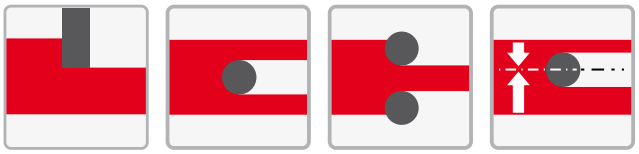
optoCONTROL 1220

- Measuring range 28mm
- Resolution typ. 2µm
- Repeatability typ. ±2µm
- Analogue output 0 ... 10VDC
- Serial interface RS232
- Laser class 1

Optical online micrometer

- Visible laser line (red light 670nm)
- Working distance of up to 2,000mm
- Integrated interference filter
- CCD line detector with 2,048 pixels, 16,384 sub-pixels (8-fold)
- ODC1202-Tool software included
- 2 digital inputs, 2 digital outputs
- Switching state display with 4 bicolour LEDs (2x rd/gn, 2x ye/gn)
- Robust aluminium housing suitable for industrial use
- Optics cover made from scratch-resistant glass
- Optional mounting rail, up to 400mm

Measurement mode (programmable via software)



The new online precision micrometer in the optoCONTROL ODC 1220 series is specifically designed for measuring edges, diameters and gaps of up to 2,000mm.
A high precision lens is used to project uniformly-collimated light onto a receiver unit. When the light beam is interrupted by an edge or a gap (diameter), the shadow edges are projected onto a CCD receiver. The 28mm measuring range and a new, complex sub-pixeling method help to achieve an average resolution of 2 micrometers. The typical temperature range in factories enables a stable repeatability of avg. ± 2 micrometers.

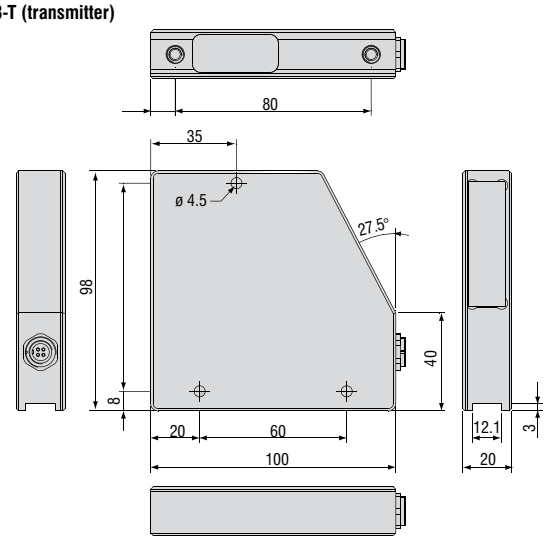
Software parameterization makes it possible to configure values such as left/right edge, centre, gap width, as well as any analogue and digital interface values. A data logging feature is included to record analyses over a number of days. Each value within the measuring range can be taught using the smallest resolution interval. It can then be output as a function, with internal, upward or downward deviations, and displayed as switching state using the sensor LEDs.

The 'Teach In' feature is used to teach new edge values to the sensor itself. The sensor and the large measuring distance of up to 2m ensure that even warm targets can be measured in the process without impacting the electronics. Raw data can be plotted to help improve alignment. An optional mounting frame is available for a robust installation.

Model	ODC1220-28
Laser	semiconductor laser, 670nm, DC-operation, ≤0.39mW max. opt. power, laser class 1 [1] the use of these laser sensors therefore requires no additional protective measures
Operating distance	distance transmitter - receiver up to 2000mm
Measuring range	typ. 28mm
Resolution	typ. 2µm [2]
Repeatability [3]	typ. ±2µm [2]
Linearity [4]	typ. ±0.05% [typ. ±14µm]
Measuring rate	max. 200Hz
Optical filter	interference filter, RG645; polarisation filter
Analogue output (ANA)	1x voltage output 0 ... +10V (scalable)
Digital outputs (OUT0, OUT1)	OUT0: (-) measured value < lower tolerance threshold; OUT1: (+) measured value > upper tolerance threshold pnp bright-switching/npn dark-switching or pnp dark-switching/npn bright-switching, adjustable using Windows®, 100mA, short-circuit proof
Digital inputs (IN0, IN1)	IN0: external trigger, IN1: teach/reset (double function); input voltage +Ub/0V with protective circuit
Voltage supply	+24VDC (± 10%)
Sensitivity adjustment	using Windows® via PC
Laser adjustment	adjustable under Windows® via PC
Consumption	typ. 200mA
Protection class	electronics: IP54, optics: IP67
Operation temperature range	-10°C ... +50°C
Storage temperature range	-20°C ... +85°C
Housing material	aluminium, anodised in black
Connector receiver	8-pin female connector type binder series 712 (SPS/Power) 4-pin M5 female connector type binder series 707 (RS232/PC) 4-pin female connector type binder series 712 (connection to the transmitter)
Connector transmitter	4-pin female connector type binder 712 (connection to receiver))
LED-indication	LED red (+) : measured value > upper tolerance threshold; LED green : measured value lies within tolerance window LED red (-) : measured value < lower tolerance threshold; LED yellow : Power-LED (multifunction)
EMC	DIN EN 60947-5-2
Max. switching current	100mA, short-circuit proof
Interface	RS232, programmable using ODC1202-Tool software (included)
Connection cable	connection to PC: SCD1202 (RS232) or SCD12xx (USB version incl. driver) Power and connection to SPS: SCA1202 connection cable transmitter/receiver: CE1220
Mounting rail	ODC1220-L220 (max. distance transmitter - receiver ≤ 220mm)
Output polarity	bright-/dark-switching, adjustable using Windows

[1] Laser class 1: DIN EN 60825-1 : 2008-05
[2] Only valid for measuring rate ≤200Hz
[3] Valid for ΔT≤5°C and ambient leight 5000lx. For stable measurement shadowing of the receiver is advisable.
[4] Distance object to receiver 100 ±10mm; distance transmitter - receiver: 250mm

ODC1220-28-T (transmitter)



ODC1220-28-R (receiver)