

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

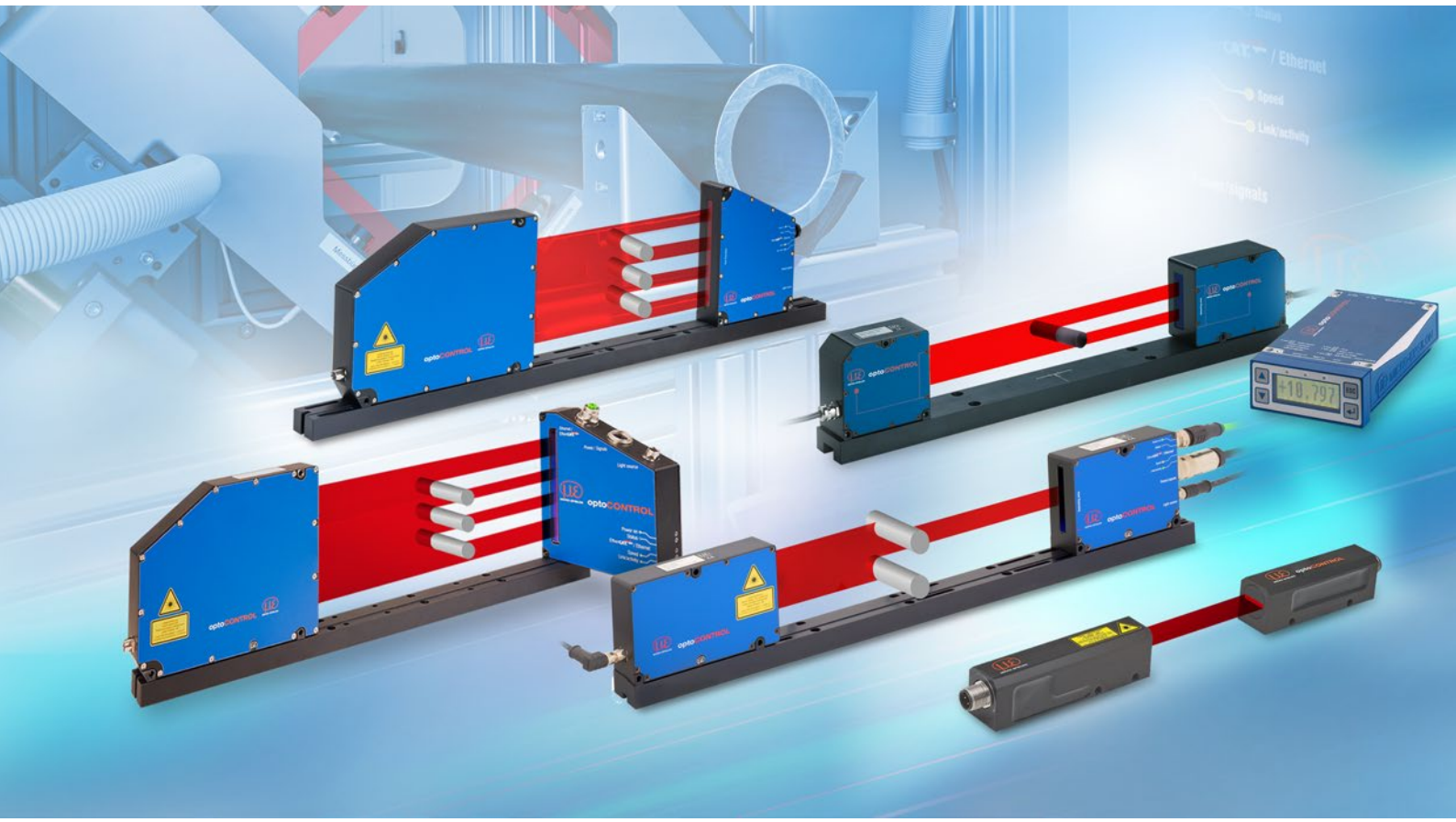
All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

