MICRO-EPSILON

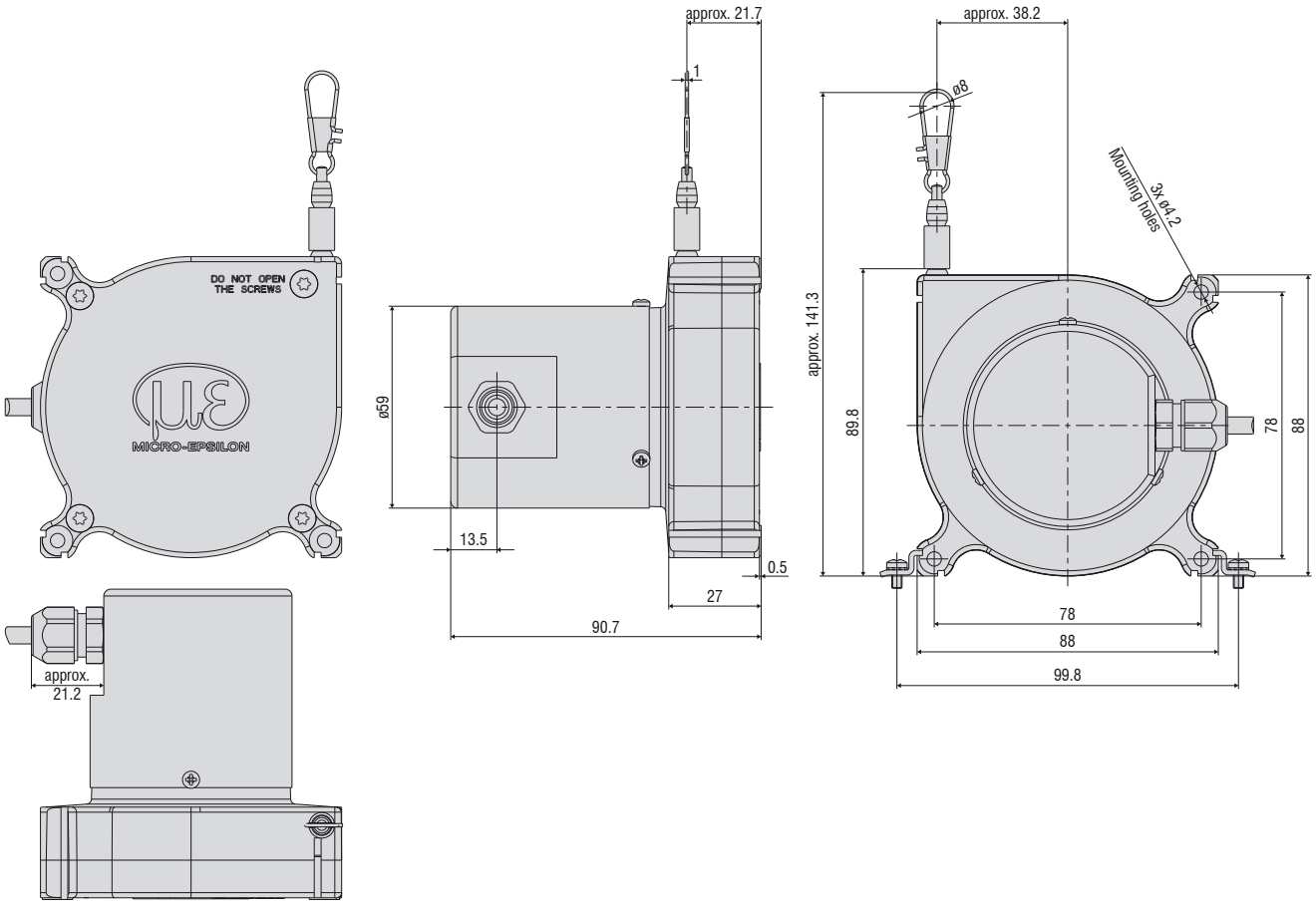
More Precision.

wireSENSOR // Draw-wire displacement sensors

wireSENSOR MK88 analog

- *Robust plastic housing*
- *Customer-specific designs*
- *Potentiometer, current or voltage output*

MK88 model



Dimensions in mm, not to scale.

