MICRO-EPSILON

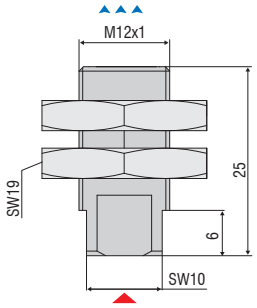
More Precision

eddyNCDT // Inductive sensors based on eddy currents

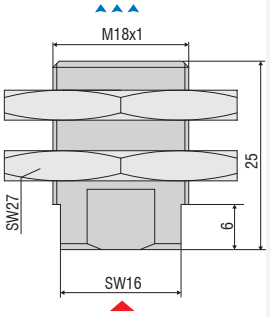
Special sensors
eddyNCDT 3020 / 3060

Measurement direction

Connector side



1:2



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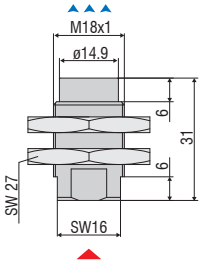

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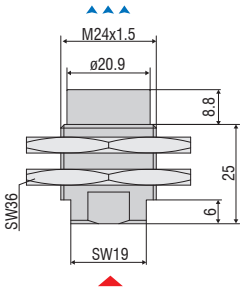


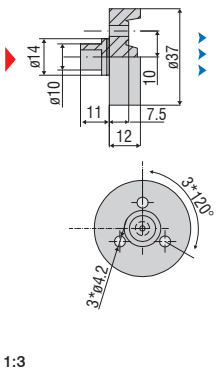
1:2

Model		ES2	ES4	EU6	EU8
Measuring range		2 mm	4 mm	6 mm	8 mm
Start of measuring range		0.2 mm	0.4 mm	0.6 mm	0.8 mm
Resolution [1] [2] [3]		0.04 µm	0.08 µm	0.12 µm	0.16 µm
Linearity [1] [4]		< 2 µm	<4 µm	6 µm	8 µm
Temperature stability [1] [2] [4]		0.5 µm / K	1 µm / K	1.5 µm / K	2 µm / K
Temperature compensation [4]		0 ... +150 °C	0 … +150 °C	0 … +150 °C	0 … +150 °C
Sensor type		shielded	shielded	unshielded	unshielded
Min. target size (flat)		Ø 18 mm	Ø 27 mm	Ø 54 mm	Ø 72 mm
Connection		Plug connection via triaxial socket	Plug connection via triaxial socket	Plug connection via triaxial socket	Plug connection via triaxial socket
Mounting		Screw connection (M12)	Screw connection (M18)	Screw connection (M18)	Screw connection (M24)
Temperature range	Storage	-20 ... +150 °C	-20 ... +150 °C	-20 ... +150 °C	-20 ... +150 °C
	Operation	-20 … +150 °C	0 … +150 °C	-20 … +150 °C	0 … +150 °C
Pressure resistance		20 bar (front)	20 bar (front)	20 bar (front)	20 bar (front)
Protection class (DIN EN 60529)		IP64 (plugged)	IP50 (plugged)	IP64 (plugged)	IP64 (plugged)
Material		Stainless steel and plastic	Stainless steel and plastic	Stainless steel and plastic	Stainless steel and plastic

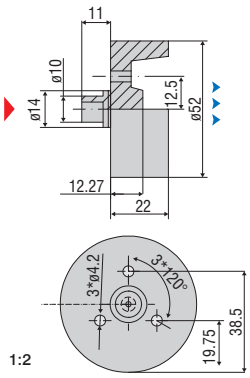
Operation with DT3020/306x requires special calibration (LC)
[1] Valid for operation with DT306x referenced to the nominal measuring range
[2] Relates to mid of measuring range
[3] RMS value of the signal noise, static (20 Hz)
[4] Only with DT3061 controller and 5-point linearization

