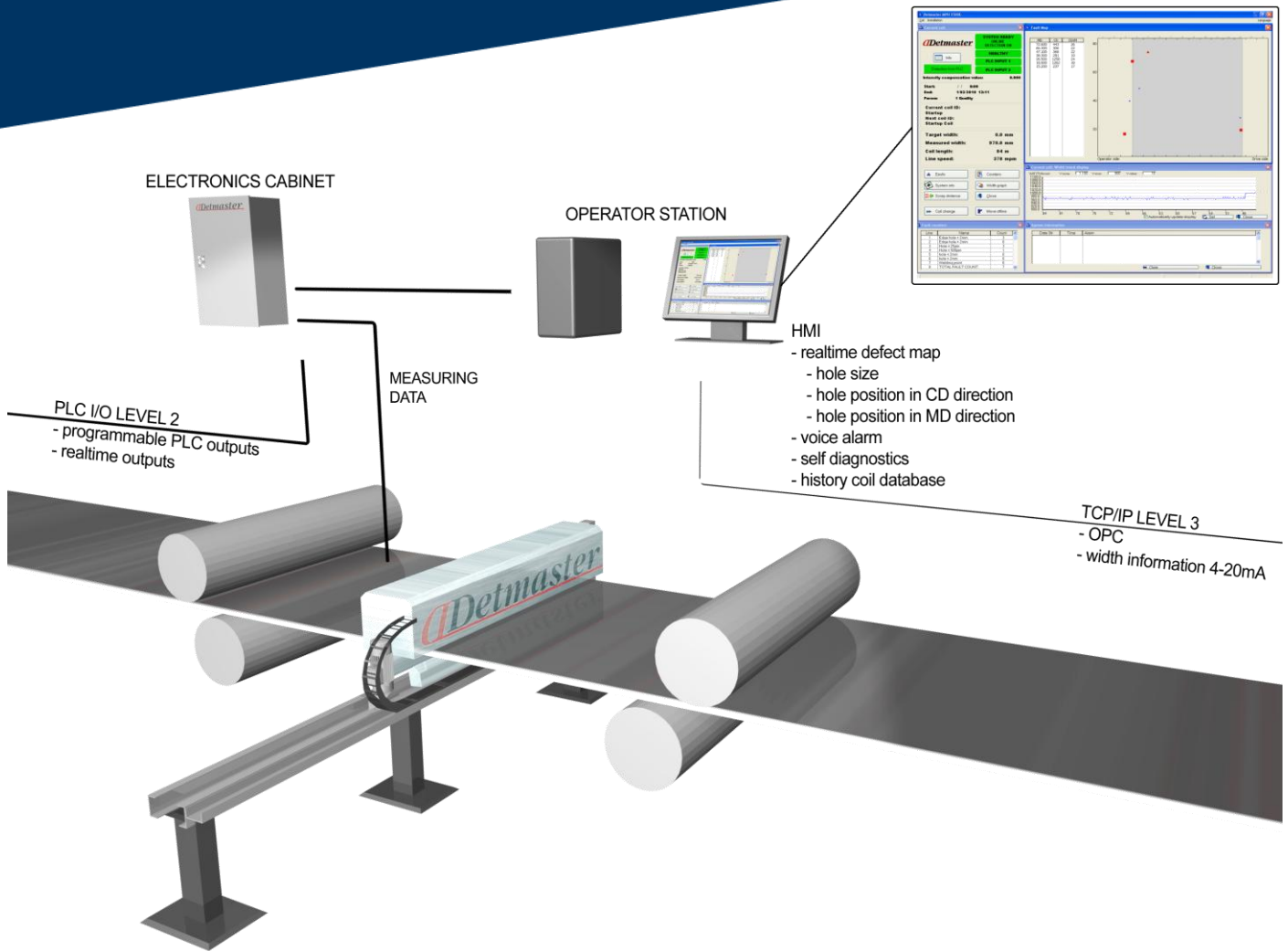


DETMASER MPH-SERIES

PINHOLE DETECTION SYSTEMS FOR METAL INDUSTRY



OVERVIEW

The Detmaster MPH-series provides high performance solution for metals (e.g. aluminium, copper and steel) processing lines:

- pinhole detection from 5 µm in diameter
- edge crack/cut detection
- width measurement (optional)

Pinholes, holes and edge cracks are indicated and located accurately in a map display. Thanks to novel technology and innovative active optical edge detection method the Detmaster MPH does not need mechanical edge following units or edge masks. Furthermore, Detmaster MPH comprises e.g. dynamic verification tools for easy system performance verification as well as system frame roll-out operation.

All Detmaster systems have been developed in close co-operation with metals manufacturers. As a result, superior detection and measurement accuracy, system reliability and low total cost of maintaining are available in just one system – Detmaster.

TECHNICAL SPECIFICATIONS

Performance

| | |
|---------------------------------------|--|
| Minimum diameter of detected pinhole: | 5µm (In 8 mm wide lanes at both strip edges 200µm) |
| Minimum size of detected edge crack: | 0.2mm x 0.2mm |
| Position measurement resolution: | 1 mm in Machine Direction, 8 mm in Cross Direction |

Applicability

| | |
|----------------------|--|
| Line speed: | 0 - 2000 m/min |
| Strip width: | No limitations |
| Type of measurement: | Optical transmission |
| Edge masking: | Active optical masking. No mechanical edge masks and moving edge followers needed. |
| Frame Roll-Out: | Enables frame roll-out even when the line is in operation |

Detector Beam

| | |
|-----------------------------|---|
| Sensors: | Multi channel detector modules with high purity silicon PIN photodiodes and DSP signal processing (DSP-processor) |
| Performance verification: | Performance verification is carried out off-line with the dedicated verification tools (rotating test disc including certified pinhole and hole samples). |
| Cooling and pressurization: | Automatic with compressed air |
| Distance from strip: | 21 mm ± 3 mm |

Light Source

| | |
|-----------------------------|---|
| Type: | LED array emitting modulated infrared light |
| Cooling and pressurization: | Automatic with compressed air |
| Mean time before failure: | 8 years |
| Distance from strip: | 40 mm |

Power Supply

| | |
|------------------------|------------------|
| Max Power consumption: | 200 W/m |
| Voltage | 110 or 220-240 V |

User Interface

| | |
|-----------|---|
| Hardware: | PC, 24" LCD Color Display, Mouse + Keyboard |
| Software: | Windows based graphical map, classification, trends, historic data, self-diagnostics, alarms, user defined threshold levels |

Outputs

| | |
|---------------------------|--|
| Isolated digital outputs: | 10 user definable, 4 RS-485, 1 Real Time |
| Mill way connections: | TCP/IP, OPC (optional) |
| Analog outputs: | 4 CH 0 – 10 VDC / 4 – 20mA (optional) |

Dimensions

| | |
|----------------------|--|
| Space requirements: | Machine direction: 370 mm, Above strip: 400 mm, below strip: 310 mm |
| Electronics cabinet: | H 1000 mm, W 600 mm, L 250 mm |

Standard Operating Environment

| | |
|------------------------|--------------------------|
| Operating temperature: | +10 °C - +50 °C |
| Humidity: | 30...90%, non-condensing |

Options Available

| | |
|-------------------------------------|---|
| Width measurement: | Accuracy ± 1 mm (3 sigma) |
| Automatic performance verification: | Automatic movement of rotating disc with stepping motor |
| Motorized frame Roll-out: | Motor controlled on-line / off-line operation |

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