Scanner Basic Configuration
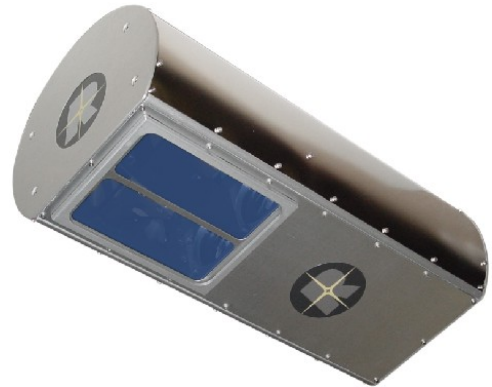Part-No. 17R00-00-106-00

Anti-Collision Laser Sensor LMS-Q160

Part-No. 17R00-00-006-00

- Laser transmitter & receiver front end
- Motorized mirror scanning mechanism
- Signal processing electronics
- Internal power supply electronics, input voltage 18 – 32 V DC

Interfaces, integrated

- TCP/IP Ethernet Interface, providing smooth integration of the LMS-Q160 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.
- RS232, 19.2 kBd for scanner configuration via PC or laptop

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. 02Z03-01-015-00 Serial Data Cable, RS232, 0.9 m
- Part-No. 02Z03-01-030-00 Power Supply Cable, 10 pole connector, 1 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. 02Z06-05-001-00

- Free software updates
- E-mail and telephone support

Firmware maintenance for 12 months   Part-No. 02Z06-05-016-00

- Free software updates

User's Manual (in English language)

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

Information contained herein is believed to be accurate and reliable. However, no responsibility is assumed by *RIEGL* for its use. Technical content subject to change.

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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

- 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

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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.

1m   1m   3m

Part-No. 16R09-06-002-00   Part-No. 16R09-06-006-01

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Optional Accessory

Heavy-Duty Carrying Case CC-Q160

Part-No. 02Z05-01-023-00

For safe transportation, the LMS-Q160 is mounted within a wooden protection box by means of shock absorbing elements.
Heavy duty carrying case CC-Q160 with 4 hinged handgrips and wheels, splash-water proof, foam lined to fit shape of wooden box, cables etc.
Dimensions 820 x 520 x 290 mm

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