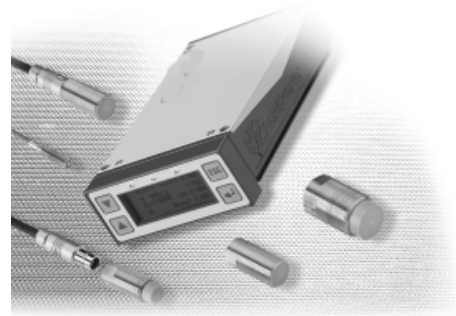


# MT33 Distance sensor

## features

- Measuring ranges 0.4 ... 80 mm
- High resolution 0.005 %
- Linearity 0.2 %
- Up to 3 configurations can be stored
- Enhanced functionality
- Robust sensors with IP67



## Technical Data

| Sensor model                   |  | EB04   | EA05 | EA1                                  | EB1  | EB2  | EA3                   | EB4  | EA6 | EA8 | EA15 | EA22 | EA40 | EA80 |      |
|--------------------------------|--|--|------|--------------------------------------|------|------|-----------------------|------|-----|-----|------|------|------|------|------|
| Controller                     |  | MT33   |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |
| Measuring range                |  | mm   | 0.4  | 0.5                                  | 1    | 1    | 2                     | 3    | 4   | 6   | 8    | 15   | 22   | 40   | 80   |
| Start of measuring range SMR   |  | mm   | 0.04 | 0.05                                 | 0.1  | 0.1  | 0.2                   | 0.3  | 0.4 | 0.6 | 0.8  | 1.5  | 2.2  | 4    | 8    |
| End of measuring range EMR     |  | mm   | 0.44 | 0.55                                 | 1.1  | 1.1  | 2.2                   | 3.3  | 4.4 | 6.6 | 8.8  | 16.5 | 24.2 | 44   | 88   |
| Linearity                      |  | ±0.2 % FSO   |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |
|                                |  | μm   | ±0.8 | ±1                                   | ±2   | ±2   | ±4                    | ±6   | ±8  | ±12 | ±16  | ±30  | ±44  | ±80  | ±160 |
| Resolution*                    |  | up to 25 Hz  |      | 0.01% FSO                            |      |      | 0.005 % FSO           |      |     |     |      |      |      |      |      |
|                                |  | μm   | 0.04 | 0.05                                 | 0.05 | 0.05 | 0.1                   | 0.15 | 0.2 | 0.3 | 0.4  | 0.75 | 1.1  | 2    | 4    |
|                                |  | up to 25 kHz   |      | 0.2% FSO                             |      |      | 0.1 % FSO             |      |     |     |      |      |      |      |      |
|                                |  | μm   | 0.8  | 1                                    | 1    | 1    | 2                     | 3    | 4   | 6   | 8    | 15   | 22   | 40   | 80   |
| Frequency response             |  | 25 kHz / 2.5 kHz / 25 Hz (-3 dB) selectable - option: 100 kHz (for small range sensors)                        |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |
| Temperature compensation       |  | 10 ... 100° C (50 ... 212° F) - option TCS: up to 150° C (302° F)  |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |
| Temperature range              |  | Sensors + cable  |      | -50 ... 150° C (-58 ... 302° F)      |      |      |                       |      |     |     |      |      |      |      |      |
|                                |  | Controller   |      | 5 ... 50° C (41 ... 122° F)          |      |      |                       |      |     |     |      |      |      |      |      |
| Temp. stability                |  | Sensors  |      | ±0.015 % FSO/° C ( ±0.008 % FSO/° F) |      |      |                       |      |     |     |      |      |      |      |      |
| Protect. class sensors + cable |  | IP67   |      | IP65                                 |      |      | IP67                  |      |     |     |      |      |      |      |      |
| Max press. on sensor face      |  | 1450 psi <sup>1)</sup>   |      | -                                    |      |      | 290 psi <sup>2)</sup> |      |     |     |      |      |      |      |      |
| Sensor cable length            |  | 3 m (± 0.45 m) / option: up to 15 m (sensors ES04 and EU05 6 m max.)   |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |
| Signal output                  |  | selectable: 0 ... 5 V, 0 ... 10 V, ±2.5 V, ±5 V, ±10 V (or inverted)<br>4 ... 20 mA (load 350 ohm)             |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |
| Power supply DT 3300           |  | ±12 VDC / 100 mA, 5 VDC / 220 mA   |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |
| Electromagnetic Compatibility  |  | acc. to EN 50081-2 / EN 61000-6-2  |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |
| Controller Functions           |  | Limit switches, Auto-Zero, Peak-to-Peak, Minimum, Maximum, Average, Storage of 3 configurations (calibrations) |      |                                      |      |      |                       |      |     |     |      |      |      |      |      |