MICRO-EPSILON

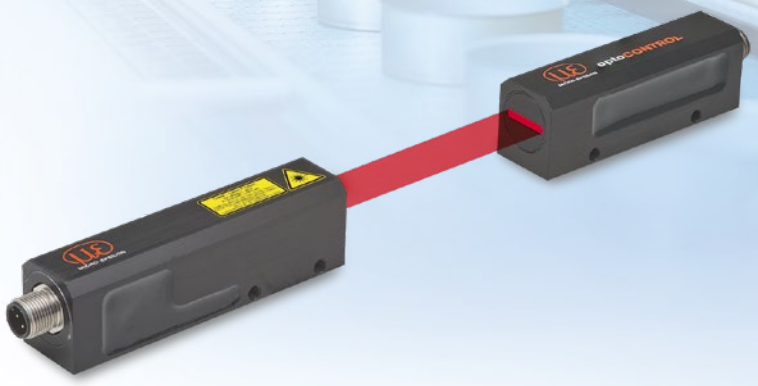
More Precision

optoCONTROL // Optical precision micrometers



Compact laser micrometers with high measuring rate
optoCONTROL 1200 / 1201

- Measuring ranges 2 - 30 mm
- Resolution ≥ 8 µm
- Measuring rate up to 100 kHz (-3 dB)
- INTER FACE Analog output 0 up to 10 VDC
- Laser class 1
- Detection of smallest objects from ≥ 0.03 mm



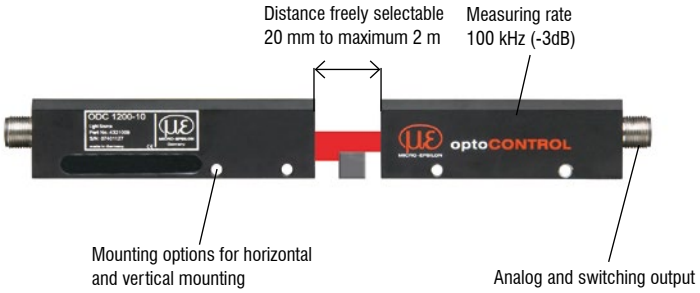
Light source and receiver can be mounted at any distance up to 5 m from each other. All models can be mounted both vertically and horizontally without additional brackets. The compact design of the housings and the 90° design allow the miniature micrometers to be mounted even in confined installation spaces. In addition the analog output, an adjustable limit switch is included. This can be operated in NPN (light switching) as well as in PNP logic (dark switching).

The optoCONTROL 1200 can reliably measure the smallest diameters from 0.3 mm. For gap measurements from 50 µm, an option with energetic light quantity measurement is offered.

Measurement mode

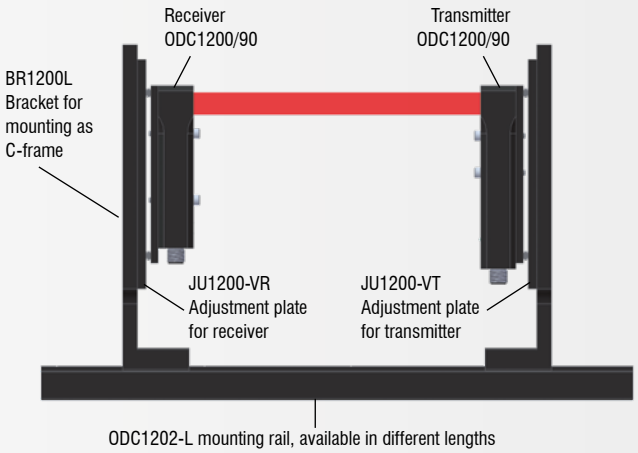


Edge Diameter Gap





optoCONTROL 1200/90:
Version with 90° beam path for mounting in narrow installation spaces.
Optional mounting with ODC1202-L mounting rail as C-frame.



