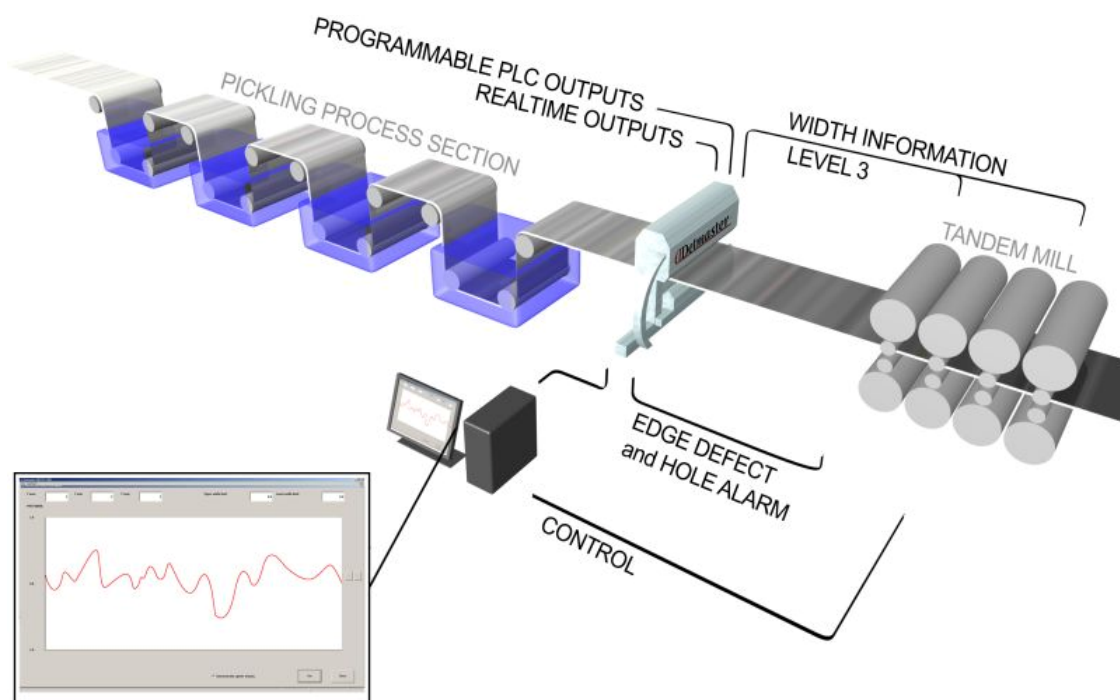


# DETMASER MD-SERIES

MULTI-FUNCTION WIDTH MEASUREMENT SYSTEMS FOR METAL INDUSTRY



## OVERVIEW

The patented Detmaster MD-series provides a novel high performance solution for metals (e.g. aluminum, copper and steel) processing lines for:

- Width measurement  $\pm 0.4$  mm (3 sigma)
- Hole detection (optional)
- Edge crack/cut detection (optional)
- Weld hole detection (optional)

Thanks to the novel technology and compact system design multiple measurements can be integrated in one system without losing the total system availability. The integrated system is also more cost efficient to invest and maintain than separate single-function systems.

Especially, the Detmaster MD system is applicable on coupled pickling-tandem cold rolling mills, where in addition to the width measurement feature the hazardous edge cracks and holes are required to be detected and alarmed before they enter into the cold rolling process. Without such edge crack / hole detection and alarming feature a strip break might occur causing remarkable down time at the processing line as well as further costs owing to the necessary roll grinding etc. procedures. Furthermore, the weld holes may be programmed to be detected separately with the Detmaster MD system.

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 cost of investment and maintaining are available in just one system – Detmaster.

## TECHNICAL SPECIFICATIONS

### Performance

Width measurement accuracy:	± 0.4 mm (3 Sigma, meaning 99.75 % of each single measurement is within indicated range of accuracy)
Measurement speed:	Max 15 000 readings /s.

### Applicability

Line speed:	0 - 2000 m/min
Strip width:	No limitations
Type of measurement:	Optical transmission
Motorized Frame Roll-Out:	Enables frame roll-out even when the line is in operation

### Detector Beam

Sensors:	Multi channel detector modules with high purity PIN silicon photodiodes and digital signal processing (DSP-processor)
Cleaning:	Automatic with low pressure air
Calibration:	Calibration is carried out off-line with a slotted calibration bar, which enables position calibration of each detector module.
Distance from strip:	181 mm

### Light Source

Type:	LED array emitting modulated infrared light
Mean time before failure:	8 years
Distance from strip:	86 mm
Cleaning:	Automatic with low pressure air

### Power Supply

Power consumption:	100 W/m, voltage 110 – 240 VAC 43 – 60 HZ
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### User Interface

Hardware:	PC, 22" LCD Color Display, Mouse + Keyboard
Software:	Windows based including measurement data, trends, historic data, self-diagnostics, alarms, user defined threshold levels

### Outputs

Isolated digital outputs:	10 user definable, 4 RS-485, 2 Real Time
Mill way connections:	TCP/IP, OPC (optional)
Analog outputs:	4 CH 0 – 10 VDC / 4 – 20mA (optional)

### Dimensions

Space requirements:	MD: 400 mm, above strip 850 mm, below strip 550 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

Hole detection:	Minimum detected hole: diameter 0.8 mm.
Edge crack / cut detection:	Minimum detected edge crack size: 0.8 mm x 0.8 mm.
Weld hole detection:	Detection and reporting of typical weld holes
Measurement accuracy verification:	With a set of verification plates

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