

Ultra High Speed Infrared Pyrometer Three Microsecond Time Constant



OS1581 Sensor Shown
Smaller Than Actual Size

DP1581
£**9015**

OS1581
£**1720**

- ✓ **Fast IR Temperature Measurements:**
3 microsec (0 to 63.2%)
- ✓ **Minimum Spot Size: 0.1mm**
- ✓ **Vacuum to: 10^{-7} Torr**
- ✓ **Temperature Range:**
370 to 1200°C (700 to 2200°F)*
- ✓ **Emissivity Setting:**
0.1 to 1.0 in 0.01 Steps
- ✓ **Backlighting Optional**
- ✓ **Accuracy: $\pm 1\%$ Full Scale**
- ✓ **Immune to Electrical Noise and Radiation Fields**

**in subranges of no more than 2:1 (ie: 400-800°)*

The OS1581 Ultra High Speed Infrared Pyrometer with the DP1581 console was developed for temperature measurements of high speed rotating turbine blades used in power plants and in jet engine test stands. However, it is usable for any temperature measurement requiring time constants on the order of 3 μ sec.

A flexible fibre optic cable from the detector terminates with a lens in a probe for remotely viewing the target area. Since there are no electronics in the probe, it is immune to electrical noise, radiation fields and, to a large extent, mechanical vibration.

The small size of the probe and flexibility of the fibre optic cable allow viewing of the target in inaccessible tight locations not possible with conventional line of sight optics.

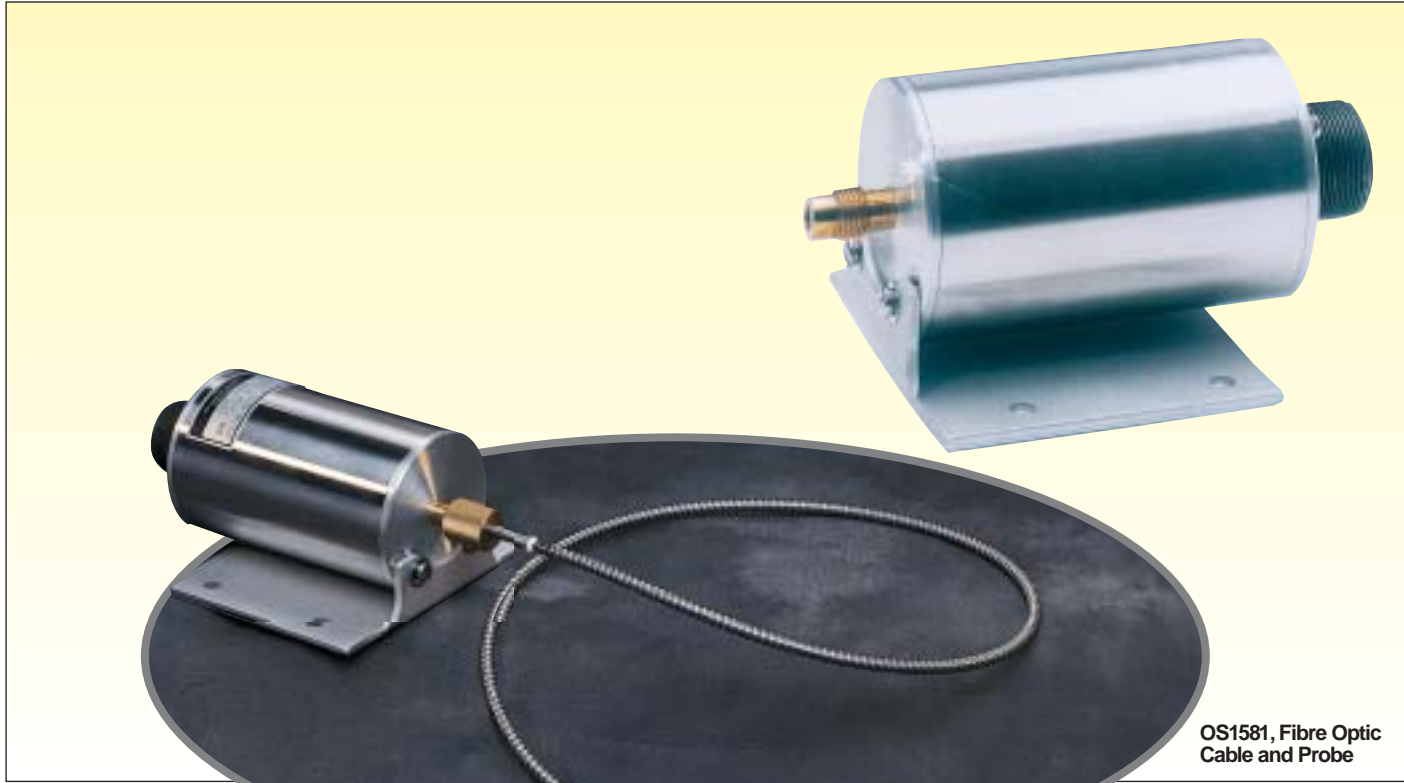
A vacuum bushing allows measurements down to 10^{-7} Torr.

