



# THERMALERT TX

The Thermalert® TX™ combines high performance noncontact temperature measurement with industry standard two-wire technology. Choose between the smart TX sensor with remotely addressable digital control, or the basic TX.

Smart TX sensors provide digital communications, as well as 4-20 mA output, allowing remote configuration and monitoring. Up to 15 sensors can be installed on a single multidrop network.

Smart TX sensors feature remotely adjustable temperature and output subranges, adjustable emissivity, ambient temperature check, and a user-defined alarm output. Averaging and Advanced Peak/Valley Hold algorithms are provided for accurate measurement of complex discrete processes.

DataTemp® TX Windows® software provides an easy-to-use interface for configuration and monitoring. Temperatures can be archived or exported to other applications for analysis and process documentation.

Basic TX models provide the same accuracy, repeatability, and response time as the smart TX sensors, with fixed temperature and output ranges. Emissivity on these models is switched manually at the sensor.

## Highlights:

- Simple, two-wire installation
- Simultaneous 4-20 mA and digital output for smart TX sensors
- Compact, rugged sensor with NEMA-4 (IP 65) rating
- Wide temperature range from -18 to 2000°C (0 to 3600°F)
- Advanced signal processing
- Point-to-point or multidrop installation
- Install up to 15 sensors on a single multidrop network
- Windows software for remote configuration and monitoring
- Wide choice of focus distances
- Special models for glass and plastics applications

## Measurement Specifications

Model:	Spectral Response:	Temperature Range:
LT (Low Temp)	8 to 14 $\mu\text{m}$	-18 to 500°C (0 to 1000°F)
LTO (Low Temp)	8 to 14 $\mu\text{m}$	0 to 500°C (32 to 932°F)
MT (Medium Temp)	3.9 $\mu\text{m}$	200 to 1000°C (400 to 1800°F)
HT (High Temp)	2.2 $\mu\text{m}$	500 to 2000°C (950 to 3600°F)
G5 (Glass)	5.0 $\mu\text{m}$	250 to 1650°C (500 to 3000°F)
P7 (Plastics)	7.9 $\mu\text{m}$	10 to 360°C (50 to 650°F)
Accuracy	$\pm 1\%$ of measured value or $\pm 1.4^\circ\text{C}$ ( $2.5^\circ\text{F}$ ), whichever is greater, @23°C $\pm 5^\circ\text{C}$ (73°F $\pm 9^\circ\text{F}$ )	
Repeatability	$\pm 0.5\%$ of measured value or $\pm 0.7^\circ\text{C}$ ( $1.2^\circ\text{F}$ ), whichever is greater	
Temperature Resolution	1°C ( $2^\circ\text{F}$ ) for all models except LT; 0.1°C ( $0.2^\circ\text{F}$ ) LT only	
Response Time (95%)	165 mSec (100 mSec for HT models)	
Emissivity	Adjustable; 0.10 to 1.00 for all models	
Signal Processing (smart models)	°C/°F, Advanced Peak/Valley Hold, Averaging, Ambient temperature compensation	

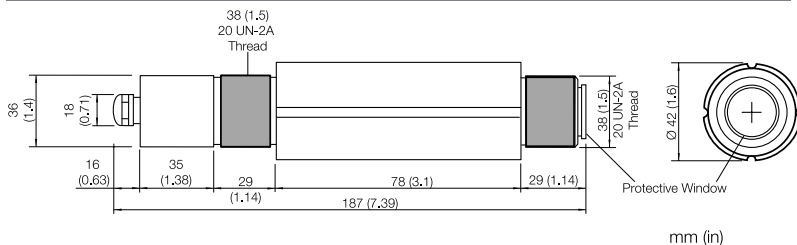
## Electrical Specifications

Outputs:	
Analog	4-20 mA (all models), max. loop resistance 700 ohms@24 VDC
Digital (Smart models)	Hart® or RS-232 (with optional adapter)
Alarm (Smart models)	24 V/150 mA; adjustable setpoints, deadband, normally open/closed settings
Power Supply	12-24 VDC $\pm 20\%$ (Basic models); 24 VDC $\pm 10\%$ (Smart models) 4-20 mA loop power for both Basic and Smart models

