Raytek GP
Noncontact Infrared Temperature Sensor

Product Desciption

The GP™ Series is a versatile, two-piece temperature monitoring system which combines a compact, value-priced monitor with an infrared sensing head. The heart of the system is the 1/8 DIN GP monitor which provides advanced infrared processing capabilities including peak and valley hold, averaging, and a user-adjustable offset. The rugged GPR sensor is available with standard- or close-focus optics and provides target temperature readings with 1% accuracy.

Along with its large 4-digit LED display, the monitor provides a user-defined 4-20mA or thermocouple output. Two adjustable setpoints/deadbands control 5V alarm outputs or optional 3A mechanical relays. The GP monitor accepts universal 110-220 VAC power, and provides a 24 VDC/50 mA excitation voltage for loop power to external sensors. All monitor functions are configured via the front panel, including °C/°F switching.

The GP monitor provides adjustable emissivity when used with the GPR and GPM infrared sensors. This high performance, 8 to 14 micron infrared sensor with detachable cable combines current loop driven signals with 35:1 optics.

The GPM sensor is a miniature stainless steel sensing head with 2:1 or 10:1 optics. The GP monitor also works with other Raytek infrared sensors, including the CI and MID.

Highlights:

- Temperature range from -18 to 538°C (0 to 1000°F)
- Compact 1/8 DIN digital monitor with large 4-digit display
- Monitor and sensor functions configured on front panel
- Signal processing capabilities typically found on much larger systems
- Adjustable emissivity
- Universal 110-220 VAC power
- User-defined 4-20 mA or thermocouple output (J,K,E,N,R,S,T)
- Adjustable dual setpoints and deadband alarm outputs
- Choice of sensing head to match application requirements
- Standard- and close-focus optics available
- Accessories for cooling and air purging
- Field interchangeable sensing heads

Raytek®

Raytek GP Series

Measurement Specifications (Monitor w/ Sensing Head)

Spectral Response & Temperature Range:

Sensing Head Model:	Spectral Response:	Temperature Range:
GPR	8 to 14 microns	-18 to 538°C (0 to 1000°F)
GPM	7.6 to 18 microns	-18 to 538°C (0 to 1000°F)

System Accuracy *(mA output)*	±1% of measured value or ±1°C (2°F), whichever is greater, @ 23°C ±5°C (73°F ±9°F)
System Repeatability	±0.5% of measured value or ±1°C (2°F) whichever is greater
Response Time (95%):	
GPR	700 mSec
GPM	1 Sec
Emissivity:	0.1 to 1.09 digitally adjustable increments of .01
Signal Processing:	Peak/Valley Hold (up to 998 sec, 999=infinite hold with external reset) Variable averaging filter (up to 60 seconds) T-ambient: fixed background ambient temperature compensation

Electrical Specifications

Outputs	4-digit, 7 segment LED display, °C/°F selectable
	User configurable 4-20 mA current or thermocouple output (J,K,E,N,R,S,T)
	Two adjustable setpoints with deadbands controlling +5 V alarm outputs or optional 3A mechanical relays
Power Supply	110/220 VAC, ±20%, 50-60 Hz
	User configurable inputs for GPR, GPM, any 0-5 V or 4-20 mA sensor, or thermocouple (J,K,E,N,R,S,T)
	External Reset input to reset Peak/Valley hold
	24 VDC/50 mA excitation voltage

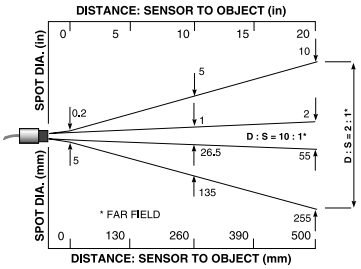
General Specifications

Environmental Rating:	
GP Monitor Front Panel	IP 54 (IEC 529); NEMA-12
GPR Sensing Head	IP 65 (IEC 529); NEMA-4*
GPM Sensing Head	IP 65 (IEC 529); NEMA-4
** GPR rated with adapter and compression fitting*	
Ambient Temperature Range:	
GP Monitor	0 to 50°C (32 to 120°F)
GPR Sensing Head:	0 to 65°C (32 to 150°F)
With optional water cooling	0 to 177°C (32 to 350°F)
GPM Sensing Head:	0 to 85°C (32 to 185°F)
With optional air cooling	0 to 200°C (32 to 392°F)
Storage Temperature	-30 to 65°C (-22 to 150°F)
Relative Humidity	10 to 95%, non-condensing
GP Monitor Dimensions	1/8 DIN x 120 mm (1.75 x 3.63 x 4.75 in)
GP Monitor Weight	320 g (0.7 lbs)

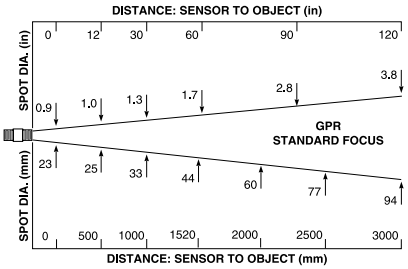
Sensing Head—Optical Specifications

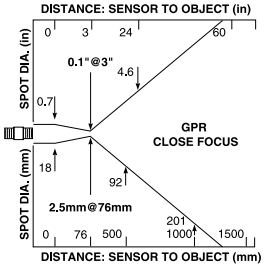
(NOTE: nominal spot size based on 90% energy)

GPM Sensing Head Optical Chart



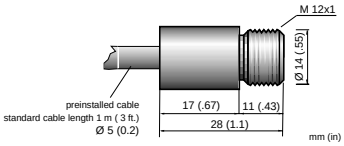
GPR Sensing Head Optical Charts



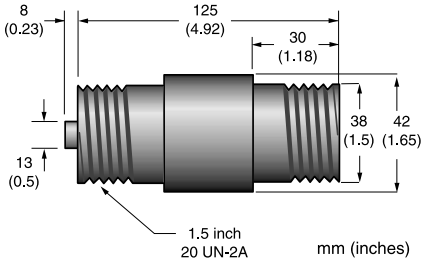


Dimensions

GPM Sensing Head



GPR Sensing Head



Accessories / Options

- Cooling housings for high ambient conditions
- Air purge fittings for sensing heads
- Adjustable mounting brackets and adapters
- External isolated solid state relays for alarm outputs (10 Amp AC)
- 3A mechanical output relays

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