Analog Surface

THERMOCOUPLE PYROMETER

ANALOG SURFACE PORTABLE DIRECT READING PYROMETER

APPLICATIONS

The Pryo Surface Pyrometer can accommodate a wide variety of thermocouple tips that are suited for many types of metallic, non-metallic, flat, curved or rotating surfaces.

- Foundries
- Rolling Mills
- Casting
- Heat Treating
- Rubber Processing
- Ceramics
- Rotating Rolls
- Steam Traps

FEATURES

- Portable, Easy To Read 4-3/4" Scale
- Accuracy: ±1.0% Reading
- Temperature Ranges: 0°F - 1200°F (0°C - 650°C)
- Eight Models Available
- Automatic Cold End Junction Compensation
- Rugged Cast Aluminum Housing
- No Batteries Required
- Rigid or Flexible Extension Arms Available
- Interchangeable "J" Type Thermocouples Available

DESCRIPTION

The Pryo Surface Pyrometer is a rugged, portable, easy-to-read thermocouple pyrometer that utilizes interchangeable and reusable thermocouples. Temperature accuracy to ±1.0% of reading is achieved by employing an automatic internal cold end junction compensator to prevent temperature measurement errors due to ambient temperature variations. The Pryo Surface Pyrometer comes complete with a rugged cast aluminum housing and is ready to use with a wide variety of optional rigid and flexible extension arms and rugged thermocouples.

OPERATION

The Pryo Surface Pyrometer is easy to operate and requires no power source. Simply screw the appropriate thermocouple and extension arm to the Pryo Surface Pyrometer’s cast aluminum housing. The operator can adjust the extension arm angle to target “knuckle” as required for the application. After the Pryo Surface Pyrometer contacts the surface of the object being measured, the temperature is read on the direct reading analog meter.

Mirrored Scale Ensures Accurate Temperature Reading
## Analog Surface

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Temperature Scale</th>
<th>Degree Per Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>31F</td>
<td>0-400°F</td>
<td>5</td>
</tr>
<tr>
<td>32F</td>
<td>0-600°F</td>
<td>10</td>
</tr>
<tr>
<td>33F</td>
<td>0-900°F</td>
<td>10</td>
</tr>
<tr>
<td>34F</td>
<td>0-1200°F</td>
<td>20</td>
</tr>
<tr>
<td>31C</td>
<td>0-200°C</td>
<td>5</td>
</tr>
<tr>
<td>32C</td>
<td>0-300°C</td>
<td>10</td>
</tr>
<tr>
<td>33C</td>
<td>0-500°C</td>
<td>10</td>
</tr>
<tr>
<td>34C</td>
<td>0-650°C</td>
<td>20</td>
</tr>
</tbody>
</table>

## PRODUCT INFORMATION

The Pyro Surface Pyrometer comes complete with carrying case, reference thermometer and manual.

Interchangeable thermocouples and extension arms are optional. When ordering specify specific model numbers.

## WARRANTY

Good performance and reliability are what you expect when you buy precision products from The Pyrometer Instrument Company, Inc. The Pyro Surface Pyrometer comes complete with a one-year factory warranty. For complete details see our Product Warranty Page.

### CALIBRATION

- The Pyro Surface Pyrometer comes complete factory calibrated traceable to NIST Standards.
- Optional “Certificate of Calibration” per point to NIST Standards can also be provided.
- Expert factory service is also available for periodic calibration or maintenance.

### ACCESSORIES

Interchangeable “J” Style Thermocouples, Extension Arms & Support Bracket are shown below.

#### INTERCHANGEABLE CONTACT TYPE EXTENSION ARMS

Pyro offers a wide range of industrial rigid and flexible extension arms to meet your applications. Rigid extension arms are constructed from rugged 1/2” diameter tubes with protective chrome plating, available in standard 12” length. All extension arms incorporate a saw tooth knuckle for ease of operation. Flexible extension arms utilize stainless steel flexible armor between the handle grip and the extension arm. All Pyro contact extension arms are completely interchangeable. Custom extension arms are available upon request, consult factory.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Rigid Extension Arm, 12” long with standard connector</td>
</tr>
<tr>
<td>42</td>
<td>Flexible Extension Arm, 42” long o.a. consisting of a 12” rigid arm with a grip handle &amp; 30” of 1/4” dia. flexible SS armor with standard connector</td>
</tr>
<tr>
<td>12QC</td>
<td>Rigid Extension arm with quick change connector</td>
</tr>
<tr>
<td>42QC</td>
<td>Flexible Extension Arm, 42” long o.a. consisting of a 12” rigid arm with a grip handle &amp; 30” of 1/4” dia. flexible SS armor with quick change connector</td>
</tr>
<tr>
<td>18AO</td>
<td>18” A rigid add-on arm section for model 12 &amp;12 QC</td>
</tr>
</tbody>
</table>
INTERCHANGEABLE “J” CONTACT TYPE THERMOCOUPLES