Measurement direction

Connector side



1:3



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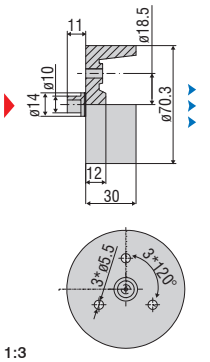
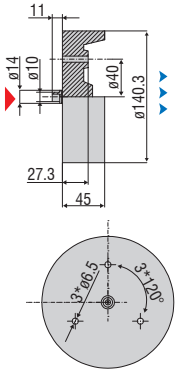


1:3



1:8

Model	EU15	EU22	EU40	EU80
Measuring range	15 mm	22 mm	40 mm	80 mm
Start of measuring range	1.5 mm	2.2 mm	4 mm	8 mm
Resolution [1] [2] [3]	0.3 µm	0.44 µm	0.8 µm	1.6 µm
Linearity [1] [4]	< ±15 µm	< ±22 µm	< ±40 µm	< ±80 µm
Temperature stability [1] [2] [4]	< 3.75 µm / K	< 5.5 µm / K	< 10 µm / K	< 20 µm / K
Temperature compensation [4]	0 … +150 °C	0 … +150 °C	0 … +150 °C	0 … +150 °C
Sensor type	unshielded	unshielded	unshielded	unshielded
Min. target size (flat)	Ø 111 mm	Ø 156 mm	Ø 210 mm	Ø 420 mm
Connection	Plug connection via triaxial socket	Plug connection via triaxial socket	Plug connection via triaxial socket	Plug connection via triaxial socket
Mounting	3 x through-holes	3 x through-holes	3 x through-holes	3 x through-holes
Temperature range – Storage	-20 ... +150 °C	-20 ... +150 °C	-20 ... +150 °C	-20 ... +150 °C
Temperature range – Operation	0 … +150 °C	0 … +150 °C	0 … +150 °C	0 … +150 °C
Protection class (DIN EN 60529)	IP64 (plugged)	IP64 (plugged)	IP64 (plugged)	IP64 (plugged)
Material	Epoxy	Epoxy	Epoxy	Epoxy

Operation with DT3020/306x requires special calibration (LC)

