

Thermalert® 4.0

Datasheet



Highlights

- Wide temperature range from -40 to 2250 °C (-40 to 4082 °F)
- Multiple spectral models for any kind of application, such as metals, glass and plastics
- Best in class ambient temperature up to 85 °C (185 °F)
- Wide choice of optics
- Fast response time down to 30 ms
- Laser sighting (except LT-07, LT-15, P3)
- Compact, rugged design in stainless steel
- Galvanic isolated outputs
- Real time background temperature compensation
- Simple, two-wire installation or RS485 communication
- Software for remote configuration, monitoring and field calibration

General Specifications

Environmental Rating	IP65 / NEMA-4
Operating Ambient Temperature	
without cooling	-20 to 85°C (-4 to 185°F)
with air cooling	120°C (248°F)
with water cooling	175°C (347°F)
with ThermoJacket	315°C (599°F)
Storage Temperature	-20 to 85°C (-4 to 185°F)
Relative Humidity	10 to 95%, non-condensing
Dimension	185 mm (7.2 inch) for 2 wire / 6 wire models
	165 mm (6.4 inch) for 12 wire model
Weight	500 g (17.6 oz)

Measurement Specifications

Temperature Range	
LT-07, LT-15, LT-30	-20 to 600°C (-4 to 1112°F)
LT-50, LT-70	-40 to 1000°C (-40 to 1832°F)
P7-30	10 to 360°C (50 to 680°F)
G7-70	300 to 900°C (572 to 1652°F)
G5-30	250 to 1650°C (482 to 3002°F)
G5-70	450 to 2250°C (842 to 4082°F)
MT-30	200 to 1000°C (392 to 1832°F)

Temperature Range

MT-70	450 to 2250°C (842 to 4082°F)
P3-20	25 to 450°C (77 to 842°F)
HT-60	500 to 2000°C (932 to 3632°F)

Spectral Response

LT-07, LT-15, LT-30, LT-50, LT-70	8 to 14 µm
P7-30, G7-70	7.9 µm
G5-30, G5-70	5 µm
MT-30, MT-70	3.9 µm
P3-20	3.43 µm
HT-60	2.2 µm

System Accuracy¹

P3-20	±(3°C + 1% of reading) for T _{meas} > 75°C (167°F)
All other models	±1% of reading or ±1.0°C (2.0°F) for T _{meas} > 0°C (32°F)
	for T _{meas} ≤ 0°C (32°F): ±[1.0°C + 0.1* (0°C - T _{meas})] with T _{meas} in °C ±[2.0°F + 0.1* (32°F - T _{meas})] with T _{meas} in °F

Repeatability²

P3-20	±1°C (2°F) or 0.5% of reading ³
All other models	±0.3°C (0.6°F) or 0.3% of reading ³

Response Time⁴

LT-50, LT-70, P7-30, G7-70, MT-30, MT-70, HT-60	130 ms
LT-07, LT-15⁵	150 ms
P3-20	130 ms ⁶
LT-30	30 ms
G5-30, G5-70	60 ms

¹ at ambient temperature 23°C ± 5°C (73°F ± 9°F), ε = 1.0, and calibration geometry

² at ambient temperature 23°C ± 5°C (73°F ± 9°F)

³ whichever is greater

⁴ 90% value

⁵ Plastic lens only

⁶ 10 s for T target < 150°C (302°F)

Optical Specifications

Optical Resolution	D:S	Focus Distance
LT-07	7:1	CFO
LT-15	15:1	SFO
LT-30	33:1	SFO, CF1, CF2
LT-50	50:1	SFO, CF2
LT-70	70:1	SF2, CF2
P7-30	33:1	SFO
G7-70	70:1	SF2
G5-30	33:1	SFO
G5-70	70:1	SF2
MT-30	33:1	SFO, CF1, CF2
MT-70	70:1	SF2, CF1, CF2
P3-20	20:1	SF4
HT-60	60:1	SFO, CF1, CF2

Focus Distances

SFO	1520 mm (60 in)
SF2	1250 mm (49 in)
SF4	500 mm (20 in)
CFO	50 mm (2 in)
CF1	76 mm (3 in)
CF2	200 mm (7.9 in)

Electrical Specifications

Power Supply

2-Wires	12 to 24 VDC
6/12-Wires	24 VDC nominal (20 to 48 VDC), 100 mA @ 24 V

2-Wires

Analog	4 to 20 mA
Digital	USB (for setup only)

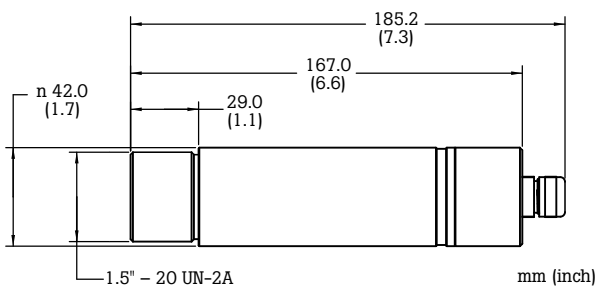
6-Wires

Analog	0/4 to 20 mA, 0 to 10 V, J/K thermocouple
Digital	RS485, USB (for setup only)

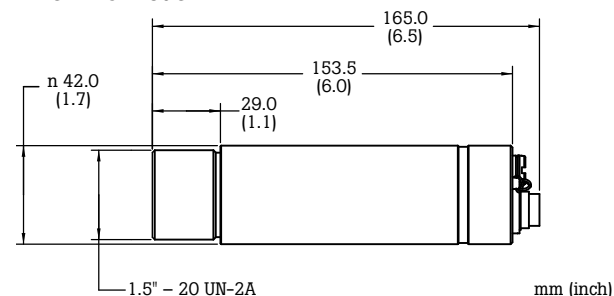
12-Wires

Analog	output 0/4 to 20 mA, 0 to 10 V, input 0 to 10 V 0 to 10 V for emissivity setting, and background temperature compensation
Digital	RS485, USB (for setup only) alarm output, trigger input

2-Wire and 6-Wire terminal block model



12 Wire M16 model



The Fluke Process Instruments Guarantee

The Thermalert 4.0 Series is supported by a 2 year warranty. With a network of trained representatives and agents in over one hundred countries and offices located in the U.S., Germany and China, we provide local service and support.

Fluke Process Instruments

Americas

Everett, WA USA
Tel: +1 800 227 8074 (USA and Canada, only)
+1 425 446 6300
solutions@flukeprocessinstruments.com

EMEA

Berlin, Germany
Tel: +49 30 4 78 00 80
info@flukeprocessinstruments.de

China

Beijing, China
Tel: +8610 6438 4691
info@flukeprocessinstruments.cn

Japan

Tokyo, Japan
Tel: +81 03 6714 3114
info@flukeprocessinstruments.jp

Asia East and South

India Tel: +91 22 6249 5028
Singapore Tel: +65 6799 5578
sales.asia@flukeprocessinstruments.com

Worldwide Service

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