Model		ODC 1200 (axial model)				ODC 1200/90 (90 model)				ODC1201	
Measuring range		2 mm	5 mm	10 mm	16 mm	2 mm [3]	5 mm	10 mm	16 mm	20 mm	30 mm
Min. target size [2]		≥ 0.03 mm	≥ 0.05 mm	≥ 0.1 mm	≥ 0.15 mm	≥ 0.03 mm	≥ 0.05 mm	≥ 0.1 mm	≥ 0.15 mm	≥ 0.15 mm	≥ 0.2 mm
Distance light source - receiver (free space)[1]		min. 30 mm to 150 mm [1] max. 2.5 m									
Measuring distance (measured object - receiver)		20 mm … 2000 mm; Optimum distances: 20, 50 mm [1]									
Measuring rate		100 kHz (-3 db)									
Resolution		8 µm	10 µm	20 µm	30 µm	8 µm	10 µm	20 µm	30 µm	50 µm	70 µm
Linearity [2]		±2 % FSO		±3.5 % FSO		±2 % FSO		±3.5 % FSO			
Repeatability [4] [5]		≤16 µm	≤20 µm	≤40 µm	≤60 µm	≤16 µm	≤20 µm	≤40 µm	≤60 µm	≤100 µm	≤140 µm
Light source		Semiconductor laser 670 nm (red)									
Laser class		Laser class 1 (Pmax ≤ 0.39 mW) according to IEC 60825-1:2014									
Permissible ambient light		≤ 5000 lx [6]									
Analog output		0 ... 10 VDC (adjustable amplification, depending on direction)									
Digital interface		Ethernet [7] , EtherCAT [7] (max. 14 Bit/4 kSa/s)									
Switching output		PNP dark switching and NPN light switching (max. switching frequency 60 kHz) adjustable switching threshold									
Signal input		Laser control (light source) 0 ... 5 VDC									
Connection	Receiver	4-pin M12 socket for power supply, analog and digital output									
	Light source	4-pin socket M12 for supply and laser control									
Mounting		Mounting rail, adjustment plates (see accessories), mounting holes									
Temperature range	Storage	-20 … + 70 °C									
	Operation	0 ... + 50 °C									
Supply voltage		12 … 32 VDC									
Maximum power consumption		< 0.3 A									
Shock (DIN EN 60068-2-27)		15 g / 6 ms									
Vibration (DIN EN 60068-2-6)		15 g / 0.01 … 1 kHz									
Protection class (DIN EN 60529)	Receiver / light source	IP67									
Material	Receiver / light source	Aluminum housing									
Weight	Light source	approx. 150 g				approx. 170 g				approx. 260 g	
	Receiver	approx. 120 g				approx. 160 g				approx. 220 g	
Measuring programs		Edge (outer-) diameter / width gap									
Control and indicator elements		Receiver (LED) indication: switching state indicator and dirt with free beam path Light source (LED) indication: power ON/OFF									
Special features		Measurements server for transmission of several measurements to the PC (optional IF1032/ETH)									

FSO = Full Scale Output

The specified data apply for a constant room temperature of 20 °C after a warm-up period of 180 min, in the range 10 ... 90 % of the analog output at a distance of 150 mm between light source and receiver without ambient light effect.

Analog offset if laser beam is covered without ambient light < 0.05 V

[1] Linearity and resolution decrease with larger distances.

[2] Applies in the mid of the measuring range for distance: target - receiver 20 mm; distance: light source - receiver 150 mm.

[3] For gap measurement 50 ... 400 µm, an option is available with a regulated controller for transmitted light operation and measurement distance up to 700 mm.

[4] The specified values apply at ±2 sigma

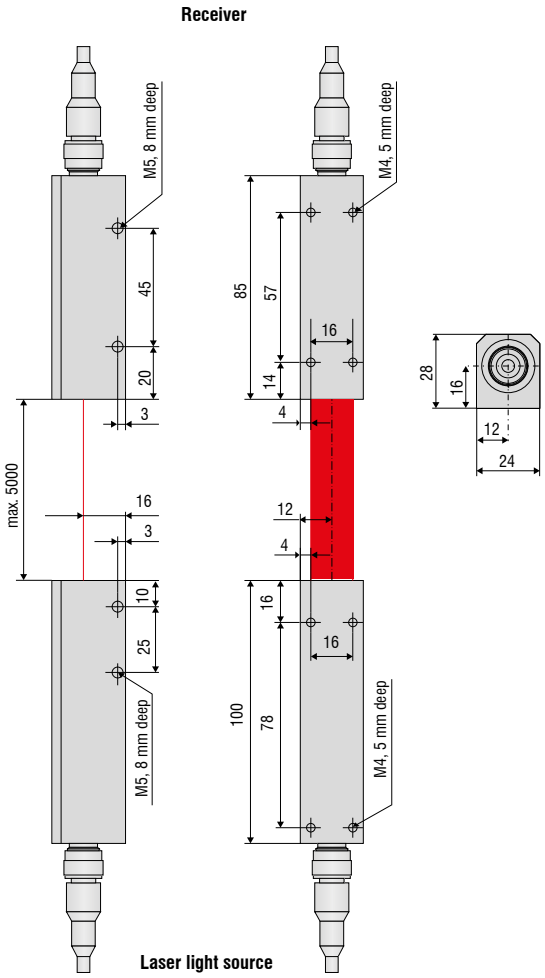
[5] Measured in the mid of the measuring range with static noise over 3 min.

