Process Imaging for Continuous Web Processes

Steel Hot Strip Mill

Vinyl Embossing

MP150 Linescanner

Float Glass Annealing Lehr

Now available with 1224 datapoints per scan!
The ES150 Process Imaging System monitors continuous web processes

Using the MP150 Linescanner, the ES150 System provides an advanced capability for monitoring temperature distributions of moving webs. The ES150 System offers the flexibility to define and configure any number of measurement sectors.

Temperature Monitoring

The ES150 System provides the capability to define any number of sectors corresponding to specified areas across the web. Sectors are defined by name, location, and the desired processing of temperature data within the sector (e.g., average, minimum, or maximum temperature). For example, in sheet extrusion processes, sectors can be configured to provide temperatures corresponding to each die bolt.

The ES150 system continuously monitors the web process allowing temperature data to be visualized as a line graph (profile) and a thermographic image. Profiles and images may be printed or archived for analysis.

Through the use of OPC (OLE for Process Control), the ES150 system acts as an OPC server and communicates with many common process control systems. This feature allows the ES150 to move beyond being just a measurement tool and becomes an integral part of the total process control system.

Alarm Documentation

In case of an alarm, the associated thermal image is automatically saved indicating the date, time, alarm duration, and the defect position. When an alarm “event” occurs, 500 temperature lines are automatically stored in an alarm log file.
ES150 Applications

The ES150 System supports a broad range of industrial applications.

Plastics
Sheet & cast film extrusion
Web embossing
Plastic & rubber belt production
Blown film
Vinyl calendering
Print drying
Void & hole detection

Metals
Hot strip mills & rolling mills
Continuous casting steel & aluminum
Torpedo car refractory
Ladle refractory
Sintering beds
Small parts heat-treating
Painting & coating

Paper
Coating & laminating
Drying
Corrugated cardboard drying

Building Products
Vinyl flooring
Wallboard
Ceiling Tile
Asphalt Roofing Shingles

Combustion prevention and hot spot detection
Fiberglass batting & glass wool
Tobacco processing

Flat & float glass production
Tin bath exit
Annealing lehrs
Tempering, bending, and forming

Other
Automotive paint booths
Food processing (chocolate, corn chips)
Latex carpet backing

MP150 Models

MP150 models are available with a choice of temperature and spectral ranges.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Temperature Range</th>
<th>Accuracy</th>
<th>Spectral Range</th>
<th>Typical Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAYTMP150LT</td>
<td>20°C – 350°C (68°F – 662°F)</td>
<td>±2°C (4°F)</td>
<td>3–5 µm</td>
<td>General Purpose</td>
</tr>
<tr>
<td>RAYTMP150MT</td>
<td>100°C – 800°C (212°F – 1472°F)</td>
<td>±3°C (6°F)</td>
<td>3.9 µm</td>
<td>Heat treating, ore processing</td>
</tr>
<tr>
<td>RAYTMP150G5</td>
<td>100°C – 950°C (212°F – 1742°F)</td>
<td>±0.5% of measured value or ±3°C (6°F) whichever is greater</td>
<td>5 µm</td>
<td>Glass laminating, bending and forming</td>
</tr>
<tr>
<td>RAYTMP150P30</td>
<td>30°C – 250°C (86°F – 482°F)</td>
<td>±3°C (6°F)</td>
<td>3.43 µm</td>
<td>Plastic extrusion, laminating and converting</td>
</tr>
<tr>
<td>RAYTMP150P31</td>
<td>100°C – 350°C (212°F – 662°F)</td>
<td>±3°C (6°F)</td>
<td>3.43 µm</td>
<td>Plastic extrusion, laminating and converting</td>
</tr>
<tr>
<td>RAYTMP1501M</td>
<td>600°C – 1200°C (1112°F – 2192°F)</td>
<td>±0.5% of measured value or ±3°C (6°F) whichever is greater</td>
<td>1.0 µm</td>
<td>Hot strip mills, plate mills, and continuous casting</td>
</tr>
<tr>
<td>RAYTMP1502M</td>
<td>400°C – 950°C (752°F – 1742°F)</td>
<td>±0.5% of measured value or ±3°C (6°F) whichever is greater</td>
<td>1.6 µm</td>
<td>Hot strip mills, plate mills, and continuous casting</td>
</tr>
</tbody>
</table>
ES150 System

RAYTES150XXX
MP150 Linescanner
DataTemp ES150 Software
Industrial power supply
RS232/485 Converter
RS485 and Ethernet cables

ES150/MP150 Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient Temperature</td>
<td>0 to 50°C (32 to 122°F)</td>
</tr>
<tr>
<td>Field of View (FOV)</td>
<td>45° or 90° (selectable)</td>
</tr>
</tbody>
</table>
| Number of Temp. Points       | 256 points @ 150Hz
|                              | 512 points @ 80 Hz
|                              | 1024 points @ 40Hz |
| Scan Rate                    | Up to 150Hz |
| Accuracy                     | See MP150 Models |
| Physical Dimensions          | 200 x 180 x 190 mm (7.9 x 7.1 x 7.5 in) |
| Weight                       | 7 kg (15.5 lbs) |

Easy Installation

The small size of the MP150 Linescanner allows for easy installation. The MP150 connects to a standard PC operating Windows® NT4 or Windows® 2000. The system’s RS485 digital interface insures reliable operation over long cable runs. The diagram below represents a typical system installation. Optional analog and digital (open collector) output modules operate from a second serial COM port on the PC. The PC never has to be opened to install the ES150 System.