## General Specifications

Environmental Rating	NEMA-4 (IP 65)
Ambient Temperature Range:	0 to 70°C (32 to 160°F)
With air cooling	up to 120°C (up to 250°F)
With water cooling	up to 175°C (up to 350°F)
With ThermoJacket™	up to 315°C (up to 600°F)
Storage Temperature	-18 to 85°C (0 to 185°F)
Relative Humidity	10 to 95%, non-condensing
Shock:	IEC 68-2-27 (MIL STD 810D)
	50 g's, 11 mSec, any axis
Vibration:	IEC 68-2-27 (MIL STD 810D)
	3 g's, any axis, 11-200 Hz
Dimensions:	187 mm L x 42 mm diameter (7.4 in L x 1.7 in diameter)
With cooling housing	187 mm L x 60 mm diameter (7.4 in L x 2.4 in diameter)
Weight:	330 g (0.72 lbs)
With cooling housing	595 g (1.3 lbs)

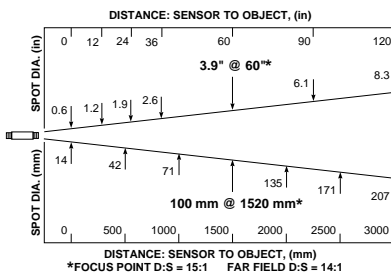
## General Dimensions



## Nominal Optical Specifications

(Note: Nominal Spot Size based on 90% energy)

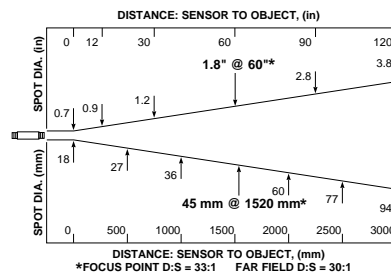
### Standard Resolution (LT and LTO models)



CLOSE FOCUS OPTION			
Distance to Object		Spot Diameter	
mm	in	mm	in
0	0	10.0	0.4
50	2	7.5	0.3*
500	24	115	5.6

\*focus point

### High Resolution (LT, LTO, MT, G5, and P7 models)



CLOSE FOCUS OPTION 1			
Distance to Object		Spot Diameter	
mm	in	mm	in
0	0	16	0.6
76	3	2.5	0.1*
500	24	92	4.6

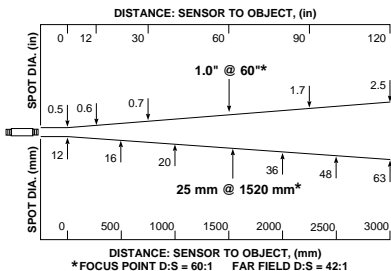
### CLOSE FOCUS OPTION 2

mm	in	mm	in
0	0	17	0.7
200	8	6.4	0.25*
450	18	32	1.3

\*focus point

Close Focus options not available for G5 or P7

### High Resolution (HT model)



CLOSE FOCUS OPTION 1			
Distance to Object		Spot Diameter	
mm	in	mm	in
0	0	11	0.4
76	3	1.3	0.05*
500	24	66	3.3

### CLOSE FOCUS OPTION 2

mm	in	mm	in
0	0	11	0.4
200	8	3.4	0.13*
450	18	22	0.9

\*focus point

## Remote Communications Kit

Required for smart models, the kit includes the HART® protocol/RS-232 adapter and the Windows DataTemp TX software package. One kit serves multiple sensors. Requires RS-232 serial port voltage and Windows 95, Windows 98, or Windows NT.

## Accessories / Options\*

- Sighting viewer
- NIST/DKD calibration certificate\*
- Intrinsic safety\* (call for specifications)
- Optional air-/water-cooled housing\*
- °C/°F (must be specified for basic models)\*
- Air purge collar
- Protective window
- Right angle mirror
- ThermoJacket enclosure

\* Must be specified at time of order

Specifications subject to change without notice.

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