

## Highlights

- Multiple temperature and spectral ranges
- Local user-interface for sensor programming
- User-selectable 0/4-20 mA, 0-5 V, J or K thermocouple output
- User-scalable 0/4-20 mA or 0-5 V output
- Simultaneous analog and digital RS485 outputs
- Choice of terminal wiring or DIN connector wiring
- Laser sighting for high resolution optics (LTH models)
- Optional stainless steel housing
- Field Calibration software

# XR

## Datasheet



### Electrical Specifications

<b>Outputs</b>	
Analog	4-20 mA, 0-20 mA, 0-5V, J or K thermocouple (with terminal connector)
Digital	RS485 (bidirectional)
Alarm	opto-coupled contact closure
<b>Inputs</b>	
	Emissivity setting, background radiation compensation, trigger, laser control
<b>Power Supply</b>	24 VDC $\pm$ 20%, 100 mA

### General Specifications

<b>Environmental Rating</b>	IP65 (IEC529), with DIN connector only
<b>Ambient Temperature</b>	
without cooling	0 to 70°C
with air cooling	120°C
with water cooling	175°C
with ThermoJacket	315°C
with laser	40°C
<b>Storage Temperature</b>	-20 to 70°C
<b>Relative Humidity</b>	10 to 95%, non-condensing
<b>Shock</b>	IEC 68-2-27, 50 G, 11 ms, 3 axis
<b>Vibration</b>	IEC 68-2-6, 3 G, 11 – 200 Hz, 3 axis
<b>Dimension</b>	
with cooling jacket	192 mm L x 42 mm diameter
	192 mm L x 63 mm diameter
<b>Weight</b>	
with cooling jacket	585 g
	675 g

### Measurement Specifications

<b>Temperature/Spectral Ranges</b>		
LT/LTHSF (Low Temp.)	-40 to 600°C	8 to 14 $\mu$ m
MT (Medium Temp.)	250 to 1200°C	3,9 $\mu$ m
G5 (Glass)	250 to 1650°C	5,0 $\mu$ m
P7 (Plastic)	10 to 350°C	7,9 $\mu$ m
<b>Optical Resolution<sup>1</sup></b>		
LTHSF	50 : 1	
LT, G5	33 : 1	
MT, P7	30 : 1	
<b>System Accuracy</b>		
	$\pm$ 1% or $\pm$ 1,0°C <sup>2,3</sup>	
<b>Repeatability</b>		
	$\pm$ 0,5% or $\pm$ 0,5°C <sup>3,4</sup>	
<b>Temperature Resolution</b>		
P7	1,0°C	
all other models	0,5°C	
<b>Response Time (95%)</b>		
all models	150 ms	
<b>Emissivity</b>		
	adjustable: 0,100 to 1,100	
<b>Signal Processing</b>		
	°C/°F, Min, Max, Average, advanced hold, ambient background temperature compensation	

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

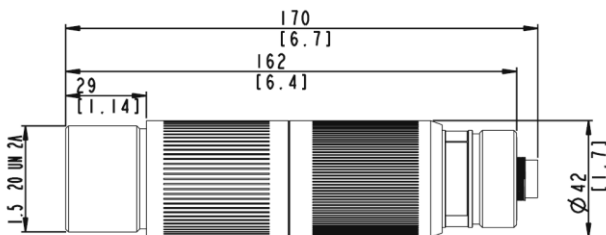
<sup>2</sup> at ambient temperature 23°C  $\pm$  5°C

<sup>3</sup> whichever is greater

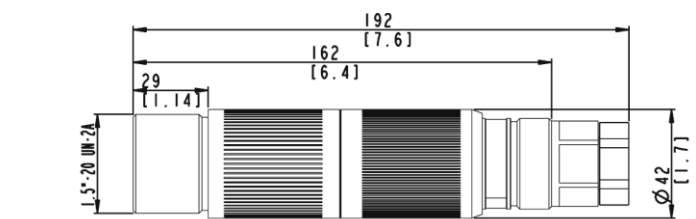
<sup>4</sup> LT: for target temperature > 25°C @ ambient temperature of 23°C; P7: for target temperature > 95°C

### Sensor and Fixed Bracket

Each sensor comes with a fixed bracket, a mounting nut, a software CD and an operator's manual.



Sensor with 12-pin DIN connector



mm [in]

Sensor with terminal connector

## Options

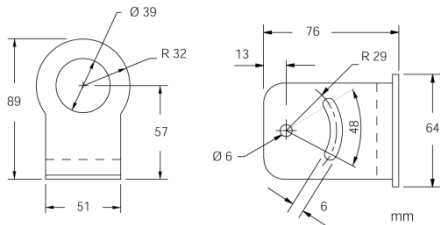
Options must be specified at time of order.

