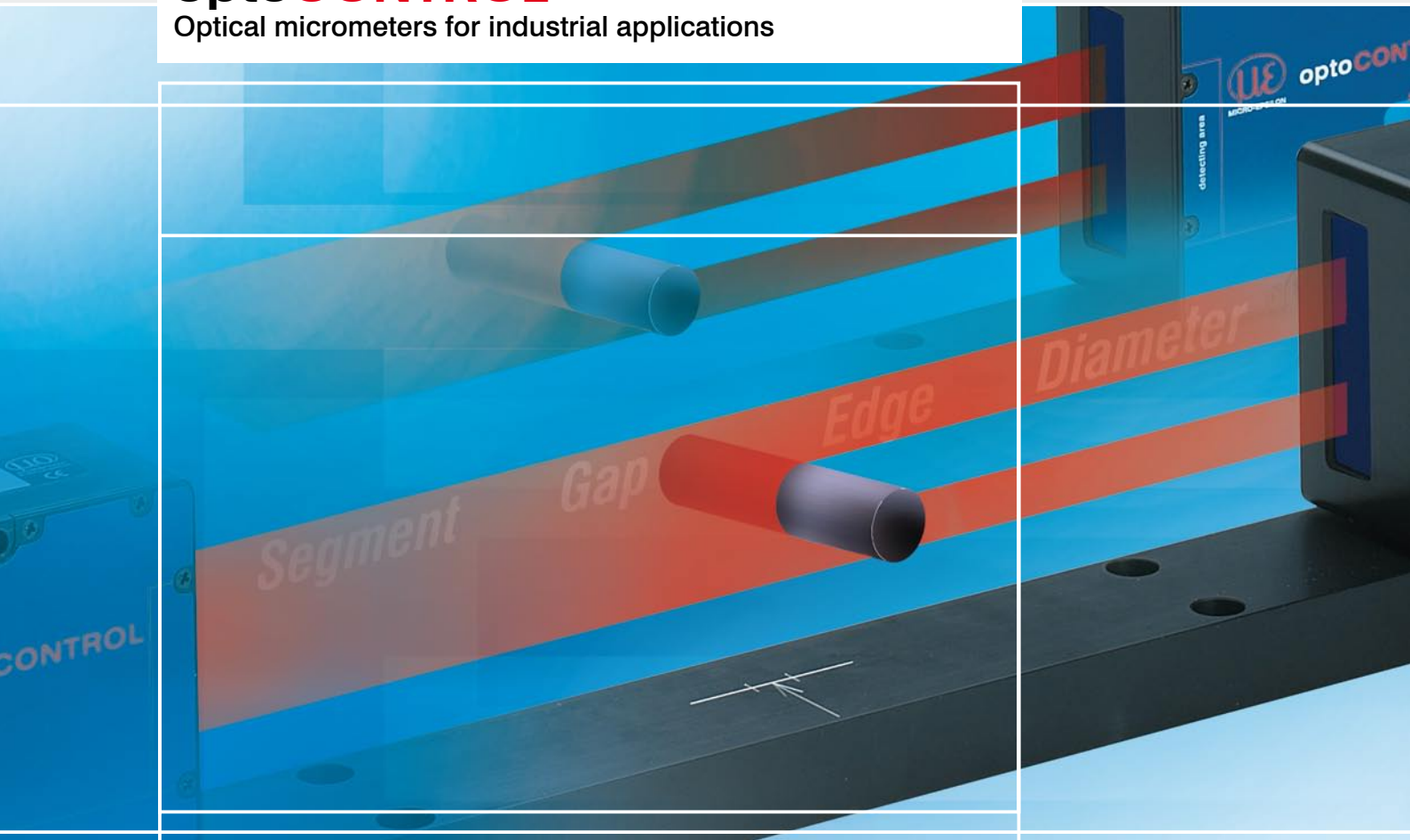




More Precision.

optoCONTROL

Optical micrometers for industrial applications





Measuring principle

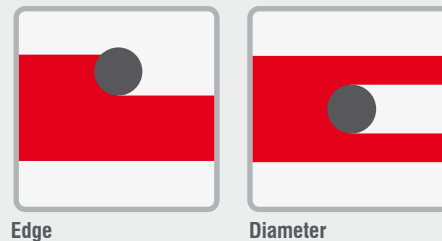
The laser beam for the optoCONTROL 1202 laser micrometers is output from the optical transmitter as a parallel aimed laser beam. The laser line strikes a CCD array in the receiving optical system. The amount of light collected by each of these receiving elements during the integration time is read out 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

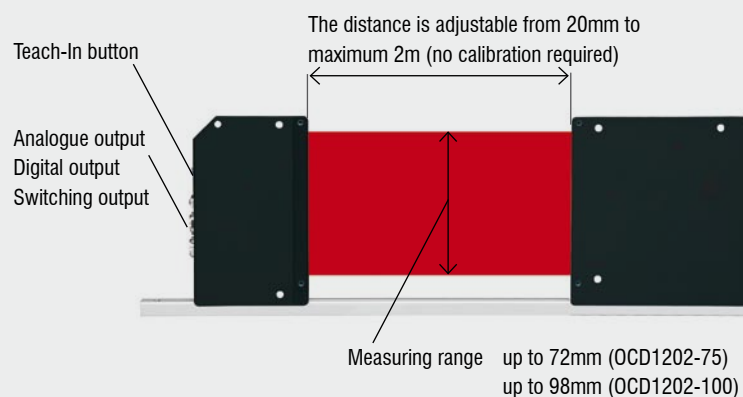
optoCONTROL consists of a light source and a receiving unit. The complete controller electronics are integrated in the receiver housing. The light source and receiver can be installed at any distance from each other. All models can be installed without additional brackets in both the vertical and horizontal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

