



# More Precision

**eddyNCDT** // Inductive sensors based on eddy currents



# High precision eddy current displacement measurement

## eddyNCDT 3300

-  High resolution & linearity
-  High speed measurements: up to 100 kHz (-3dB) frequency response
-  Numerous sensor models even for customer-specific applications
-  Sensors for ferromagnetic and non-ferromagnetic targets



The eddyNCDT 3300 eddy current system is a powerful displacement measuring system which offers numerous benefits in manufacturing automation, machine monitoring and quality control.

### Multifunctional controller

The eddyNCDT 3300 controller is equipped with high performance processors for reliable signal processing and further processing. The three-point linearization feature enables almost fully automatic field linearization, which provides high accuracy for any metallic target and installation environment. The operation is supported by a dialog-aided graphical display.

### Highest frequency response

Monitoring highly dynamic processes is possible with the eddyNCDT 3300 which offers a frequency response of 100 kHz. This enables to solve measurement tasks where high measurement speeds and high accuracy are required.

| Model                                  | DT3300                                                                                                                  | DT3301                                                    |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Resolution <sup>1)</sup>               | static (25 Hz)                                                                                                          | 0.005 % FSO ( $\leq 0.01$ % FSO with ES04, ES05 and EU05) |
|                                        | dynamic (25 / 100 kHz)                                                                                                  | 0.2 % FSO                                                 |
| Frequency response (-3dB)              | selectable 25 kHz, 2.5 kHz, 25 Hz; 100 kHz for measuring ranges $\leq 1$ mm                                             |                                                           |
| Linearity                              | $< \pm 0.2$ % FSO                                                                                                       |                                                           |
| Temperature compensation <sup>2)</sup> | $+10 \dots 100$ °C (option TCS: $-40 \dots +180$ °C)                                                                    |                                                           |
| Target material <sup>3)</sup>          | Steel, aluminum                                                                                                         |                                                           |
| Supply voltage                         | $\pm 12$ VDC and 5.2 VDC <sup>4)</sup>                                                                                  | 11 ... 32 VDC                                             |
| Max. current consumption               | approx. 420 mA                                                                                                          | 700 mA                                                    |
| Analog output                          | selectable 0 ... 5 V; 0 ... 10 V; $\pm 2.5$ V; $\pm 5$ V; $\pm 10$ V (or inverted); / 4 ... 20 mA (short circuit proof) |                                                           |
| Connection                             | Sensor: pluggable cable via 5-pole socket<br>Supply/signal: 8-pole M16 x 0.75 connector (cable see accessories)         |                                                           |
| Temperature range                      | Storage                                                                                                                 | $-25 \dots +70$ °C                                        |
|                                        | Operation                                                                                                               | $+5 \dots +50$ °C                                         |
| Protection class (DIN EN 60529)        | IP64 (plugged)                                                                                                          |                                                           |
| Control and display elements           | limit value monitoring, auto-zero, peak-to-peak, minimum, maximum, average, storage of 3 characteristics                |                                                           |

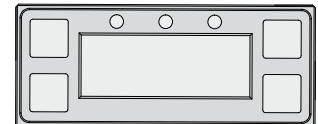
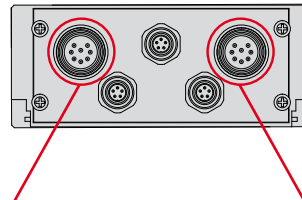
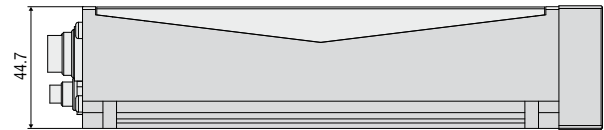
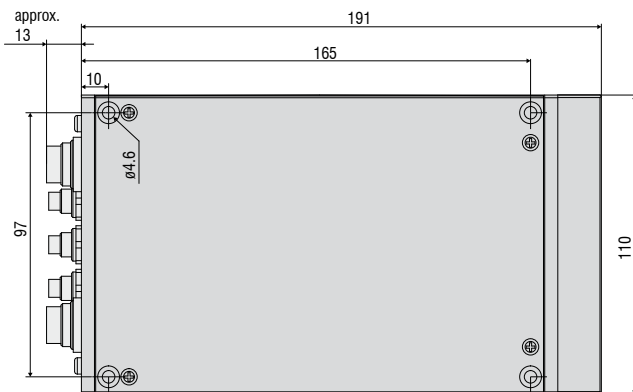
FSO = Full Scale Output

<sup>1)</sup> Resolution data are based on noise peak-to-peak values

<sup>2)</sup> Temperature stability may differ with TCS option

<sup>3)</sup> Steel: St37 steel DIN1.0037 / aluminum: AlMg3

<sup>4)</sup> Additionally 24 VDC for external reset and limit switch



Dimensions in mm, not to scale.

