

## CLASSIC PHOTOSCREENIC WEDGE TYPE PYROMETER

### THE RUGGED TEMPERATURE MEASUREMENT INSTRUMENT



**OPTICAL TEMPERATURE ACCURACY TO  $\pm 0.5^{\circ}\text{C}$**

Traceable to NIST Standards

### APPLICATIONS

The PYRO Optical is used in hundreds of industrial applications. Red scales can be provided for emissivity correction of targets with a 0.4 emissivity value. This is useful for temperature measurement of molten iron and steel. The PYRO Optical Pyrometer is calibrated at an effective wavelength of  $0.655\mu\text{m}$  and is inherently less subject to most errors due to uncertain emissivity or extraneous reflected light than infrared or radiation thermometers.

- Molten Metals
- Forging
- Refractories
- Investment Casting
- Calibration Procedures

### FEATURES

- Rugged Lightweight Portable
- Six Models Available
- Accuracy:  $\pm 0.5\%$  of Reading
- Single, Double & Triple Temperature Ranges:  
1400°F - 5200°F (760°C - 3200°C)
- Target Sizes to 0.055" (1.4mm)
- Target Distance 12" to Infinity
- Ni-Cad Rechargeable Battery

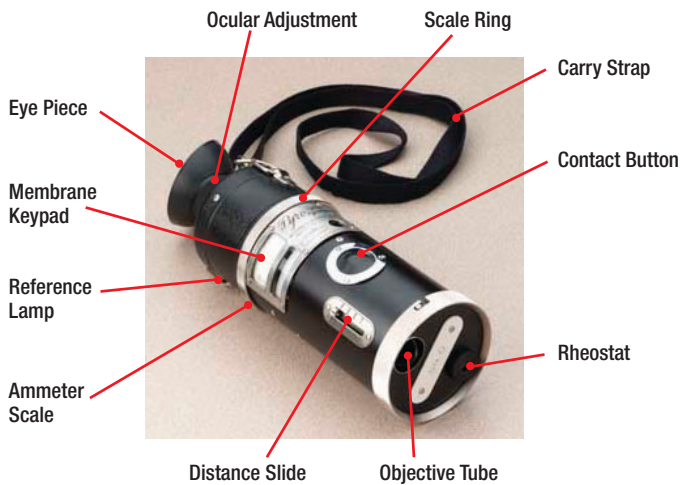
### DESCRIPTION

The PYRO Optical pyrometer operates by allowing the operator to compare the intensity of light radiated from a target at visible  $.655\mu\text{m}$  wavelength to the known brightness of an internal calibrated lamp. This is achieved by utilizing a rotating optical photoscrenic wedge that functions as a variable neutral density filter. The PYRO Optical pyrometer can achieve temperature accuracy to  $\pm 0.5\%$  of the temperature being observed. Target sizes from 0.055" at distances of 3" to infinity can be achieved. Supplementary magnification lenses for smaller targets at shorter distances are available. This Optical pyrometer features a circular direct reading scale on the instrument. Several models provide temperature scales in °F, °C or both. The PYRO Optical pyrometer units are constructed in a rugged steel housing providing years of trouble free industrial plant use. The PYRO Optical is a portable unit and comes complete with rechargeable Ni Cad battery and carrying case.

### OPERATION

The PYRO Optical is easy to use. The operator rotates the knurled photoscrenic wedge ring on the housing of the optical pyrometer while viewing the target. A color blend is made between the internal calibrated lamp through the instrument's photoscrenic wedge and the target. The temperature is indicated on a direct reading scale on the housing of the instrument. The light viewed by the operator is monochromatic. Therefore, readings are not effected by an individual's color sensitivity.





## OPTIONAL ACCESSORIES

- Statement Of Calibration Traceable to NIST
- Certification Of Calibration (Per Point) Traceable to NIST
- Annual Calibration Service Contract
- High Temperature Filter No. 1: 3200°-5200°F or 1800°-3200°C
- High Temperature Filter No. 2: 5100°-7700°F or 3000°-4500°C
- Single Magnifying Lens complete with holder
- Double Magnifying Lens complete with holder
- Adjustable Instrument Holder with Stem
- Auxiliary Eyeshield (Dummy Ocular)

### The PYRO Optical comes complete and ready to use with:

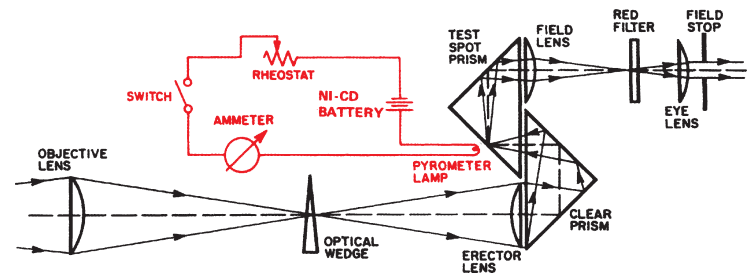
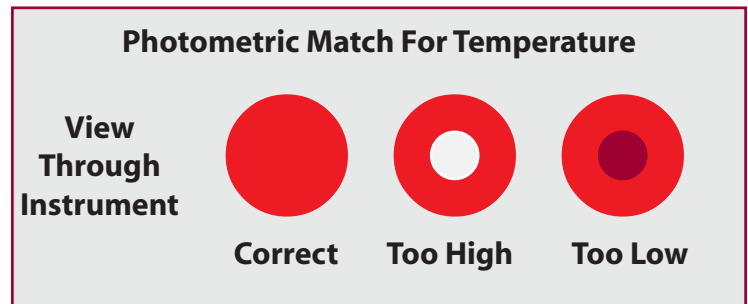
- Ni Cad Rechargeable Battery
- Battery Charger
- One Master Lamp
- One Service Lamp
- Carrying Case and Instructions

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

## PYRO'S AUTHORIZED REPRESENTATIVE

Model Number	Type	Min. Target Size	Temperature Range °F	Temperature Range °C
81F or 81C	Single Range	.090" (2.2mm)	1400°F - 2500°F	760°C - 1400°C
82F or 82C	Single Range	.090" (2.2mm)	1800°F - 3400°F	1000°C - 1900°C
83F or 83C	Double Range	.055" (1.39mm)	1400°F - 2200°F	760°C - 1200°C
			1800°F - 3400°F	1000°C - 1900°C
84F or 84C	Foundry Type w/*Red Scale	.055" (1.39mm)	1800°F - 3400°F	1000°C - 1900°C
			2200°F - 3700°F	1200°C - 2000°C
85F or 85C	Triple Range w/*Red Scale	.055" (1.39mm)	1400°F - 2200°F	760°C - 1200°C
			1800°F - 3400°F	1000°C - 1900°C
			2200°F - 3700°F	1200°C - 2000°C
87F or 87C	Triple Range	.055" (1.39mm)	1400°F - 2200°F	760°C - 1200°C
			1800°F - 3400°F	1000°C - 1900°C
			3200°F - 5200°F	1800°C - 3200°C

Note: **Red** scales feature temperature readings corrected for materials with an emissivity value of 0.4. **Red** scales are typically used for measuring the temperature of molten iron and steel. Optional high temperature filters are available to extend temperature ranges to 7700°F or 4500°C.



The schematic drawing to the above illustrates the PYRO Optical Pyrometer optical and electrical system. The instrument optics serve as a telescope. The PYRO Optical's lenses and prisms provide a clear, enlarged view of the target.