ALAT UJI
Products, Solution, Services

Most compact laser micrometers at max. dynamic of 100,000Hz

optoCONTROL 1200

Measuring principle

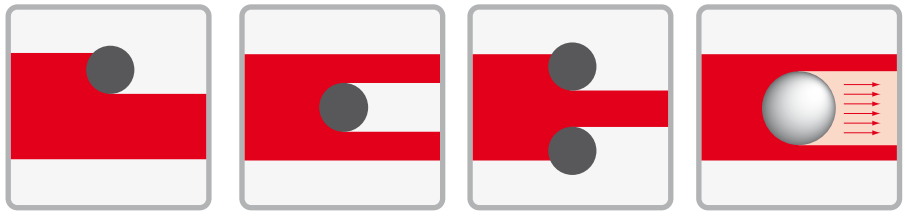
The optoCONTROL 1200 is based on the principle of light quantity measurement. The light of a red laser diode is spread out by a lens to a parallel light curtain which is aimed at the receiving unit. In the receiving unit, the light is guided via various filters and lenses through a precision shutter to a light-sensitive detector. The amount of the detected light is than output via a proportional analog signal with a frequency response of 100 kHz.

System design

optoCONTROL consists of a light source (transmitter) and a receiving unit. The complete signal conditioning electronics are integrated in the receiver and transmitter heads, no external controller is required. The light source and receiver can be installed at any distance up to 5 meters from each other, mounted either upright or horizontally. The extreme compact design of 90° scope version, allows installation in the most restricted spaces.

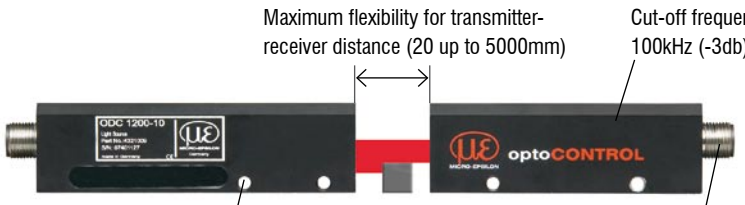
The analog voltage signal output is gain adjustable. A limit switch is also available as PNP and NPN output. Via a voltage control input the transmitter laser power can be varied.

Measurement mode



Edge | Diameter* | Gap | Transmissivity

*For the most accurate results, the target should be presented in a fixed location of the beam.
Smallest diameter 0.3mm



optoCONTROL 1200/90:
Version with 90° beam path for mounting in cramped spaces

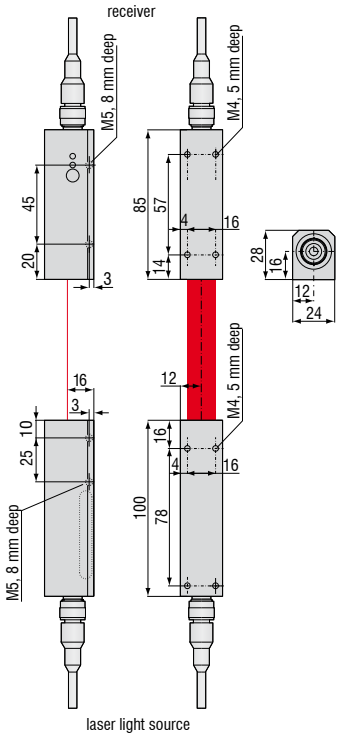
Special features

- ➔ High quality glass lenses
- ➔ Extremely fast: 100kHz (-3dB)
- ➔ Robust and compact design with integrated controller
- ➔ Limit switch with up to 25kHz switching frequency
- ➔ Axial and radial 90 deg set up

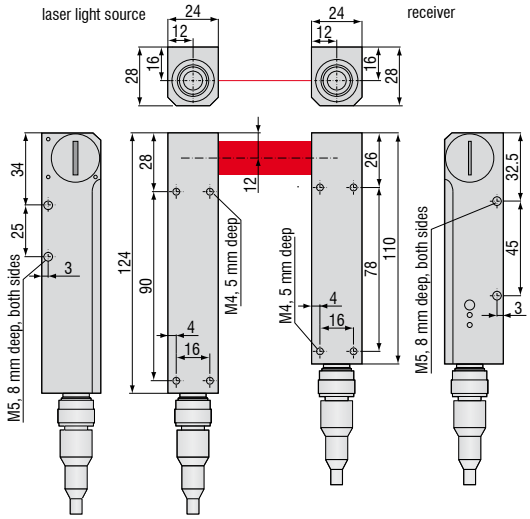
Model		ODC 1200 (axial model)				ODC 1200/90 (90° model)				ODC 1201	
Measuring range		2mm	5mm	10mm	16mm	2mm	5mm	10mm	16mm	20mm	30mm
Distance transmitter - receiver		min. 20mm to max. 5m									
Linearity		<2% FSO		<3.5% FSO		<2% FSO		<3.5% FSO			
Resolution (dynamic)		10µm	25µm	50µm	80µm	10µm	25µm	50µm	80µm	100µm	150µm
Frequency response		100kHz (-3dB)									
Light source		semiconductor laser <1mW, 670nm (red, laser class 2)									
Permissble ambient light		≤ 5000lx									
Analog output		0 ... 10VDC (gain adjustable)									
Switching output	(max switching frequency 25kHz)	PNP active if light quantity below limit; NPN active if light quantity above limit									
Operation temperature		0 to 50°C									
Storage temperature		-20 to 70°C									
Power supply		12 ... 32VDC, reverse polarity protection, max. 100 mA									
Control input		open: 66% of laser power; 5 ... 24V laser off; 0 ... 5V for laser power control									
Shock		15g / 6ms (IEC 68-2-29)									
Vibration		15g / 10Hz…1kHz									
Mounting holes	straight up	M4 x 5mm								ø4.1mm	
	horizontal	M5 x 8mm								M4 x 6mm	
Weight (without cable)	transmitter	appr. 150g				appr. 170g				appr. 260g	
	receiver	appr. 120g				appr. 160g				appr. 220g	
Protection class		IP 67									