Temperatures of targets as small as 0.1mm can be measured over a 2:1 temperature section of the full system range with an optical cable up to 9m long.

The outputs are: average (T=3 μ sec), average peak (T rise= 3 μ sec, T decay= 2.4 msec), maximum peak (T rise= 3 μ sec, T decay= 72 msec).

The monitor is mounted on a 19" rack panel that can be placed in an optional IP65 enclosure.





OS1581, Fibre Optic Cable and Probe

SPECIFICATIONS:

Accuracy: ± 1% Reading
Repeatability: ± 0.5%
Resolution: 1°C or °F
Target Size: Minimum 0.1mm at 25mm working distance
Ambient Temperature:
 Probe: +150°C (302°F)
 Sensor: -10 to 50°C (14 to 122°F)
 Monitor: -10 to 30°C (14 to 86°F)
Spectral Response:
 GE Detector: 0.8 to 1.8 µ
 Silicon Detector: 0.8 to 1.05 µ
Time Constant: Rise time 3 to 16 µsec (0 to 63.2%)
Readout: °C or °F
Emissivity: 0.5 to 1.0 in 0.01 steps
Output: Average, Average Peak and Average Maximum Peak; Linearised and Non-Linearised

Calibration:

Three front panel meters for blackbody calibration

Communications: RS-232 optional

Dimensions:

Probe 13 or 25 mm dia. x 83 to 276 mm long
 (0.5" or 1.0" dia. by 3.25" to 10.85" long)
 (depends on target size and distance)
 Sensor† 64 x 102 x 127 mm (2.5 H x 4 W x 5" L)
 Monitor 19" rack x 133mm H x 305mm D

Power: 110/220Vac ±10% (Specify)

† with mounting bracket

OMEGACARESM extended warranty programme is available for models shown on this page. Ask your sales representative for full details when placing an order.

ACCESSORIES

Model No.	Description	Price
DP1580-NEMA	IP65 enclosure for DP1581	£1060
BB-4A	High Temperature Blackbody calibration source 205 to 982°C (400 to 1800°F)	2950
OS1500-BLS	Backlight	406
VB-(*)	Vacuum bushing	246

*Select 25 or 12.5mm diameter bushing.
Ordering Example: OS1581 + DP1581 + DP1580-NEMA + OS1500-BLS: IR Pyrometer plus Monitor in IP65 enclosure with a backlight supply to illuminate target area; £1720 + 9015 + 1060 + 406 = £12,201

To Order (Specify Model Number)		
Model No.	Description	Price
OS1581-R1	Infrared Pyrometer 370 to 740°C (700 to 1360°F)	£1720
OS1582-R2	Infrared Pyrometer 600 to 1200°C (1110 to 2200°F)	1720
DP1581-(+)	19" rack mount monitor with multiple high speed outputs for use with OS1581	9015

*includes 1.8m cable
 + Insert -220 for 220 Vac power; -110 for 110 Vac
Ordering Example: OS1581 Infrared Pyrometer with DP1581 19" monitor, £1720 + 9015 = £10,735