

Laser weld monitor: MM-L300A

MM-L300A Laser Weld Monitor

The MM-L300A laser weld monitor helps to ensure weld quality and maintain high throughput by providing real-time feedback during the laser welding process to determine weld success.

MM-L300A works by detecting and recording a thermal signal from the area of laser interaction during the welding process. The SU-N300A thermal sensor samples the signal and provides an output waveform around which envelope limits can be set.

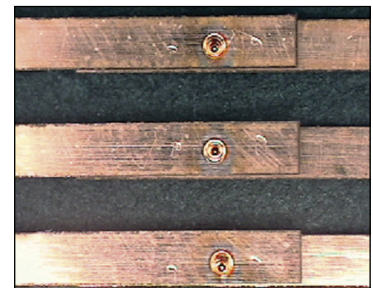
KEY FEATURES

- The MM-L300A could be used to detect the following production errors depending on weld joint and conditions :
 - ◆ Gap between parts
 - ◆ Missing part
 - ◆ Out of focus
 - ◆ Absence of cover gas
- High temporal resolution (down to 1 μ s) with a dedicated sensor enables monitoring of both CW and pulsed lasers
- Envelopes allow real-time comparison and determination of good and bad welds
- Light weight, compact design reduces set-up space when integrating into production lines
- Sensor can be mounted either on the optical axis of the laser or off-axis
- Easy and intuitive operation

TYPICAL APPLICATIONS



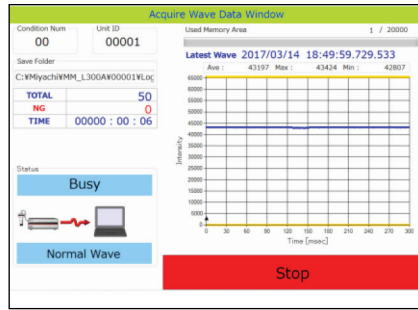
Seam weld example



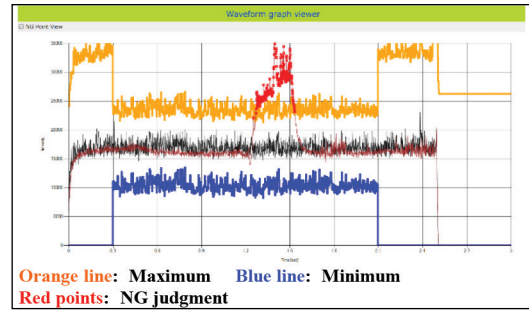
Spot weld example

SOFTWARE

The MM-L300A software operates in Windows®. Screens allow for easy configuration of sensor, set up of envelope limits, and analysis of the collected waveforms.



PC monitor



Comparison data

TECHNICAL SPECIFICATIONS

MM-L300A Controller		
Input power requirements	Single phase, 90 – 250 VAC 50/60 Hz	
Interface	15 pin D-sub, Ethernet (RJ-45)	
Channel	1	
Temporal resolution	Min: 1 µs	
Judgment function	Analysis	Waveform
	Judgment	Upper and lower limit
Operational temperature range	0 – 40° C (non-condensing)	
Operational humidity range	<85% RH (non-condensing)	
SU-N300A sensor		
Monitoring area	Working distance approx. 200 mm, Signal detection diameter - about ø 2 mm	
Guide light	Green LED	
Monitoring wavelengths	1,300 – 2,500 nm	
Operational temperature range	5 – 50°C (non-condensing)	
Operational humidity range	<85% RH or under (non-condensing)	
Protection level	IP64 with connector	

WEIGHT & DIMENSIONS

	MM-L300A without connector	Sensor without connector
Dimensions (L x W x H)	9.6 in x 9.1 in x 3.5 in (243 mm x 230 mm x 89 mm)	1.4 in x 2 in x 3.8 in (35 mm x 50 mm x 96 mm)
Weight	6.6 lb (3.0 kg)	0.44 lb (0.2 kg)

according to DIN EN 60825-1:10/2003



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