Model			WPS-2300-MK88	WPS-3500-MK88	WPS-5000-MK88
Measuring range			2300 mm	3500 mm	5000 mm
Analog output			Potentiometer, current, voltage		
Resolution		Hybrid potentiometer P10	towards infinity		
Linearity	Hybrid potentiometer P10	≤ ±0.15 % FSO	≤ ±3.45 mm	-	-
	Hybrid potentiometer P10	≤ ±0.3 % FSO	-	≤ ±10.5 mm	-
	Hybrid potentiometer P10	≤ ±0.4 % FSO	-	-	≤ ±20 mm
Sensor element			Hybrid potentiometer		
Wire extension force (max.)			approx. 9 N		
Wire retraction force (min.)			approx. 3 N		
Wire acceleration (max.)			approx. 7 g		
Material		Housing	Glass-fiber reinforced plastic (PA 6 GF30)		
		Protection cap	Glass-fiber reinforced plastic (PBT GF20)		
		Measuring wire	Polyamide-coated stainless steel (ø 0.45 mm)		
Wire mounting			Wire clip		
Mounting			Mounting holes or mounting grooves on the sensor housing		
Temperature range		Storage	-20 … +80 °C		
		Operation	-20 … +80 °C		
Connection			integrated cable, radial, length 1 m		
Shock (DIN EN 60068-2-27)			50 g / 10 ms in 3 axes, 2 directions and 1000 shocks each		
Vibration (DIN EN 60068-2-6)			20 g / 20 … 2000 Hz in 3 axes and 10 cycles each		
Protection class (DIN EN 60529)			IP65		
Weight			approx. 400 - 430 g (incl. cable)		

FSO = Full Scale Output
Specifications for analog outputs from page 54 onwards.

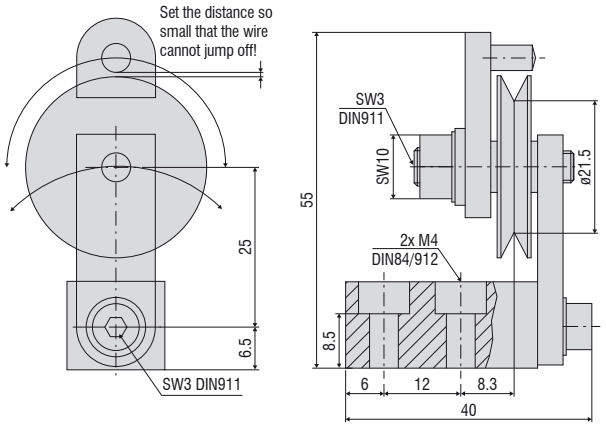
Article designation

WPS - 2300 - MK88 - CR - P

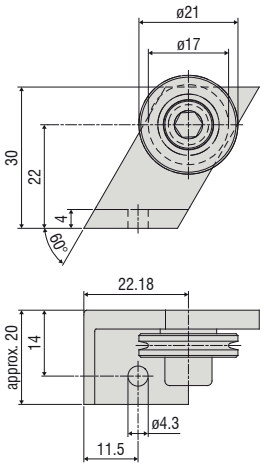
- 2300 - Measuring range in mm
- MK88 - MK88 series
- CR - Connection CR: integrated cable, radial, 1 m
- P - Output:
  P: potentiometer
  U: voltage
  I: current

Wire deflection pulleys for external installation	
TR1-WDS	Wire deflection pulley, adjustable, for sensors with a wire diameter ≤ 0.45 mm
TR3-WDS	Wire deflection pulley, fixed, for sensors with a wire diameter ≤ 0.45 mm
TR4-WDS	Wire deflection pulley, fixed, for sensors with a wire diameter of 0.8 mm to 1 mm

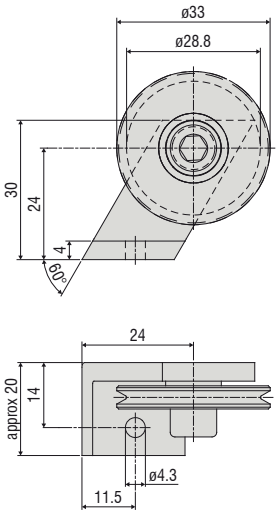
TR1-WDS
Wire deflection pulley, adjustable, for sensors with a wire diameter ≤ 0.45 mm



TR3-WDS
Wire deflection pulley, fixed, for sensors with a wire diameter ≤ 0.45 mm



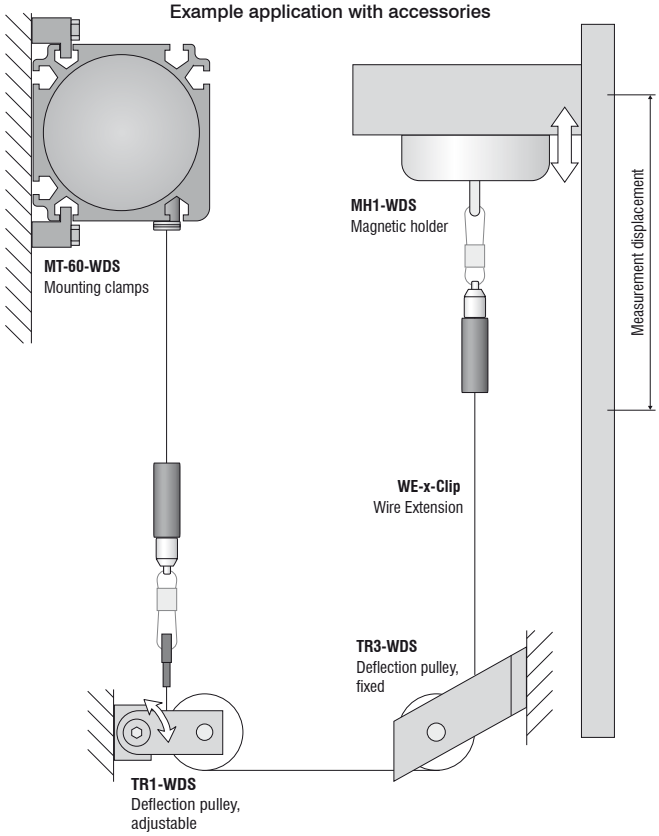
TR4-WDS
Wire deflection pulley, fixed, for sensors with a wire diameter of 0.8 mm to 1 mm