[1] Valid for operation with DT306x referenced to the nominal measuring range

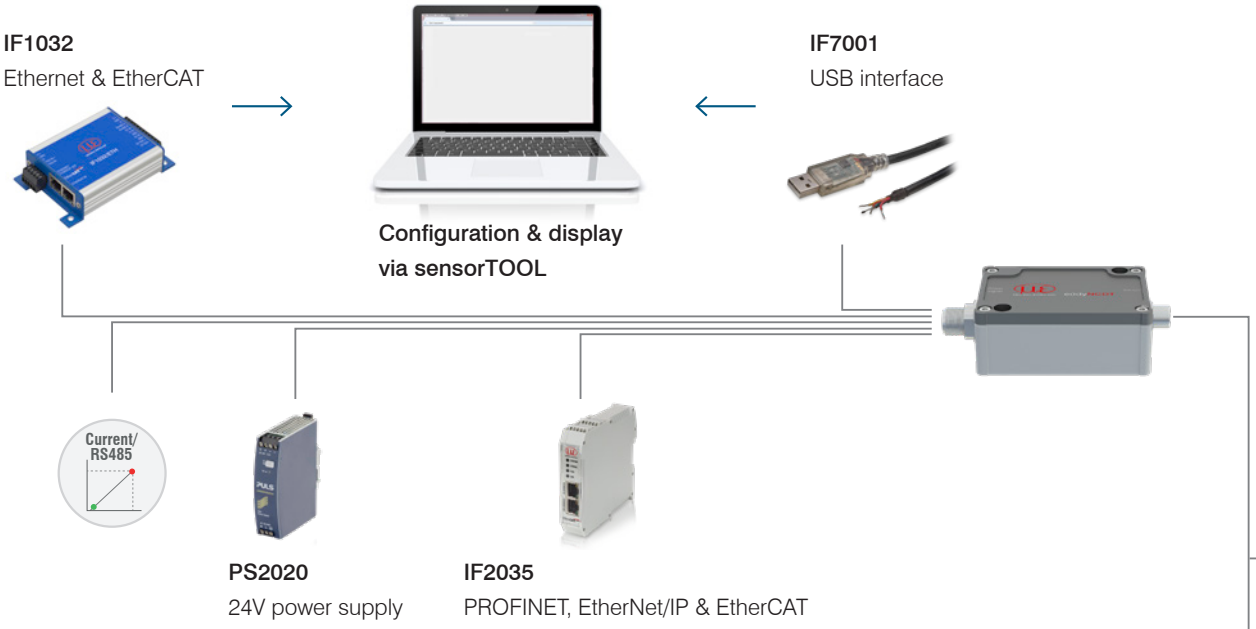
[2] Relates to mid of measuring range

[3] RMS value of the signal noise, static (20 Hz)

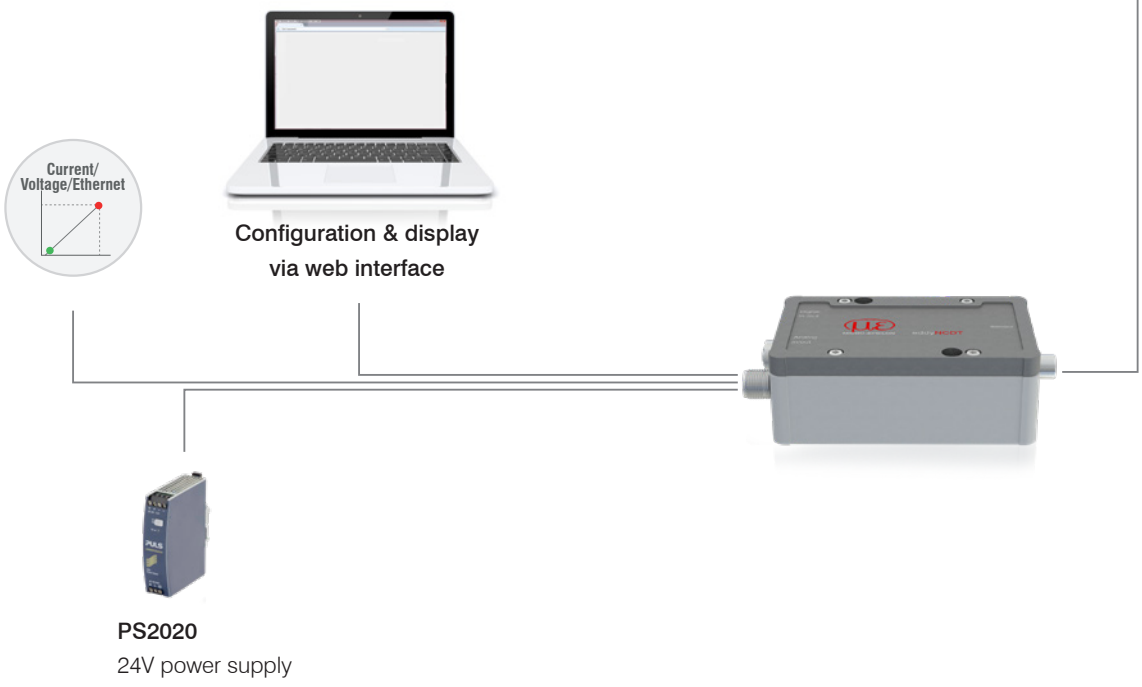
[4] Only with DT3061 controller and 5-point linearization

Connection possibilities
eddyNCDT 3020 / 3060

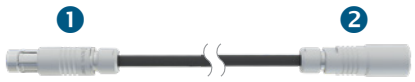
Connection possibilities DT3020



Connection possibilities DT3060



Extension cable (optional):
ECE-x/fB0/mB0



Sensors with integrated cable:
ES-xx

Coaxial cable with Viton sheath
Cable diameter: 3.6 mm
Minimum bending radius: static approx. 27 mm / dynamic approx. 54 mm
Temperature resistance: up to 200 °C
Available lengths: 1 m / 3 m / 6 m (9 m on request)