#### Pin assignment ANALOG - I/O

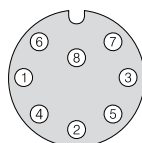
| Pin | Assignment                                  | Color (cable: SCA3/5) |
|-----|---------------------------------------------|-----------------------|
| 1   | n.c.                                        | ---                   |
| 2   | n.c.                                        | ---                   |
| 3   | Analog output $U_{OUT}$                     | Brown                 |
| 4   | n.c.                                        | ---                   |
| 5   | Temperature output <sup>1)</sup> $U_{Temp}$ | Green                 |
| 6   | n.c.                                        | Gray                  |
| 7   | Agnd                                        | White                 |
| 8   | Analog output $I_{OUT}$                     | Yellow                |

<sup>1)</sup> Signal available only as option

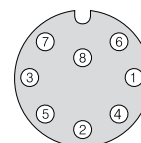
#### Pin assignment IN/OUT/24V IN

| Pin | Assignment           | Color (cable: SCD3/8) |
|-----|----------------------|-----------------------|
| 1   | Zeroing In           | Brown                 |
| 2   | Limit value A Out    | Yellow                |
| 3   | n.c.                 | Blue                  |
| 4   | Reset limit value In | Green                 |
| 5   | n.c.                 | Pink                  |
| 6   | 24 VDC ground        | White                 |
| 7   | +24 VDC in           | Red                   |
| 8   | Limit value B Out    | Gray                  |

8-pin cable connector  
View on solder side



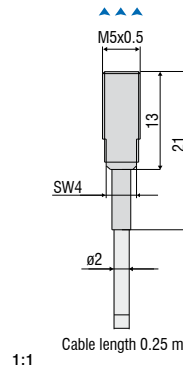
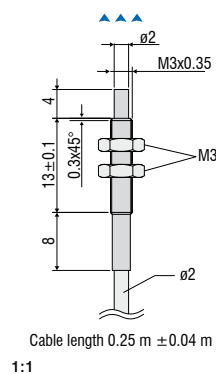
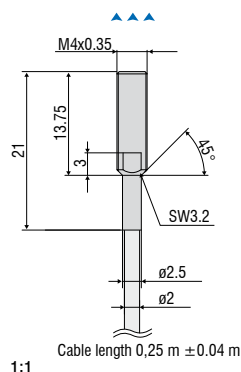
8-pin cable connector  
View on solder side



# Sensors

## eddyNCDT 3300

▲▲▲▲  
Measurement direction



| Model                                     | ES04                                                         | EU05                                                         | ES08                                                         |
|-------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| Measuring range                           | 0.4 mm                                                       | 0.4 mm                                                       | 0.8 mm                                                       |
| Start of measuring range                  | 0.04 mm                                                      | 0.05 mm                                                      | 0.08 mm                                                      |
| Resolution <sup>1) 2) 3)</sup>            | 0.04 µm                                                      | 0.05 µm                                                      | 0.04 µm                                                      |
| Linearity <sup>1)</sup>                   | < ±0.8 µm                                                    | < ±1 µm                                                      | < ±1.6 µm                                                    |
| Temperature stability <sup>1) 2) 4)</sup> | < 0.06 µm / K                                                | < 0.075 µm / K                                               | < 0.12 µm / K                                                |
| Temperature compensation <sup>4)</sup>    | 0 ... +90 °C                                                 | 0 ... +90 °C                                                 | 0 ... +90 °C                                                 |
| Min. target size (flat)                   | Ø 6 mm                                                       | Ø 9 mm                                                       | Ø 7.5 mm                                                     |
| Sensor type                               | shielded                                                     | unshielded                                                   | shielded                                                     |
| Connection                                | integrated cable, axial, length approx. 0.25 m <sup>5)</sup> | integrated cable, axial, length approx. 0.25 m <sup>5)</sup> | integrated cable, axial, length approx. 0.25 m <sup>5)</sup> |
| Mounting                                  | Cable gland (M4)                                             | Cable gland (M3)                                             | Cable gland (M5)                                             |
| Temperature range                         | Storage                                                      | -20 ... +150 °C                                              | -20 ... +150 °C                                              |
|                                           | Operation                                                    | 0 ... +150 °C                                                | 0 ... +150 °C                                                |
| Pressure resistance                       | 100 bar (front)                                              | -                                                            | 20 bar (front)                                               |
| Protection class (DIN EN 60529)           | IP64 (plugged)                                               | IP64 (plugged)                                               | IP64 (plugged)                                               |
| Material                                  | stainless steel                                              | stainless steel and ceramics                                 | stainless steel and plastic                                  |

