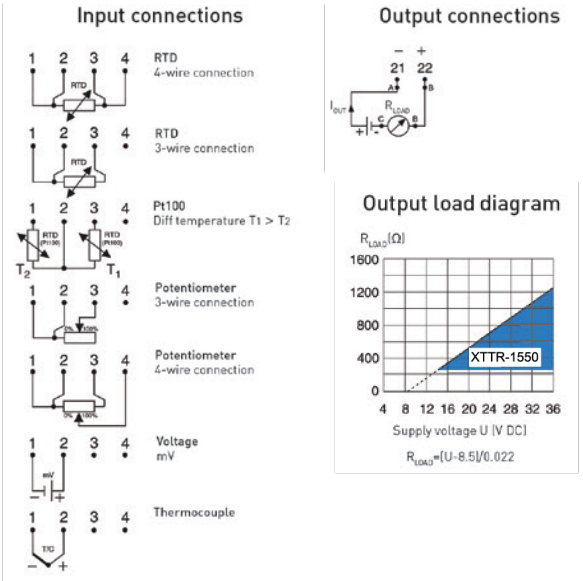
XTRR-1530 is a modern, HART temperature transmitter developed to meet the highest standards of accuracy and reliability. This universal transmitter is compatible with RTD, thermocouples, voltage and potentiometer sensors. It is fully compatible with HART 7 and offers extended diagnostic information, for example device error, sensor and wiring conditions.

XTRR-1530 can be configured using the USB capable configuration kit (sold separately).

➤ FEATURES:

- High accuracy and long term stability
- Accepts RTD, T/C, mV and ohm
- Sensor error correction
- 50-point Customized Linearization and Callendar-Van Dusen
- Low temperature drift
- High security - Password protection and date of changes logged
- Configuration via USB, without external power
- Runtime counter - hour counter for elapsed operational time

➤ CONNECTIONS

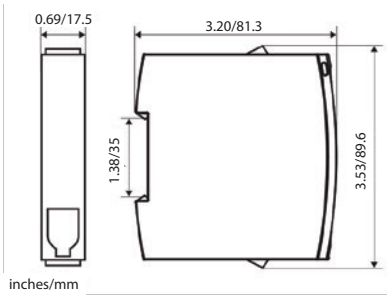


➤ SPECIFICATIONS:

Input RTD	2-, 3-, 4-wire connection
Pt100 (α =0.00385)	-328/1562°F or -200/850°C
PtX 10 ≤ X ≤ 1000 (α =0.00385)	Upper range depending on X-value
Pt100 (α =0.003916)	-328/1562°F or -200/850°C
Ni100[1], Ni120[2]	-76/482°F or -60/250°C
Ni1000[1]	-58/356°F or -50/180°C
Cu10[3]	-58/392°F or -50/200°C
Input resistance / potentiometer	0 to 10,000 Ω / 100 to 10,000 Ω
Input thermocouples	Types B, C, D, E, J, K, N, R, S, T
Input mV	-10 to 1,000 mV
Sensor failure	Upscale (≥21.0 mA) or downscale (≤3.6 mA) action
Adjustments - zero	Any value within range limits
Adjustments - minimum spans	
Pt100, Pt1000, Ni100, Ni1000	18°F / 10°C
Potentiometer	100 Ω
T/C, mV	2 mV
Output	4-20 / 20-4 mA, temperature linear
Operating temperature	-40/185°F or -40/85°C
Galvanic isolation	1500 VAC, 1 min
Power supply	8.5...36.0 VDC
Intrinsic safety	Call for information on ATEX, IECEx, FM US/CA models
Typical accuracy	±0.08°C or ±0.08% of span
Connection head	DIN B or larger

[1]IEC 60751, α=0.00385 and Pt100 acc. to JIS 1604, α=0.003916 [2]DIN 43760
[3]Temperature, resistance or voltage linear, customized linearziation possible

➤ DIMENSIONS:



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