





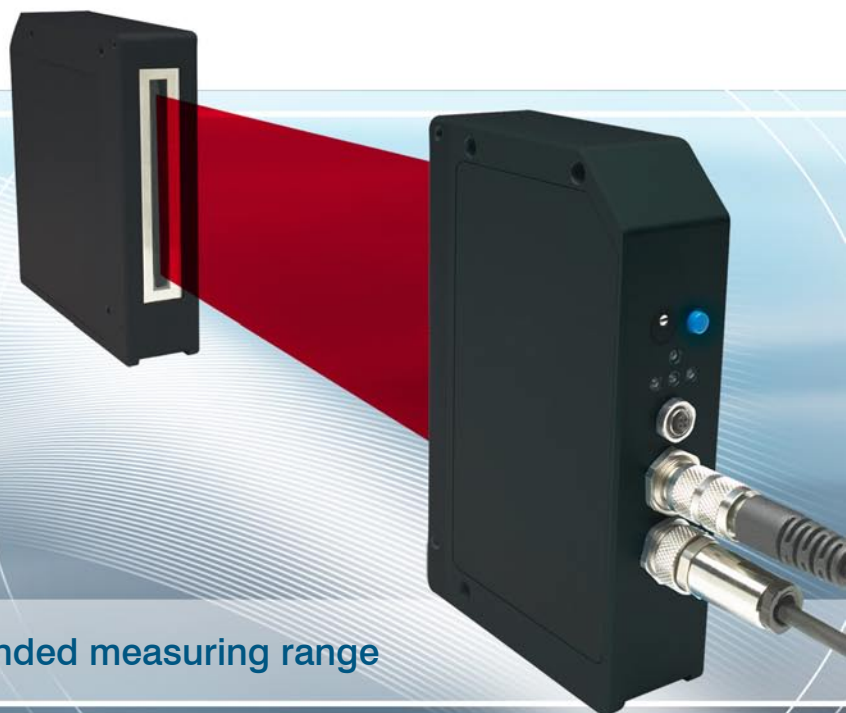


# optoCONTROL 1202

	Measuring ranges 75 and 98mm
	Resolution $\geq 8\mu\text{m}$
	Measuring rate up to 400Hz
	Analogue output 0 ... 10 VDC
	Serial interface RS232
	Laser class 1



## Digital micrometers with extended measuring range

- ▶ High resolution CCD array detector with integrated controller
- ▶ Sub-pixel evaluation
- ▶ Measuring distance selectable from 20 to 2000mm
- ▶ Integrated polarisation filter / interference filter
- ▶ 2 digital inputs
- ▶ 3 digital outputs (limit switch)

### Measuring principle

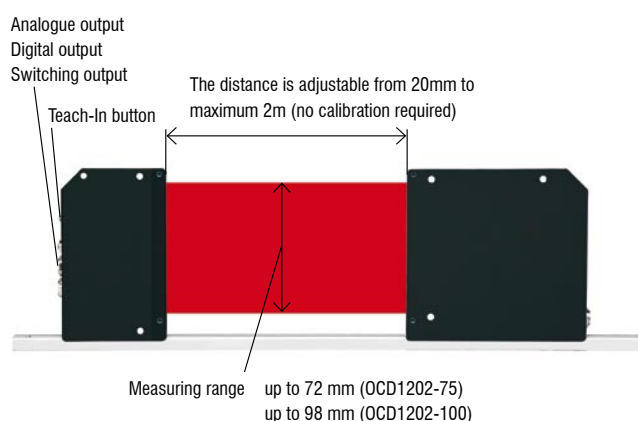
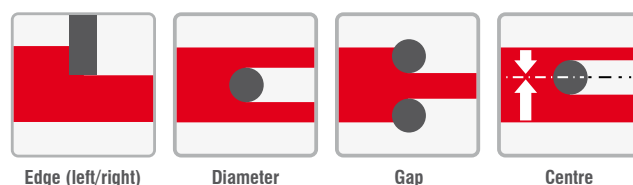
The laser beam for the optoCONTROL 1202 laser micrometers is output from the optical transmitter as a parallel aimed laser beam. The laser line strikes a CCD array in the receiving optical system. The amount of light collected by each of these receiving elements during the integration time is read out separately as analogue voltage and stored as a digital value in a data field after analogue-to-digital conversion.

If there is a non-transparent measurement object in the laser line, only the receiving elements of the lines outside the shadow zone of the measurement object are illuminated. As the spacing of the pixels of the CCD array is known, the size and position of the measurement object can be determined.

### System design

optoCONTROL consists of a light source and a receiving unit. The complete controller electronics are integrated in the receiver housing. The light source and receiver can be installed at any distance from each other. All models can be installed without additional brackets in both the vertical and horizontal positions.

### Measurement mode (programmable via software)



Model	optoCONTROL 1202-75	optoCONTROL 1202-100
Measuring range	typ. 75mm	typ. 98mm
Distance transmitter - receiver	minimal 20mm, maximal 2000mm	
Resolution	typ. 8 $\mu$ m <sup>1)</sup>	typ. 8 $\mu$ m <sup>1)</sup>
Repeatability	$\leq \pm 10\mu$ m	$\leq \pm 10\mu$ m
Linearity	$\pm 0.2\%$	$\pm 0.2\%$
Measuring rate	max 400Hz / 700Hz (digital)	max 360Hz / 600Hz (digital)
Max. switching current	100mA, short-circuit proof	
Interface	RS232, programmable using Windows	
Laser	Semiconductor laser, 670nm, DC-operation, $\leq 0,39$ mW max opt. power, laser class 1, the use of these laser sensors therefore requires no additional protective measures	
Permissible external light	$\leq 5000$ Lux <sup>2)</sup>	
Optical filter	interference filter, red light filter RG630, polarization filter	
Housing material	aluminium, anodised in black	
Connector receiver	8-pin female connector type binder series 712 (SPS/Power) 4-pin female connector type binder series 707 (PC/RS232) 3-pin female connector binder series 712 (connection to the transmitter)	
Connector transmitter	3-pin female connector type binder 712 (connection to receiver)	
Connection cable	Connection serial interfaces: SCD1202-2; connection analogue: SCA1202-2; connection cable transmitter/receiver: CE1202-2	
Output polarity	bright-/dark-switching, adjustable using Windows	
Teach button	Teach button at the housing for set point value teaching	
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: multifunction	
EMC	EN 60947-5-2	
Shock	15g / 6ms	
Vibration	15g / 10Hz ... 1kHz	
Protection class	electronics IP 54, optics: IP 67	
Operation temperature	-10°C to +50°C	
Storage temperature	-20°C to +85°C	
Output	analogue	0 ... +10V
	digital	(OUT0, OUT1, OUT2): pnp bright-switching/npn dark-switching or pnp dark-switching/npn bright-switching, adjustable using Windows, 100mA, short-circuit proof
Digital input	IN0	external trigger, input voltage +Ub/0V with protective circuit
	IN1	teach/reset, input voltage +Ub/0V with protective circuit
Power supply	+15VDC ... + 30VDC	
Sensitivity adjustment	using Windows via PC (parameterization software included)	
Laser adjustment	adjustable using Windows via PC	
Consumption	typ. 200mA	

The quoted technical data apply for a displacement transmitter to receiver about 800mm and a temperature of 20°C.

<sup>1)</sup> Display resolution of the software  $\geq 10\mu$ m

<sup>2)</sup> Shadowing from ambient daylight increases the signal stability

