

## Pin Assignment

Description	WDS-40-MT19-P	WDS-80-MT33-P	WDS-130-MT56-P
Input+	Red		Brown
Ground	Black		Orange
Signal	Yellow		Red

Table of pin assignments

## Electrical Data

Potentiometer output	WDS-40-MT19-P	WDS-80-MT33-P	WDS-130-MT56-P
Input voltage	max. 30 VDC		
Resistance	5 kOhm $\pm 5\%$	5 kOhm $\pm 20\%$	
Recommended contact current	$\leq 1 \mu\text{A}$		
Temporary contact current	10 mA		

Table of electrical data

Draw-wire displacement sensors with potentiometer output are connected according to the table, see above. Use any potentiometer only when switched to voltage divider. Using it as a variable resistor destroys the component. Observe maximum contact currents.

**i** Use potentiometers only as voltage dividers, not as variable series resistors!

You can find more information about the sensor in the operating instructions. They are online at:

[www.micro-epsilon.com/download/manuals/man--wireSENSOR-MT-series--en.pdf](http://www.micro-epsilon.com/download/manuals/man--wireSENSOR-MT-series--en.pdf)

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X9771401-A032022HDR

## Guiding and Attaching the Wire

If the measuring wire must be pulled out of the sensor to guide the wire or attach it to the measured object:

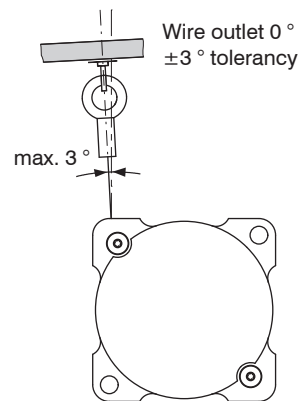
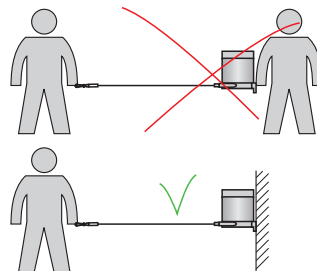
- the sensor must not be held by a second person during that process,
- the measuring wire must not be pulled out beyond the measuring range listed,
- the area around the sensor must be protected against snapping of the measuring wire.

- ➔ Attach the measuring wire to the target using an eyelet.
- ➔ Guide the measuring wire vertically out of the sensor housing.

Diagonal pull is only permitted up to 3 degrees.

If you drag the measuring wire over the insertion hole or other objects, the measuring wire will be damaged and/or tear.

- ➔ Guide the measuring wire in a protected area so that it cannot get caught or otherwise be damaged.



Attachment and maximum diagonal pull of the measuring wire

## Declaration of Incorporation

### Declaration of incorporation according to EC Machinery Directive 2006/42/EC, Annex II B

The manufacturer and person authorized to compile the relevant technical documents

MICRO-EPSILON MESSTECHNIK GmbH & Co. KG  
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hereby declare that the machine designated below complies with the relevant fundamental health and safety requirements of the EC Machinery Directive, including modifications to it applicable at the time of this declaration, based on its design and construction and in the version put on the market by us – to the extent that the scope of supply allows.

Machine design: Draw-wire sensor  
(mechanics and models with potentiometer output)

Type designation: WDS-xxx, WPS-xxx

The following fundamental health and safety requirements according to Annex I of the directive specified above have been applied and complied with:

- No. 1.1.2. Principles of safety integration
- No. 1.7.3. Marking of machinery
- No. 1.7.4. Operating instructions

Furthermore, we declare compliance with the following directives and standards including the modifications applicable at the time this declaration is made:

- Directive 2006/42/EC (machinery)
  - EN ISO 13857:2019 Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
  - EN 60204-1:2018 Safety of machinery - Electrical equipment of machines - Part 1: General requirements
- Directive 2011/65/EU (RoHS)
  - EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic devices with respect to the restriction of hazardous substances

We also declare that the special technical documentation for this partially completed machine has been created in accordance with Annex VII, Part B, and commit ourselves to disclose this to the market surveillance authorities upon request.

The commissioning of these partially completed machines is prohibited until the partially completed machine(s) has/have been installed in a machine that meets the requirements of the EC Machinery Directive and for which an EU Declaration of Conformity according to Annex II, Part A exists.

Ortenburg, Germany  
July 1, 2021

Dipl.-Ing.(FH) Eduard Huber, MBA  
Quality Manager



MICRO-EPSILON

Assembly instructions  
**wireSENSOR**  
**WDS series**  
MT19/MT33/MT56



## Warnings

- Do not open the sensor housing.
- Do not pull or loop the measuring wire around unprotected body parts.
- Do not pull out the measuring wire beyond the measuring range listed.
- Do not let the measuring wire snap.

### > Risk of injury

- Do not damage the measuring wire.
- Do not oil or grease the measuring wire.
- Do not kink the measuring wire.
- Do not pull the measuring wire diagonally.
- Do not let the measuring wire drag around objects.
- Attach the measuring wire to the measured object while the wire is retracted.

