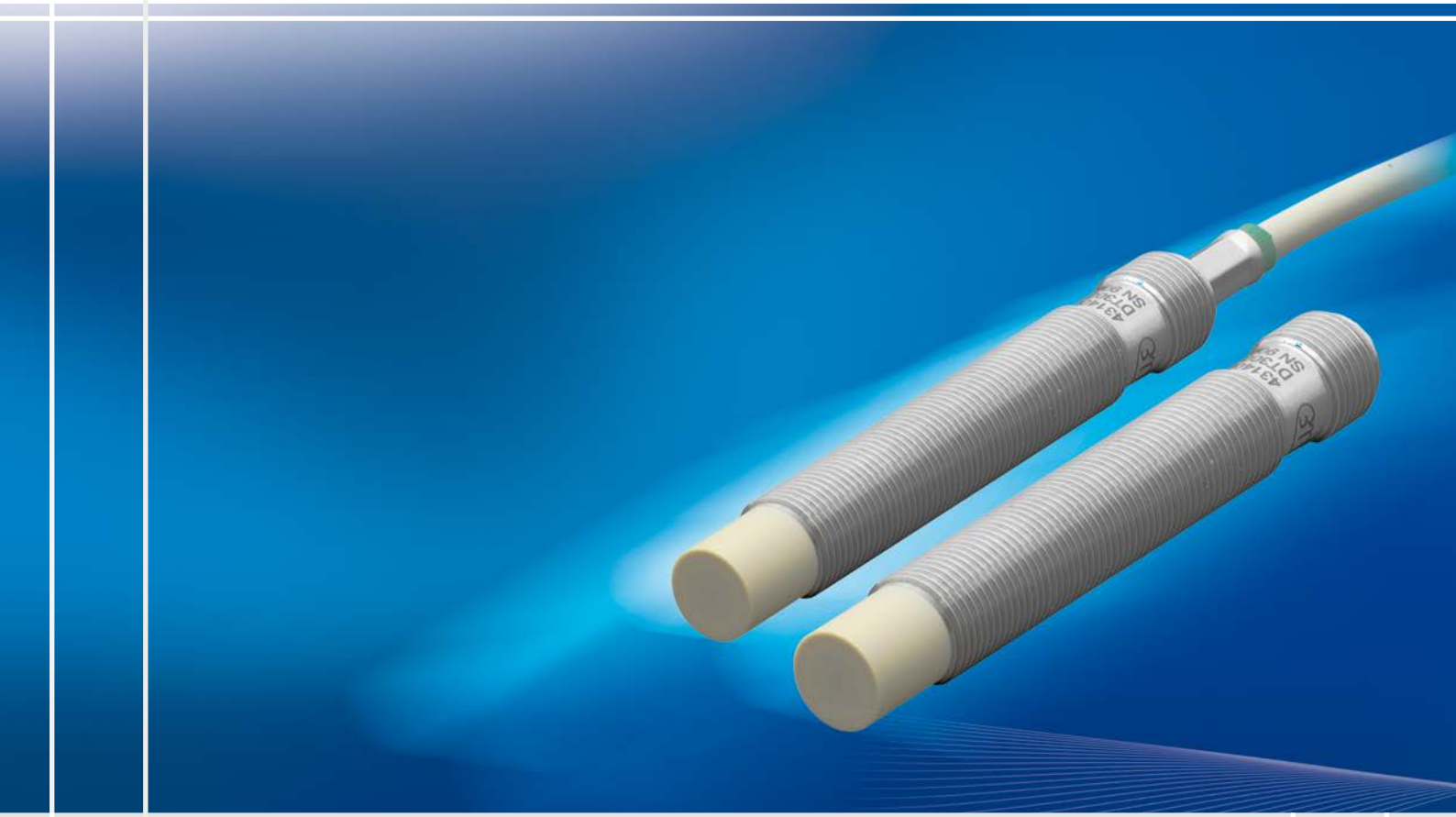
MICRO-EPSILON

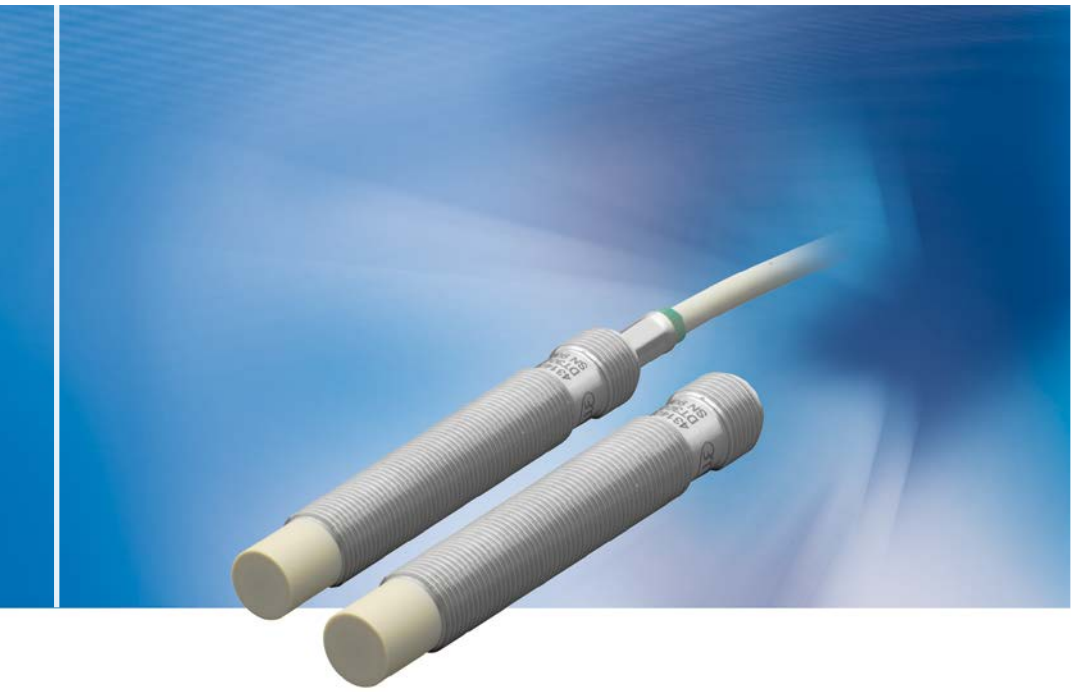
More Precision

eddyNCDT 3001 // Eddy current sensor with integrated electronics



Compact eddy current sensors with integrated electronics

eddyNCDT 3001



- *High precision measurement accuracy*
- *High frequency response*
- *Sensor for ferro- and non-ferromagnetic targets*
- *Temperature compensation up to 70°C*
- *Easy to use (plug & play)*
- *Robust design to IP67*

Eddy current displacement measurement

Eddy current sensors from Micro-Epsilon measure displacement, distance, position, oscillations, vibrations, etc. Non-contact eddy current sensors offer extremely precise measurements where sub-micron accuracy is required.

Robust miniature eddy current sensor

