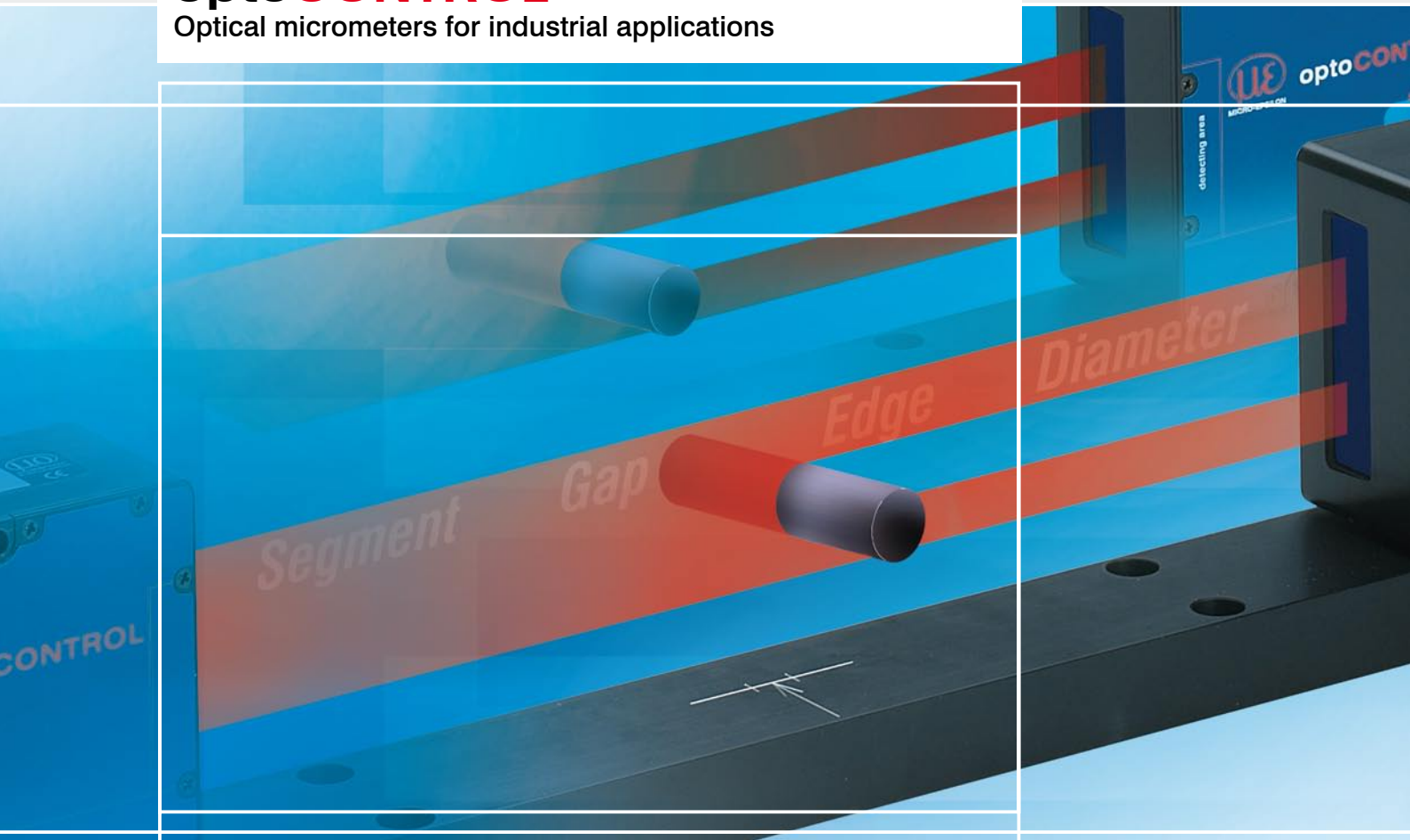




More Precision.

optoCONTROL

Optical micrometers for industrial applications





Measuring principle

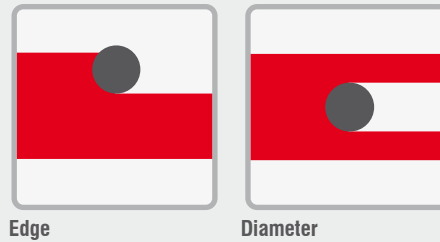
The optoCONTROL 1200 is based on the principle of light quantity measurement. The light of a red laser diode is spread out by a lens to a parallel light curtain which is aimed at the receiving unit. In the receiving unit, the light is guided via various filters and lenses through a precision shutter to a light-sensitive detector. The amount of occurring light is provided by analogue electronics and output as an analogue signal.