### > Damage to or destruction of the sensor

## Proper Environment

- Protection class: IP50
- Temperature range
  - Operation: -40 ... +85 °C (-40 ... +185 °F)
  - Storage: -40 ... +85 °C (-40 ... +185 °F)
- Humidity: 5 ... 95 % (non-condensing)
- Ambient pressure: Atmospheric pressure

## Sensor Mounting

➡ Install the sensor according to the information in the table below:

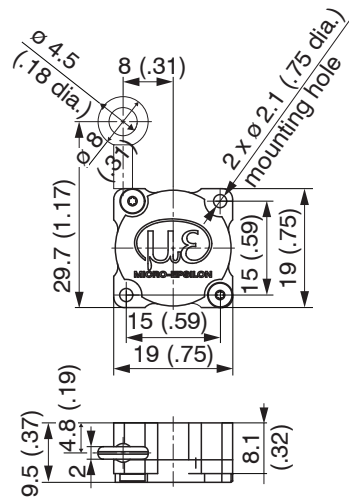
Model	Screws <sup>1</sup>	Threaded holes (on sides)	
WDS-40-MT19-P	2 x M2	-	
WDS-80-MT33-P	2 x M3	8 x M2.5; depth 5 mm	1) For through-hole
WDS-130-MT56-P	2 x M4	8 x M3; depth 6 mm	

The sensor does not have to be oriented in a special way.

➡ Select the installation position in such a way that damage to or contamination of the measuring wire is avoided.

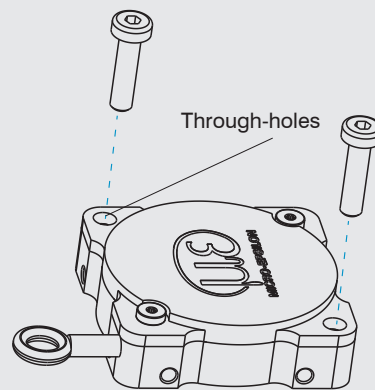
**i** If possible, prefer an installation position in which the measuring wire exits downward. This prevents liquids from entering the measuring wire outlet.

## Dimensional Drawings



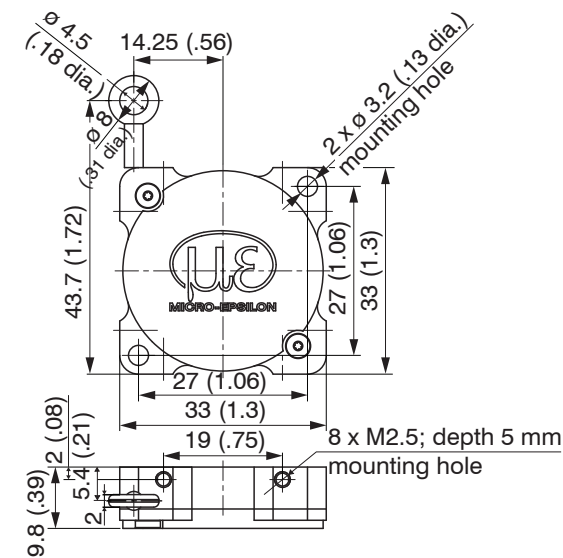
Dimensional drawing WDS-40-MT19-P, dimensions in mm (inches)

## Installation Options

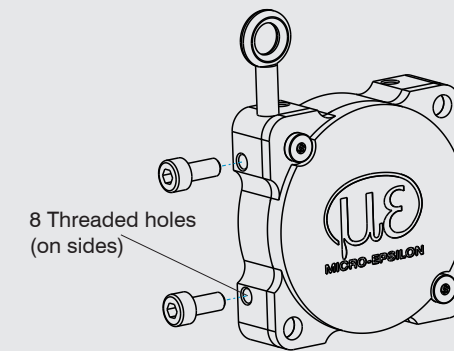


**i** If the device is installed with the wire outlet at an infinitely variable angle, mounting the sensor with only one screw and then rotating it around that that screw may be sufficient, if the basic conditions are suitable for such an installation.

Horizontal installation via through-holes

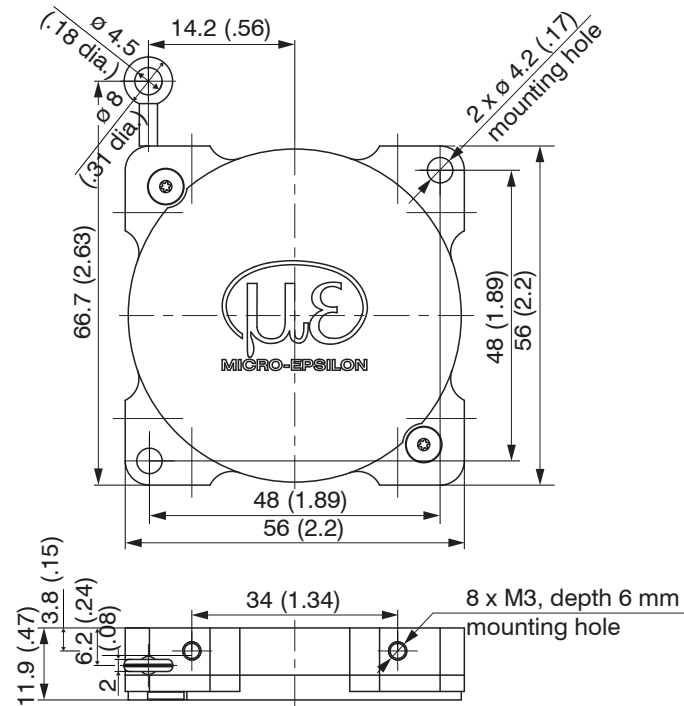


Dimensional drawing WDS-80-MT33-P, dimensions in mm (inches)



Additional installation options are available in the operating instructions, in the Appendix under Optional Accessories.

Vertical installation via threaded side holes



Dimensional drawing WDS-130-MT56-P, dimensions in mm (inches)