RIEGL has developed a new class of LiDAR sensor to meet the challenges of emerging surveying solutions by UAS, UAV, RPAS, gyrocopters, and ultra-light aircraft, both in measurement performance and in system integration.

Introducing the World´s first survey-grade UAS laser scanner

Typical applications include
- Power Line, Railway Track, and Pipeline Inspection
- Terrain and Canyon Mapping
- Capturing the Topography in Open-Cast Mining Areas
- Archaeology and Cultural Heritage Documentation
- Construction-Site Monitoring
- Corridor Mapping
- Precision Agriculture
- Flood Zone Mapping
RIEGL VUX®-1 Preliminary Technical Data

- max. operating flight attitude AGL
- pulse repetition rate PRR (peak)
- eye safe operation at Laser Class 1
- online waveform processing
- multiple target capability

<table>
<thead>
<tr>
<th>Eye Safety Class</th>
<th>Laser Class 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Range @ Target Reflectivity 60%</td>
<td>920 m</td>
</tr>
<tr>
<td>Max. Range @ Target Reflectivity 20%</td>
<td>550 m</td>
</tr>
<tr>
<td>Minimum Range</td>
<td>3 m</td>
</tr>
<tr>
<td>Accuracy/Precision</td>
<td>10 mm / 5 mm</td>
</tr>
<tr>
<td>Max. Effective Measurement Rate</td>
<td>up to 500,000 meas/sec</td>
</tr>
<tr>
<td>Field of View (FOV)</td>
<td>up to 330°</td>
</tr>
<tr>
<td>Max. Operating Flight Altitude AGL</td>
<td>350 m / 1,150 ft</td>
</tr>
</tbody>
</table>

Class 1 Laser Product according to IEC60825-1:2007

Mechanical Drawings

- top view
- bottom view
- front view
- side view
- rear view

Highlights

- compact, rugged and very lightweight design
- easily mountable to professional UAS/LAV/RPAS
- high-accuracy ranging based on echo digitization and online waveform processing
- high laser pulse repetition rate up to 550 kHz for fast data acquisition
- fast scan speed up to 200 scans/sec.
- field of view up to 330° enabling data acquisition in narrow, complex environments
- multiple target capability – unlimited number of target echoes
- perfectly parallel scan lines
- regular point pattern
- electrical interfaces for GPS data string and Sync Pulse (1PPS)
- mechanical interface for IMU mounting
- scan data storage on internal 240 GByte SSD Memory
- integrated LAN-TCP/IP interface

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