Measurement mode



Edge

Diameter

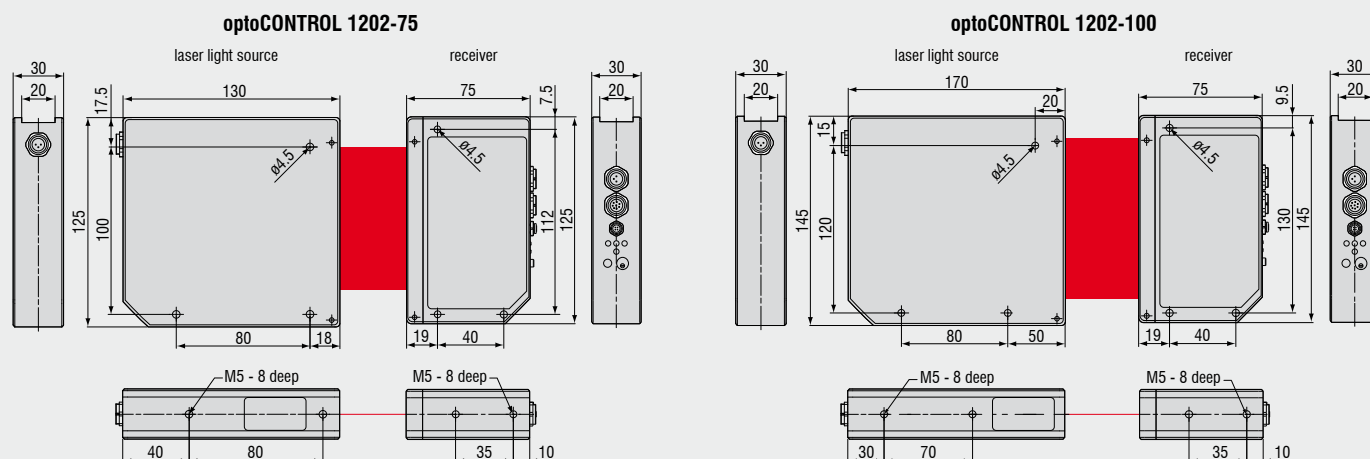


Special features

- High resolution CCD array detector with integrated controller
- Measuring range up to 98mm
- Measuring distance selectable from 20 to 2000mm
- Integrated polarisation filter / interference filter
- One digital input (start trigger)
- Two digital outputs, one analogue output (0 – 10V)

Model	optoCONTROL 1202-75	optoCONTROL 1202-100
Measuring range	typ. 72mm	typ. 98mm
Distance transmitter - receiver	Minimal 20mm, maximal 2000mm	
Resolution	typ. 30µm	typ. 50µm
Linearity	±0.2% FSO	±0.2% FSO
Sampling rate	max. 350Hz / 800Hz	max. 250Hz / 600Hz
Max. switching current	100mA, short-circuit proof	
Interface	RS232, parameterisable under Windows	
Laser	semiconductor laser, 670nm, DC-operation, 1mW max. opt. power, laser class 2 acc. DIN EN 60825 the use of these laser sensors therefore requires no additional protective measures	
Optical filter	interference filter, red light filter RG630, polarisation filter	
Housing material	aluminium, anodized 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 analog SCA1202-2; connection cable transmitter/receiver: CE1202-2	
Output polarity	bright-/dark-switching, adjustable under 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 (IEC 68-2-29)	
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): (OUT0, OUT1, OUT2): pnp bright-switching/npn dark-switching or pnp dark-switching/npn bright-switching, adjustable under 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	under Windows via PC	
Laser adjustment	adjustable under Windows via PC	
Consumption	typ. 200mA	

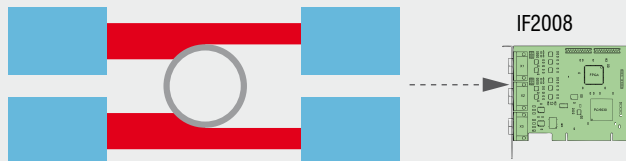
The quoted technical data apply for a displacement transmitter to receiver about 800 mm and a temperature of 20 °C (+68 °F).



Measurements with several micrometers

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

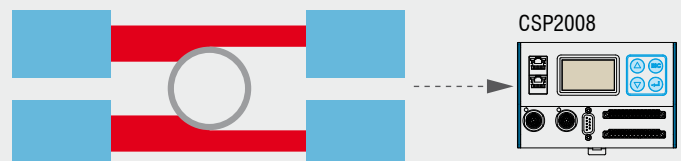
Interface card IF 2008 for synchronous data recording



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