

# Distance Sensor M3

- Measuring
- Controlling
- Monitoring

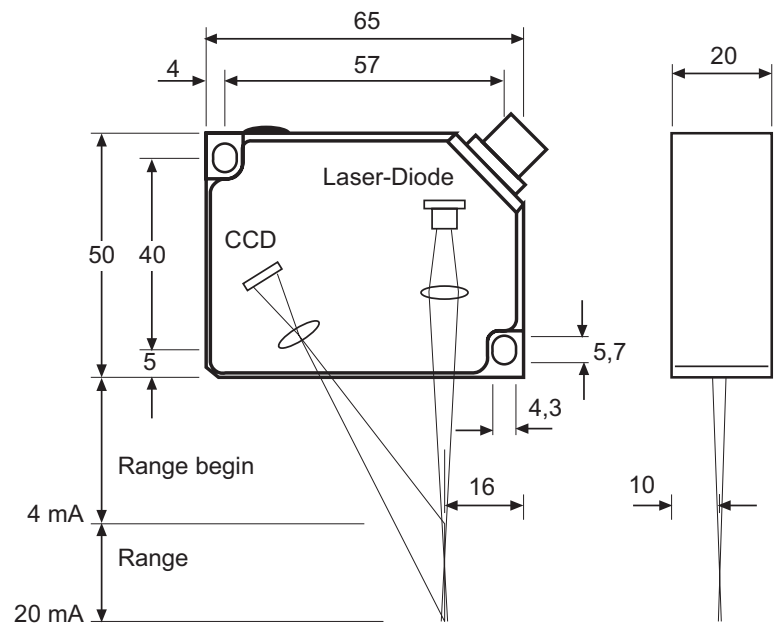
Clever, with laser switch off  
1000 values / s

Triangulation digital



## Sensor head M3

Weight 90 g



- no additional electronic module
- measurement on many different surfaces up to 1 kHz: black rubber, polished metal
- automatic adjusting of measuring frequency depending on measuring object

# Laser Sensor M3

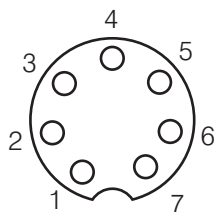
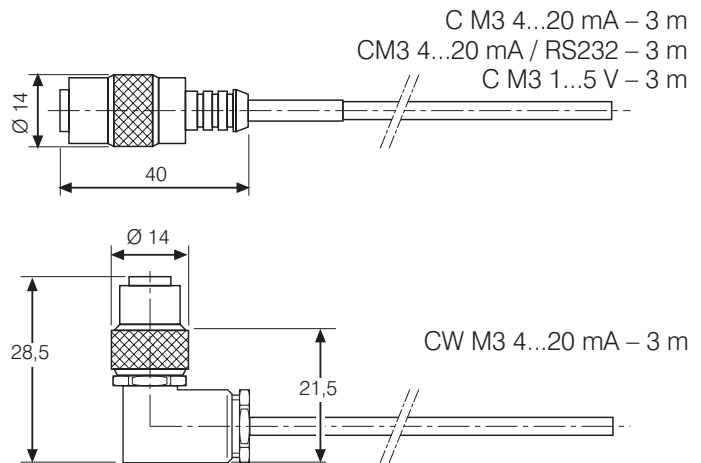
| Sensor                   | M3L/<br>5 | M3L/<br>10 | M3L/<br>20 | M3L/<br>50 | M3L/<br>100 | M3L/<br>200 | M3L/<br>250 |
|--------------------------|-----------|------------|------------|------------|-------------|-------------|-------------|
| Range [mm]               | 5         | 10         | 20         | 50         | 100         | 200         | 250         |
| Range begin [mm]         | 20        | 20         | 30         | 45         | 50          | 60          | 100         |
| Linearity* ± [mm]        | 0,01      | 0,02       | 0,04       | 0,1        | 0,2         | 0,8         | 1,2         |
| Resolution* [mm]         | 0,005     | 0,01       | 0,02       | 0,05       | 0,2         | 0,3         | 0,3         |
| Light spot diameter [mm] | 1         | 1          | 1          | 1          | 1           | 2           | 4           |

|                        |  |                    |
|------------------------|--|--------------------|
| Light source           | Laser 670 nm, red visible  |                    |
| Laser protection class | 2  |                    |
| Distance output        | 4 ... 20 mA / RS 232 / optional 1 ...5 V with connection cable CM3 |                    |
| Reaction time          | 4 ms   |                    |
| Bandwidth              | max. 1 kHz (-3 dB)   |                    |
| Temperature drift      | 0,03% of range / K   | 0,08% of range / K |
| not enough light       | PNP 100 mA   |                    |
| Ambient light          | 5.000 Lux  | 7.000 Lux          |
| max. Vibration         | 15 g ... 1 kHz   | 20 g               |
| Operation time         | 50.000 h for Laser diode   |                    |
| Operation temperature  | 0° ... +50°C   |                    |
| Storage temperature    | -20° ... +70°C   |                    |
| Humidity               | <90% RH  |                    |
| Protection class       | IP 67  |                    |
| Supply                 | 12 ... 28 VDC / <150 mA  |                    |

\* Measurement on object color white

## Delivery:

- Sensor without connection cable
- connector for soldered joint
- Manual
- Calibration report



7 pin Subminiatur circular plug-in connector (Binder)

| Pin | Meaning        | Attributes   | Color  |
|-----|----------------|--|--------|
| 1   | Error output   | Open collector, Type: NPN, switching to GND, U <sub>Cmax</sub> 30 VDC, I <sub>Cmax</sub> 100 mA, short circuit proof | green  |
| 2   | Laser ON/OFF   | turn off laser   | yellow |
| 3   | RX             | RS 232   | blue   |
| 4   | TX             | RS 232   | pink   |
| 5   | Current output | 4 ... 20 mA, short circuit proof   | grey   |
| 6   | GND            | Reference potential of outputs, turn off laser and supply  |        |
| 7   | Supply         | 11... 30 VDC, reverse battery protection   | white  |