[6] With direct or indirect irradiation, shadowing from daylight increases the stability of the measurement

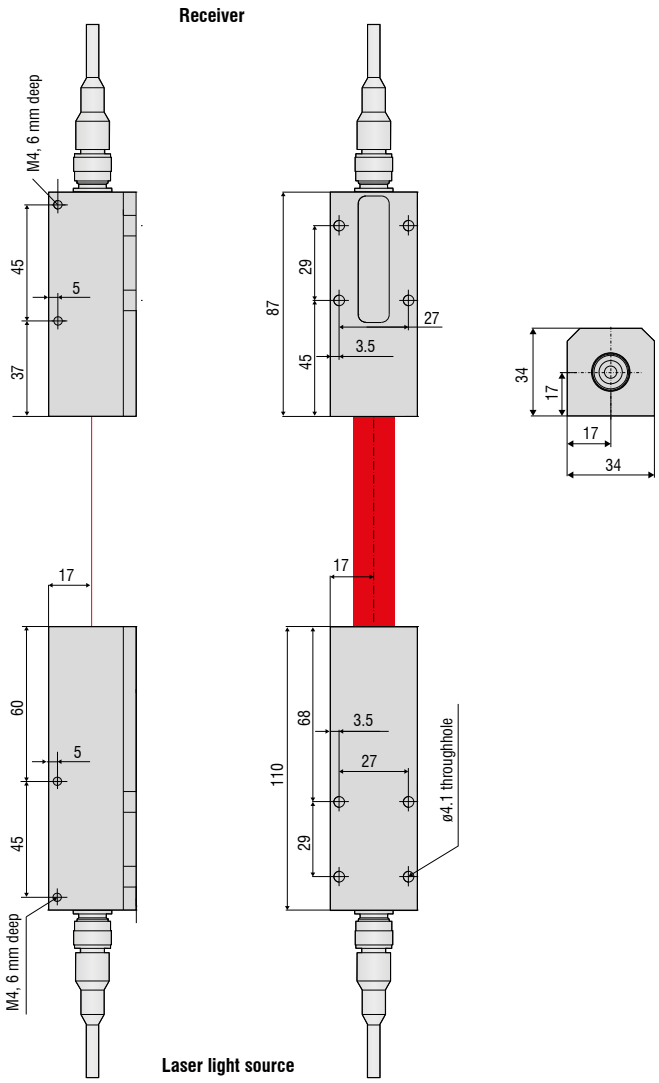
[7] Connection via interface module (see accessories)

