The PRO 40 and 50 series of advanced infrared temperature sensors are ideal for use with targets with low emissivities at high and low temperatures. By operating at short wavelengths they are able to reduce the errors from changing and very low emissivity. The sensitivity to emissivity variation is one quarter (high emissivity targets) to one tenth (low emissivity targets) that of a long wavelength sensor. For this reason, the PRO series 40 and 50 infrared thermometers are able to provide an accurate and reliable temperature reading where others fail.

Narrow fields of view allow very small targets to be accurately measured, and visual or laser aiming is available on all models to ensure that their alignment is correct.

The fibre-optic PRO 50 models allow the sealed sensing head to be positioned near the target, while the electronics are mounted in a more convenient position. Heavy armour is available for the fibre-optic cable to ensure it is safe even in hazardous locations.

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GENERAL SPECIFICATIONS - Continued

Accuracy
0.25% to 0.5% of Reading or 2°C (varies by model)

Repeatability
Better than 1°C

Response Time

Constant Target:
PRO 41 & 51: 5 ms; PRO 42 & 52: 50 ms (update time)

Intermittent Target:
PRO 41 & 51: 5 ms; PRO 42 & 52: 150 ms

(98% of Reading - 4 τ)

CE Certification
EMI / RFI for heavy industry; LVD (Low Voltage Directive)

Ambient Temperature Limits

Sensor Head:
PRO 41 & 51: -17 to 60°C
PRO 42 & 52: -17 to 50°C

Interface Module:
50°C

Sensor w/ Water Cooling:
95-175°C (varies with water rate and temperature)

Fibre Optic Assembly:
200°C

Input Power

Stand-alone Sensor:
24 V DC (300 mA);

With Interface Module:
90-260 V AC, 50/60 Hz

Input and Output Signals

Stand-alone Configuration:

Analogue Mode
• 4-20 mA or 0-20 mA (1000 Ω max. impedance. Shunt resistors produce voltage outputs.)
• TTL Alarm with 2 mA at 5 V DC rating
• External peak hold reset
• Select parameter, scale, & range of output & alarm
• Bi-directional RS485 communications
• RS232 with a converter
• Used to connect to the Interface Module

Digital Mode

System Configuration with Interface Module:

2 Programmable Analogue Outputs
• 4-20 mA or 0-20 mA (1000 Ω max. impedance. Shunt resistors produce voltage outputs.)
• Select parameter, scale, and range

3 Analogue Inputs
• Sample and Hold
• External peak hold reset
• Analogue input for remote parameter adjustments

Bi-directional Serial Comms
• RS232 and RS485 simultaneously

2 Programmable Relay Alarms
• Form C (4 A at 250 V AC or 2.5 A at 30 V DC)
• Select alarm parameter and set point

1 Programmable TTL Alarm
• TTL rating is 2 mA at 5 V DC
• Select alarm parameter and set point

Programmable Output and Alarm Parameters
Filtered Temperature, Unfiltered Temperature, Ambient Temperature, and Cell Strength (PRO 42 & 52 only)

Signal Conditioning
Average Time, Peak Hold Delay, Temperature Scale \( (^{\circ} F / ^{\circ} C) \) Adjustment, Emissivity Adjustment

Status Messages
Out of Range, Ambient Warning, Establishing Communications, and Aiming System Status (optional)

Diagnostics
System Test, Analogue Output Tests, Alarm Tests, Menu Access/Security

Enclosure Rating

Sensor:
IP65 - Coated Aluminium Casting

Interface Module:
IP52 front panel - Anodised Aluminium Housing

Dimensions

Sensor:
229 mm x 140 mm x 152 mm

Interface Module:
178 mm x 96 mm x 96 mm

Weight

Sensor:
3.4 kg

Interface Module:
1 kg

PRO SERIES OPTIONS AND ACCESSORIES

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Specifications subject to change without notice