



# More Precision

**eddyNCDT** // Eddy current sensors for displacement and position





- Compact M12 sensor design with integrated controller
- Bandwidth 5kHz (-3dB)
- Sensor for ferro- and non-ferromagnetic targets
- Temperature compensation up to 70°C
- Easy to use (plug & play)
- Robust design to IP67
- Ideal for OEM applications

#### Robust miniature eddy current sensor

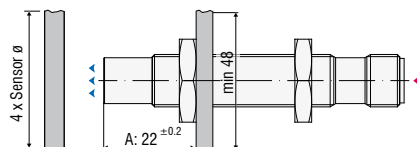
The eddyNCDT 3001 is a completely new high performance eddy current sensor platform. Although it is a similar size to currently available proximity and inductive sensors, the measuring performance is much greater. With integrated electronics including active temperature compensation, the sensor provides high measurement stability even in fluctuating temperature environments. Combined with an extremely competitive pricing structure, this is an ideal OEM solution. The device can be supplied in single quantities for evaluation

and can be modified if required for higher volume applications.

The sensor is factory calibrated with both ferrous and non-ferromagnetic materials, which eliminates the need for onsite linearisation of the sensor. The robust construction, combined with true eddy current measurement principle, enables measurements in harsh industrial environments (oil, pressure, dirt). Additionally, the eddy NCDT 3001 is also suitable for offshore and marine applications (saltwater resistant).

#### Installation instructions

The relative size of the measurement object to the sensor and the position of the mounting nut have effects on the linearity deviation for eddy current sensors.



#### Please note:

- Depending on the sensor model, the measurement object geometry shall be 4 times the sensor diameter.
- The mounting nut should not exceed the indicated dimension A.

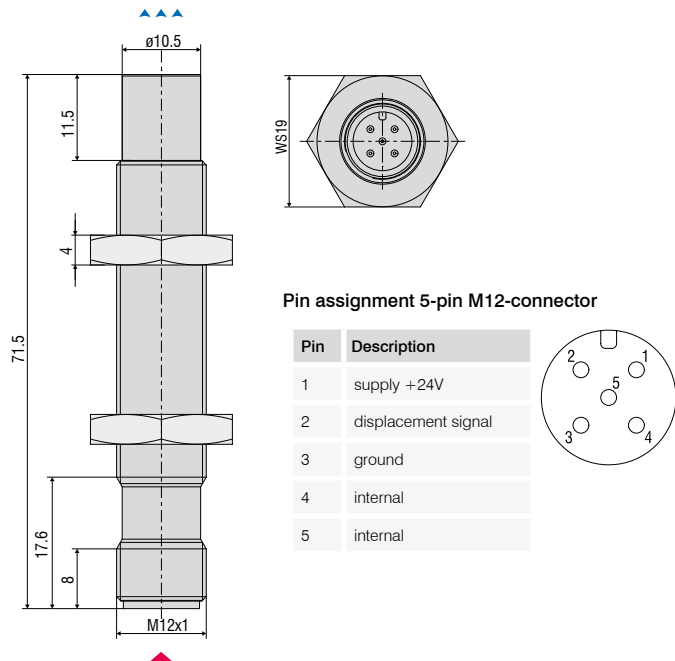
Model	DT3001-U2A-SA	DT3001-U2M-SA	DT3001-U4A-SA	DT3001-U4M-SA	DT3001-U4A-Cx	DT3001-U4M-Cx
Measurement object <sup>1)</sup>	aluminium	steel	aluminium	steel	aluminium	steel
Measuring range	2mm		4mm			
Offset distance					0.4mm	
Linearity					28µm	
Resolution <sup>2)</sup>					4µm	
Bandwidth					5kHz (-3 dB)	
Temperature stability					0.03% FSO / °C	
Temperature compensation range					0°C ... +70°C	
Ambient temperature					0°C ... +70°C	
Installation					unshielded	
Recommended measurement object geometry (flat)					48mm	
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

