

## **Scanner Basic Configuration**

Part-No. 21R09-00-101-00

### **3D Laser Scanner RIEGL VZ-400** Part-No. 21R09-00-001-00

- laser transmitter & receiver front end
- motorized mirror scanning mechanism
- signal processing electronics with echo digitization and online waveform analysis
- Human-Machine Interface (HMI) with high-resolution 3,5" TFT color display (320 x 240 pixels) and keypad
- 8 GByte flash memory for data storage, internal
- GPS receiver (L1), integrated (with antenna)
- inclination sensors (2 axes), integrated
- laser plummet, integrated
- internal power supply electronics, input voltage 11 – 32 V DC



Detailed specifications and laser classification according to the latest datasheet *RIEGL VZ-400*.

### **Electrical Interfaces, integrated**

- LAN interface 10/100/1000 MBit/s within rotating head
- LAN interface 10/100 MBit/s within base
- integrated WLAN interface with rod antenna
- USB 2.0 for external storage devices (USB flash drives, external HDD)
- USB 2.0 for connecting the optional digital camera
- connector for GPS antenna
- two connectors for external power supply
- connector for serial interface and external GPS synchronization pulse (1PPS)

### **Mechanical Interfaces**

- W5/8" standard tripod mounting thread
- high precision mounting pads for camera mount on top
- 3x M6 mounting threads, depth 8mm at bottom

### **Cables**

- Part-No. 02Z03-02-003-00 TCP/IP cable M12-M12, 3 m
- Part-No. 02Z03-01-001-00 TCP/IP cable M12-RJ45, 0.3 m
- Part-No. 02Z03-01-002-00 TCP/IP cable M12-RJ45 cross over, 0.3 m
- Part-No. 02Z03-02-034-00 Serial data and PPS cable to GPS receiver, 3 m
- Part-No. 02Z03-01-042-00 Power supply cable, 2 pole / 7 pole, 1 m
- Part-No. 02Z03-01-043-00 Power supply cable, 2 pole / 7 pole, 3 m
- Part-No. 16R09-06-002-00 Adapter cable, 1 m, from power supply cable to banana plugs
- Part-No. 16R09-06-004-00 Adapter cable, 1 m, from power supply cable to cigarette lighter plug

**RiSCAN PRO Viewer, Acquisition & Processing Software** [Part-No. 02Z06-02-001-00](#)

For detailed description of main functions see RiSCAN PRO datasheet.

- The companion software package to the *RIEGL* Terrestrial Laser Scanner series
- Using a well-documented tree structure for comfortable access and clarity
- Project oriented, XML file format
- For operating systems WINDOWS XP (recommended), WINDOWS 2000 SP2 or above

includes:

- RiSCAN PRO Viewer License  
for visualizing of already acquired RiSCAN PRO projects and simple data evaluation
- RiSCAN PRO Acquisition License  
for *RIEGL* scanner configuration and data acquisition, global scan data registration, viewing and export of merged, filtered point clouds
- RiSCAN PRO Processing Single User License (Dongle)  
for advanced data processing and evaluation of already acquired RiSCAN PRO projects

**RiSCAN PRO Standard Software Maintenance for 12 months**

[Part-No. 02Z06-05-001-00](#)

- Free software updates
- E-mail and telephone support

**Firmware Maintenance for 12 months** [Part-No. 02Z06-05-032-00](#)

- Free software updates

**User Manual** (in English language)

"Technical Documentation & User Instructions"

including, among other things, instructions for: Safety, Installation, Operation, etc.

## **Software Options**

Free software updates and e-mail/telephone support for 12 month included.

### **RiSCAN PRO Processing Network Server License**

Part-No. [02Z06-02-027-00](#)

Includes 10 licenses for RiSCAN PRO Processing, administrated by a network server program. Licenses can be allocated to single processing computers in the same network. Checking out of single licenses to a USB dongle is possible.  
2 dongles added to scope of delivery.  
Single User License mandatory.

### **License RiSCAN PRO Plugin Camera Module**

Part-No. [02Z06-02-005-00](#)

Enables automatic acquisition of calibrated and orientated images via USB or IEEE 1394 "firewire".