<sup>1)</sup> Valid for operation with DT3300 controller, referred to nominal measuring range

<sup>2)</sup> Relates to mid of measuring range

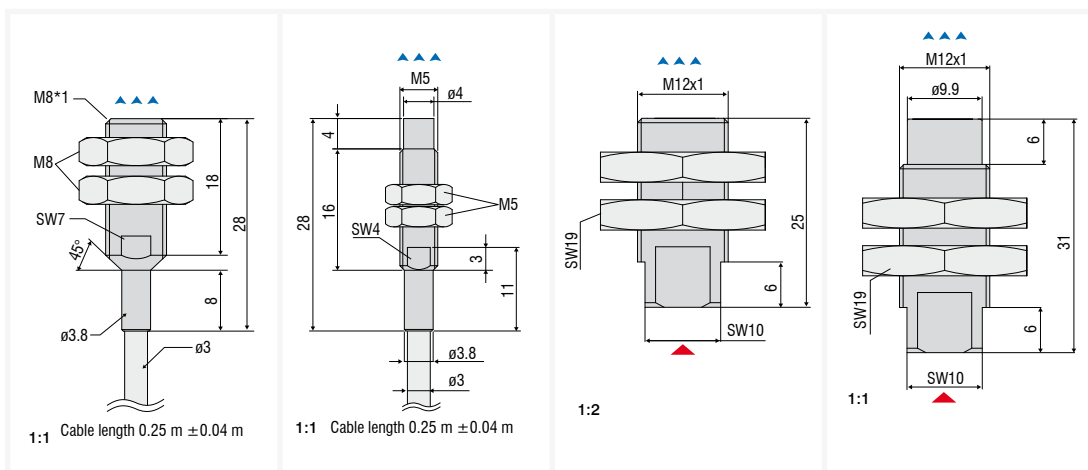
<sup>3)</sup> RMS value of the signal noise, static (25 Hz)

<sup>4)</sup> Higher values possible with TCS option

<sup>5)</sup> Length tolerance of cable: ±10 %

▲▲▲▲  
Measurement direction

▲  
Connector side



| Model                                     | ES1                                                          | EU1                                                          | ES2                                 | EU3                                 |
|-------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------|-------------------------------------|
| Measuring range                           | 1 mm                                                         | 1 mm                                                         | 2 mm                                | 3 mm                                |
| Start of measuring range                  | 0.1 mm                                                       | 0.1 mm                                                       | 0.2 mm                              | 0.3 mm                              |
| Resolution <sup>1) 2) 3)</sup>            | 0.05 $\mu\text{m}$                                           | 0.05 $\mu\text{m}$                                           | 0.1 $\mu\text{m}$                   | 0.15 $\mu\text{m}$                  |
| Linearity <sup>1)</sup>                   | < $\pm 2 \mu\text{m}$                                        | < $\pm 2 \mu\text{m}$                                        | < $\pm 4 \mu\text{m}$               | < $\pm 6 \mu\text{m}$               |
| Temperature stability <sup>1) 2) 4)</sup> | < 0.15 $\mu\text{m} / \text{K}$                              | < 0.15 $\mu\text{m} / \text{K}$                              | < 0.3 $\mu\text{m} / \text{K}$      | < 0.45 $\mu\text{m} / \text{K}$     |
| Temperature compensation <sup>4)</sup>    | 0 ... +90 °C                                                 | 0 ... +90 °C                                                 | 0 ... +90 °C                        | 0 ... +90 °C                        |
| Min. target size (flat)                   | Ø 12 mm                                                      | Ø 15 mm                                                      | Ø 18 mm                             | Ø 36 mm                             |
| Sensor type                               | shielded                                                     | unshielded                                                   | shielded                            | unshielded                          |
| Connection                                | integrated cable, axial, length approx. 0.25 m <sup>5)</sup> | integrated cable, axial, length approx. 0.25 m <sup>5)</sup> | Plug connection via triaxial socket | Plug connection via triaxial socket |
| Mounting                                  | Cable gland (M8)                                             | Cable gland (M5)                                             | Cable gland (M12)                   | Cable gland (M12)                   |
| Temperature range                         | Storage                                                      | -20 ... +150 °C                                              | -20 ... +150 °C                     | -20 ... +150 °C                     |
|                                           | Operation                                                    | 0 ... +150 °C                                                | -20 ... +150 °C                     | -20 ... +150 °C                     |
| Pressure resistance                       | -                                                            | -                                                            | 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         |