The eddyNCDT 3001 is a new, efficient eddy current sensor whose compact dimensions have to date only been reserved for inductive sensors and proximity sensors. This compact sensor comes with integrated electronics including temperature compensation, offering an outstanding price/performance ratio, as well as easy operation. Therefore, the sensor is ideally suited to OEM integration and mechanical engineering applications. The temperature-compensated design provides high stability even in fluctuating ambient temperatures. The sensor is factory-calibrated for ferromagnetic and non-ferromagnetic materials, which eliminates the need for on-site linearisation of the sensor.

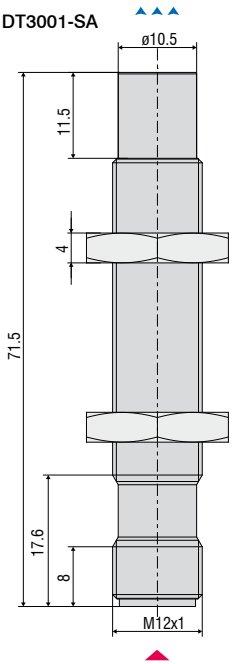
The robust construction combined with the eddy current measuring principle enables measurements in harsh industrial environments (oil, pressure, dirt). In addition, the eddyNCDT 3001 is suitable for offshore/marine applications (salt water).