Compact laser micrometers with high measuring rate
optoCONTROL 1200/1201

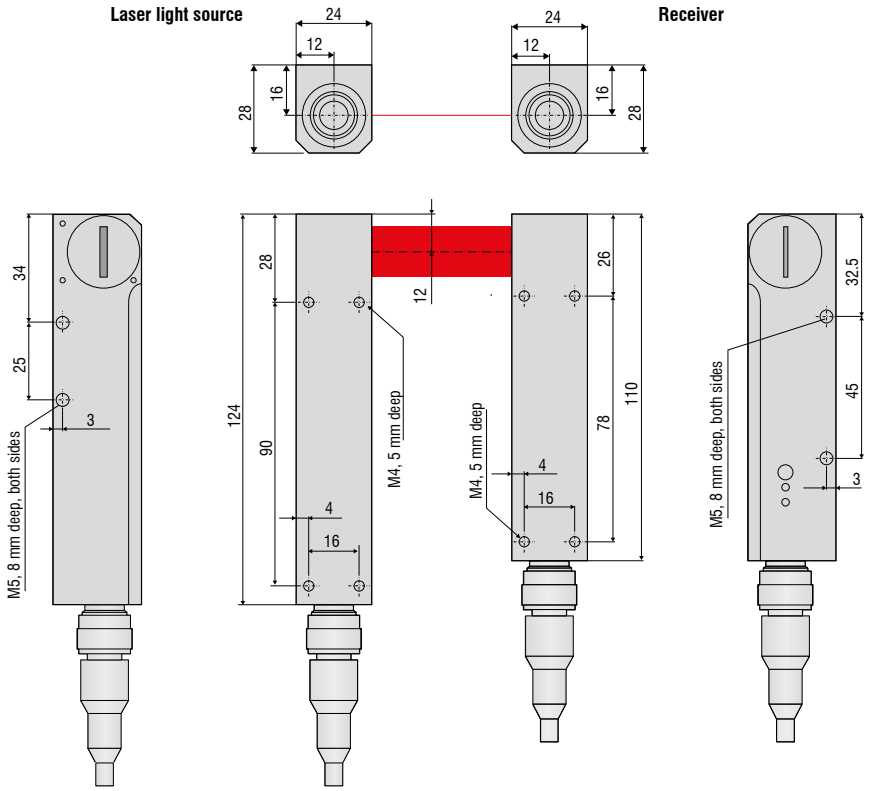
optoCONTROL 1200



optoCONTROL 1201



optoCONTROL 1200/90



Interface modules and accessories
optoCONTROL

XFrame2520 for 2-axis measurements

Accessory for the integration of optical ODC2520-46 micrometers for diameter measurements

- 2-axis frame for X-arrangement of 2 sensors
- Optics can be cleaned with compressed air
- e.g. for wires, cables, tubes, rods or flat steel
- Objects up to 46 mm diameter measurable
- Measuring range 46 x 46 mm
- Evaluation of the two sensors via universal controller possible (not included in scope of delivery)



Various ODC tools for ODC2520 and ODC2600

Depending on the sensor, diverse tools for continuous measurement value recording and parameter set up are available free of charge

- ODC2600 & ODC2500 Tool: For parameterization and continuous recording of measured values.
- SensorTOOL: The measured values of one or more micrometers can be graphically displayed and recorded simultaneously.

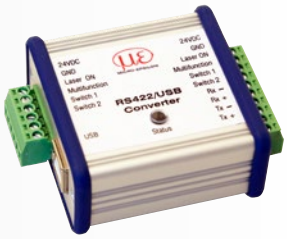


Interface modules

Module	ODC1200	ODC2520	ODC2600
IF2001/USB RS422/USB converter to transform a digital signal to USB	⊘	✔	✔
IC2001/USB Single-channel RS422/USB converter cable	⊘	✔	✔
IF2004/USB RS422/USB converter to convert up to 4 digital signals to USB	⊘	✔	✔
IF2008/ETH Interface module for Ethernet connection for up to 8 sensors	⊘	✔	⊘
IF2008PCIE Interface card for multiple sensor signals; analog and digital interfaces	✔	✔	✔
IF2035-EtherCAT Interface module for Industrial Ethernet connection (EtherCAT)	⊘	✔	⊘
IF2035/PROFINET Interface module for Industrial Ethernet connection (PROFINET)	⊘	✔	⊘
IF2035/EtherNetIP Interface module for Industrial Ethernet connection (EtherNet/IP)	⊘	✔	⊘
IF1032/ETH Interface module for connecting the analog interface to Ethernet or Industrial Ethernet (EtherCAT)	✔	⊘	⊘

IF2001/USB converter RS422 to USB

The RS422/USB converter converts the digital signals of an optical micrometer into a USB data packet. The sensor and the converter are connected via the RS422 interface of the converter. Data output is done via USB interface. The converter loops through further signals and functions such as laser on/off, switch signals and function output. The connected sensors and the converter can be programmed through software.



