Laser Distance Meter for use with or without reflectors which, because of its high repetition rate, its long-range, and its "First & Last Pulse"\(^1\) facility, is especially well suited for airborne altimetry and scanner applications, and for use as an invader detector.

<table>
<thead>
<tr>
<th></th>
<th>LD90-3800VHS-FLP</th>
<th>LD90-3800EHS-FLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement rate</td>
<td>2000 Hz</td>
<td>12000 Hz</td>
</tr>
<tr>
<td>Data interface</td>
<td>RS232 or RS422</td>
<td>ECP standard,</td>
</tr>
<tr>
<td></td>
<td>115.2 kBd</td>
<td>parallel interface</td>
</tr>
<tr>
<td>Laser product</td>
<td></td>
<td>View the laser output with</td>
</tr>
<tr>
<td>classification</td>
<td></td>
<td>certain optical instruments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>designed for use at a distance</td>
</tr>
<tr>
<td>according to IEC60825-1:2007</td>
<td></td>
<td>(for example telescopes and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>binoculars) may pose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>an eye hazard.</td>
</tr>
</tbody>
</table>

The following clause applies for instruments delivered into the United States:
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

Physical data

<table>
<thead>
<tr>
<th></th>
<th>LD90-3800-FLP</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>232 x 184 x 100 mm</td>
<td>252 x 184 x 100 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>approx. 4.4 kg</td>
<td>approx. 4.5 kg</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP64</td>
<td>IP64</td>
</tr>
</tbody>
</table>

LD90-3800-FLP

- Measurement range
  - for natural targets, \( p \geq 80 \% \)
  - for natural targets, \( p \geq 10 \% \)
  - for retroreflecting targets \(^4\)
- Minimum distance \(^5\)
- Measurement accuracy \(^6\)
  - typically \( \pm 50 \text{ mm} \)
- Measurement resolution
  - 50 mm
- Laser wavelength
  - typ. 0.9 \( \mu \)m (near infrared)
- Beam divergence \(^7\)
  - 1.6 mrad x 1.8 mrad
- Power supply
  - Standard
    - 11-28 Volts DC, approx. 10 Watt
  - Built-in protecting circuitry for over-voltage and reverse polarity
  - Option 220 V AC
    - external power supply module VNG95
- Temperature range
  - Operation
    - -10 °C to +50 °C
  - Storage
    - -20 °C to +60 °C

1) First, Last, or First&Last Target alternatively selectable
2) For the unscanned laser beam only. For a scanned beam, laser class 1 (eyesafe) is in most cases achievable.
3) Typical values for average conditions. In bright sunlight, the operational range is considerably shorter than under an overcast sky. At dawn or at night the range is even higher.
4) reflecting foil 3M DG4090 or equivalent, minimum dimensions 0.45 x 0.45 m²
5) short-range sensitivity reduced to avoid nearby echoes
6) standard deviation, plus distance depending error \( \leq 20 \text{ ppm} \)
7) 1 mrad corresponds to 10 cm beamwidth per 100 m of distance
Dimensional drawings of RIEGL LD90-3800-FLP

1. Receiver lens
2. Transmitter lens
3. 6xM5 thread inserts for mounting
4. Telescope (optional)
5. 10-pole socket for power supply
6. 9-pole socket for serial data interface
7. LED “POWER ON”
8. Fuse holder
9. 25-pole socket for ECP standard interface

Information contained herein is believed to be accurate and reliable. However, no responsibility is assumed by RIEGL for its use. Technical data are subject to change without notice.

Data sheet RIEGL LD90-3800-FLP, 25/03/2010