

**Scanner Basic Configuration:** [Part-No. 17R09-00-400-00](#)

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

[Part-No. 17R09-00-004-00](#)

- 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 of 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.

**Interface, 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**

- [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. 13R09-06-001-00](#) Power Supply Cable, 10 pole connector, 6 m

**RiScanLib-2D Library** [Part-No. 02Z06-02-012-00](#)

For straightforward implementation of data acquisition in user applications, based on COM technology, including **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 operating systems WINDOWS XP, WINDOWS 2000 SP2 or above

**Software Maintenance for 12 months** [Part-No. 02Z06-05-025-00](#)

- Free software updates
- E-mail and telephone support

**Firmware Maintenance for 12 months** [Part-No. 02Z06-05-027-00](#)

- Free software updates

**User's Manual** (in English language)

"Technical Documentation & Users Instructions"  
including, between other things, instructions for: Safety, Installation, Operation, etc.

## Scanner Hardware Options

### **INTERNAL SYNC TIMER** [Part-No. 02Z07-04-001-0](#)

for GPS-synchronized time stamping of scan data

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 (1 PPS), 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. 02Z06-02-033-00](#)

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 from delivery
- Software updates within 12 months from delivery

**SCAN SYNC Scanner Rotation Synchronization** [Part-No. 02Z07-04-002-00](#)

for synchronizing scan lines to external timing signal

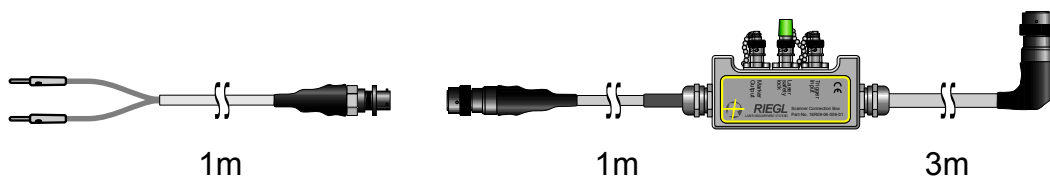
SCAN SYNC for *RIEGL* 2D Laser Scanners allows:

- 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 scanners, 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 interference between the scanners.

**SPECIAL POWER SUPPLY CABLE with Adapter**

[Part-No. 16R09-06-006-01](#) + [Part-No. 16R09-06-002-00](#)

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



[Part-No. 16R09-06-002-00](#)

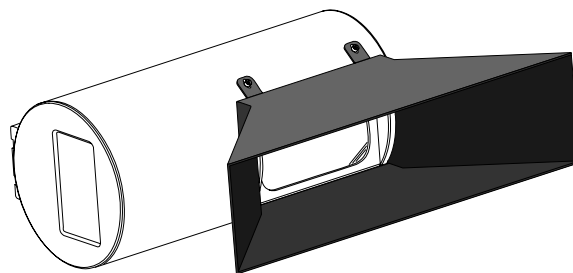
[Part-No. 16R09-06-006-01](#)

## Optional Accessories

### Protective hood

Part-No. 17R09-06-002-00

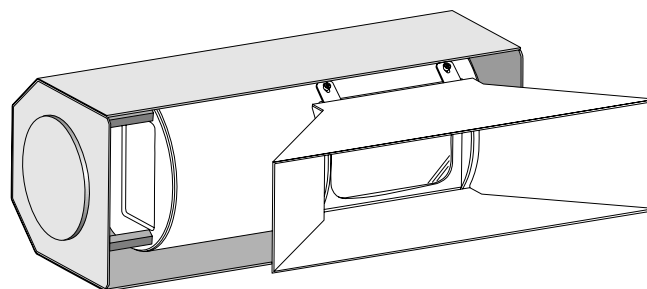
for LMS-Q20, detachable, protecting the scanner's front pane from soiling caused by e.g. dust in harsh industrial environment.



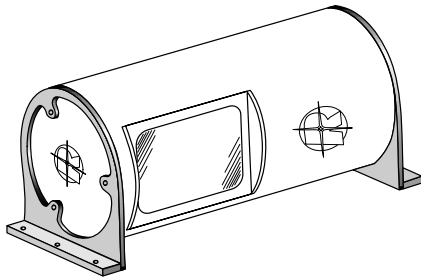
### Protective housing

Part-No. 17R09-06-008-00

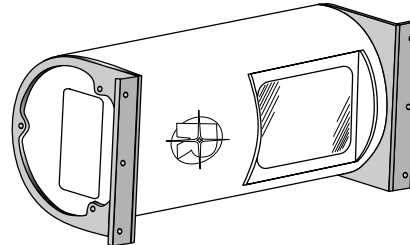
protecting the LMS-Q20 from direct insolation, rainfall, snow, etc.



**L-brackets**



Part-No. 17R09-06-005-00  
for mounting position 90°



Part-No. 17R09-06-001-00  
for mounting position 0°

**Shock proof mount**

Part-No. 17R09-06-004-00

for LMS-Q20

