



# More Precision.

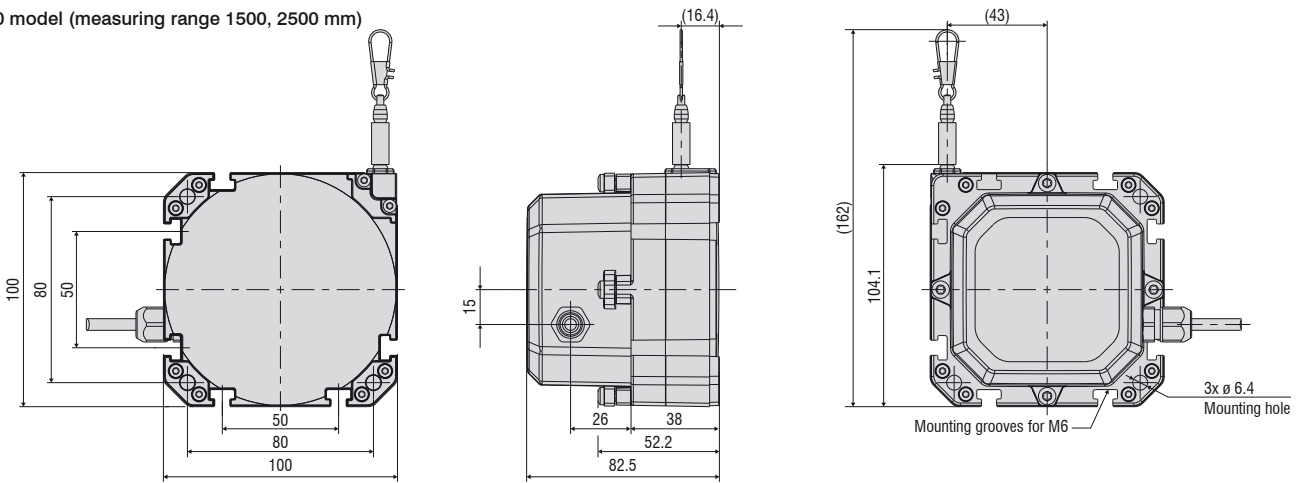
**wireSENSOR** // Draw-wire displacement sensors



