

# EC150



## Infrared Temperature Measurement for Extrusion Processes

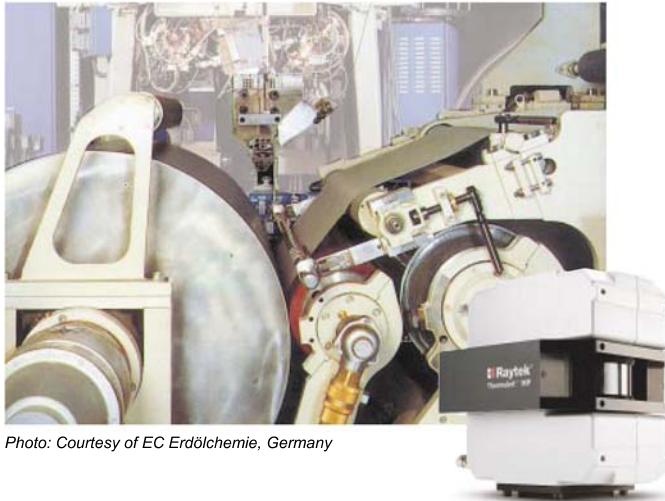


Photo: Courtesy of EC Erdölchemie, Germany

### 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

## 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.

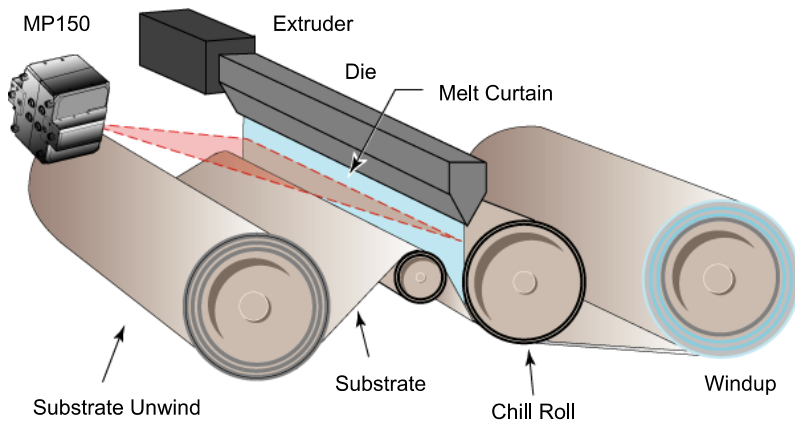
Through the use of OPC (OLE for Process Control), the EC150 system acts as an OPC server and communicates with many common process control systems. This feature allows the EC150 to move beyond being just a measurement tool and to become an integral part of the total process control system.

### 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



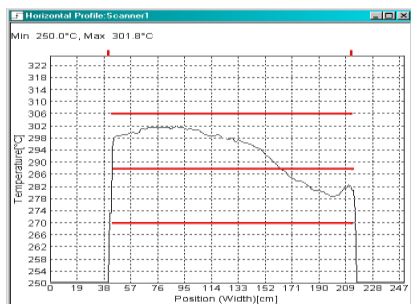
## System Description



## Automatic Edge Detection

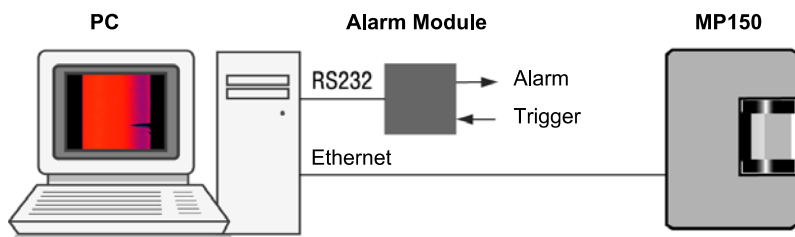
The “Automatic Sector” feature, unique to EC150, continuously monitors the whole melt curtain and provides automatic edge detection. The “Automatic Sector” automatically adapts to measuring a plastic film of varying width. Temperature gaps or unacceptable “waving” or “edge running” are detected automatically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

## Easy Installation



## Specifications

|                    |                                          |
|--------------------|------------------------------------------|
| Temperature Range  | 100 to 350°C                             |
| System Accuracy    | ±3°C                                     |
| Repeatability      | ±1°C                                     |
| Optical Resolution | 180:1 (50% energy)                       |
| Ambient Temp.      | 0 to 50°C (optional 180°C)               |
| Field of View      | 90°                                      |
| Points per Line    | 256 pixels @ 36 Hz<br>512 pixels @ 20 Hz |
| Dimensions         | 200 x 180 x 190 mm                       |
| Weight             | 7 kg                                     |

## Scope of Delivery

|              |                                                                                                                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RAYTEC150P31 | <ul style="list-style-type: none"> <li>• MP150P31 linescanner</li> <li>• EC150 Software</li> <li>• Line laser sighting</li> <li>• Adjustable bracket</li> <li>• Industrial power supply</li> <li>• Alarm module</li> </ul> |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Accessories

|            |                                                       |
|------------|-------------------------------------------------------|
| XXSYS16DA  | Digital output module<br>(16 channel, open collector) |
| XXSYS7RA   | Digital output module<br>(7 channel, relay contacts)  |
| XXSYS4AA   | Analog output module<br>(4 channel, mA or V)          |
| XXSYS485CV | RS232/485 converter for<br>output modules             |

[www.raytek.com](http://www.raytek.com)

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