**Infrared Temperature Measurement for Extrusion Processes**

**Quality Monitoring for Extrusion Processes**

The EC150 system is an automated surface inspection system for detecting, measuring, and classifying defects occurring in extrusion coating, co-extrusion and laminating processes. Surface temperature measuring of the melt curtain supplies the information about available temperature distribution at the die exit. The EC150 measuring system offers a noncontact temperature measurement covering the entire width of the polyethylene film. The linescanner scans the melt curtain directly. For a better alignment the linescanner is equipped with a line laser.

Core of the system is the MP150 linescanner. The MP150 measures a line of up to 1024 points using a rotating mirror that scans a 90° field-of-view up to 150 times per second. The high scan rate allows rapid detection of temperature non-uniformities and hot spots. As the band traverses the field-of-view, a two-dimensional thermal image is formed.

Through the use of OPC (OLE for Process Control), the EC150 system acts as an OPC server and communicates with many common process control systems. This feature allows the EC150 to move beyond being just a measurement tool and to become an integral part of the total process control system.

**Features**

- Detailed web temperature profile based on 40,000 measurement points per second
- Define product-specific configurations (recipes)
- Automatically analyze “automatic sector” temperature distributions
- Play back stored files as “movie”
- PC independent alarms
- Integrated OPC server for remote system control
- Analog or digital output modules
- On board Ethernet TCP/IP communication
- Built-in laser sighting
- Multiple language support

**Benefits**

- Detect “wavy” or “running” edges, gaps, and torn edges quickly and automatically
- Insure proper web temperatures for strong film-to-substrate adhesion
- Automate quality monitoring for ISO 9000
- Improve profitability and product quality
- Reduce scrap

Photo: Courtesy of EC Erdölchemie, Germany
**System Description**

### Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Range</td>
<td>100 to 350°C (212 to 662°F)</td>
</tr>
<tr>
<td>System Accuracy</td>
<td>±3°C (6°F)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±1°C (2°F)</td>
</tr>
<tr>
<td>Optical Resolution</td>
<td>255:1 (50% energy)</td>
</tr>
<tr>
<td>Ambient Temp.</td>
<td>0 to 50°C (32 to 122°F), with water cooling 180°C (356°F)</td>
</tr>
<tr>
<td>Field of View</td>
<td>90°</td>
</tr>
<tr>
<td>Points per Line</td>
<td>256 pixels @ 150 Hz</td>
</tr>
<tr>
<td></td>
<td>512 pixels @ 76 Hz</td>
</tr>
<tr>
<td></td>
<td>1024 pixels @ 36 Hz</td>
</tr>
</tbody>
</table>

### Scope of Delivery

- RAYTEC150P31
  - MP150P31 linescanner
  - EC150 Software
  - Line laser sighting
  - Adjustable bracket
  - Industrial power supply
  - Alarm module

### Accessories

- XXXETHBASICKIT Ethernet Fieldbus Coupler
- XXXETH2R Relay Output Module
- XXXETH2AOC4 Analog Output Module
- XXXETH16DO Digital Output Module

---

**Easy Installation**

The “Automatic Sector” feature, unique to EC150, continuously monitors the whole melt curtain and provides automatic edge detection. The “Automatic Sector” automatically adapts to measuring a plastic film of varying width. Temperature gaps or unacceptable “waving” or “edge running” are detected automatically from one scanned temperature line to the next.

If a fault or defect occurs, an alarm is triggered to allow for quick corrective action. Additionally, the Alarm Module can be installed to output a digital signal for interfacing to other control systems or to mark the defect directly on the coated substrate.

![Profile for the Melt Curtain analyzed by the Automatic Sector](image)

**Fluke Process Instruments**

**Americas**
Santa Cruz, CA USA  
Tel: +1 800 227 8074 (USA/Canada only)  
+1 831 488 3900  
solutions@flukeprocessinstruments.com

**EMEA**
Berlin, Germany  
Tel: +49 30 4 78 00 80  
info@flukeprocessinstruments.de

**China**
Beijing, China  
Tel: +86 10 6439 4691  
info@flukeprocessinstruments.cn

**Japan**
Tokyo, Japan  
Tel: +81 03 6714 3114  
info@flukeprocessinstruments.jp

**Asia East and South**
India Tel: +91 22 2920 7691  
Singapore Tel: +65 6799 5578  
sales.asia@flukeprocessinstruments.com

**Worldwide Service**
Fluke Process Instruments offers services, including repair and calibration. For more information, contact your local office.

www.flukeprocessinstruments.com

© 2016 Fluke Process Instruments  
Specifications subject to change without notice. 10/2016 – Rev. DL 55506