<sup>1)</sup> Valid for operation with DT3300 controller, referred to nominal measuring range

<sup>2)</sup> Relates to mid of measuring range

<sup>3)</sup> RMS value of the signal noise, static (25 Hz)

<sup>4)</sup> Higher values possible with TCS option

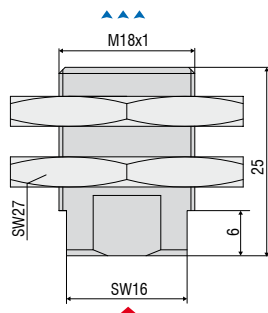
<sup>5)</sup> Length tolerance of cable:  $\pm 10 \%$

# Sensors

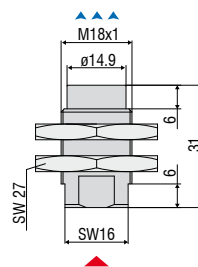
## eddyNCDT 3300

▲▲▲▲  
Measurement direction

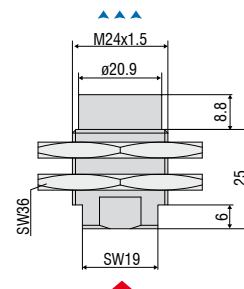
▲  
Connector side



1:1



1:2



1:2

| Model                                     | ES4                                    | EU6                                    | EU8                                    |
|-------------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| Measuring range                           | 4 mm                                   | 6 mm                                   | 8 mm                                   |
| Start of measuring range                  | 0.4 mm                                 | 0.6 mm                                 | 0.8 mm                                 |
| Resolution <sup>1) 2) 3)</sup>            | 0.2 µm                                 | 0.3 µm                                 | 0.4 µm                                 |
| Linearity <sup>1)</sup>                   | < ±8 µm                                | < ±12 µm                               | < ±16 µm                               |
| Temperature stability <sup>1) 2) 4)</sup> | < 0.6 µm / K                           | < 0.9 µm / K                           | < 1.2 µm / K                           |
| Temperature compensation <sup>4)</sup>    | 0 ... +90 °C                           | 0 ... +90 °C                           | 0 ... +90 °C                           |
| Min. target size (flat)                   | Ø 27 mm                                | Ø 54 mm                                | Ø 72 mm                                |
| Sensor type                               | shielded                               | unshielded                             | unshielded                             |
| Connection                                | Plug connection<br>via triaxial socket | Plug connection<br>via triaxial socket | Plug connection<br>via triaxial socket |
| Mounting                                  | Cable gland (M18)                      | Cable gland (M18)                      | Cable gland (M24)                      |
| Temperature range                         | Storage                                | -20 ... +150 °C                        | -20 ... +150 °C                        |
|                                           | Operation                              | 0 ... +150 °C                          | 0 ... +150 °C                          |
| Pressure resistance                       | 20 bar (front)                         | 20 bar (front)                         | 20 bar (front)                         |
| Protection class (DIN EN 60529)           | IP50 (plugged)                         | IP64 (plugged)                         | IP64 (plugged)                         |
| Material                                  | stainless steel and plastic            | stainless steel and plastic            | stainless steel and plastic            |

<sup>1)</sup> Valid for operation with DT3300 controller, referred to nominal measuring range

