

PYRO Micro-Therm

MEASURE TARGETS AS SMALL AS 0.0005" (0.0127 MM)

DISAPPEARING FILAMENT TYPE OPTICAL PYROMETER



OPTICAL TEMPERATURE ACCURACY TO $\pm 0.5^{\circ}\text{C}$
Traceable to NIST Standards

APPLICATIONS

The PYRO Micro-Therm is used for many small target laboratory and industrial applications. It is extremely useful when measuring targets that do not fill the entire field of view.

- Lamp Filament Wire
- Cathodes
- Wire Drawing
- Crystal Growth
- Calibration Standard

FEATURES

- Small Targets to 0.0005" (0.0127mm)
- Accuracy: $\pm 0.5\%$ Range
- Selectable Digital Display: $^{\circ}\text{C}$, $^{\circ}\text{F}$, $^{\circ}\text{R}$, $^{\circ}\text{K}$
- Standard Temperature Ranges: 1300 $^{\circ}\text{F}$ - 5800 $^{\circ}$ (700 $^{\circ}\text{C}$ - 3200 $^{\circ}\text{C}$)
- Extended Temperature Range: 1300 $^{\circ}\text{F}$ - 8100 $^{\circ}$ (700 $^{\circ}\text{C}$ - 4500 $^{\circ}\text{C}$)
- Adjustable Emissivity Setting: 0.01 to 1.0



DESCRIPTION

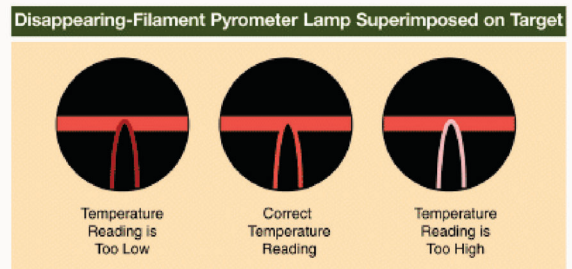
The PYRO Micro-Therm is a disappearing filament pyrometer for precision high temperature measurements on small targets to 0.0005". One of the many benefits associated with the PYRO Micro-Therm is that the target need not fill the entire field of view. This is especially effective when measuring targets such as wire. The PYRO Micro-Therm's telescope uses a proven high quality huygen microscope type ocular which provides 20x magnification of the target area. The in-view instrument filament allows precision intensity matching capability to 2-3 $^{\circ}\text{C}$ repeatability. The PYRO Micro-Therm's digital display electronic unit allow users to enter an emissivity value to display an emissivity-corrected temperature. For on-line data transmission applications, the PYRO Micro-Therm provides both analog and digital outputs.

OPERATION

Temperatures are determined by adjusting a precision rheostat on the PYRO Micro-Therm's housing that changes the internal calibrated lamp's intensity. Using the inherent ability of the human eye, the operator matches the unknown intensity of light radiated from a hot target at 0.655 μm until a color blend is made between the apex of the pyrometer's calibrated lamp and the target. The current value to the lamp then is output via analog or digital signal to a temperature display. Temperature ranges can be measured between approximately 1300 to 5800 $^{\circ}\text{F}$ (700 to 3200 $^{\circ}\text{C}$), but with appropriate filters, the Micro-Therm's temperature ranges can be extended to approximately 8100 $^{\circ}\text{F}$ (4500 $^{\circ}\text{C}$). The optional Enhanced Imaging Optics enable crisp, crystal clear images, which is extremely useful when viewing multiple miniature items of different temperature concurrently.

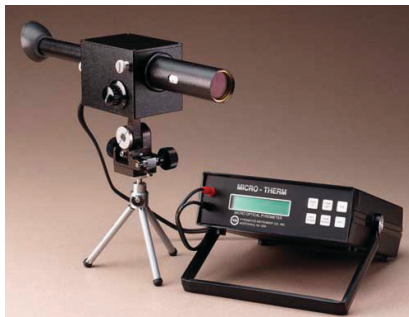
Color Blend For Temperature Indication

The schematic drawing below illustrates a PYRO Micro-Therm target as viewed through the instrument's telescope. The instrument's telescope provides a clear, enlarged 20x view of the target. A color blend is made between the apex of the instrument's lamp and the target.



PYRO Micro-Therm

PYRO Micro-Therm Specifications



CALIBRATION

- The PYRO Micro-Therm comes complete factory calibrated traceable to NIST Standards.
- Optional "Certificate of Calibration" per point to NIST Standards can also be provided.
- The PYRO Optical Test Set and Strip Lamps sold separately, allows for customer "in house" calibration.
- Expert factory service is also available for periodic calibration or maintenance.

