Airborne Data Recorder for Storage of Waveform-LiDAR Data

RIEGL DR1560i

The *RIEGL*® DR1560i is the accompanying Digital Data Recorder to the state-of-the-art *RIEGL* Airborne Laser Scanners, using four removable drive carriers with integrated Solid State Drives for smooth operation.

Providing various data interfaces the DR1560i is universally suited to store data acquired with the full waveform laser scanners *RIEGL* LMS-Q1560 and LMS-Q780, and also of data acquired with *RIEGL*'s new online-waveform processing as well as full and smart waveform recording *RIEGL* V-line laser scanners, like the VQ-1560i and the VQ-780i.

Using solid state drives increases the reliability in harsh environment and at high flying altitudes. The drives are hot-swappable and allow immediate access to data already acquired, ready to be analyzed on the fly or in the office. Data rates of up to 150 MBytes/sec guarantee uninterruptible storage of data covering the requirements of actual and future generations of *RIEGL* high speed laser scanners. Additionally an online data integrity check is performed prior transferring the scan data to the solid state drives.
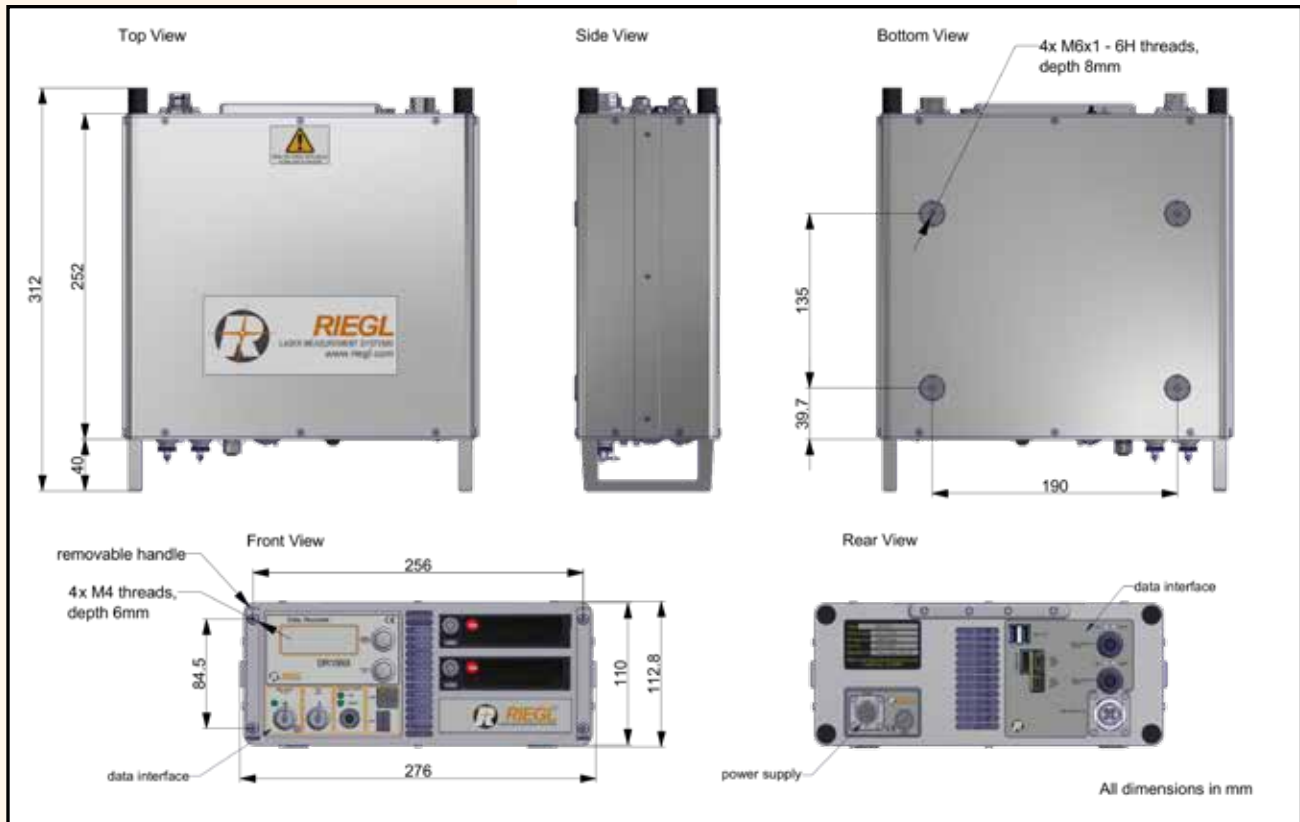
- *Solid State Drives (SSD) 4 x 2.5"*
- *Fiber coupled high speed data interface*
- *Removable drive carriers*
- *Up to 56 hours airborne data logging capacity*
- *Data rate (WRITE) up to 150 MByte/sec per interface*
- *Online data integrity check*

RIEGL®
LASER MEASUREMENT SYSTEMS

All dimensions in mm
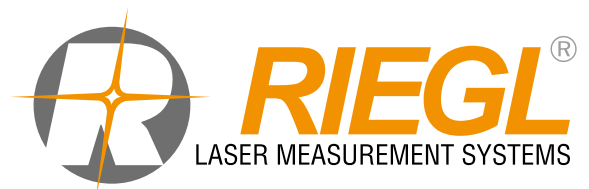
Technical Data *RIEGL* DR1560i

Data Recorder Performance

Storage Capacity	4 x 745 GByte[1] or optional 4x 1490 GByte
Data Rate (WRITE)	up to 2 x 150 MByte/sec
Logging Capacity [2]	
using 4 x 745 Gbyte SSD	typically 28 h
using 4x 1490 GByte SSD	typically 56 h
Data Rate (READ) [3]	up to 300 MByte/sec

1) Subject to rapid technical change, storage capacity of Solid State Drives may differ from values given at the time of datasheet's issue.

2) at 1000 kHz laser pulse repetition frequency with smart waveform recording of the *RIEGL* VQ-1560i scanner, average 2 targets, 60° scan angle
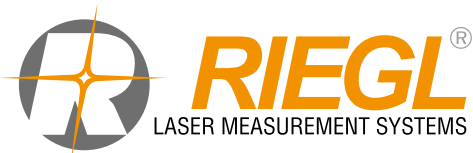3) removable hard disk in mounting frame with SATA interface on up to date PC

Data Interface

Input Interface	1 x High Speed Serial Data Link
	1 x Small Form-Factor Pluggable Transceiver (SFP)
	1 x High speed optical data link with 2 independent channels
	2 x GigE-LAN
Output Interface	SATA on removable drive carrier
	GigE-LAN
Debug Interface	USB 2.0

General Technical Data

Power Supply Input Voltage	18 - 32 V DC
Current Consumption	up to 3 A @ 24 V DC (up to 5 A @ 24 V DC with active heating)
Main Dimensions (LxWxH)	312 x 276 x 113 mm
Weight	approx. 5.6 kg (4 drive carriers included)
Max. Flight Altitude (operating / not operating)	18 000 ft (5 500 m) above Mean Sea Level (MSL)
Temperature Range	0°C up to +40°C (operation) / -10°C up to +50°C (storage)

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