LDD-700 Inline Process Monitor
Multifactor Weld Process Measurement Tool

LDD-700
The LDD-700 Inline Process Monitor:
- High Speed, High Resolution
- Immune to Process Radiation
- Gives Data Similar to Sectioning, Immediately

Capable of Detecting Defects Including:
- Over and Under Penetration
- Part Misalignment: Height Variation, Gap Width
- Weld Bead Defects: Blowouts, Underfill

Applications
- Power Electronics
- Busbar Welding
- Battery Assembly
- E-mobility
- Micro-electronics

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.

LDD Integration on IPG Beam Delivery

www.ipgphotonics.com
**LDD-700 Inline Process Monitor**

**Copper to Nickel-plated Steel Lap Welding**

### Process Monitor Results

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Weld Depth</th>
<th>Weld Length</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NOK</strong></td>
<td></td>
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</tr>
</tbody>
</table>

**Weld Depth**

**Weld Length**

- **OK**
- **NOK**

**Contact**

IPG Photonics looks forward to helping our customers with their laser applications; our Application Facilities will work with end users and systems integration partners from proof-of-concept through process development for all materials processing applications.

Contact any of IPG’s worldwide application facilities to arrange complimentary sample processing, evaluation and project planning.

Go to [www.ipgphotonics.com](http://www.ipgphotonics.com) for more information on all of IPG’s products.

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