System design

optoCONTROL 1200 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 up to 5 metres from each other. All models can be installed without additional brackets in both vertical and horizontal positions. The compact design of the housing and the 90° version also enable easy mounting of the miniature micrometers in tight installation spaces.

As well as the analogue output, an adjustable limit switch is also available. This can be operated both as NPN (bright switching) as well as in PNP logic (dark switching).

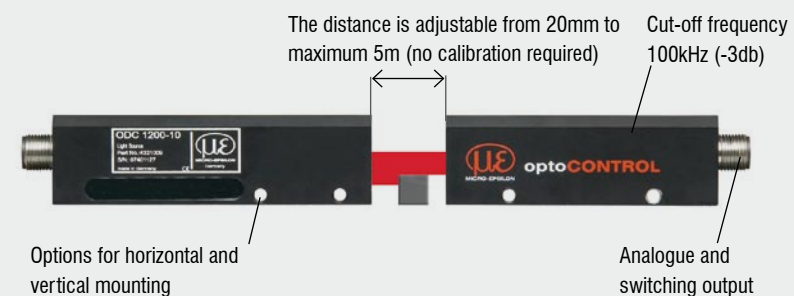
Measurement mode



Edge

Diameter

The target must be positioned inside the measuring window for the diameter measurement. Smallest diameter 0.3mm



The distance is adjustable from 20mm to maximum 5m (no calibration required) Cut-off frequency 100kHz (-3dB)

Options for horizontal and vertical mounting

Analogue and switching output

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



Special features

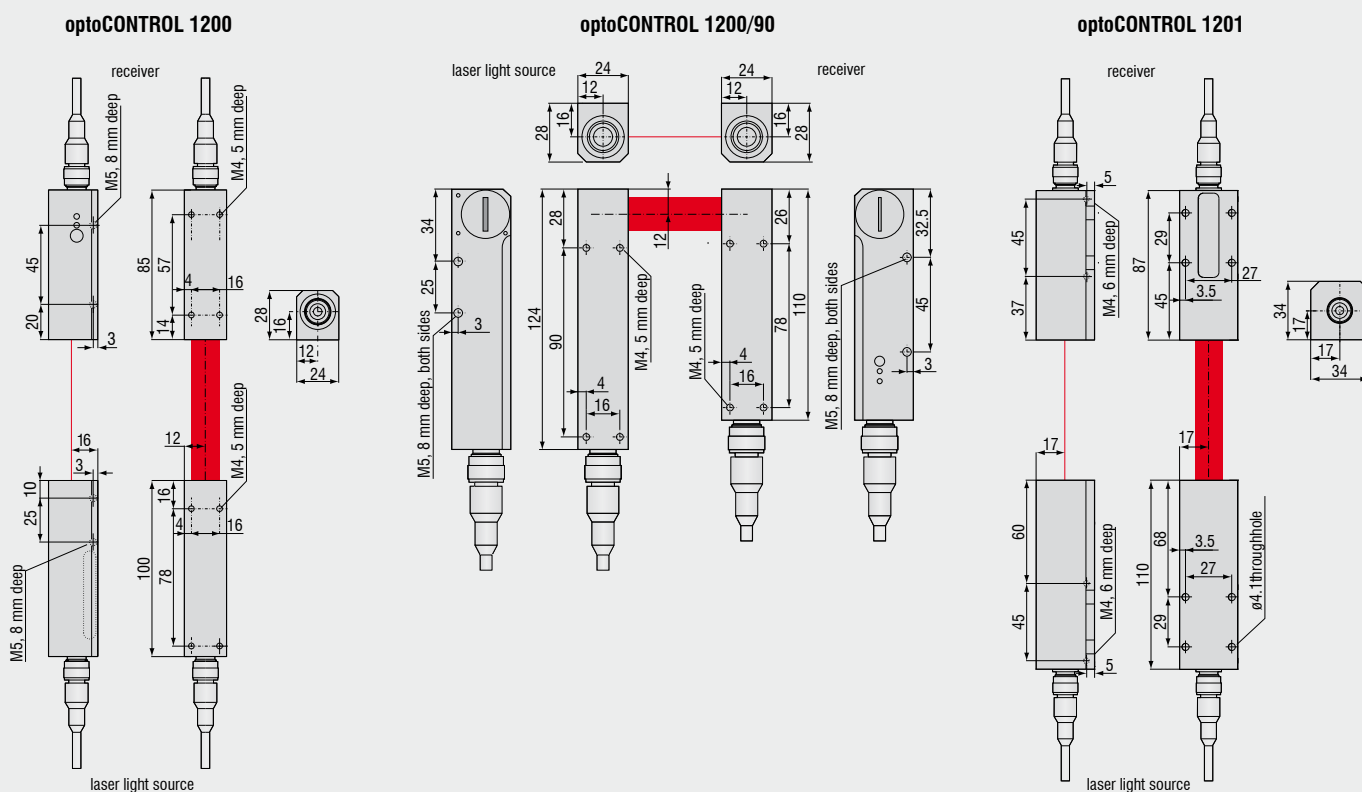
- High quality glass lense optics
- Extremely fast 100kHz (-3dB)
- Robust and compact design with integrated controller
- Limit switch with up to 25kHz switching frequency
- Axial and radial design