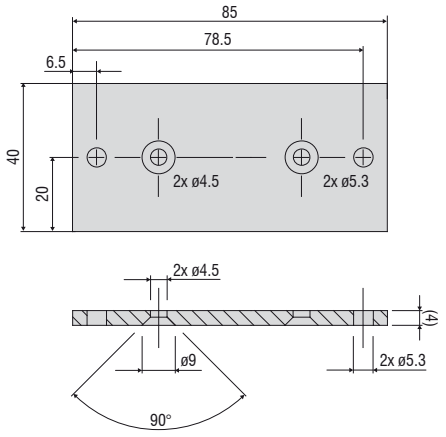
Dimensions in mm, not to scale.

Accessories	
WE-xxxx-M4	Wire extension with M4 wire connection, x=wire length
WE-xxxx-Clip	Wire extension with eyelet, x = wire length
WE-xxx-Clip-WSS	Wire extension with clip and uncoated wire d=0.45 mm
WE-xxxx-Ring-PW	Wire extension with plastic ring and para-aramid wire, 1 mm
GK1-WDS	Fork head for M4
MH1-WDS	Magnetic holder for wire attachment
MH2-WDS	Magnetic holder for sensor mounting
MT-60-WDS	Mounting clamps for WDS-P60
FC8	Mating plug for WDS straight, 8-pin
FC8/90	Mating plug, 90° angled for WDS
PC3/8-WDS	Sensor cable, 3 m long
PS2020	Power supply unit 24 V / 2.5 A; input 100-240 VAC, output 24 VDC / 2.5 A; mounting onto symmetrical standard rail 35 mm x 7.5 mm, DIN 50022)
WDS-MP60	Mounting plate for P60 models
PC2/10-WDS-A	Cable for SSI encoder, 2 m long
PC2/10-WDS-E	Cable for incremental encoder, 2 m long
PC10/10-WDS-A	Cable for SSI encoder, 10 m long
PC10/10-WDS-E	Cable for incremental encoder, 10 m long

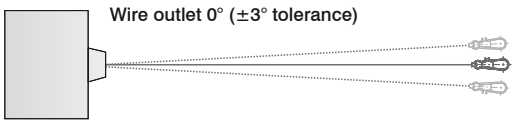
Example application with accessories



WDS-MP60
Mounting plate for P60 models

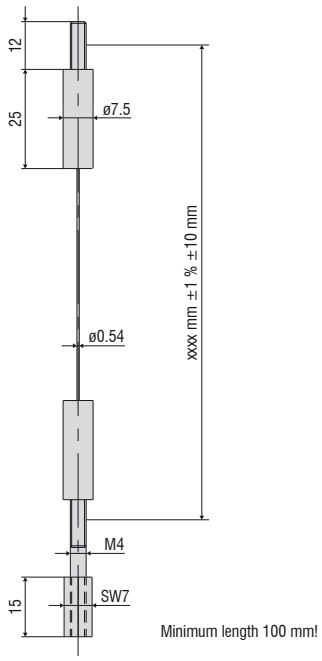


Installation instructions:
Wire attachment: during installation, do not allow at any time the measuring wire to freely return.
Angle of wire outlet: Make sure during installation that the wire outlet is straight (tolerance of ±3°). Exceeding this tolerance leads to increased wear of the wire material and on the wire outlet.

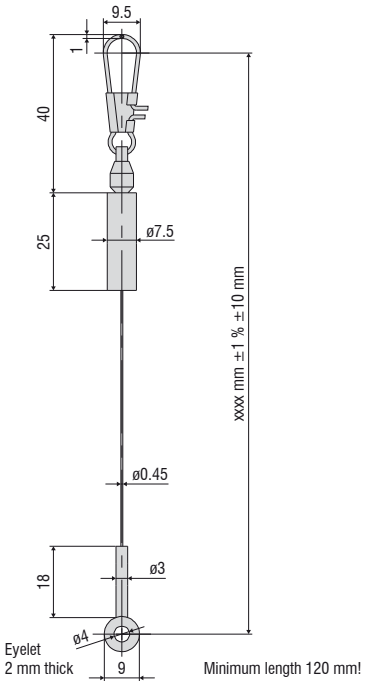


Dimensions in mm, not to scale.

