The RIEGL miniVUX-1UAV is a user-friendly and cost-efficient device to acquire survey-grade measurement data by use of remotely piloted multi-rotor, rotary-wing, or fixed-wing UAVs for a variety of applications.

Based on RIEGL’s sophisticated Waveform-LiDAR technology, the RIEGL miniVUX-1UAV provides high-speed data acquisition using echo signal digitization and online waveform processing. Its excellent multiple target capability achieves superior measurement results. The 360° field of view allows complete acquisition of the environment, and a well-designed housing supports mounting even with restricted weight and space requirements.

RIEGL offers user-friendly, installation- and application-oriented solutions for the integration of the miniVUX-1UAV, from the stand-alone sensor to fully-integrated RIEGL airborne laser scanning systems.

Typical applications include

- Agriculture & Forestry
- Glacier and Snowfield Mapping
- Archeology and Cultural Heritage Documentation
- Construction-Site Monitoring
- Landslide Monitoring

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**RIEGL miniVUX-1UAV Stand-alone**

- max. operating flight altitude AGL: 80m
- pulse repetition rate PRR (peak): 100 kHz
- online waveform processing
- multiple target capability

**Eye Safety Class**

<table>
<thead>
<tr>
<th>Laser Class</th>
<th>Max. Range @ Target Reflectance 60%</th>
<th>Max. Range @ Target Reflectance 20%</th>
<th>Minimum Range</th>
<th>Accuracy / Precision</th>
<th>Max. Effective Measurement Rate</th>
<th>Field of View (FOV)</th>
<th>Typ. Operating Flight Altitude AGL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser Class 1</td>
<td>250 m</td>
<td>150 m</td>
<td>3 m</td>
<td>15 mm / 10 mm</td>
<td>up to 100,000 meas./sec</td>
<td>up to 360°</td>
<td>80 m / 260 ft</td>
</tr>
</tbody>
</table>

Class 1 Laser Product according to IEC 60825-1:2014

**Highlights**

- extremely lightweight (1.55 kg / 3.4 lbs stand-alone LiDAR sensor without cooling fan)
- compact (243 x 111 x 85 mm), robust aluminum housing
- 360° field of view
- exceptionally suited to measure in snowy and icy terrains
- RIEGL’s unique echo signal digitization and online waveform processing
- multiple target capability – up to 5 target echoes per laser shot
- narrow measurement beam with low divergence for high spatial resolution
- mechanical and electrical interface for IMU mounting

**RIEGL miniVUX-SYS System Integration Options**

**RIEGL miniVUX-1UAV with APX-15 UAV**

- IMU/GNSS unit integrated with LiDAR engine
- total weight approx. 2 kg
- interfaces for up to 2 cameras
- suited for integration into fixed-wing UAVs

**RIEGL miniVUX-1UAV with APX-20 UAV**

- higher-grade IMU/GNSS unit partly integrated with LiDAR engine
- total weight approx. 2.5 kg
- interfaces for up to 2 cameras
- suited for integration into all types of UAVs

**RIEGL Integration Kit 600**

- add-on to the miniVUX-SYS coming with shock-absorbing mounting-kit, power supply module and cabling
- total weight approx. 0.7 kg (without sensor and camera)
- suited for integration into multi-rotor UAVs

**Find your perfect system!**

Please contact sales@riegl.com / info@ricopter.com to get more detailed information on the available solutions and to find the system perfectly suited for your application and needs.

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The RIEGL miniVUX-1UAV / RIEGL miniVUX-SYS is designed & manufactured by RIEGL Laser Measurement Systems GmbH. It is distributed, supported and serviced by RiCOPTER UAV GmbH, also a RIEGL company.

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