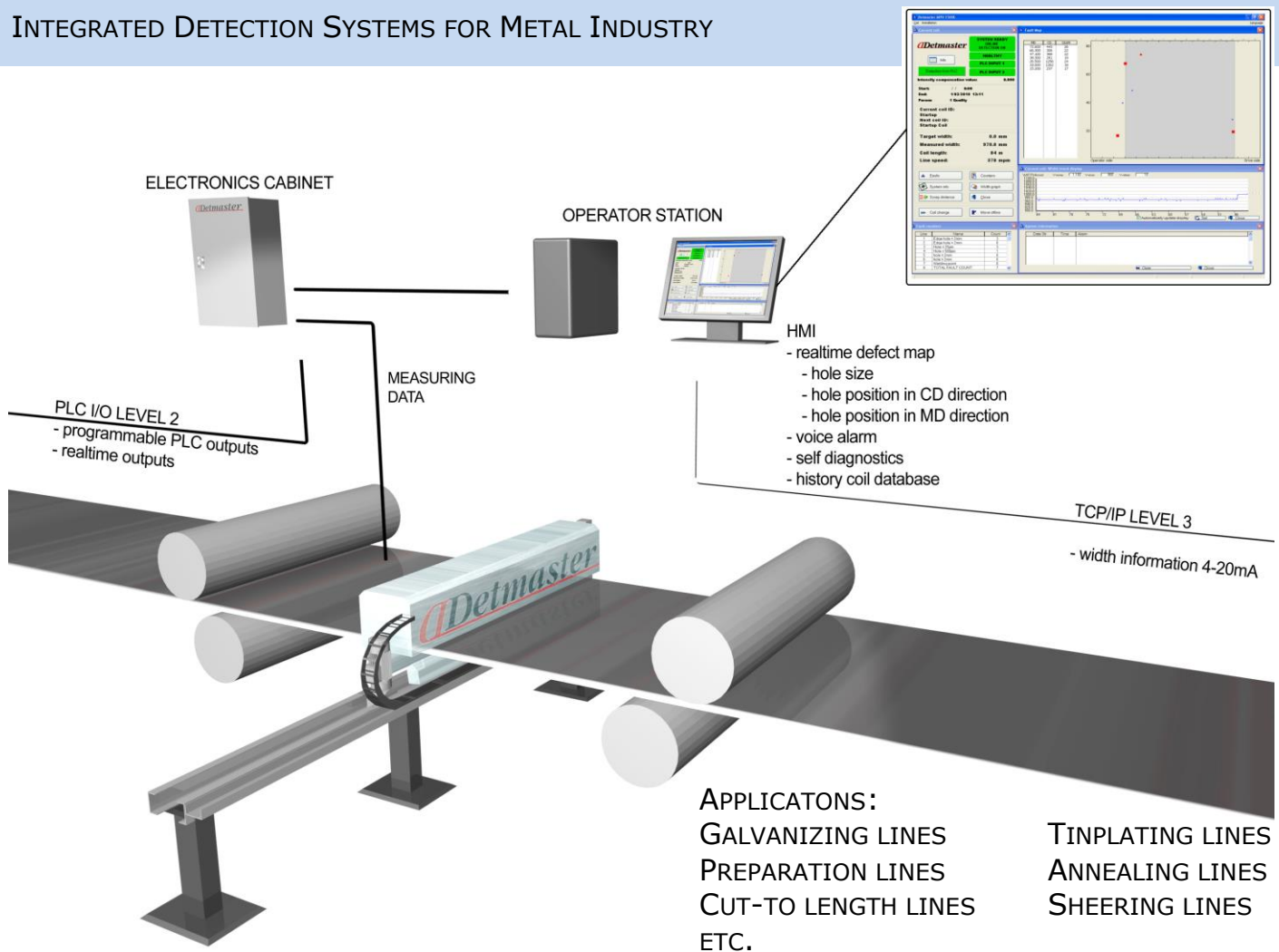


FROM THE WORLD MARKET LEADER

DETMASTM MPH-ONE

INTEGRATED DETECTION SYSTEMS FOR METAL INDUSTRY



OVERVIEW

The new Detmaster MPH-ONE is an integrated detector and strip width measurement system providing a cost-efficient high performance inspection tool for steel (and metals) processing lines for:

- pinhole detection (from 15 µm in diameter)
- hole detection
- edge defect/edge cut detection
- weld hole 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-ONE operates without any moving parts (mechanical edge following units/edge masks).

The system may be operated as a stand-alone unit or integrated into the mill network (e.g. with TCP/IP). Outputs enable to control real-time operations such as driving a reject gate on a cut-to-length line.

Optional verification tools are available for easy system performance verification. The roll-out operation may be motorized.

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:	15 μm (In 8 mm wide lanes at both strip edges 300 μm)
Minimum size of detected edge crack:	0.3mm x 0.3mm
Position measurement resolution:	1 mm in Machine Direction, 8 mm in Cross Direction

Applicability

Line speed:	0 - 1400 m/min
Strip width:	No limitations
Type of measurement:	Optical transmission
Edge masking:	Active optical masking. No mechanical edge masks, no 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:	42 mm (tolerates ± 3 mm strip bounce)

Light Source

Type:	LED array emitting infrared light
Cooling and pressurization:	Automatic with compressed air
Mean time before failure:	4 years
Distance from strip:	61 mm

Power Supply

Max Power consumption:	120 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 (optional)
Analog outputs:	4 CH 0 - 10 VDC / 4 - 20mA (optional)

Dimensions

Line space requirements:	Machine direction: 195 mm, Above strip: 350 mm, below strip: 325 mm (with roll-out)
Electronics cabinet:	H 1000 mm, W 600 mm, L 300 mm

Standard Operating Environment

Operating temperature:	+10 $^{\circ}\text{C}$ - +50 $^{\circ}\text{C}$
Humidity:	30...90%, non-condensing

Options Available

Width measurement:	Accuracy ± 2 mm (3 sigma)
Automatic performance verification:	Automatic on full width (rotating disc + stepper motor)
Motorized frame Roll-out:	Motor controlled on-line / off-line operation