OPTIONAL ACCESSORIES

Model No.	Description
SOC	Statement of Calibration Traceable to NIST
COC	Certification of Calibration (Per Point) Traceable to NIST
CAL	Annual Calibration Service Contract
95-DE5	Extended Temperature Range: 1300° - 8100°F or (700° - 4500°C)
M-10EI	Enhanced Imaging Optics For Crisp Ultra Clear Viewing
M-12G	Lens Code "G"
M-12H	Lens Code "H"
M-12K	Lens Code "K"
M-12L	Lens Code "L"
M-14	90 Degree Sighting Prism with Mounting
M-27	Aluminum Shelf Type Floor Tripod
MO-MTR ***	Analog Meter In Lieu Of Digital Display for Micro Optical Arrangement
MO-EC-5 ***	Extended High Range: 1300° - 9000°F or (700° - 5000°C) (Micro-Optical Arrangement Only)
MO-EC-6 ***	External High Range Filter: 9000° - 18000°F or (5000° - 10000°C) (Micro-Optical Arrangement Only)
MO-EC-10 ***	External High Range Filter: 5400° - 11000°F or (3000° - 6000°C) (Micro-Optical Arrangement Only)

*** Optional Micro-Optical Analog Meter Arrangement

PYRO'S AUTHORIZED REPRESENTATIVE

Model Number	95-D
Selectable Readout:	°F, °C, °R, °K
Standard Temperature Range:	1300°F - 5800°F (700°C - 3200°C)
Range No. 1	1300°F - 2500°F (700°C - 1400°C)
Range No. 2	2400°F - 3400°F (1200°C - 1900°C)
Range No. 3	3200°F - 5800°F (1800°C - 3200°C)
Optional Extended Temperature Ranges:	1300°F - 8100°F (700°C - 4500°C)
Accuracy:	±0.5% Range
Repeatability:	3°C (All Ranges)
Effective Wavelength:	0.655 μm
Emissivity Setting Range:	0.01 - 1.0 (Increments 0.01)
Display Output:	LCD 3.5" x 0.75" Temperature Range #1, #2, #3 Emissivity Target Uncorrected Temperature Target Emissivity Corrected Temperature
Auxiliary Outputs:	Analog: 0 - 1vdc; 0-20mA Digital: RS232C to 9600 Baud
Power Supply:	Self-contained Ni-Cad Battery, 8 Hours Continuous Operation AC 110v 60Hz, optional 220v 50Hz
Dimensions:	Carrying Case: 22" x 15" x 5"
Weight:	15.5 lbs

TARGET SIZE & AUXILIARY LENS SPECIFICATIONS

Lens Code	Type	Target Size	Distance
A	Standard	0.0250" (0.6350mm) @ 10.00" (304.8cm)	60.0" (152.4 cm) - infinity
B	Standard	0.0100" (0.2540mm) @ 36.00" (91.4cm)	26.0" (66.0 cm) - 54.0" (137.1cm)
C	Standard	0.0060" (0.1540mm) @ 24.00" (60.9cm)	17.0" (431.8mm) - 26.0" (660.4mm)
D	Standard	0.0040" (0.1010mm) @ 15.00" (381mm)	13.5" (152.4 cm) - 17.5" (152.40cm)
E	Standard	0.0020" (0.5080mm) @ 8.00" (203.2mm)	8.00" (203.2mm) - 9.00" (228.6mm)
F	Standard	0.0010" (0.0254mm) @ 5.50" (139.7mm)	5.00" (127.0mm) - 5.60" (142.2mm)
G	Optional	0.0005" (0.0127mm) @ 2.40" (60.9mm)	2.30" (58.4 mm) - 2.50" (63.50mm)
H	Optional	0.0020" (0.0500mm) @ 6.50" (165.1mm)	6.00" (152.4mm) - 7.00" (177.8mm)
K	Optional	0.0030" (0.0760mm) @ 9.75" (247.6mm)	8.50" (215.9mm) - 11.0" (279.4mm)
L	Optional	0.0040" (0.1010mm) @ 12.50" (317.5mm)	11.0" (279.4mm) - 14.0" (355.6mm)

THE PYRO MICRO-THERM COMES COMPLETE WITH

- Telescopic Disappearing Filament
- Precision x-y Vernier Adjustment
- Digital Display Unit
- Self-contained battery supply
- Table Top Tripod
- Set of Six Auxiliary Lenses A-F
- Power Cable, Interconnect Cable
- Analog/Digital Output Cable
- Carrying Case and Operating Instructions

When ordering specify specific model number and power requirements (110v 60Hz or 220v 50Hz).