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										
Independent 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)										
Permissible ambient light	≤ 5000lx										
Analogue output	0 ... 10VDC (gain adjustable)										
Switching output (max switching frequency 25 kHz)	PNP active if light quantity below limit; NPN active if light quantity above limit										
Shock	15 g / 6 ms (IEC 68-2-29)										
Vibration	15 g / 10 Hz...1 kHz										
Operation temperature	0 to 50°C										
Storage temperature	-20 to 70°C										
Operation voltage	12 ... 32VDC, reverse polarity protection										
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 analogue output at a distance between transmitter and receiver of 0.5 m.

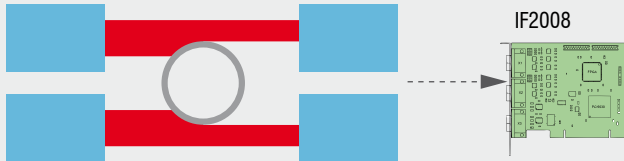
Analogue drift 0.12 V at constant temperature; If laser beam is covered (without ambient light): analogue offset < 0.05 V



Measurements with several micrometers

- Thickness measurement
- Level measurement
- Width measurements
- Planarity measurements
- Edge determination
- Diameter measurement

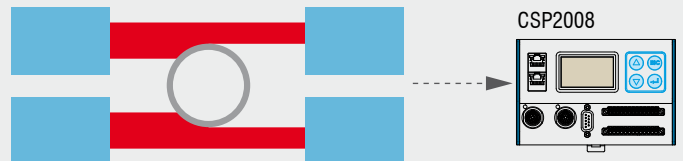
Interface card IF 2008 for synchronous data recording



Up to six digital signals, two analogue signals, two encoders

The IF 2008 interface card is designed for installation in PCs and enables the synchronous capture of up to six digital sensor signals, two analogue sensor signals and two encoders. The card is used for the customer's own data evaluation. The interface card reads the data from all connected devices simultaneously and transmits these to an external PC for further processing.

CSP 2008: universal controller for multiple sensor signals



Two to six analogue or digital signals

The CSP2008 controller is used for processing at least two, maximum of six digital or analogue input signals (2 x internal + 4 x external via EtherCAT modules from Beckhoff). EtherCAT is also envisaged as the external interface for connecting further sensors and I/O modules. The controller has a display with multi-coloured backlighting, which changes colour when pre-set limits have been exceeded or alarms have been programmed.

Calculation:

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)

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, angled 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 analogue output cable, 2m
2901510	SCA1202-5	Power supply and analogue output cable, 5m

Accessories for optoCONTROL 2500/2600

2420057	CSP2008	Universal controller for multiple 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, analogue, 3m
2901121	SCD2500-3/3/RS232	Signal output cable 3m, for RS232
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
2901122	SCD2500-3/10/RS422	Output cable with RS422, 3 or 10m, for connection to IF2008