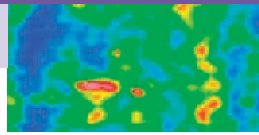


# ES150



## Process Imaging for Continuous Web Processes

*Vinyl Embossing*

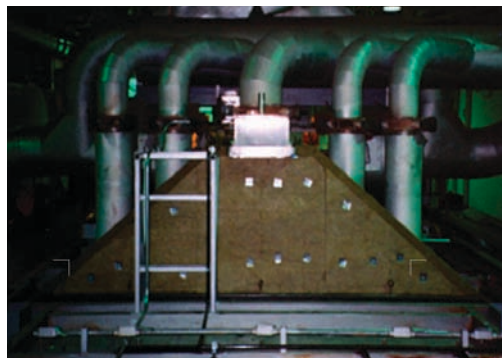


*Steel Hot Strip Mill*



*MP150 Linescanner*

Now available  
with 1024  
datapoints  
per scan!



*Float Glass Annealing Lehr*

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## Web Process Imaging System

The ES150 System is an automated inspection system for detecting, measuring, and classifying thermal features and defects occurring in continuous web processes.

### Benefits

- Detect thermal problems early
- Faster product changes and reduced setup time
- Automate quality monitoring
- Communicate with process control system via OPC
- Reduce scrap

### Features

- Web temperature profile for more effective control
- Custom measurement sectors
- Product specific configurations or "recipes"
- On board Ethernet TCP/IP communication
- Compatible with PLC's or Excel, DasyLab, LabVIEW
- Automatic fail-safe alarm logging
- Optional analog and digital outputs for each sector
- Built-in laser sighting
- Software supports English, German, French, Finnish, Dutch and Italian languages

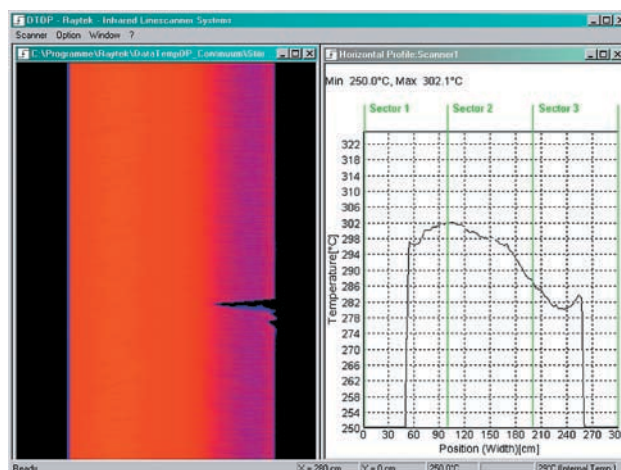
## The ES150 Process Imaging System monitors continuous web processes

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

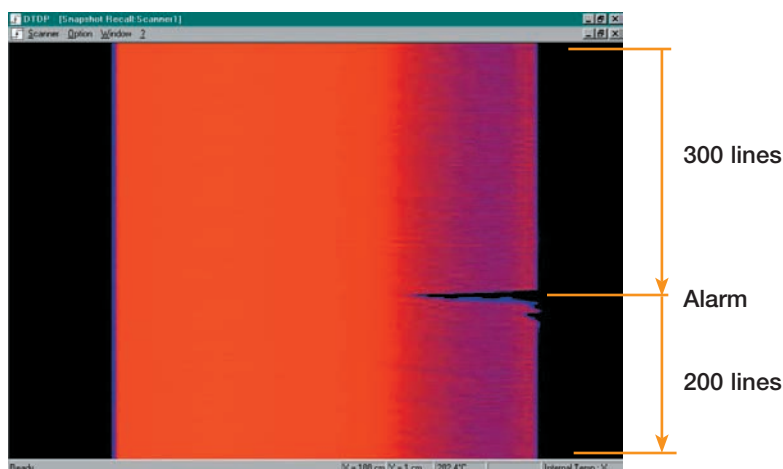
The ES150 System provides the capability to define any number of sectors corresponding to specified areas across the web. Sectors are defined by name, location, and the desired processing of temperature data within the sector