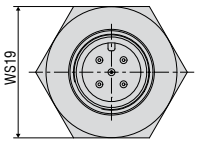
Model		DT3001-U4A/M-SA	DT3001-U4A/M-Cx
Measuring range		4mm	
Offset distance		0.4mm	
Linearity	≤ ±0.7% FSO	28µm	
Resolution	0.1% FSO / °C	4µm	
Frequency response		5kHz (-3 dB)	
Temperature stability		0.03% FSO	
Temperature compensation range		0°C…+70°C	
Ambient temperature		0°C…+70°C	
Installation		unshielded	
Measurement object		ST37 DIN 1.0037, Alu AlCuMgPb3.1645	
Measurement object geometry		flat, minimum diameter 36mm	
Connection		connector 5-pin M12	integrated cable, 5-pin, length 3/6/9m
Output		0.5 ... 9.5V	0.5 ... 4.5V
Power supply		12V … 32V	
Protection class		IP67 (connected)	IP67
Weight		25g	60g (3m) / 100g (6m) / 140g (9m)

FSO = of full scale output

[1] Static resolution (16Hz) at midrange

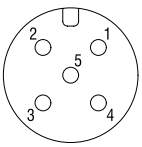
DT3001-SA



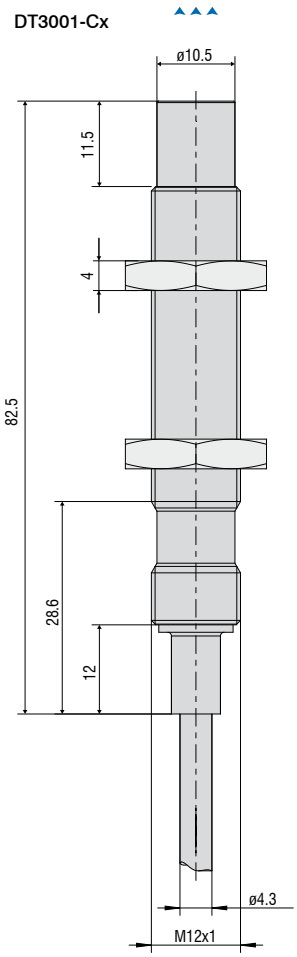


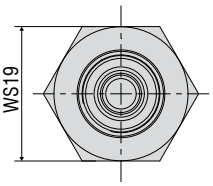
Pin assignment 5-pin M12-connector

Pin	Description
1	supply +24V
2	displacement signal
3	ground
4	internal
5	internal



DT3001-Cx





Pin assignment

Colour	Description
brown	supply +24V
green	displacement signal
white	ground
yellow	internal
grey	internal

Connector side

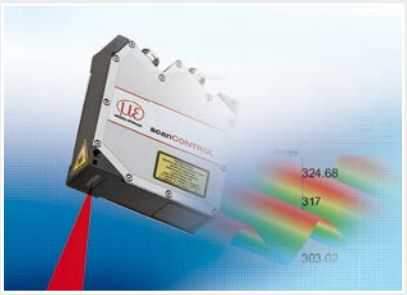
Measurement direction

Dimensions in mm, not to scale.

High performance sensors made by Micro-Epsilon

Sensors and systems for displacement and position

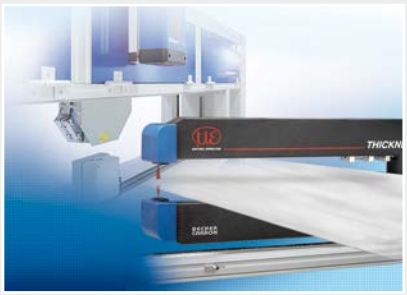
Sensors and measurement devices for non-contact temperature measurement



2D/3D profile sensors (laser scanner)

Optical micrometers, fibre optic sensors and fibre optics

Colour recognition sensors, LED analyzers and colour online spectrometer



Measurement and inspection systems

MICRO-EPSILON

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