Special features

- Robust aluminum housing
- Easy sensor connection via screw terminals (plug and play)
- Conversion from RS422 to USB
- Supports baud rates from 9.6 kBaud to 12 MBaud



IC2001/USB Single-channel converter cable RS422/USB

The IC2001/USB single-channel converter cable is used for the USB connection of optoCONTROL sensors equipped with an RS422 interface. The cable is easy to assemble and can therefore also be used for installation in machines and systems.



Special features

- 5-core interface cable without outer shield
- Conversion from RS422 to USB
- Easy sensor connection via USB
- Supports baud rates from 9.6 kBaud to 1 MBaud



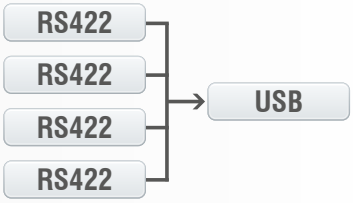
IF2004/USB: 4-channel converter from RS422 to USB

The RS422/USB converter is used for transforming digital signals from up to four precision micrometers into USB data signals. The converter has four trigger inputs and a trigger output for connecting additional converters. Data is output via an USB interface. The connected sensors and the converter can be programmed through software. The COM interfaces can be used individually and can be switched.



Special features

- 4x digital signals via RS422
- 4x trigger inputs, 1x trigger output
- Synchronous data acquisition
- Data output via USB



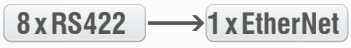
IF2008/ETH

IF2008/ETH Interface module for Ethernet connection with up to 8 sensors

The IF2008/ETH integrates up to eight sensors and/or encoders with an RS422 interface into an Ethernet network. Four programmable switching in-/outputs (TTL and HTL logic) are available.

Ten indicator LEDs directly on the module show both the channel and the device status. In addition, acquisition and output of data via Ethernet is in addition performed at high speeds up to 200 kHz. Parameter setting of the interface module can be easily done via the web interface.

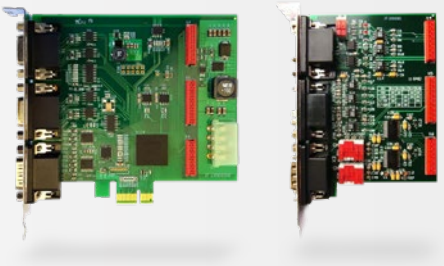




IF2008PCIe / IF2008E

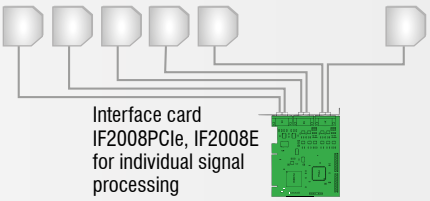
Interface card for synchronous data acquisition

Absolute synchronous data acquisition is a decisive factor for the deflection or straightness measurement using several laser sensors. The IF2008PCIe interface card is designed for installation in PCs and enables the synchronous capture of four digital sensor signals and two encoders. The data is stored in a FIFO memory in order to enable resource-saving processing in blocks in the PC. The IF2008E expansion board enables to detect in addition two digital sensor signals, two analog sensor signals and eight I/O signals.



Special features

- IF2008PCIe - Basic printed circuit board: 4 digital signals and 2 encoders
- IF2008E - Expansion board: 2x digital signals, 2x analog signals and 8x I/O signals



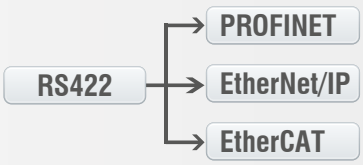
IF2035

Interface module for Industrial Ethernet connection

The IF2035 interface modules are designed for easy connection of Micro-Epsilon sensors to Ethernet-based fieldbuses. The IF2035 is compatible with sensors that output data via an RS422 or RS485 interface and supports the common Industrial Ethernet protocols EtherCAT, PROFINET and EtherNet/IP.