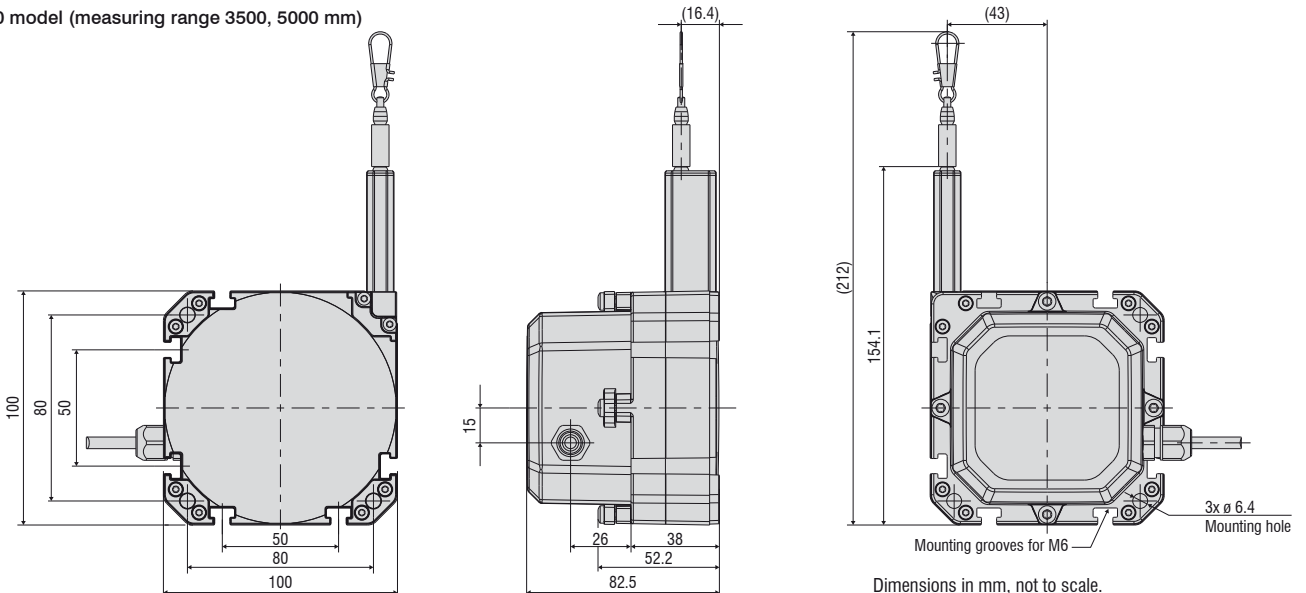


- Quick and flexible modifications for OEM purposes
- Durable and robust sensor design (IP69K)
- Compact sensor with large measuring range
- Potentiometer, current or voltage output

K100 model (measuring range 1500, 2500 mm)



K100 model (measuring range 3500, 5000 mm)



Dimensions in mm, not to scale.

Model	WPS-1500-K100	WPS-2500-K100	WPS-3500-K100	WPS-5000-K100
Measuring range	1500 mm	2500 mm	3500 mm	5000 mm
Analog output	Potentiometer, current, voltage			
Resolution	towards infinity			
Linearity	$\leq \pm 0.25\%$ FSO	$\leq \pm 3.75$ mm	$\leq \pm 6.25$ mm	$\leq \pm 8.75$ mm
Sensor element	Hybrid potentiometer			
Wire extension force (max.)	approx. 8 N			
Wire retraction force (min.)	approx. 2 N			
Wire acceleration (max.)	approx. 5 g			
Material	Housing	Glass-fiber reinforced plastic		
	Measuring wire	Polyamide-coated stainless steel ( $\varnothing$ 0.61 mm)		
Wire mounting	Wire clip			
Mounting	Through-bores $\varnothing$ 6.4 mm and mounting nuts (for M6) on the sensor housing			
Temperature range	Storage	-40 ... +85 °C		
	Operation	-40 ... +85 °C		
Connection	integrated cable, radial, length 1 m			
Shock (DIN EN 60068-2-27)	50 g / 5 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)	IP69K			
Weight	approx. 500 g			

FSO = Full Scale Output

Specifications for analog outputs from page 54 onwards.

#### Article designation

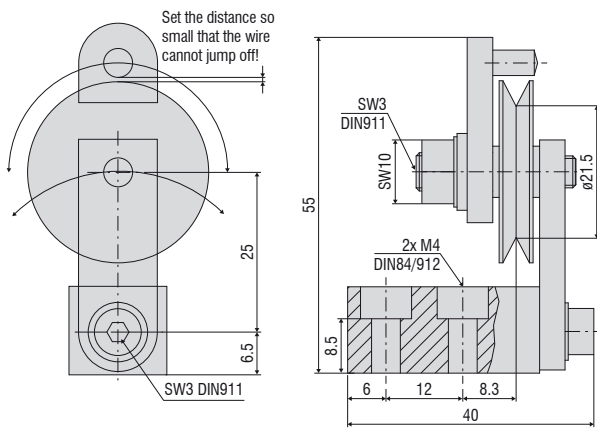
WPS -	1500 -	K100 -	CR -	P
				Output: P: potentiometer U: voltage I: current
			Connection CR: integrated cable, radial, 1 m	
		K100 series		
	Measuring range in mm			

### Wire deflection pulleys for external installation

TR1-WDS	Wire deflection pulley, adjustable, for sensors with a wire diameter $\leq 0.45$ mm
TR3-WDS	Wire deflection pulley, fixed, for sensors with a wire diameter $\leq 0.45$ mm
TR4-WDS	Wire deflection pulley, fixed, for sensors with a wire diameter of 0.8 mm to 1 mm