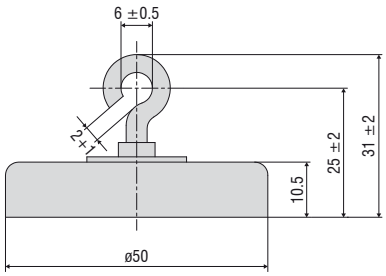
WE-xxxx-M4
Wire extension with M4 wire connection, x=wire length



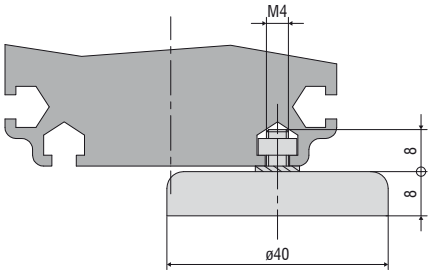
WE-xxxx-Clip
Wire extension with eyelet, x = wire length



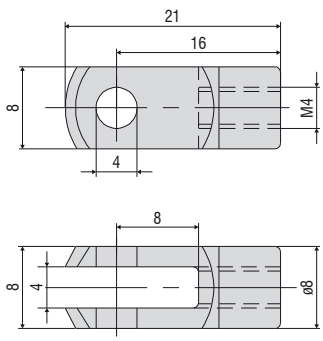
MH1-WDS
Magnetic holder for wire attachment



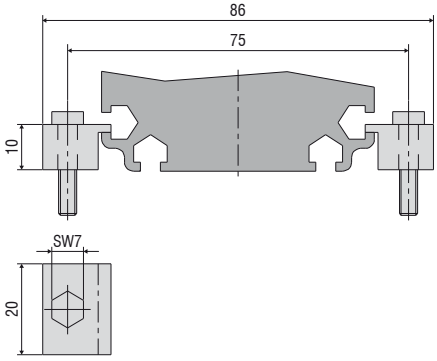
MH2-WDS
Magnetic holder for sensor mounting



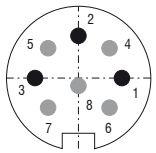
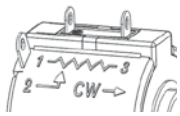
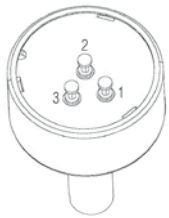
GK1-WDS
Fork head for M4

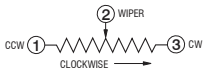


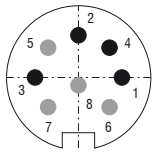
MT-60-WDS
Mounting clamps for WDS-P60

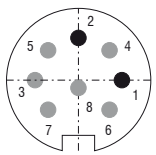


Output	Connector M16 -SA / -SR	Integrated cable -CA / -CR	Open contacts

Potentiometer output (P)				
Input voltage	max. 32 VDC with 1 kOhm / max. 1 W	 Sensor side		 
Resistance	1 kOhm ±10 % (resistance divider)			
Temperature coefficient	±0.0025 % FSO/°C			
		1 = Input + 2 = Ground 3 = Signal	White = Input + Brown = Ground Green = Signal	1 = Input + 2 = Signal 3 = Ground



Voltage output (U)				
Supply voltage	14 ... 27 VDC (non-stabilized)	 Sensor side		
Current consumption	max. 30 mA			
Output voltage	0 ... 10 VDC Option 0 ... 5 / ±5 V			
Load resistance	>5 kOhm			
Output noise	0.5 mV_{eff}			
Temperature coefficient	±0.005 % FSO/°C			
Electromagnetic compatibility (EMC)	EN 61000-6-4 EN 61000-6-2			
Adjustment range (if supported by the model)		1 = Power supply 2 = Ground 3 = Signal 4 = Ground	White = Supply Brown = Ground Green = Signal Yellow = Ground	
Zero	±20 % FSO			
Sensitivity	±20 %			

Current output (I)				
Supply voltage	14 ... 27 VDC (non-stabilized)	 Sensor side		
Current consumption	max. 35 mA			
Output current	4 ... 20 mA			
Load	<600 Ohm			
Output noise	<1.6 μA_{eff}			
Temperature coefficient	±0.01 % FSO/°C			
Electromagnetic compatibility (EMC)	EN 61000-6-4 EN 61000-6-2			
Adjustment range (if supported by the model)		1 = Power supply 2 = Ground	White = Supply Brown = Ground	
Zero	±18 % FSO			
Sensitivity	±15 %			

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