YIELD MANAGEMENT SOLUTIONS

DETMASTER MPH–SERIES

PINHOLE DETECTION SYSTEMS FOR METAL INDUSTRY

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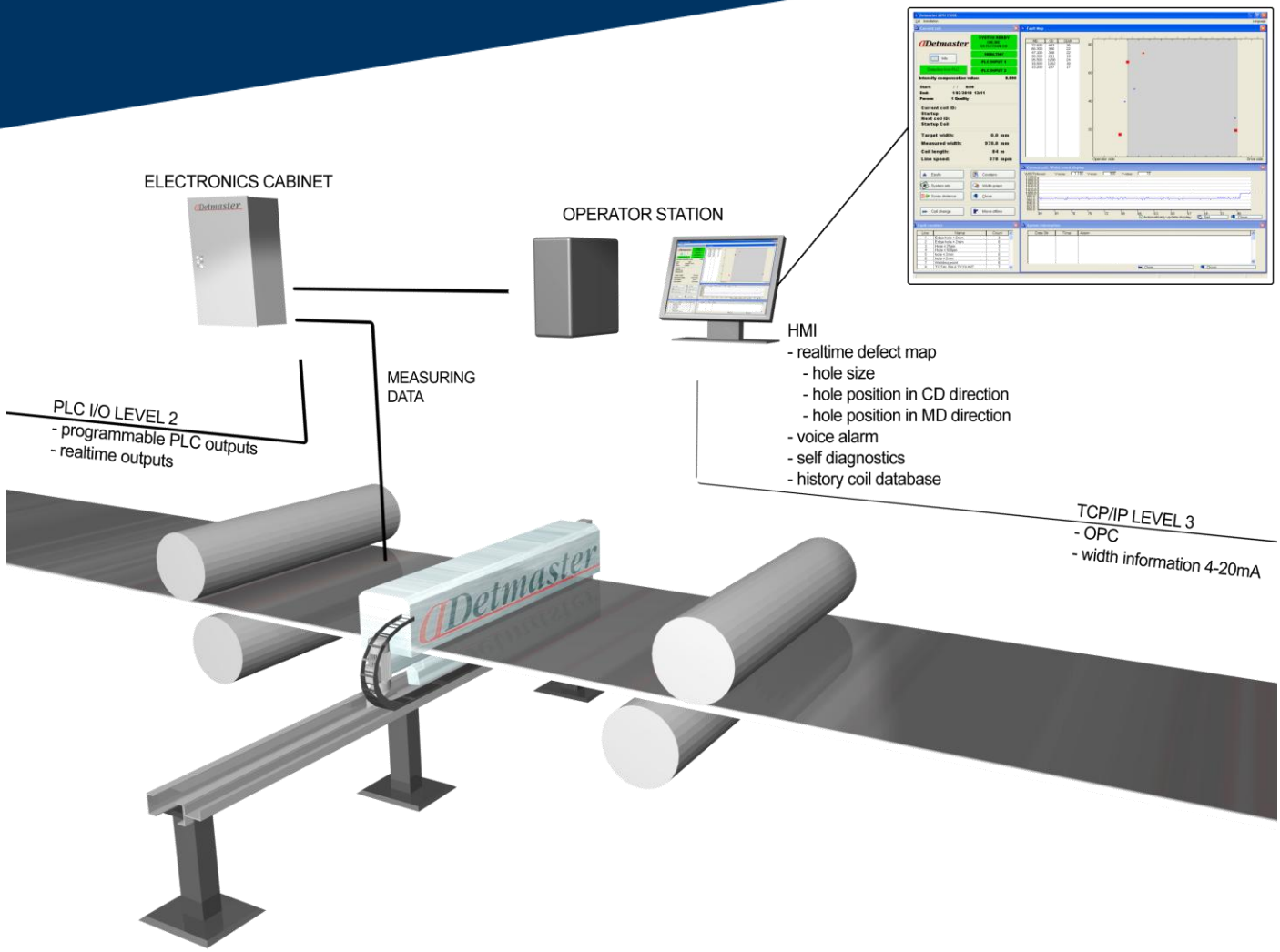

OVERVIEW

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