

Model HW-101475 "Micro-Therm" Pyrometer

Model HW-101475 is a disappearing filament type optical pyrometer for precision high temperature measurements on small targets to .0005". The telescope uses a proven high quality Huygen microscope type ocular which provides 20x magnification of the target area. The in-view instrument filament allows the precision intensity matching capability to a 2-3°C repeatability.

With key-pad selectable emissivity setting in 0.01 increments, the Micro-Therm digital display unit uses a microprocessor to calculate both target apparent (uncorrected) and the *emissivity corrected true temperature*. For on-line data transmission applications, Micro-Therm provides both analog and digital outputs.

With Micro-Therm's high degree of precision accuracy, repeatability and reliability, it can be used as a standard for checking and calibrating optical pyrometers. Certifications to NIST standards can be provided where crucial temperature measurements are required.

Model HW-101475 Micro-Therm:

- **Selectable readout:** °C, °F, °R, °K
- **Standard Temperature Ranges:** 700-3200°C
 - #1 = 700-1400°C
 - #2 = 1200-1900°C
 - #3 = 1800-3200°C
- Optional: Extended temperature range: 700-4500°C
- **Accuracy:** ±0.5% Range
- **Repeatability:** 3°C (all ranges)
- **Effective Wavelength:** 6550 Angstroms
- **Emissivity Setting:** 0.01 to 1.0 (0.01 increments)
- **Target Size & Supplemental Lenses:**

(included):

Lens Code	Target Size	At Distance
A	.015" @ 5" or .025" @ 10"	5" to infinity
B	.010" @ 36"	26" to 54"
C	.006" @ 24"	17" to 26"
D	.004" @ 15"	13 1/2" to 17 1/2"
E	.002" @ 8"	8" to 9"
F	.001" @ 5 1/2"	5" to 5.6"

(See special lenses to .0005")

- **Display Output:** LCD 3 1/2" x 3/4"
 - Temperature Range
 - Emissivity Selected
 - Target Uncorrected Temperature
 - Target Emissivity Corrected Temperature
- **Auxiliary Outputs:** Analog: 0-1V; 0-20mA
Digital: RS232C 9600 Baud
- **Power Supply:** Self contained Ni-Cd battery provides 8 hours continuous use and/or AC, 110V 60 Hz, optional 220V 50 Hz
- **Low Battery Warning**
- **Dimensions:** Carrying Case: 22" x 15" x 5"
Weight: 15 1/2 pounds
- **Ambient Temperature:** 55°F to 90°F maximum



Principle of Operation:

Hot targets radiate energy in the visual and infra-red spectrum. Optical pyrometers compare the brightness of the target to the brightness of a fine wire filament lamp within the instrument field of view. By varying the rheostat which controls the current to the filament, a match can be made between the target and the filament wire. The current through the wire is the source of the instrument temperature determination. The target brightness will be less whenever the emissivity is less than 1.0. By inputting the emissivity into Micro-Therm the true target temperature will be calculated and displayed.

Micro-Therm, Model HW-101475 700°C to 3200°C triple range unit, comes complete with telescopic disappearing filament pyrometer, precision x-y vernier, digital display unit including self-contained battery supply, selectable temperature scale, table top tripod, complete set of six mounted auxiliary lenses A-F in a protective case, power cable, inter-connect cable, analog/digital output cable, carrying case and instrumentation booklet. *Must specify power supply, 110 or 220V.*

Options / Accessories

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|---|---|
| M14 90 Degree Sighting Prism With Mount | M12 Standard Auxiliary Lens Code A, B, C, D, E or F Specify Lens |
| M22 Inter-Connect Cable | M12G Lens .0005" Size @ 2.3" to 2.5" Focal |
| M25 Analog/Digital Output Cable | M12H Lens .002" Size @ 6" to 7" Focal |
| M27 Aluminum Shelf Type Floor Tripod | M12K Lens .003" Size @ 8.5" to 11" Focal |
| M30 Vernier Gear Mount Assembly for Collapsible Telescope | M12L Lens .004" Size @ 11" to 14" Focal |
| M60 Carrying Case | |

Certificate of Calibration to NIST