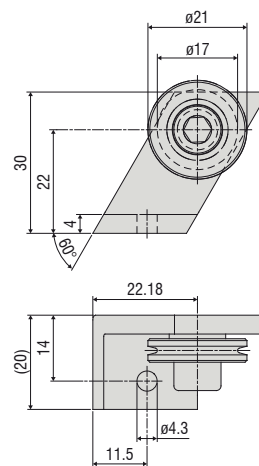
#### TR1-WDS

Wire deflection pulley, adjustable, for sensors with a wire diameter  $\leq 0.45$  mm



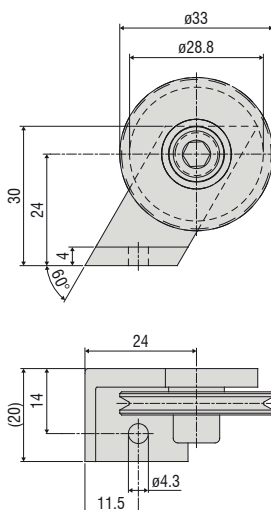
#### TR3-WDS

Wire deflection pulley, fixed, for sensors with a wire diameter  $\leq 0.45$  mm



#### TR4-WDS

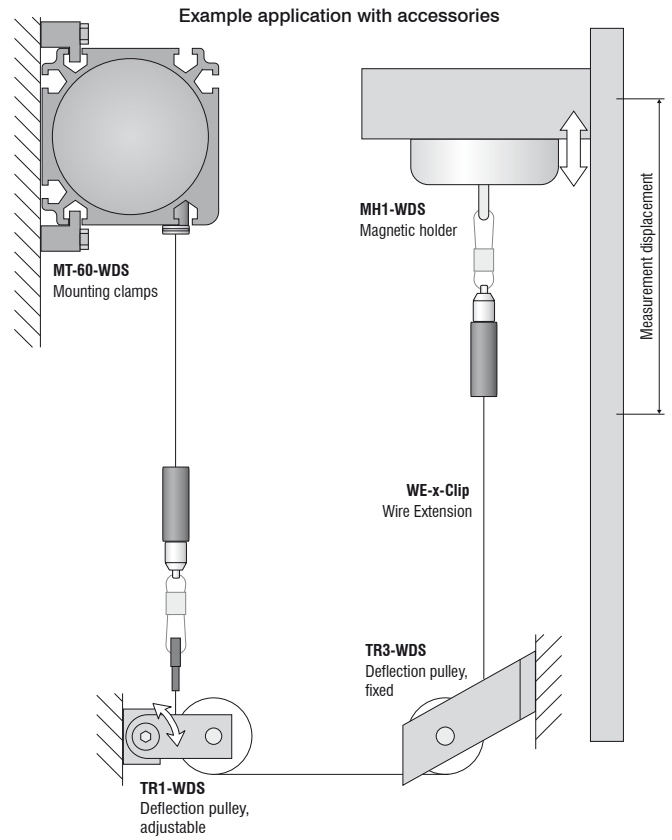
Wire deflection pulley, fixed, for sensors with a wire diameter of 0.8 mm to 1 mm



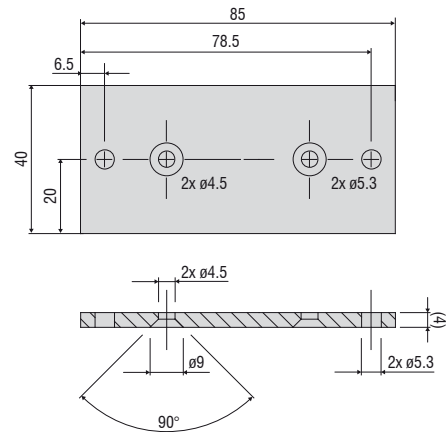
Dimensions in mm, not to scale.