FSO = Full Scale Output
The quoted data apply for a constant room temperature of 20°C after a warm-up period of 30 min,
in the range 10 ... 90% of the analog output at a distance between transmitter and receiver of 0.5 m.
Analogdrift 0.12 V at constant temperature; If laser beam is covered (without ambient light): analog offset <0.05 V

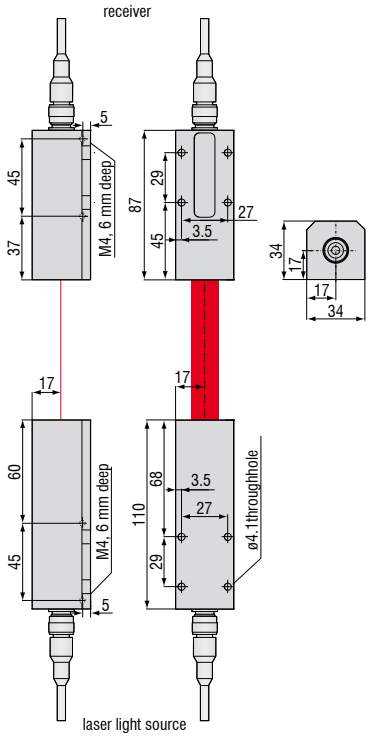
optoCONTROL 1200



optoCONTROL 1200/90



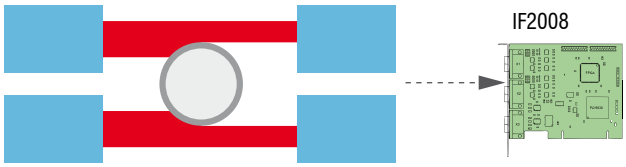
optoCONTROL 1201



Synchronized measurements with multiple micrometers

- Thickness measurement
- Level measurement
- Width measurements
- Planarity measurements
- Edge tracking
- Large diameter measurement
- Eccentricity, wobble or roundness

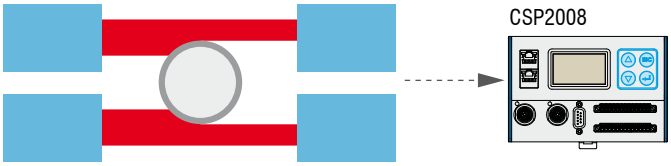
Interface card IF 2008 for synchronized real time data recording with mapping capability



up to 6 digital signals, 2 analog signals, 2 encoders

The IF 2008 interface card is designed for installation in PCs and enables the synchronous acquisition and mapping of up to 6 digital sensor signals, 2 analog sensor signals and 2 encoders. The onboard FIFO memory offloads the high speed data collection to the card and transfers the stored data to the user interface. A comprehensive software development kit (SDK) makes the application programming easy and painless.

CSP 2008: smart signal processor for multiple sensor signals



2 to 6 analog or digital signals

The CSP2008 controller is a standalone solution used for processing up to 6 digital or analog input signals (2x internal + 4x external via EtherCAT modules from the Beckhoff company). EtherCAT is also used for external interface of additional sensors and further I/O modules. The controller has a display with multi colored backlighting activating color alarms when exceeding the programmed alarm limits.

Math functions:

A,B; A+B; A-B; -A-B; K-A-B; K+A+B; K+A-B; K+A; K+B; K(A+B); K(A+k*B); Advance filter options

Accessories for optoCONTROL 1200/1201/1202

Art. No.	Modell	
2901260	PC1200-5	Power supply and signal cable 5m, straight connector, for light source and receiver unit
2901261	PC1200/90-5	Power supply and signal cable 5m, 90 degree connector, for light source and receiver unit
2420019	PS2010	Power supply for DIN rail mounting, input 230VAC, output 24V DC/2.5 A
2901497	CE1202-2	Connecting cable transmitter-receiver, 2m
2901482	CE1202-5	Connecting cable transmitter-receiver, 5m
2901371	SCD1202-2	Digital output cable, 2m, for connection to a RS232 port
2901509	SCD1202-5	Digital output cable, 5m, for connection to a RS232 port
2901373	SCA1202-2	Power supply and analog output cable, 2m
2901510	SCA1202-5	Power supply and analog output cable, 5m

Accessories for optoCONTROL 2500/2600

2420057	CSP2008	Universal controller for several signals
2213017	IF2008	PCI interface card RS422
2901057	CE1800-3	Sensor cable extension for camera, 3m
2901118	CE2500-3	Sensor cable extension for light source, 3m
2901058	CE1800-8	Sensor cable extension for camera, 8m
2901119	CE2500-8	Sensor cable extension for light source, 8m
2901120	SCA2500-3	3 Signal output cable, analog, 3m
2901121	SCD2500-3/3/RS232	Output cable with RS422, 3 and 10m, for connection to IF2008
2213014	USB Converter RS422 to USB	
2901122	SCD2500-3/10/RS422	Signal output cable 3m / RS422 10m
2901123	PC2500-3	Power supply cable 3m
2901124	PC2500-10	Power supply cable 10m
2901504	SCD2500-3/CSP	Power supply and output cable 3m, for connection to CSP2008
2901505	SCD2500-10/CSP	Power supply and output cable 10m, for connection to CSP2008

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