(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

## 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

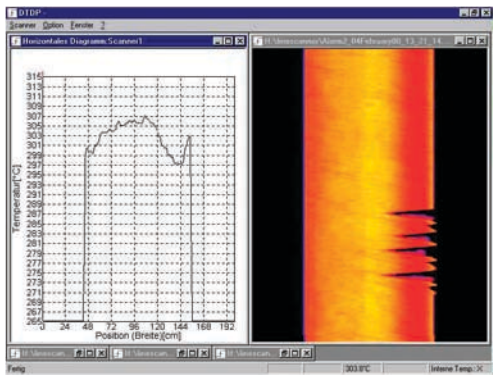
Automotive paint booths  
Food processing  
(chocolate, corn chips)  
Latex carpet backing

## Paper

Coating & laminating  
Drying  
Corrugated cardboard drying

## Building Products

Vinyl flooring  
Wallboard  
Ceiling Tile  
Asphalt Roofing Shingles



Automate quality monitoring

# MP150 Models

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



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

## ES150 System

RAYTES150XXX

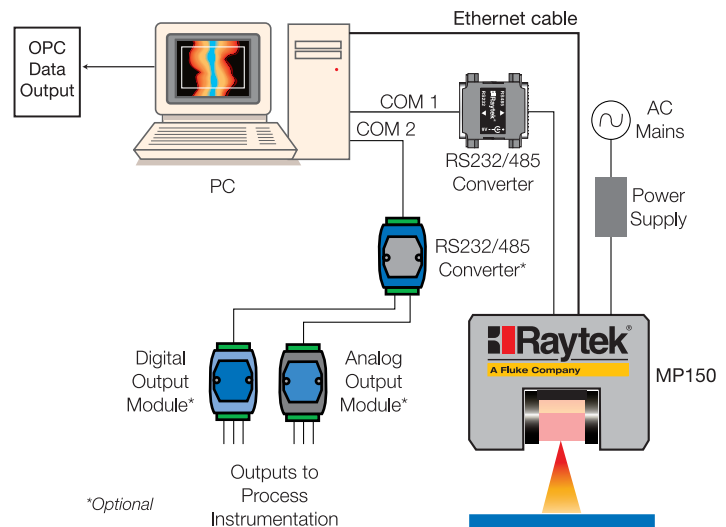
MP150 Linescanner  
DataTemp ES150 Software  
Industrial power supply  
RS232/485 Converter  
RS485 and Ethernet cables

## ES150/MP150 Specifications

Ambient Temperature	0 to 50°C (32 to 122°F)
Field of View (FOV)	45° or 90° (selectable)
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)

## Options and Accessories

Part Number	Description
XXXTMP50ACCC	MP50 carrying case
XXXTMP50485CB10	10m RS485 cable extension
XXXTMP50PSCB10	10m Power cable extension
XXXTMP50ETH10	10m Ethernet Cable
XXXMP50ACMP	Mounting plate for adjustable mounting base (or tripod)
XXXTMP50ACRMB	Adjustable mounting base
XXXSYS16DA	Digital Output Module (16 channel, open collector)
XXXSYS4AA	Analog Output Module (4 channel, mA or V)
XXXSYS485CV	RS232/RS485 Converter (needed for output modules)



## 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.

## The Worldwide Leader in Noncontact Temperature Measurement

### Raytek Corporation Worldwide Headquarters

Santa Cruz, CA USA  
Tel: 1 800 227 8074 (USA and Canada, only)  
1 831 458 1110  
solutions@raytek.com

### European Headquarters

Berlin, Germany	France	United Kingdom
Tel: 49 30 4 78 00 80	Tel: 0800 888 244	Tel: +44 1908 630 800
raytek@raytek.de	info@raytek.fr	ukinfo@raytek.com

### China Headquarters

Beijing, China  
Tel: 8610 6438 4691  
info@raytek.com.cn

To find a Raytek office near you, please visit [www.raytek.com](http://www.raytek.com)

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