

## Highlights

- Wide temperature range: -18 to 2000°C
- Simple, two-wire installation for simultaneous 4-20 mA and digital output
- Wide choice of optics
- Special models for glass and plastics applications
- Rugged accessories for harsh industrial environments
- Optional stainless steel versions
- Advanced signal processing
- Install up to 15 sensors on a single multidrop network
- Windows software for remote configuration and monitoring
- For use in potentially explosive atmospheres with intrinsically-safe ratings for dust and gas

## Electrical Specifications

### Outputs

Analog	4-20 mA, max. loop resistance 700 Ω
Digital (Smart models)	HART® to RS232 (with optional adapter)
Alarm (Smart models)	24 V / 150 mA; adjustable setpoints, deadband, normally open/closed settings

### Power Supply

12 - 24 VDC ±20% (Standard models)
24 VDC ±10% (Smart models)

## General Specifications

**Environmental Rating** IP65 (IEC529)

### Ambient Temperature

without cooling	0 to 70°C
with air cooling	up to 120°C
with water cooling	up to 175°C
with ThermoJacket™	up to 315°C

### Storage Temperature

-18 to 85°C

### Relative Humidity

10 to 95%, non-condensing

### Shock

IEC 68-2-27, 50 G, 11 ms, any axis

### Vibration

IEC 68-2-27, 3 G, any axis, 11 – 200 Hz

### Dimension

187 mm L x 42 mm Ø

with cooling jacket 187 mm L x 60 mm Ø

### Weight

330 g

with cooling jacket 595 g

## Thermalert Series

## TX Datasheet



## Measurement Specifications

### Spectral/Temperature Ranges

LT/LTP (Low Temp.)	8 to 14 μm	-18 to 500°C
MT (Medium Temp.)	3.9 μm	200 to 1000°C
HT (High Temp.)	2.2 μm	500 to 2000°C
G5 (Glass)	5.0 μm	250 to 1650°C
P7 (Plastic)	7.9 μm	10 to 360°C

### Optical Resolution<sup>1</sup>

LT, MT, G5, P7	33 : 1
LTP	15 : 1 (Fresnel optics)
HT	60 : 1

### System Accuracy

±1% or ±1.4°C<sup>2,3</sup>

### Repeatability

±0.5% or ±0.7°C<sup>3</sup>

### Temperature Resolution

LT	0.1°C
all other models	1°C

### System Response Time<sup>4</sup>

HT	100 ms
all other models	165 ms

### Emissivity

adjustable: 0.10 to 1.00

### Signal Processing

Standard model	emissivity
Smart model	emissivity, °C/°F, advanced peak / valley hold, averaging, background radiation compensation

<sup>1</sup> 90% energy, standard focus optics

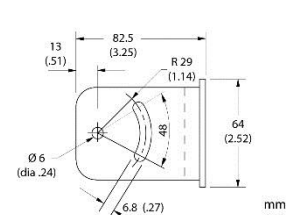
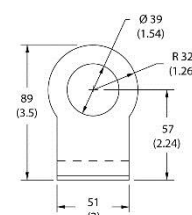
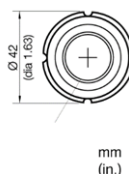
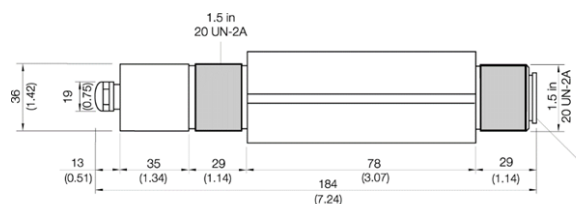
<sup>2</sup> at ambient temperature 23°C ± 5°C

<sup>3</sup> whichever is greater

<sup>4</sup> 95% value

## Sensor and Fixed Bracket

Each sensor comes with a fixed bracket, a mounting nut, and an operator's manual. All models have 4 to 20 mA output.

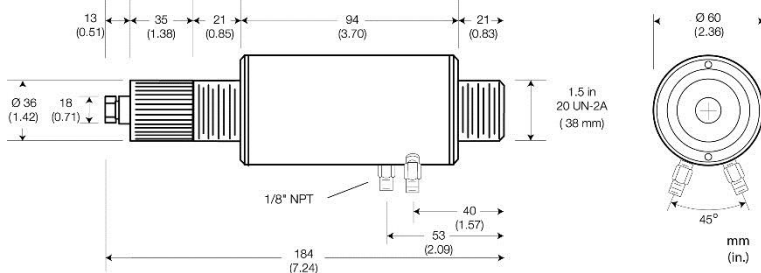


Fixed Bracket (XXXXXXACFB)

## Options

Options must be specified at time of order.