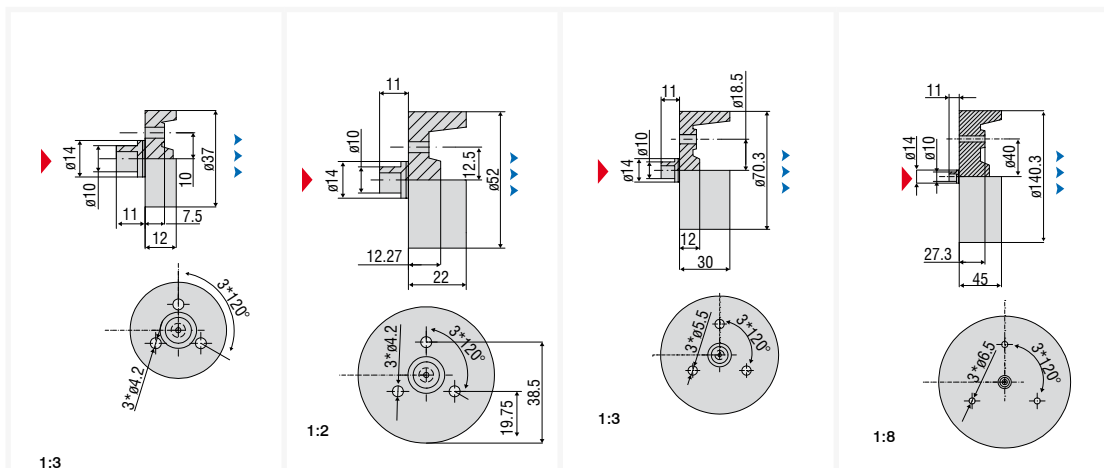
<sup>2)</sup> Relates to mid of measuring range

<sup>3)</sup> RMS value of the signal noise, static (25 Hz)

<sup>4)</sup> Higher values possible with TCS option

▲▲▲  
Measurement direction

▲  
Connector side



| 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 <sup>1) 2) 3)</sup>            | 0.75 $\mu\text{m}$                     | 1.1 $\mu\text{m}$                      | 2 $\mu\text{m}$                        | 4 $\mu\text{m}$                        |
| Linearity <sup>1)</sup>                   | < $\pm 30 \mu\text{m}$                 | < $\pm 44 \mu\text{m}$                 | < $\pm 80 \mu\text{m}$                 | < $\pm 160 \mu\text{m}$                |
| Temperature stability <sup>1) 2) 4)</sup> | < 2.25 $\mu\text{m} / \text{K}$        | < 3.3 $\mu\text{m} / \text{K}$         | < 6 $\mu\text{m} / \text{K}$           | < 12 $\mu\text{m} / \text{K}$          |
| Temperature compensation <sup>4)</sup>    | 0 ... +90 °C                           | 0 ... +90 °C                           | 0 ... +90 °C                           | 0 ... +90 °C                           |
| Min. target size (flat)                   | Ø 111 mm                               | Ø 156 mm                               | Ø 210 mm                               | Ø 420 mm                               |
| Sensor type                               | unshielded                             | unshielded                             | unshielded                             | unshielded                             |
| Connection                                | Plug connection<br>via triaxial socket | Plug connection<br>via triaxial socket | Plug connection<br>via triaxial socket | Plug connection<br>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                        |
|                                           | Operation                              | 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                                  |

<sup>1)</sup> Valid for operation with DT3300 controller, referred to nominal measuring range

<sup>2)</sup> Relates to mid of measuring range

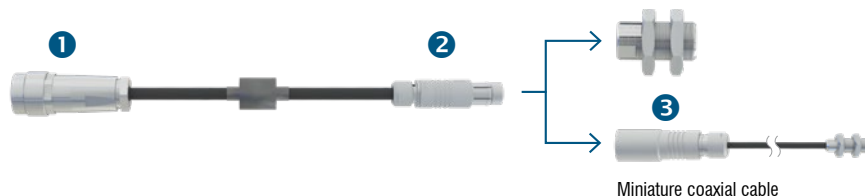
<sup>3)</sup> RMS value of the signal noise, static (25 Hz)

