The PRO 100 and 200 series multi-wavelength infrared temperature sensors are designed to accurately measure non-greybody materials in applications where single and dual wavelength sensors cannot. These include aluminium extrusion and molten aluminium streams, iron and steel streams, galvanised and stainless steel production.

These sensor’s industry leading signal dilution factor allows them to measure very small and wandering targets, and tolerate misalignment, dirty lenses and partially filled fields of view, while still giving accurate readings.

Their intuitive text based configuration system makes the PRO series simple and quick to programme for even the most demanding application, while advanced ESP algorithms and signal processing ensure that these sensors always provide valid readings, or hold the last valid reading until another can be taken. This further removes errors from poor alignment and transient process conditions that could cause unnecessary errors in other systems.

Fibre-optic and traditional camera style versions of the PRO multi-wavelength sensors are available to suit all mounting conditions. Either laser or through lens sighting is available on all camera style models. Aim light sighting is available on all fibre-optic style modules. All come with bi-directional RS-485 communications for configuration and measurement readings.

**PRO 100 and 200 Series Multi-Wavelength Infrared Temperature Sensors**

**GENERAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>PRO 100 SERIES – Visual Aiming, Multi-Wavelength (Mλ) Sensors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRO Model</strong></td>
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<td>120-05</td>
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<td>120-20</td>
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<td>120-36</td>
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<td>110-70</td>
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</tbody>
</table>

(i) FOV Selection: d=D/F, where d=Measured Target Diameter, D=Working Distance, F=Optical Resolution Factor

(ii) Fibre Cables are available in the following lengths: 91cm, 1.8m, 3m, 6m, 7.6m, 9.1m

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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: 50 ms (sensor); 100 ms (interface module)
  Intermittent Target: 200 ms (98% of Reading - 4τ)
CE Certification EMI / RFI for heavy industry; LVD (Low Voltage Directive)
Ambient Temperature Limits
  Sensor Head: -17 to 60°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
    Digital Mode
      • Bi-directional RS485 communications
      • RS232 with a converter
      • Used to connect to the Interface Module
  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 Communications
      • 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, Signal Dilution, and Signal Strength / Emissivity
Signal Conditioning
  Average Time, Peak Hold Delay, Temperature Scale (°F/°C) Adjustment, ESP Offset, ESP Selection
Status Messages
  Out of Range, Ambient Warning, Check Sensor
Diagnostics
  Cable, and Aiming System Status (optional)
  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

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM</td>
<td>Programmable Interface Module (see above)</td>
</tr>
<tr>
<td>25/25S/25RS</td>
<td>PID Controllers with Power Supply, 4-20 mA Output, and Signal Conditioning Options</td>
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<tr>
<td>PS</td>
<td>Power Supply for Stand Alone Sensors 24 V DC (700 mA) to 90-260 V AC (50/60 Hz)</td>
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<tr>
<td>AP</td>
<td>Air Purge</td>
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<tr>
<td>WCAP</td>
<td>Water Cooling Air Purge</td>
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<tr>
<td>SB</td>
<td>Swivel Bracket</td>
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<tr>
<td>LA</td>
<td>Laser Aiming (For PRO 100 Series only)</td>
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<tr>
<td>AL</td>
<td>Aim Light (For PRO 200 Series only)</td>
</tr>
<tr>
<td>Cable Sheathings</td>
<td>Armour Guard (AG), Stainless Steel Braid (SSB), Gooseneck (GN) (for PRO 200 Series only)</td>
</tr>
</tbody>
</table>

RATED FOR NEMA 4X (IP65) Corrosion Resistant
Water Cooling Option: 1/4" NPT Thread, supplied with fittings for 1/4" tubing
1.25 (31.75)
5.50 (139.7)
3.63 (92.2)
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6.00 (152.4)
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