These modules operate on the sensor side with up to 4 MBd and have two network connections for different network topologies. In addition, the IF2035-EtherCAT offers a 4-fold oversampling function, which enables faster measurements than the bus cycle allows, if required. Installation in control cabinets is via a DIN rail.





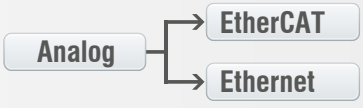
IF1032/ETH

The IF1032/ETH interface module now enables to run micrometers equipped with analog interfaces with the proven operating concept based on a web interface. The Ethernet interface permits to easily display the measured data on a PC. Moreover, micrometers can be connected to an EtherCAT bus. The RS485 interface allows to connect new micrometers that use the Micro-Epsilon specific RS485 protocol.

Interfaces

- Ethernet/EtherCAT
- 1x RS485 (ME-internal protocol)
- 2x analog-in (14 bit, max. 4 ksps), voltage
- 1x analog-in, (14 bit, max. 4 ksps), current
- Inputs for supply voltage
- Trigger input
- EtherCAT synchronization output
- Output for sensor power supply

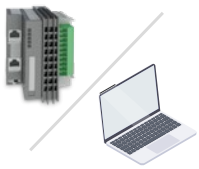




optoCONTROL 1200/1201

Connection	Interface modules	Connection cables	Mounting	Accessories
Power supply Power supply unit PS2031 2420096 Power supply unit PS2020 2420062		**Power supply and signal cables** PC1200/90-5 (5 m) (90°) 2901261 PC1200-5 (5 m) 2901260 PC1200-10 (10 m) 2901483		**Adjustment plate** Receiver JU1200-HR (horizontal) 2966018 JU1200-VR (vertical) 2966019 Transmitter JU1200-VT (vertical) 2966020 JU1200-HT (horizontal) 2966021  (for 1200 and 1200/90)
Digital output / Ethernet / EtherCAT 	IF1032/ETH 2420066 max. 4 kSps 			
PLC Analog Connection via 0 … 10 V 	Direct 0 - 10 VDC		**Mounting rail for C-frame mounting** ODC1202-L100 (L=0.4 m) 2966006 ODC1202-L200 (L=0.5 m 2966007 ODC1202-L500 (L=0.8 m) 2966008  (for 1200 and 1200/90)	**Bracket for C-frame mounting** BR1200L220 (L=220 mm) 2966024 BR1200L320 (L=320 mm) 2966025

optoCONTROL 2600

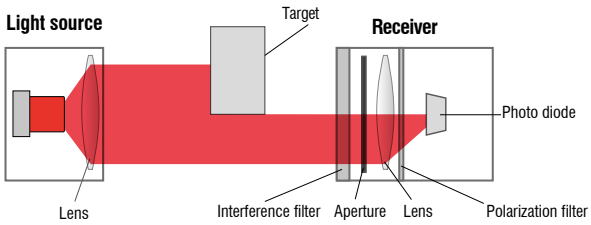
Connection	Interface modules	Connection cables	Mounting	Accessories
Power supply Power supply unit PS2031 2420096 Power supply unit PS2020 2420062		**Supply cables (open)** PC2500-3 (3 m) 2901123 PC2500-10 10 m) 2901124		**Demo prism** incl. testing pins 9335380  Diameter of testing pins - 20 mm - 10 mm - 6 mm - 3 mm
Serial or analog connection to PC or PLC 	Direct 0 - 10 VDC	**Output cables IO analog** SCA2500-3 (3 m analog) 2901120 SCA2500-10 (10 m analog) 2901215 **Signal output cables serial RSxxx** SCD2500-3/3/RS232 (3 m) 2901121 (analog + signals / 3 m RS232) SCD2500-3/10/RS422 (3 m 2901122 (analog + signals / 10 m RS422) SCD2500-3/RS422 29011111 (3 m only RS422 open ends)		
	Direct RS232 SUB-D9			
	Direct RS422 SUB-D9			
	Direct RS422 OE			
USB 	IF2004/USB 2213024 4-port RS422 	**Signal output cable** SCD2500-3/10/RS422 (3 m) 2901122 (analog + signals / 10 m RS422) IF2008-Y-adapter cable (0.1 m) 2901528 For the connection of a 3r 		**Extension cable** For controller receiver units: CE1800-3 (3 m) 2901057 CE1800-8 (8 m) 2901058 For controller light sources: CE2500-3 (3 m) 2901118 CE2500-8 (8 m) 2901119
	IC2001 / USB 2213041 	**Signal output cables** SCD2500-3/RS422 (3 m) 29011111 (only RS422 open ends)		
	IF2001/ 2213025 USB converters 			
Digital output PCIE Card installation 	IF2008PCIE 2213032 	**Interface cables for IF2008** SCD2500-3/IF2008 (3 m) 2901561 SCD2500-8/IF2008 (8 m) 2901563 IF2008-Y-adapter cable (0.1 m) 2901528 For the connection of a 3rd or 4th sensor 		
	IF2008E 2213032 			