**Accessories**

WE-xxx-M4	Wire extension with M4 wire connection, x=wire length
WE-xxx-Clip	Wire extension with eyelet, x = wire length
WE-xxx-Clip-WSS	Wire extension with clip and uncoated wire d=0.45 mm
WE-xxx-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



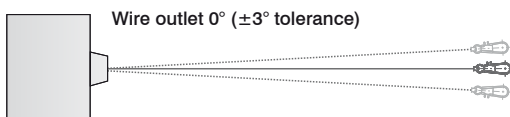
**WDS-MP60**  
Mounting plate for P60 models



**Installation instructions:**

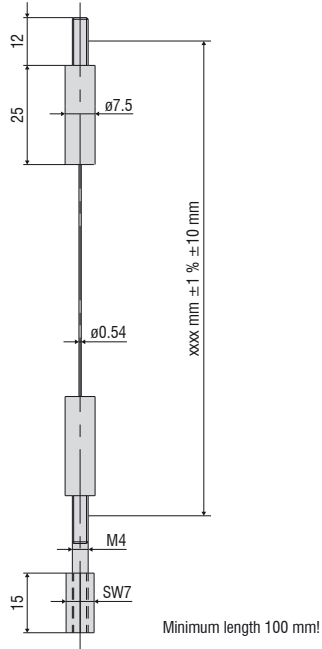
Wire attachment: during installation, do not allow at any time the measuring wire to freely return.

Angle of wire outlet: Make sure during installation that the wire outlet is straight (tolerance of  $\pm 3^\circ$ ). Exceeding this tolerance leads to increased wear of the wire material and on the wire outlet.