<sup>4)</sup> Higher values possible with TCS option

### Connection cables for DT3300 portfolio sensors

#### Sensors with integrated cable:

cable types ECx + ESx or EUx



#### Special coaxial cable

Coaxial cable with fluorothermoplastic sheath

Cable diameter: Ø 3.9 mm

Minimum bending radius: static approx. 20 mm / dynamic approx. 40 mm

Temperature resistance: up to 130 °C

Available length: 1 m / 3 m / 6 m

#### Sensors with integrated cable and open ends

for solder connection via adapter cable: ECx/1



#### Special coaxial cable

Coaxial cable with fluorothermoplastic sheath

Cable diameter: Ø 3.9 mm

Minimum bending radius: static approx. 20 mm / dynamic approx. 40 mm

Temperature resistance: up to 130 °C

Available length: 1 m / 3 m / 6 m

#### Sensors with integrated cable and A0 plug

via adapter cable: ECx/2



#### Special coaxial cable

Coaxial cable with fluorothermoplastic sheath

Cable diameter: Ø 3.9 mm

Minimum bending radius: static approx. 20 mm / dynamic approx. 40 mm

Temperature resistance: up to 130 °C

Available length: 1 m / 3 m / 6 m



## Plug/Socket

**1 5-pole socket 0323109:** series 712

Type: 5 poles

Connection: screwed connector

Temperature resistance: 85 °C



**2 Triax plug 0323253:** Type SE102 A014-120 D4,9

Triaxial plug: Type: mB0

Connection: push-pull

Temperature resistance: 150 °C



**3 Triax socket 0323121:** Type KE102 A014-120 D2,1

Triaxial socket: Type: fB0

Connection: push-pull

Temperature resistance: 130 °C



**4 Triax plug 0323174:** Type S101 A005-120 D4,1

Triaxial plug: Type: mA0

Connection: push-pull

Temperature resistance: 150 °C

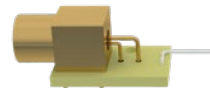


**5 Triax socket 0323173**

Triaxial socket: Type: fA0

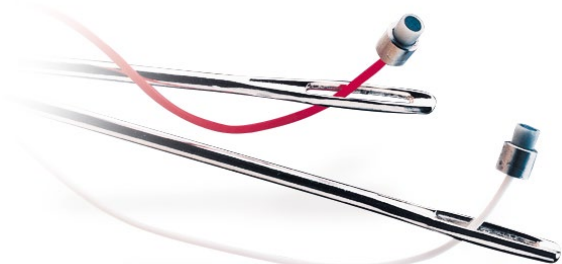
Connection: push-pull

Temperature resistance: 150 °C



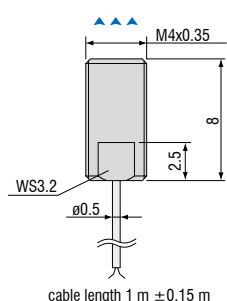
# Sensors for special applications

## eddyNCDT 3300



### Subminiature sensors for restricted spaces

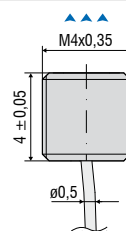
As well as standard sensors in conventional designs, miniature sensors with the smallest possible dimensions that achieve high precision measurement results are also available. Pressure-resistant versions, screened housings, ceramic types and other special features characterize these sensors, which achieve highly accurate measurement results despite their small dimensions. These miniature sensors are primarily used in high pressure applications, for example, in combustion engines.



#### ES04/180(25) Shielded Sensor

Measuring range 0.4 mm  
Temperature stability  $\leq \pm 0.025\%$  FSO/°C  
Connection: integrated coaxial cable 1 m ( $\varnothing$  0.5 mm), short silicon tube at cable exit  
Pressure resistance (static): front 100 bar  
Max. operating temperature: 180 °C  
Housing material: stainless steel  
Sensor cable: ECx/1 or ECx/2, length  $\leq 6$  m

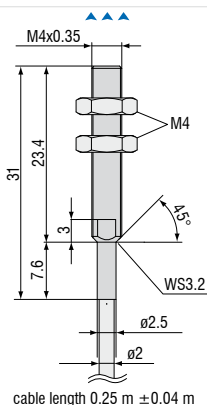
2:1



#### ES04/180(102) Shielded Miniature Sensor

Measuring range 0.4 mm  
Temperature stability  $\leq \pm 0.025\%$  FSO/°C  
Connection: integrated coaxial cable 0.8 m ( $\varnothing$  0.5 mm) with solder connection board  
Pressure resistance (static): front 100 bar / rear side splash water  
Max. operating temperature: 150 °C  
Housing material: stainless steel and ceramic  
Sensor cable: ECx/1, length  $\leq 6$  m

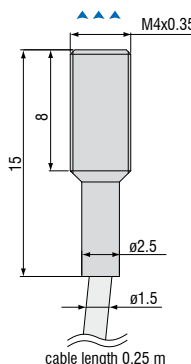
3:1



#### ES04(34) Shielded Sensor

Measuring range 0.4 mm  
Temperature stability  $\leq \pm 0.025\%$  FSO/°C  
Connection: integrated coaxial cable 0.25 m ( $\varnothing$  2 mm) with sealed triaxial connector  
Pressure resistance (static): front 100 bar / rear side splash water  
Max. operating temperature: 150 °C  
Housing material: stainless steel and ceramic  
Sensor cable: ECx, length  $\leq 6$  m

