**Proper Environment**
- Protection class: IP64; when plugged in or with protective cap on Ethernet socket
- N
- Gray
- Switching output 2
- Temperature range:
  - Signal: 0 to 10 V, not electrically separated
  - Synch In/Out: 0 to 10 V, not electrically separated
- Reference ground for Power, Out, In, Sync, Errors or limits, not electrically separated, 24V
- Humidity: 5 - 95 % RH (non-condensing)
- 11 to 30 VDC, Imax = 1 A, Un = 30 V, Iref = 1 A, max. 4 MBaud, full duplex, terminating resistor (120 Ohm) and direction
- Internal pull-up resistor, open input is detected as High.
- High level ≥ 10 V (max 30 V), Low level < 2.5 V
- Saturation voltage at Iref = 0.1 A, Umax = 30 V
- Logic (HTL), I<sub>in</sub> < 22 nF
- Load: C = 10 µF, R<sub>l</sub> = 10 kOhm
- Damage to or destruction of the system

**Warnings**
- Connect the power supply according to the safety regulations for electrical equipment. Supply voltage must not exceed the limits listed.
- Risk of injury, damage to or destruction of the system.
- Protect the cable against damage. Never bend the cable more tightly than the bending radius. Failure to observe the measuring device damage to or destruction of the system.

**Laser Safety**
The optoCONTROL 2520-95 operates with a semiconductor laser with a wavelength of 670 nm (infrared). The maximum optical power is 100 mW. The laser head is held within laser class 1M. The housing and waveguide must not be damaged by laser light. The laser light must hit the receiver's inlet window exactly in the center. The following applies here:

1) Installation possible as free-standing installation on an optional mounting rail; see also “Structure and Dimensions” chapter and “Optional Accessories” chapter in the operating instructions.
2) Shrinking hose with wire end
3) With open switching outputs

**Light Curtain**
- Analog GND
- Analog Out
- TX - 422
- RX - 422
- /Sync In/out
- /Sync In

**Dimensional Drawings**

**Assembly Instruction**

**Supply Voltage (Power)**

**Light Socket (3-Pin)**
- Cables of different lengths (1 m, 2 m or 5 m, each optionally with straight or angled plugs are available as accessories to connect the light source to the receiver.

**Ethernet/EtherCAT Socket (4-Pin)**
- Electrically isolated M12x1 socket to connect the light source (PC or generally to a network via the Ethernet bus system. Ethernet cables with straight and angled plugs in RJ-45 plugs are available as accessories. The receiver is connected to a PC in a generally to a network via the Ethernet interface. A web browser is used to call up the receiver's internal web pages and set up the measuring system there.

**Internal cable for cable output (in PC) in EPC2520-x**
- Stripping hose with wire end
- With open switching outputs

**Fig. 1** Dimensional drawing of light source and receiver with mounting rail 1, dimensions in mm, not to scale

**Fig. 2** 14-pin cable socket for signals and supplies

**Fig. 3** Pin assignments for 14-pin plug (power supply)

**Fig. 4** Ethernet/EtherCAT socket
Green Inaccurate or incorrect measurements
Meaning Receiver
Light source
Zeroing/mastering
If network activity
Yellow Loading factory settings
If link active
Yellow Operating voltage on
Laptop/PC If baud rate 10 Mb

sure that the components are exactly aligned with each other.

If light source and receiver must be installed without the supplied mounting rail, you must make
which ensure a maximum screwing depth of 5 mm, can be used for attachment.
Alternatively, if the mounting rail is not used, the four M4 threaded holes in each housing bottom,
clamping is not permitted.
Only attach the light source and receiver using the existing holes on a flat surface. Any type of

i 1) The various peripherals and connecting cables are available as accessories, see also operating instructions, Chapter A 1.
2) The measuring system is shipped with the factory-set IP address 169.254.168.150. You can query the IP addresses that are connected to a PC or network
by using the sensorTOOL program.

Select the correct sensor from the list.
Click the Open Website button to connect the sensor to your default browser.
The sensorTOOL program is available online at https://www.micro-epsilon.com/service/download/
software.
The start screen of the sensor software should now be displayed in the web browser:

Selecting Measuring Distance
Go to the Preferences > Measuring distance menu.
Select a calibrated measuring distance from the list, confirm with Submit.
If the measuring distance changes during the measurement or the edge to be measured is
very thick in parallel to the laser beam, a relatively large linearity error may occur.

Selecting Measuring Program
Go to the Preferences > Measurement programs menu. Measurement task menu.
Select, e.g., edge low-high as the measurement to be performed.

Performing Light Referencing
This referencing must be performed at least once after installation and a warm-up period of about 30 minutes. It can also be repeated very frequently if great accuracy is required.
When performing a light referencing using the menu Video signal > Light source referencing in the start light source reference button.
Press stop once and Start once, if the diagram does not reset automatically.

Positioning the Target
Position the measured object at the selected measuring distance to the receiver, as much as
possible in the center of the measuring range.
If the edge to be measured is very thick, it must be aligned exactly parallel to the laser beam.

Checking the Video Signal
Go to the Video signal > menu and check the signal.
The edges to be measured must intersect the detection threshold. If a transparent measured
object is to be measured, you can increase the detection threshold; if necessary. However, this can
affect linearity.

Checking the Measurement
Go to the Measurement > menu and check the measured value-time diagram.
You can select additional data for display, e.g., individual edges or center axes, in the measuring
programs Measurement, Gap and Segment.
The page also allows you to quickly change notification settings and watch their effect.

Saving the Settings
Save the current settings in the receiver using a setup.
Otherwise, the settings will be lost when the receiver is turned off.

Fast track to sensorTOOL
Save your settings and start using your measurement solution immediately.

Select a calibrated measuring distance from the list, confirm with Submit.

Selecting Measuring Distance
Go to the Preferences > Measuring distance menu.
Select a calibrated measuring distance from the list, confirm with Submit.
If the measuring distance changes during the measurement or the edge to be measured is
very thick in parallel to the laser beam, a relatively large linearity error may occur.

Selecting Measuring Program
Go to the Preferences > Measurement programs menu. Measurement task menu.
Select, e.g., edge low-high as the measurement to be performed.

Performing Light Referencing
This referencing must be performed at least once after installation and a warm-up period of about 30 minutes. It can also be repeated very frequently if great accuracy is required.
When performing a light referencing using the menu Video signal > Light source referencing in the start light source reference button.
Press stop once and Start once, if the diagram does not reset automatically.

Positioning the Target
Position the measured object at the selected measuring distance to the receiver, as much as
possible in the center of the measuring range.
If the edge to be measured is very thick, it must be aligned exactly parallel to the laser beam.

Checking the Video Signal
Go to the Video signal > menu and check the signal.
The edges to be measured must intersect the detection threshold. If a transparent measured
object is to be measured, you can increase the detection threshold; if necessary. However, this can
affect linearity.

Checking the Measurement
Go to the Measurement > menu and check the measured value-time diagram.
You can select additional data for display, e.g., individual edges or center axes, in the measuring
programs Measurement, Gap and Segment.
The page also allows you to quickly change notification settings and watch their effect.

Saving the Settings
Save the current settings in the receiver using a setup.
Otherwise, the settings will be lost when the receiver is turned off.

Fast track to sensorTOOL
Save your settings and start using your measurement solution immediately.