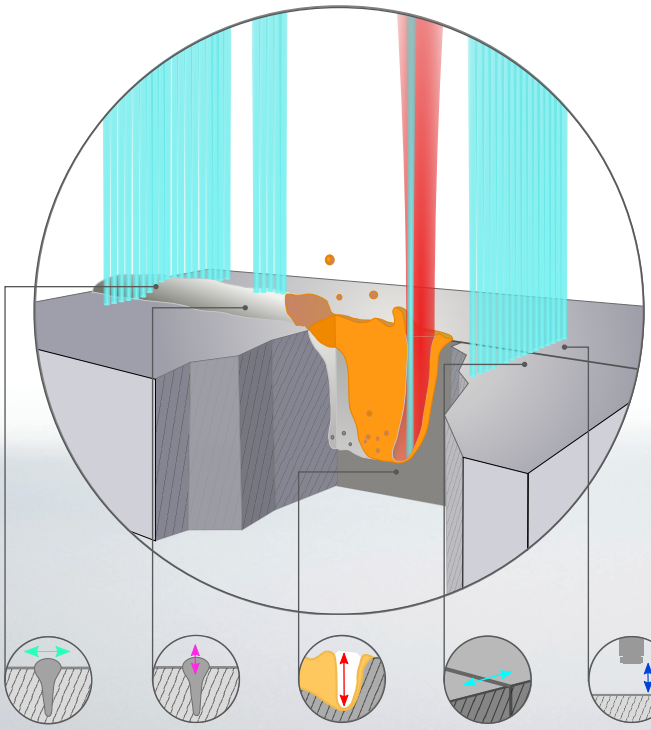
LDD-700

In-line Scanning Weld Monitor



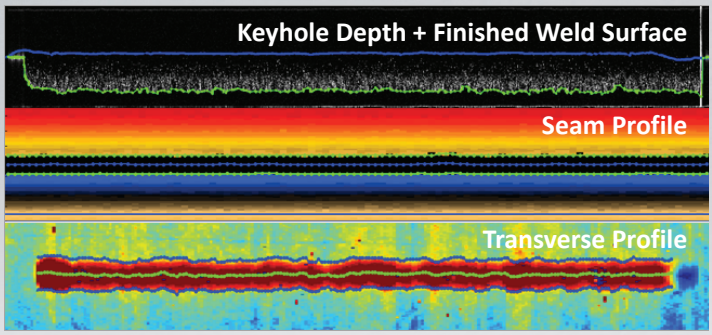
Transverse Profile
Measures the finished weld bead transverse profile.

Finished Weld Surface
Measured just behind the melt pool captures the height of the finished weld bead.

Keyhole Depth
Measured inside the keyhole during the weld to determine actual weld penetration depth in real time.

Seam Profile
A sweep ahead of the process looks for joint position on the workpiece.

Workpiece Height
Measures the distance between the material surface and the welding optics.



IPG Photonics introduces the in-line weld monitor for remote scan welding applications. Paired with our IPG OmniWELD Scanning software the LDD-700 offers five monitoring modes: keyhole depth, seam profile, workpiece height, finished weld surface height and bead profile—all from a single instrument. Active steering of the ICI beam allows OmniWELD to seek out defects immediately before, during, and after the welding process. These capabilities are available in a single presentation of the part with little to no additional cycle time or fixturing required.

The optimal combination of measurement types, locations, and PASS/FAIL criteria for each weld process can be easily configured in software, simplifying replication on multiple systems.

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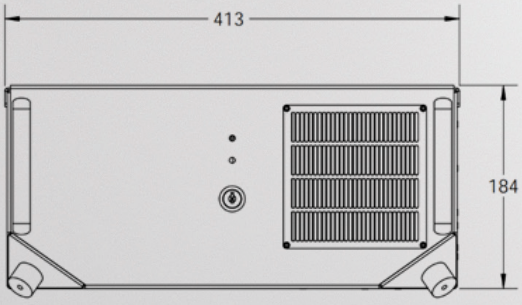
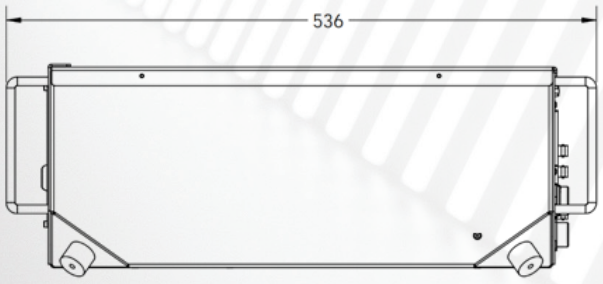
Optical Characteristics	
Imaging Wavelength, nm	800-900
Power, mW	<20
Measurment Frequency, kHz	250
Axial Resolution, µm	<20
Axial Field of View, mm	6, 9, 12
Welding Process Area, mm	Up to 40 (Application Dependent

General Characteristics	
Control Unit Dimensions, (W × D × H), mm	413 × 586 × 184
Head Interface Dimensions (W × D × H), mm	128 × 74 × 89
Optics Module Dimensions (W × D × H), mm	330 × 111 × 136
Head Interface Compatibility	FLW-D30, D50, D30 Wobble, D50 Wobble, 2D High-Power Scanner and Mid-Power Scanner
Cooling	Air-cooled
Supply Voltage, V	100 to 250
Power Consumption, W	<500 typ.
Real Time Control Outputs	-10 to 10 V analogue, TCP/IP, Fieldbus
Communication Protocols	Devicenet, TCP/IP, Ethernet/IP, Hardwire IO





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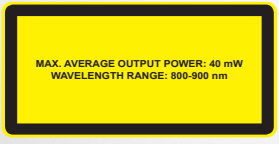

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