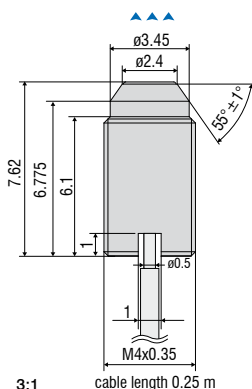
1:1



#### ES04(35) Shielded Sensor

Measuring range 0.4 mm  
Temperature stability  $\leq \pm 0.025\%$  FSO/°C  
Connection: integrated coaxial cable 0.25 m ( $\varnothing$  1.5 mm) with sealed triaxial connector  
Pressure resistance (static): front 100 bar / rear side 5 bar  
Max. operating temperature: 150 °C  
Housing material: stainless steel and ceramic  
Sensor cable: ECx/1, length  $\leq 6$  m

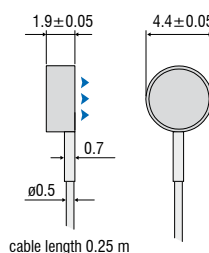
2:1



#### ES04(70) Shielded Sensor

Measuring range 0.4 mm  
Temperature stability  $\leq \pm 0.025\%$  FSO/°C  
Connection: integrated coaxial cable 0.25 m ( $\varnothing$  0.5 mm) with solder connection board  
Pressure resistance (static): front 100 bar / rear side splash water  
Max. operating temperature: 150 °C  
Housing material: stainless steel and ceramic  
Sensor cable: ECx/1, length  $\leq 6$  m

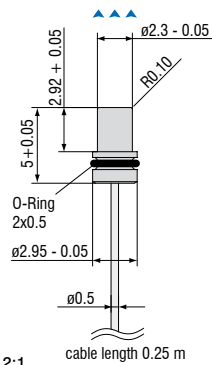
3:1



#### ES05/180(16) Shielded Sensor

Measuring range 0.5 mm  
Temperature stability  $\leq \pm 0.025\%$  FSO/°C  
Connection: integrated coaxial cable 0.25 m ( $\varnothing$  0.5 mm) with solder connection board  
Max. operating temperature: 180 °C  
Housing material: stainless steel and epoxy  
Sensor cable: ECx/1, length  $\leq 6$  m

3:1



#### EU05(65) Unshielded Sensor

Measuring range 0.5 mm

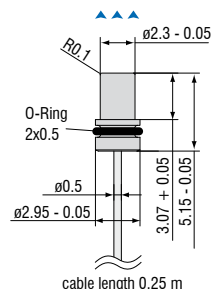
Connection: integrated coaxial cable 0.25 m ( $\varnothing 0.5$  mm) with solder connection board

Pressure resistance (static): front 700 bar / rear side splash water

Max. operating temperature: 150 °C

Housing material: ceramic

Sensor cable: ECx/1, length  $\leq 6$  m



#### EU05(93) Unshielded Sensor

Measuring range 0.4 mm

Temperature stability  $\leq \pm 0.025\%$  FSO/°C

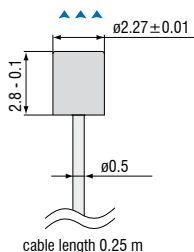
Connection: integrated coaxial cable 0.25 m ( $\varnothing 0.5$  mm) with solder connection board

Pressure resistance (static): front 2000bar / rear side splash water

Max. operating temperature: 150 °C

Housing material: ceramic

Sensor cable: ECx/1, length  $\leq 6$  m



#### EU05(66) Unshielded Sensor

Measuring range 0.5 mm

Temperature stability  $\leq \pm 0.025\%$  FSO/°C

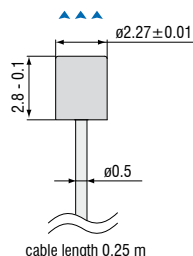
Connection: integrated coaxial cable 0.25 m ( $\varnothing 0.5$  mm) with solder connection board