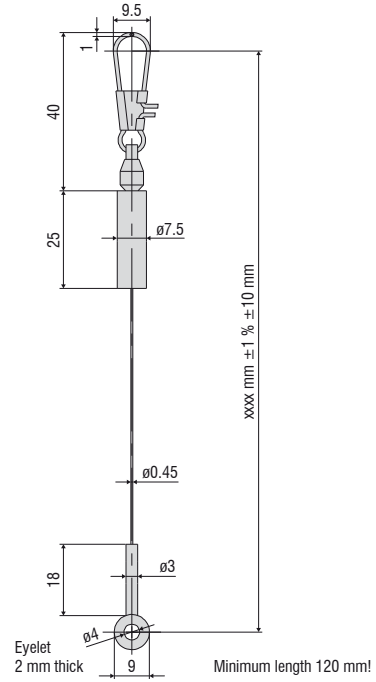
**WE-xxxx-M4**

Wire extension with M4 wire connection, x=wire length



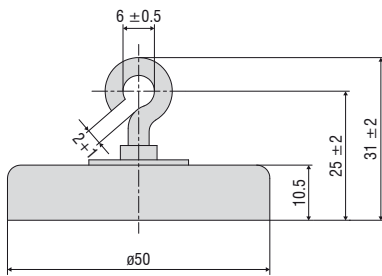
**WE-xxxx-Clip**

Wire extension with eyelet, x = wire length



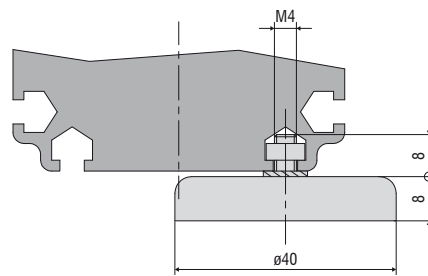
**MH1-WDS**

Magnetic holder for wire attachment



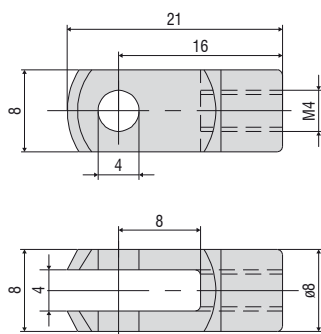
**MH2-WDS**

Magnetic holder for sensor mounting



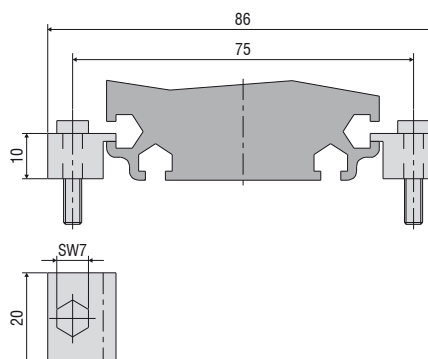
**GK1-WDS**

Fork head for M4



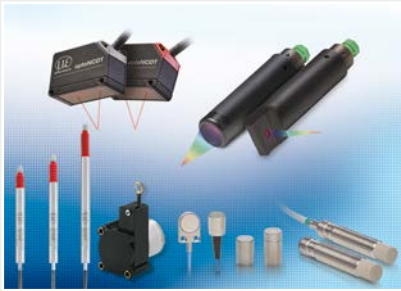
**MT-60-WDS**

Mounting clamps for WDS-P60



Output		Connector M16 -SA / -SR	Integrated cable -CA / -CR	Open contacts
<b>Potentiometer output (P)</b>		 <p>Sensor side</p> <p>1 = Input + 2 = Ground 3 = Signal</p>	<p>White = Input + Brown = Ground Green = Signal</p>	 <p>1 = Input + 2 = Signal 3 = Ground</p>
Input voltage	max. 32 VDC with 1 kOhm / max. 1 W			
Resistance	1 kOhm $\pm 10\%$ (resistance divider)			
Temperature coefficient	$\pm 0.0025\%$ FSO/ $^{\circ}$ C			
<b>Voltage output (U)</b>		 <p>Sensor side</p> <p>1 = Power supply 2 = Ground 3 = Signal 4 = Ground</p>	<p>White = Supply Brown = Ground Green = Signal Yellow = Ground</p>	
Operating voltage	14 ... 27 VDC (non-stabilized)			
Current consumption	max. 30 mA			
Output voltage	0 ... 10 VDC Option 0 ... 5 / $\pm 5$ V			
Load resistance	$> 5$ kOhm			
Output noise	0.5 mV <sub>eff</sub>			
Temperature coefficient	$\pm 0.005\%$ FSO/ $^{\circ}$ C			
Electromagnetic compatibility (EMC)	EN 61000-6-4 EN 61000-6-2			
<b>Adjustment range</b> (if supported by the model)				
Zero	$\pm 20\%$ FSO			
Sensitivity	$\pm 20\%$			
<b>Current output (I)</b>		 <p>Sensor side</p> <p>1 = Power supply 2 = Ground</p>	<p>White = Supply Brown = Ground</p>	
Operating voltage	14 ... 27 VDC (non-stabilized)			
Current consumption	max. 35 mA			
Output current	4 ... 20 mA			
Load	$< 600$ Ohm			
Output noise	$< 1.6 \mu\text{A}_{\text{eff}}$			
Temperature coefficient	$\pm 0.01\%$ FSO/ $^{\circ}$ C			
Electromagnetic compatibility (EMC)	EN 61000-6-4 EN 61000-6-2			
<b>Adjustment range</b> (if supported by the model)				
Zero	$\pm 18\%$ FSO			
Sensitivity	$\pm 15\%$			

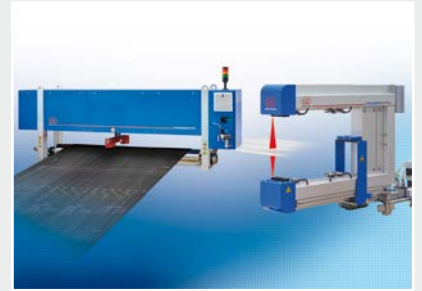
## Sensors and Systems from Micro-Epsilon



Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



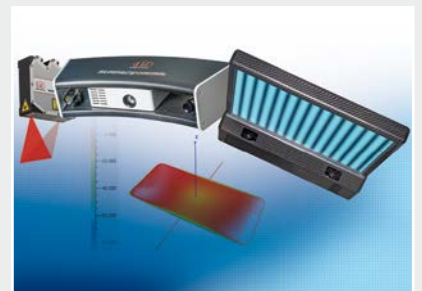
Measuring and inspection systems for metal strips, plastics and rubber



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