FSO = Full Scale Output

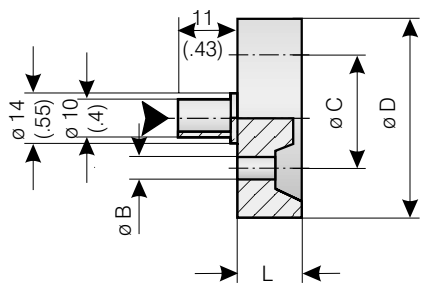
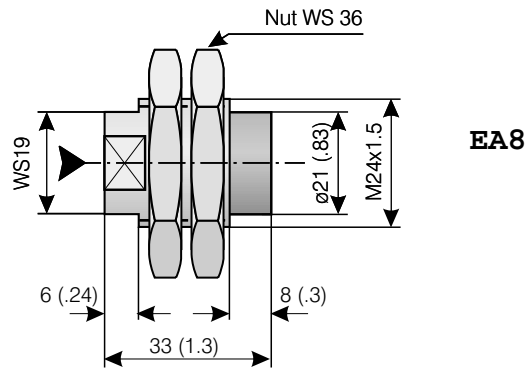
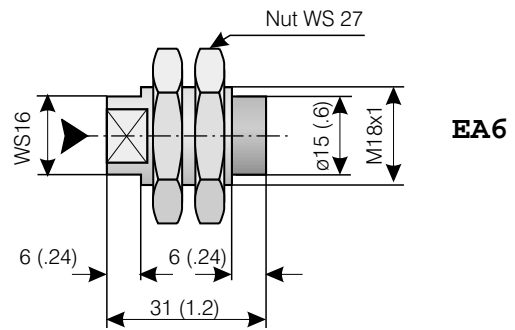
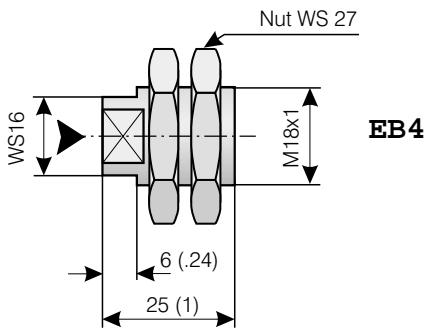
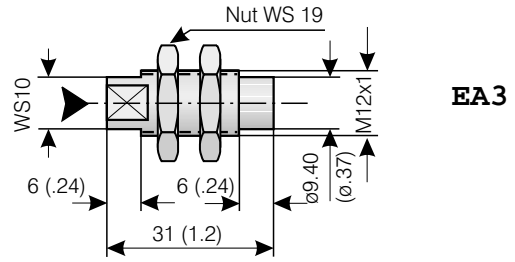
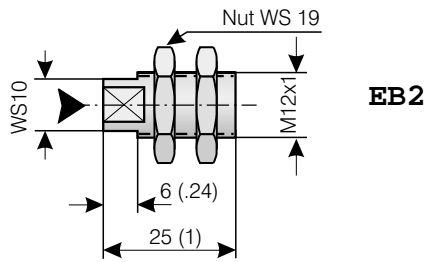
Reference materials are Aluminum (non-ferromagnetic) and Mild Steel St 37, DIN 1.0116 / AISI 4130 (ferromagnetic)

Reference temperature for reported data is 20°C (70 °F) \*resolution data are based on noise peak-to-peak values

Resolution and temperature stability refer to midrange (MMR) <sup>1)</sup> 10<sup>7</sup> Pa (100 bar) <sup>2)</sup> 2·10<sup>6</sup> Pa (20 bar)

Data of SMR, MMR, EMR are always related to the sensor face

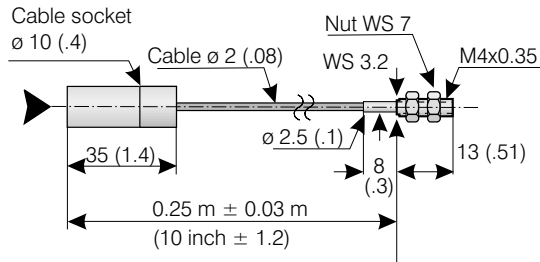
Displacement Sensors



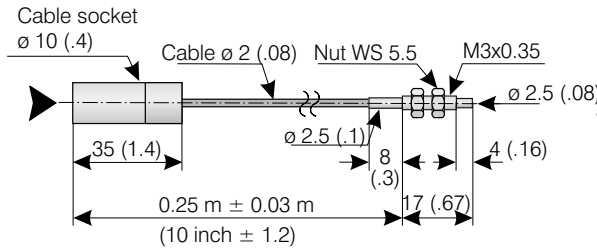
|    | <b>EA15</b> | <b>EA22</b> | <b>EA40</b> | <b>EA80</b>  |
|----|-------------|-------------|-------------|--------------|
| øD | 37 (1.45)   | 52 (2.05)   | 70.3 (2.77) | 140.3 (5.52) |
| øC | 20 (.8)     | 25 (1)      | 37 (1.45)   | 80 (3.15)    |
| L  | 12 (.47)    | 22 (.87)    | 30 (1.18)   | 45 (1.77)    |
| øB | 4.2 (.16)   | 4.2 (.16)   | 5.5 (.22)   | 6.5 (.25)    |

3 Mounting holes on bolt circle øC

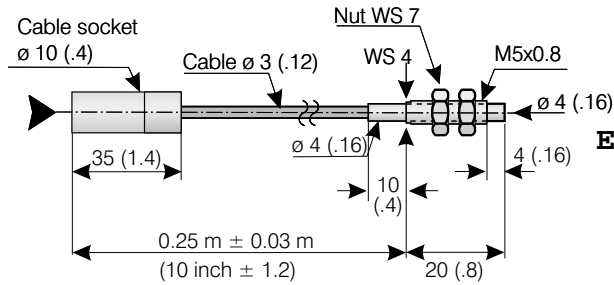
Dimensions in mm (inch)    ➤ = Connector



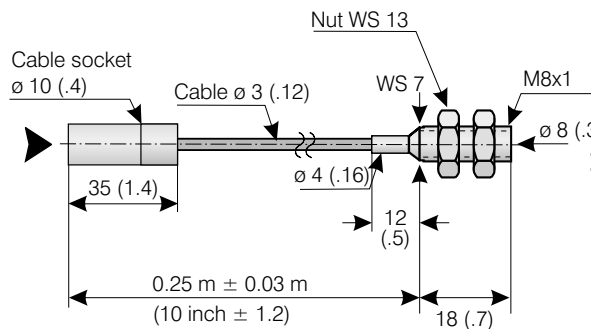
ES04



EA05



EA1



EB1

Dimensions in mm (inch)    ▶ = Connector