- Manufacturer's calibration certificate based on NIST/DKD probes (XXXXRCERT)

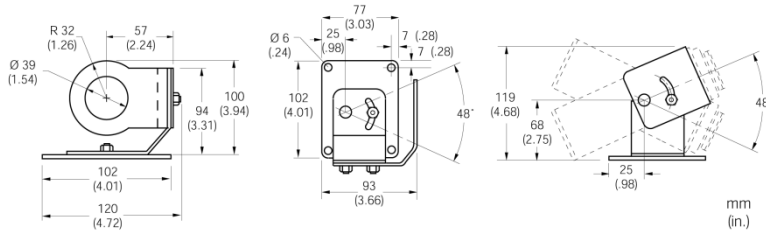
## Accessories

- RS232/485 converter serving for stand-alone or multiple sensors (RAYMINCONV2)
- Protective Windows according to spectral range (XXXTACTW...)
- Cable extensions in different lengths
- Water/Air Cooled Housing for field retrofit as stainless steel (XXXXRACWCS) or aluminium (XXXXRACWCA)
- ThermoJacket: extra rugged cast metal housing for thermal/mechanical environmental protection (RAYTXXTJ5)

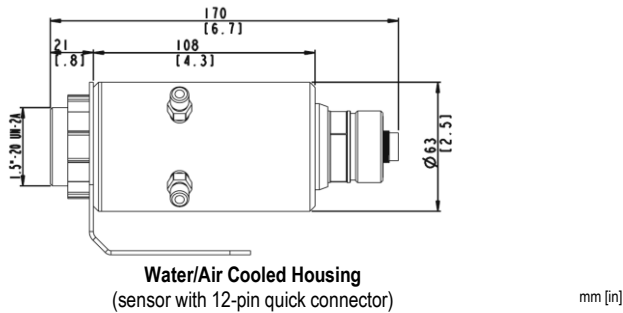
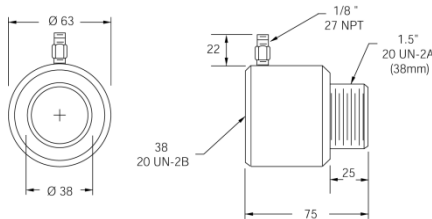
### Fixed Bracket (XXTXXACFB)



### Adjustable Bracket (XXTXXACAB)

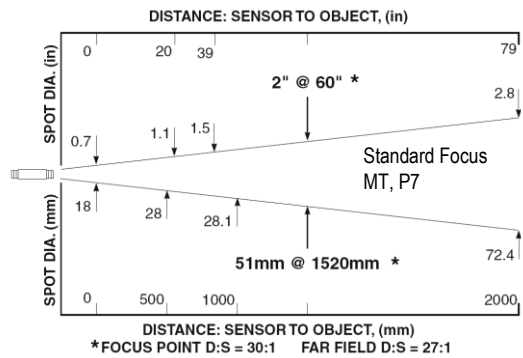
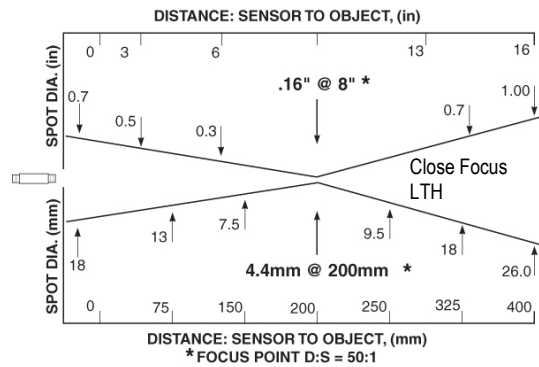
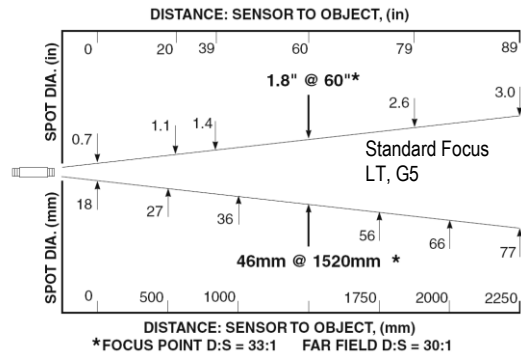


### Air Purge Collar (XXTXXACAP)

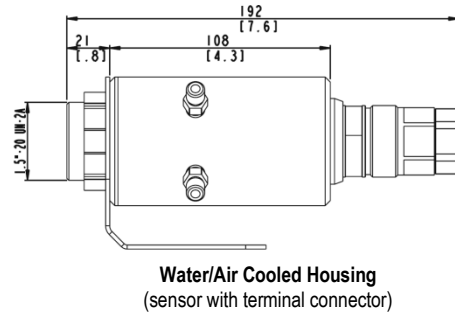


**Water/Air Cooled Housing**  
(sensor with 12-pin quick connector)

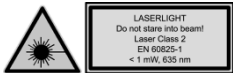
## Optical Specifications



\* D:S for the focus point  
90% energy



**Water/Air Cooled Housing**  
(sensor with terminal connector)



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