Pressure resistance (static): front 400 bar / rear side splash water

Max. operating temperature: 150 °C

Housing material: ceramic

Sensor cable: ECx/1, length  $\leq 6$  m



#### EU05(72) Unshielded Sensor

Measuring range 0.4 mm

Temperature stability  $\leq \pm 0.025\%$  FSO/°C

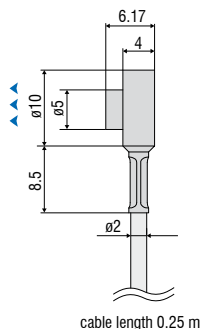
Connection: integrated coaxial cable 0.25 m ( $\varnothing 0.5$  mm) with solder connection board

Pressure resistance (static): front 2000 bar / rear side splash water

Max. operating temperature: 150 °C

Housing material: ceramic

Sensor cable: ECx/1, length  $\leq 6$  m



#### EU1FL Unshielded flat sensor

Measuring range 1 mm

Temperature stability  $\leq \pm 0.025\%$  FSO/°C

Connection: integrated coaxial cable 0.25 m ( $\varnothing 2$  mm) with sealed triaxial connector

Max. operating temperature: 150 °C

Housing material: stainless steel and epoxy

Sensor cable: ECx

| Article     | Description                                                                                                                                                              | DT3001 | DT3005 | DT3060 | DT3070 | DT3300 | DZ140 | SGS |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|-------|-----|
| PCx/8-M12   | <b>Supply and signal cable</b><br>8-pole with M12 connector<br>Standard length: 3 m<br>Optionally available: 5 m / 10 m / 15 m<br>10 m as drag-chain suitable variant    |        |        | x      | x      |        |       |     |
| PCx/5-M12   | <b>Supply and signal cable</b><br>5-pole with M12 connector<br>Standard length: 5 m<br>Optionally available: 10 m / 20 m / 40 m / 80 m<br>as drag-chain suitable variant | x      | x      |        |        |        |       |     |
| PC4701-x    | <b>Supply and signal cable</b><br>8-pole with M12 connector<br>Standard length: 10 m<br>Optionally available: 15 m<br>10 m as drag-chain suitable variant                |        |        |        |        |        |       | x   |
| SCD2/4/RJ45 | <b>Ethernet cable</b><br>4-pole with M12 connector<br>on RJ45 connector<br>Standard length: 2 m                                                                          |        |        | x      | x      |        |       |     |
| SCAx/5      | <b>Signal cable, analog</b><br>5-pole with M16x0.75 connector<br>Standard length: 3 m<br>Optionally available: 6 m / 9 m                                                 |        |        |        |        | x      |       |     |
| SCDx/8      | <b>Signal cable for switching inputs and outputs:</b><br>8-pole with M16x0.75 connector<br>Standard length: 0.3 m<br>Optionally available: 1 m                           |        |        |        |        | x      |       |     |
| PSCx        | <b>Supply and synchronization cable</b><br>5-pole with M9 connector<br>Standard length: 0.3 m<br>Optionally available: 1 m                                               |        |        |        |        | x      |       |     |
| ESCx        | <b>Synchronization cable</b><br>5-pole with M9 connector<br>Standard length: 0.3 m<br>Optionally available: 1 m                                                          |        |        |        |        | x      |       |     |
| PC140-x     | <b>Supply and signal cable</b><br>8-pole connector<br>Standard length: 3 m<br>Optionally available: 6 m                                                                  |        |        |        |        |        | x     |     |
| PS2020      | <b>Power supply unit</b><br>Input 100-240 VAC output 24 VDC / 2.5 A;<br>mounting onto symmetrical standard rail<br>35 mm x 7.5 mm, DIN 50022                             | x      | x      | x      | x      | x      | x     | x   |

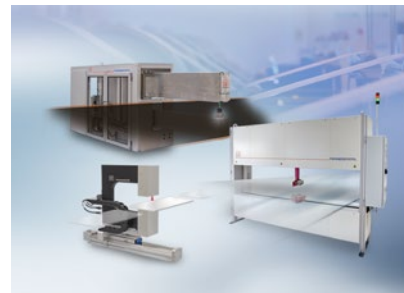
## Sensors and Systems from Micro-Epsilon



Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



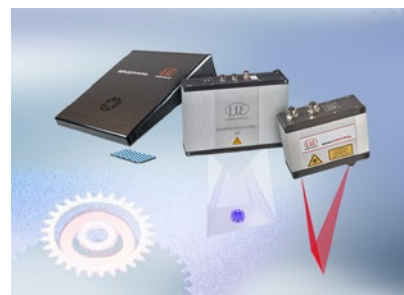
Measuring and inspection systems for metal strips, plastics and rubber



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