

## Basic Configuration Package

### **Scanner Basic Configuration for RIEGL LMS-Q20**

Part-No. HW-Q20-01-000-00

#### **2D-Laser Scanner LMS-Q20**

(Part-No. HW-Q20-00-000-00)

- Laser transmitter & receiver front end
- Laser transmitter optimized with respect to extra longevity of the instrument
- Motorized mirror scanning mechanism
- Signal processing electronics
- Internal heating for scanner's main modules
- Internal power supply electronics, input voltage 18 - 32 V DC



Detailed specifications and laser classification according to the latest datasheet LMS-Q20.

#### ***Interfaces, integrated***

- TCP/IP Ethernet Interface, providing smooth integration of the LMS-Q20 data into a 10/100 Mbit/sec, twisted-pair (TP) Local Area Network (LAN). The interface acts as a server allowing remote configuration and data acquisition via a platform-independent TCP/IP Ethernet Interface.

#### ***Cables***

- TCP/IP Cable M12-M12, 3 m  
(Part-No. HW-GP-03-000-00)
- TCP/IP Cable M12-RJ45, 0.3 m  
(Part-No. HW-GP-03-002-00)
- TCP/IP Cable M12-RJ45 cross over, 0.3 m  
(Part-No. HW-GP-03-003-00)
- Power Supply Cable, 10 pole connector, 6 m  
(Part-No. HW-QXX-03-000-00)

#### ***RiScanLib-2D Library***

(Part-No. SW-GP-02-027-00):

For straightforward implementation of data acquisition in user applications, based on COM technology, including the demo program RiSCAN2D for data acquisition and display with C++ source. 1 license bundled with serial number of scanner.

- Examples in Visual C++ and Delphi
- For the operating systems WINDOWS XP, WINDOWS 2000 SP2 or above

**Software maintenance for 12 months**

(Part-No. SW-GP-12-012-00)

- Free software updates
- E-mail and telephone support

**Firmware maintenance for 12 months**

(Part-No. FW-Q20-12-000-00)

**User Manual (in English language)**

Technical Documentation & Operating Instructions

including, between other things, instructions for Safety, Installation, Operation, etc.

## **RIEGL Option(s)**

**Internal Sync Timer**

Part-No. HW-GP-02-000-00

The scanner optionally offers a time-stamping mechanism to add real-time-clock information to each laser range measurement. Taking full advantage of this feature needs e.g.

- a GPS synchronization output line, sending SYNC pulses in periods of 1 second (1PPS), permanently connected to a scanner input line (Trigger input).
- the GPS serial RS232 port connected to a PC controlling the scanner for time synchronization purposes (by means of the *RIEGL* software tool RiSYNC) prior to scan data acquisition or for synchronization checks.

Both SYNC pulse as well as RS232 interface are standard for GPS receivers.

***RiSYNC Single User License***

(Part-No. SW-GP-02-005-00)

Software tool to synchronize the scanner's time with the time gained by the Global Positioning System (GPS).

***RiSYNC License Scope of Delivery:***

- CD coming with software setup and online help-manual
- License Certificate including License Code related to serial number of *RIEGL* scanner in use
- User's manual in printed form
- E-mail and telephone support for 12 months as of delivery
- Software updates within 12 months as of delivery

## **SCAN SYNC Scanner Rotation Synchronization**

Part-No. FW-QXX-02-001-00

for synchronizing scan lines to external timing signal

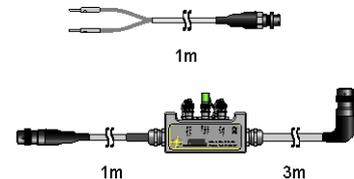
- Synchronization of the data acquisition of a single laser scanner or several laser scanners to an external event pulse, typically the PPS-signal of a GPS receiver, whereas this event pulse can be fed to other units of a data acquisition system for synchronized operation (e.g. a camera is triggered with start of a scan line).
- Increasing the data acquisition speed by operating several laser scanner, as in some data acquisition systems the acquisition speed of a single laser scanner may be not sufficient. Operating several laser scanners scanning the same angular range requires the scanners to be synchronized to achieve a well-defined scan pattern and to avoid interface between the scanners.

## **Recommended Accessories**

### **Special Power Supply Cable with Adapter**

Part-No. HW-GP-03-004-00 + HW-ZXX-03-014-00

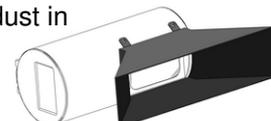
Special Power Supply Cable for external connection and reset of the above mentioned hardware scanner options "Internal Sync Timer" and "SCAN SYNC", length approx. 4m, delivered with an adapter cable, length 1m, from 7 pole connector to banana plugs.



### **Protective Hood for LMS-Q120ii and LMS-Q20**

Part-No. HW-QXX-06-000-00

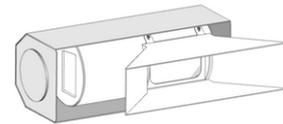
detachable, protecting the scanner's front pane from soiling caused by e.g. dust in harsh industrial environments.



**Protective Housing for LMS-Q120ii and LMS-Q20**

Part-No. HW-QXX-06-001-00

protecting the scanner from direct insolation, rainfall, snow, etc.



**L-brackets for mounting position 0 deg.**

Part-No. HW-QXX-06-003-00

**L-brackets for mounting position 90 deg.**

Part-No. HW-QXX-06-002-00

**Shock-Proof Mount for LMS-QXX**

Part-No. HW-QXX-06-004-00