Pyro offers a wide range of industrial thermocouple styles to meet your applications. Pyro’s many styles of contact thermocouples allow for contact measurement of convex, flat, rotating, soft molten materials. Special purpose thermocouples are available for immersion in liquids, gases, or for measuring air temperature. Pyro thermocouples thread securely into the Pyro Surface Pyrometer extension arms. All Pyro contact type thermocouples are interchangeable. Custom thermocouples are available upon request, consult factory.

**Accuracy on “J” Style Surface Thermocouples:**
32°F - 530°F  ±4°F
530°F - 1200°F  ±3/4%

**Model 301, Band with 12" Rigid Arm**
Convex Applications
5” Head Span
Maximum Temperature 500°F (260°C)
Response Time 7-10 seconds

**Model 301A, Band**
Convex Applications
5” Head Span
Maximum Temperature 500°F (260°C)
Response Time 7-10 seconds

**Model 301B, Band**
Convex Applications
3” Head Span
Maximum Temperature 500°F (260°C)
Response Time 7-10 seconds

**Model 301C, Band**
Convex Applications
11” Head Span
Maximum Temperature 500°F (260°C)
Response Time 7-10 seconds

**Model 310, Wire Junction with Flexible Extension Arm 30" SS Armor Cable**
Flat Surface Applications
1/4” Head Diameter
Maximum Temperature 1200°F (650°C)
Response Time 3 seconds

**Model 302, Wire Junction**
Flat Surface Applications
1/4” Head Diameter
Maximum Temperature 1200°F (650°C)
Response Time 3 seconds

**Model 303, Silver Disc**
Semi Flat Surface Applications
1/4” Head Diameter
Maximum Temperature 1200°F (650°C)
Response Time 5 seconds

**Model 304, Prod**
Billet, Molds & Sheet Applications
3/4” Tip Width x 6” Long
Maximum Temperature 1200°F (650°C)
Response Time 10 seconds

**Model 305, Needle**
Semi Fluids, Rubber & Plastic Applications
1/16” Diameter x 2” Long
Maximum Temperature 1200°F (650°C)
Response Time 7 seconds
### Analog Surface

<table>
<thead>
<tr>
<th>Model</th>
<th>Application Details</th>
<th>Specifications</th>
<th>Response Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 306, Needle</td>
<td>Semi Fluids, Rubber &amp; Plastic Applications</td>
<td>1/8” Diameter x 6” Long</td>
<td>7 seconds</td>
</tr>
<tr>
<td>Model 315, Needle</td>
<td>Semi Fluids, Rubber &amp; Plastic Applications</td>
<td>1/8” Diameter x 2” Long</td>
<td>7 seconds</td>
</tr>
<tr>
<td>Model 307, Bare Wire</td>
<td>Furnaces, Oils &amp; Dirty Fluid Applications</td>
<td>Two 1/16” Diameter Wires x 6” Long</td>
<td>5 seconds</td>
</tr>
<tr>
<td>Model 308, Protected Tube</td>
<td>Corrosive Liquid Applications</td>
<td>1/4” Diameter x 6” Long</td>
<td>7 seconds</td>
</tr>
<tr>
<td>Model 309-A, Leaf Type</td>
<td>Press &amp; Platen Applications</td>
<td>0.010” Thick x 6” Long</td>
<td>5 seconds</td>
</tr>
<tr>
<td>Model 316, Air Type</td>
<td>Oven Applications</td>
<td>1/4” Diameter x 6” Long</td>
<td>3 seconds</td>
</tr>
<tr>
<td>Model SP49A, Spring Prod</td>
<td>Sheet &amp; Billet Applications</td>
<td>12” Rigid Handle, 5.0’ Flexible SS Armor Cable</td>
<td>10 seconds</td>
</tr>
<tr>
<td>Model SP49B, Spring Prod</td>
<td>Sheet &amp; Billet Applications</td>
<td>12” Rigid Handle, 30” Flexible SS Armor Cable</td>
<td>10 seconds</td>
</tr>
<tr>
<td>Model SP49C, Spring Prod</td>
<td>Sheet &amp; Billet Applications</td>
<td>Direct Connect 12” Rigid Handle</td>
<td>10 seconds</td>
</tr>
</tbody>
</table>