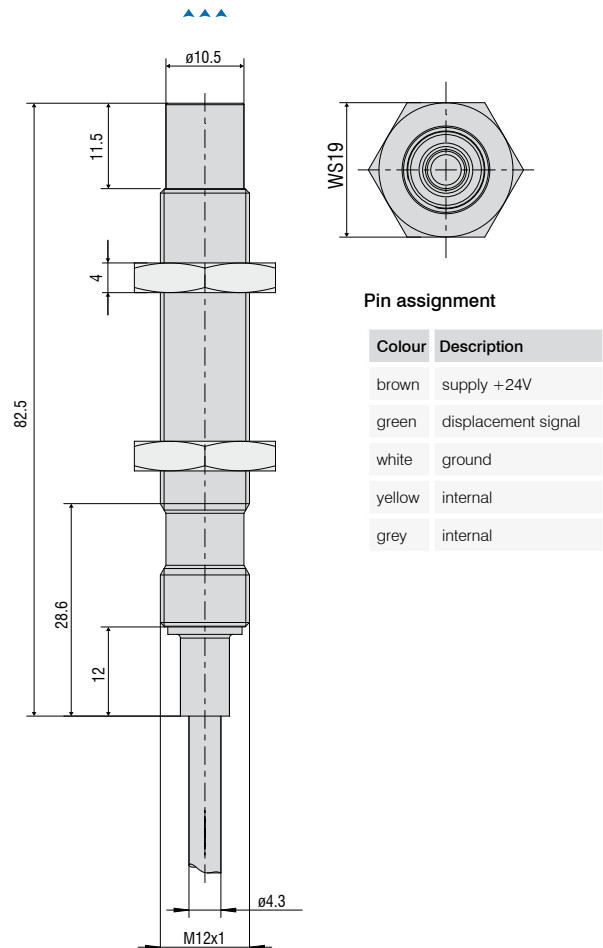
<sup>1)</sup> Steel: ST37 DIN 1.0037 / aluminium: AlCuMgPb3.1645

<sup>2)</sup> RMS noise relates to centre of measuring range with a bandwidth of 5kHz

#### DT3001-SA



#### DT3001-Cx



Dimensions in mm, not to scale.

Articel	Description	eddyNCDT 3001	eddyNCDT 3005	eddyNCDT 3010	eddyNCDT 3100	eddyNCDT 3300
PC3/8	Power- and output cable, 3m, 8 pin			•		
PC5/5	Power- and signal cable	•	•			
SC30	Synchronisation cable, 30cm			•		
CSP 301	Digital signal processing and display unit up to 2 channels			•		
PC3100-3/6/BNC	Outputcable and supply unit, 3m				•	
PS2020	Power Supply 24V / 2.5A; Input 100-240 VAC; Output 24 VDC / 2.5A; DIN rail mounting; 35mm x 7.5mm, DIN 50022				•	•
MC2.5	Micrometer calibration fixture, range 0 to 2.5 mm, division 1 $\mu$ m, for sensors EPU05 to EPS2, adjustable offset (zero)			•	•	•
MC25D	Micrometer calibration fixture, range 0 to 25mm, division 1 $\mu$ m, for sensors EPU05 to EPU15, adjustable offset (zero)			•	•	•
ECx	Sensor cable, length selectable up to 15m					•
ECx/90	Sensor cable with 90° connector (sensor-sided) length selectable up to 15m					•
ECx/1	Extension cable for solder connection					•
ECx/2	Extension cable for plug connection					•
SCA3/5	Signal cable analogue, 3m					•
SCA3/5/BNC	Signal cable analogue with BNC connector, 3m					•
SCD3/8	Signal cable digital (switch input/output), 3m (also for supply 11 - 32VDC); for DT3301					•
SIC3(07)	Signal cable with BNC connector for direct operation with oscilloscope					•
PSC30	Power / Synchronisation cable, 0.3m, for DT3300					•
ESC30	Synchronisation cable, 0.3m, for DT3301					•
PS300/12/5	Power supply Input 100 - 240VAC; Output $\pm$ 12VDC / 5.2VDC integrated cable 1.5m; for max. 4x DT3300					•
MBC300	Mounting base for controller DT330x, fixing through M4 threaded holes 166x108x60mm					•
MCT304-SM	Tower for max. 4 controller DT 3300; supply 100 - 240VAC					•
MCT304(01)	Tower for max. 4 controller DT 3301; supply 11 - 32VDC					•

## 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