### **License RiSCAN PRO Plugin Multi Station Adjustment Module**

Part-No. [02Z06-02-022-00](#)

- Advanced registration based on overlapping point clouds
- Advanced registration and adjustment based on tie points, control points
- Advanced registration and adjustment based on additional plane information

## **Services**

### **Two-day Training**    Part-No. [02Z06-03-001-00](#)

Regarding the hardware as well as the operating software RiSCAN PRO. The training will be held either at our site in Horn, Austria, or at your site (travelling and accommodation expenses to be added).

### **Intensified Additional Training**    Part-No. [02Z06-03-003-00](#)

Covers advanced working with the scanner hardware as well as processing of the acquired data with RiSCAN PRO.

Price per 8 hours working day (travelling expenses to be added).

### **Digital Camera Calibration Service for up to three camera lenses**

Part-No. [02Z01-01-016-00](#)

Provides complete set of camera calibration parameters for use in RiSCAN PRO including internal calibration, lens distortion parameters and mounting calibration parameters. Parameters are delivered within a RiSCAN PRO project. Calibration statistics included (available for camera-lens combinations as recommended by RIEGL LMS).

## ***Power Supply Modules***

### **AC Power Supply Unit** [Part-No. 02Z05-03-008-00](#)

for RIEGL VZ-400, 100 – 240 V AC, 50 – 60 Hz

- for direct operation of the scanner from main power supply and simultaneously charging of a mounted add-on rechargeable battery
- or
- for direct charging of an unmounted add-on rechargeable battery

### **Add-on Rechargeable Battery** \*) [Part-No. 21R09-06-003-00](#)

Optional add-on rechargeable battery pack (high power, high capacity NiMH cells), compact slim disc design, short-circuit-proof and protected connection pins, rechargeable during standard scan operation via external power supply, integrated micro-controller based charging electronics, easily pluggable to base of the laser scanner by central locking screw, DC voltage source (11-32 V DC) sufficient for recharging, 14.4 V, 4.5 Ah.



\*) This rechargeable battery (NiMH) is considered to be a “dry cell” battery and is unregulated for transportation by the International Civil Aviation Organization (ICAO), International Air Transport Association (IATA), the International Maritime Organization (IMO) and the US Department of Transportation (DOT).

### **Rechargeable NiMH Battery** [Part-No. 02Z05-02-004-00](#)

13.2 V, 18Ah, with fuse, weight 3.55 kg

### **Automatic Charger for NiMH Battery** [Part-No. 02Z05-03-005-00](#)

100-240 V AC, short circuit proof, weight 0.4 kg

### **Adapter Cable, 1m, from 7 pole supply cable to 12 V PbGel battery**

with “quick action” battery pole connectors

[Part-No. 02Z03-01-009-01](#)

with “crocodile” battery pole connectors

[Part-No. 02Z03-01-009-00](#)

## **Carrying Cases**

### **Scanner Carrying Case** [Part-No. 02Z05-01-030-00](#)

with 4 hinged handgrips and wheels, splash-proof, foam lined to fit shape of *RIEGL* VZ-400 and cables. Dimensions: 560 x 455 x 265 mm.

### **Camera Carrying Case** [Part-No. 02Z05-01-031-00](#)

Splash-proof, foam-lined to fit shape of camera CANON EOS 450D, lenses, camera mount, and camera accessories. Dimensions: tbd

## **Further Accessories**

### **High Precision Camera Mount** [Part-No. 21R09-06-002-00](#)

Detachable, for high precision mounting of a CANON EOS 450D with connector for GPS antenna



### **Stable, professional tripod** [Part-No. 02Z01-03-001-00](#)

### **Tripod Star for smooth surfaces** [Part-No. 02Z01-03-002-00](#)

### **Tribrach** [Part-No. 02Z01-03-003-00](#)

Adjustable tribrach, extra stable quality, with bubble level, for mounting the *RIEGL* VZ-400 on a tripod. Note: *RIEGL* VZ-400 mounted on a tribrach to be used only in vertical position! Due to reduced stability, usage of a tribrach may reduce measurement result quality.

### **Adapter for tribrach** [Part-No. 04RA09-01-001-00](#)

### **Shock-absorbing Mount** [Part-No. 09RA09-00-003-00](#)

for *RIEGL* VZ-400, made of stainless steel mounting plates and optimized shockabsorbing rubber elements