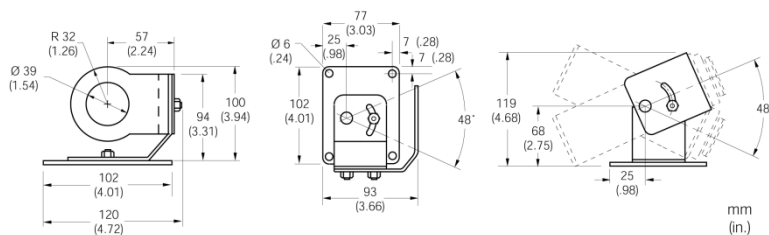
- Manufacturer's calibration certificate based on NIST/DKD probes (XXTXCERT)
- Intrinsically-Safe Ratings  
EX II 2G Ex ib IIC T4 Gb (gases/vapors)  
EX II 2D Ex ib IIIC T135°C Db IP65 (dusts)  
TXS models (...IS4), TXS models in stainless steel (...IS5)
- Water/Air Cooled Housing incl. Air Purge Collar (...W), optional in stainless steel



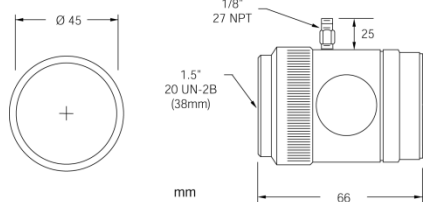
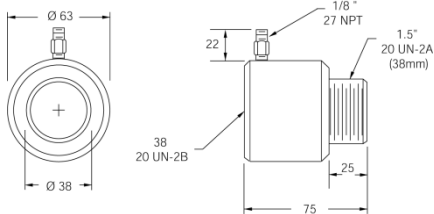
## Accessories

- Sighting Viewer Tool (XXTXXACSV)
- Protective Window according to spectral range (XXTXXACTW...)
- ThermoJacket: extra rugged cast metal housing for thermal/mechanical environmental protection (RAYTXXTJ3M), see also ThermoJacket datasheet

### Adjustable Bracket (XXTXXACAB)



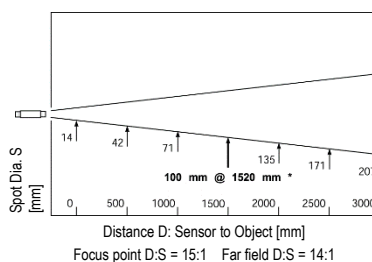
### Air Purge Collar (XXTXXACAP)



**Right Angle Mirror** for measuring targets at right angles to sensor axis (XXTXXACRA)

## Optical Specifications

### Standard Focus: LTP models

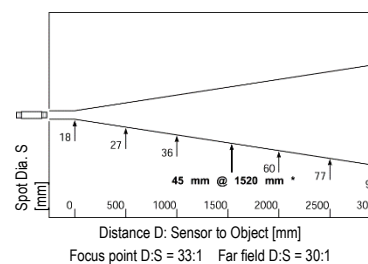


Close Focus Option CF	
D (mm)	S (mm)
0	10
50	7,5*
500	115

D:S = 7:1, Far Field = 4:1

\*focus point

### Standard Focus: LT, MT, G5, P7 models



Close Focus Option CF1	
D (mm)	S (mm)
0	16
76	2,5*
500	92

D:S = 30:1, Far Field = 5:1

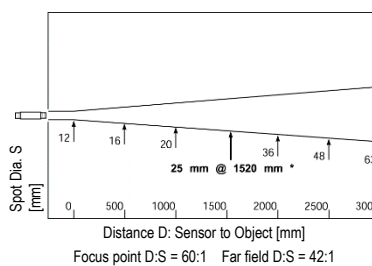
Close Focus Option CF2	
D (mm)	S (mm)
0	17
200	6,4*
450	32

D:S = 32:1, Far Field = 10:1

\*focus point

Close Focus not available for G5 and P7

### Standard Focus: HT models



Close Focus Option 1	
D (mm)	S (mm)
0	11
76	1,3*
500	66

D:S = 60:1, Far Field = 7:1

Close Focus Option 2	
D (mm)	S (mm)
0	11
200	3,4*
450	22

D:S = 60:1, Far Field = 14:1

\*focus point

## Remote Communication Kit

Required for smart models, the kit (XXTXACRCK) includes the HART/RS232 adapter and the Windows DataTemp Multidrop software package. One kit serves multiple sensors. Requires RS232 serial port and Windows 2000/XP/Vista/Win7.

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### Worldwide Service

Fluke Process Instruments offers services, including repair and calibration. For more information, contact your local office.

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