Adapter cable: EC-x/mB0/mB0

Sensors with socket: ESxx / EUxx

Connector mB0
Outer diameter: 9 mm
Mating length: 26 mm
Temperature resistance: up to 200 °C

Socket fB0
Outer diameter: 10 mm
Mating length: 35 mm
Temperature resistance: up to 200 °C

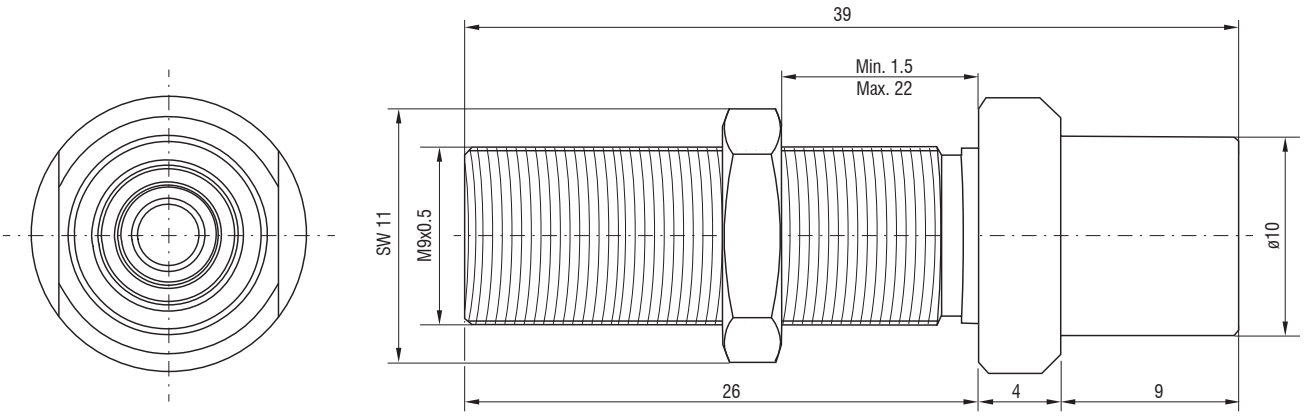
Plug system for vacuum applications
Vacuum feedthrough eddy/fB0/fB0/triax

The eddyNCDT series delivers high-precision measurement results even in airless rooms. The eddy/fB0/fB0/triax vacuum feedthrough also enables eddyNCDT products to be used in vacuum applications.

- Application in vacuums
- Application as a wall duct
- Pluggable version
- Compatible with all common eddyNCDT products

Vacuum feedthrough eddy/fB0/fB0/triax	
Housing material	CuZn39Pb3
O-ring material	FPM (Viton®)
Max. leakage rate (IEC standard 60068-2-17)	$<10^{-8}$ mbar*l/s
Operating temperature [1]	from -20 °C to 150 °C
Mating cycles (IEC 60512-5-9a)	10,000
Vibration (MIL-STD-202 Method 204 Condition B)	10 to 2,000 Hz, 1.5 mm or 15 g, 12 pass cycles per axis, 20 minutes per 10-2000-10 Hz pass cycle, no discontinuity >1 µs
Insulation resistance	10^{10} Ω

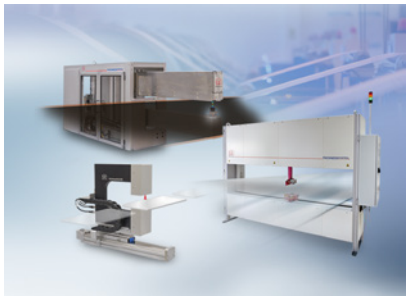
[1] Min. connection temperature: 0 °C



Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, distance and position

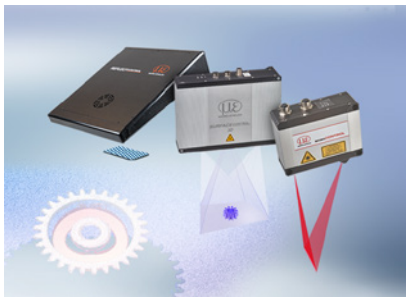
Sensors and measurement devices for non-contact temperature measurement



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

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