Basics & selection criteria
optoCONTROL

All sensors of the optoCONTROL series operate according to the shadow casting / ThruBeam principle. A cross section of the contour of a target is measured with high accuracy. Three types of ThruBeam technologies are used in the different optoCONTROL series to cover a wide range of applications.

Light quantity measurement (ODC1200/1201)

In light quantity measurement, an optical system fans the light from a red laser diode to create a parallel light curtain. The light curtain is aligned with the receiver unit. In the receiver unit, a precision aperture guides the light through various filters and optical components onto a light-sensitive detector. An analog electronic system processes the amount of incident light and outputs this data as an analog signal.



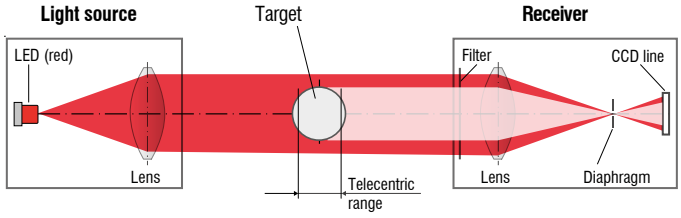
Colometry ODC25xx

Colometry is a laser-based measuring system with an integrated high-resolution line scan camera for measuring geometric quantities. It measures the dimension of a target or the position of an edge on a body using the shadowing principle. A parallel light curtain is generated with a laser light source. The camera in the receiver unit measures the contour of the target using the shadow generated on the pixel-based array.



Telecentric method ODC2600

The telecentric method is a measuring system with an integrated high-resolution line scan camera. The light source illuminates the target from behind. There is a telecentric objective lens in the receiver. It provides an image of the same size in the so-called telecentric range and produces a constant accuracy. The advantages of the telecentric lens are the free positioning of the target within the telecentric range (±5 mm) and the relatively high tolerance to contamination and ambient light. The line scan camera in the receiver also measures the projected outer contour of the target.





optoCONTROL 2520 uses a semiconductor laser, 670nm <=2mW max. optical power, laser class 1M. No additional protective measures are required for the use of these devices. Be careful with the dazzling effect related to optical instruments.



optoCONTROL 12xx uses a semiconductor laser, 670 nm, ≤0.39 mW max. optical power, laser class 1. No additional protective measures are required for the use of these devices.



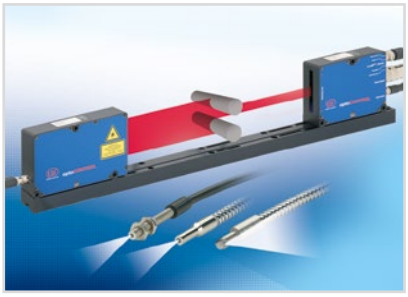
Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



Measuring and inspection systems for metal strips, plastics and rubber



Optical micrometers and fiber optics, measuring and test amplifiers



Color recognition sensors, LED analyzers and inline color spectrometers



3D measurement technology for dimensional testing and surface inspection

Modifications reserved / Y9766284-F022073GKE

MICRO-EPSILON

MICRO-EPSILON USA
8120 Brownleigh Dr. · Raleigh, NC 27617 / USA
Phone +1/919/787-9707 · Fax +1/919/787-9706
me-usa@micro-epsilon.com · **www.micro-epsilon.com**

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP