



More Precision.

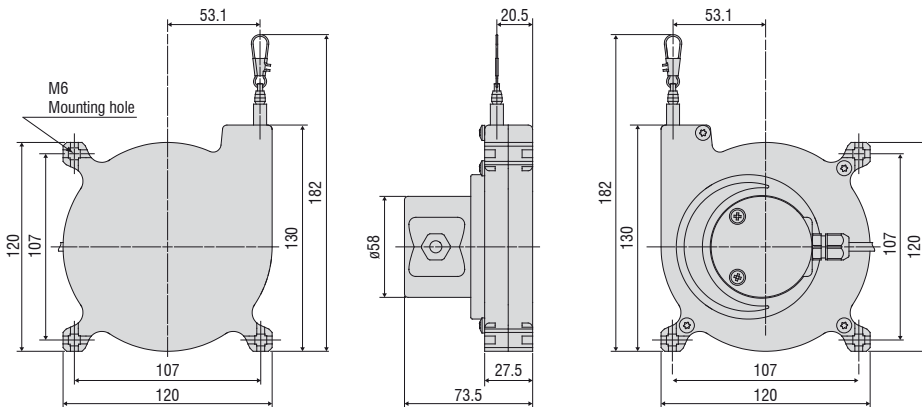
wireSENSOR // Draw-wire displacement sensors



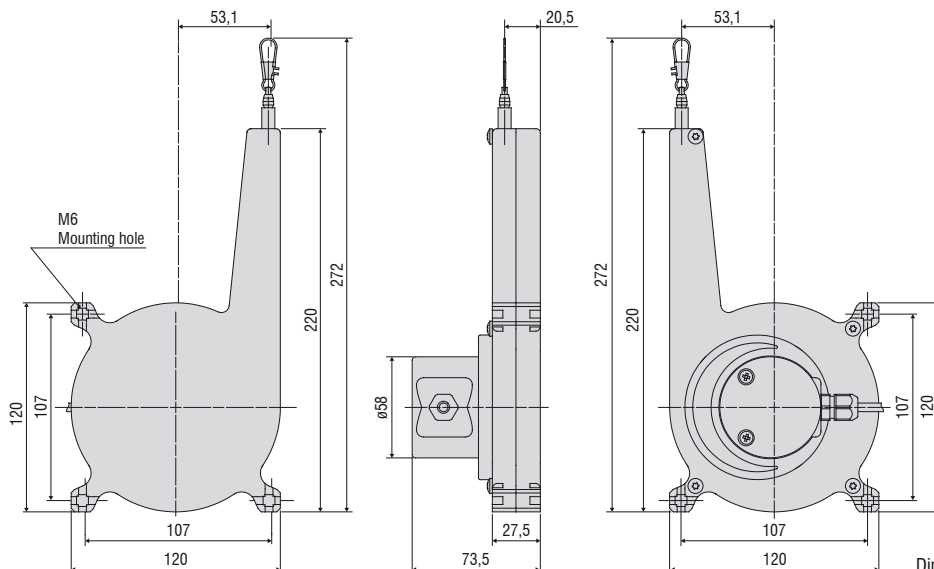


- Robust plastic housing
- Customer-specific designs
- Potentiometer, current or voltage output

MK120 model (measuring range 3000, 5000 mm)



MK120 model (measuring range 7500 mm)



Dimensions in mm, not to scale.

Model	WPS-3000-MK120	WPS-5000-MK120	WPS-7500-MK120
Measuring range	3000 mm	5000 mm	7500 mm
Analog output	Potentiometer, current, voltage		
Resolution	Hybrid potentiometer P10 towards infinity		
Linearity	Hybrid potentiometer P10 $\leq \pm 0.15\%$ FSO		
	$\leq \pm 4.5$ mm	$\leq \pm 7.5$ mm	$\leq \pm 11.25$ mm
Sensor element	Hybrid potentiometer		
Wire extension force (max.)	approx. 10 N		
Wire retraction force (min.)	approx. 4 N		
Wire acceleration (max.)	approx. 6 g		
Material	Housing	Plastics (PA 6)	
	Measuring wire	Polyamide-coated stainless steel (\varnothing 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)	40 g / 6 ms in 3 axes, 2 directions and 3000 shocks each		
Vibration (DIN EN 60068-2-6)	3 g / 10 ... 5000 Hz in 3 axes and 10 cycles each		
Protection class (DIN EN 60529)	IP65		
Weight	approx. 850 g (incl. cable)		

FSO = Full Scale Output

Specifications for analog outputs from page 54 onwards.

Article designation

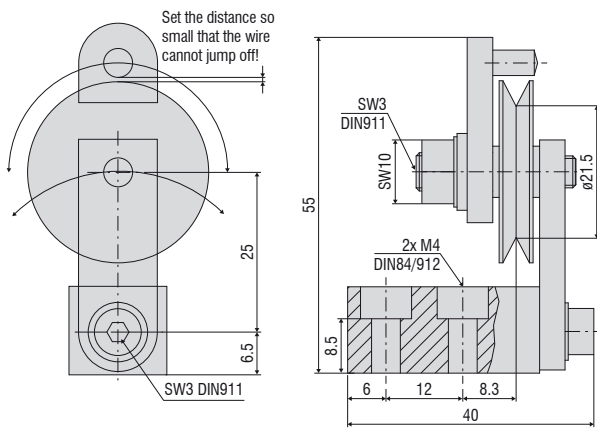
WPS -	3000 -	MK120 -	CR -	P
				Output: P: potentiometer U: voltage I: current
			Connection CR: integrated cable, radial, 1 m	
		MK120 series		
Measuring range in mm				

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

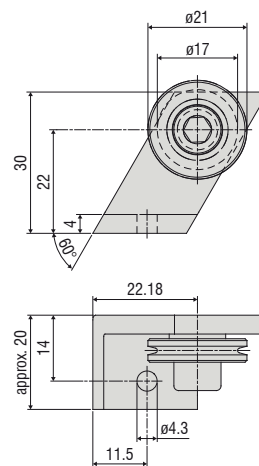
TR1-WDS

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



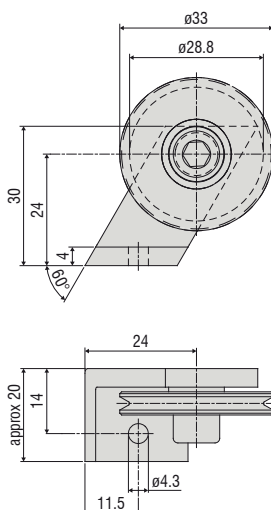
TR3-WDS

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



TR4-WDS

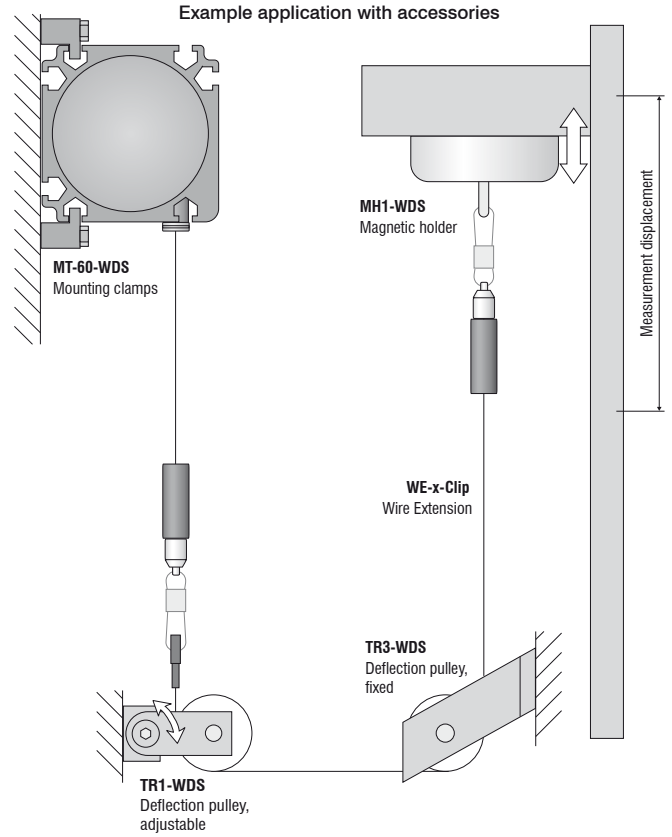
Wire deflection pulley, fixed, for sensors with a wire diameter of 0.8 mm to 1 mm



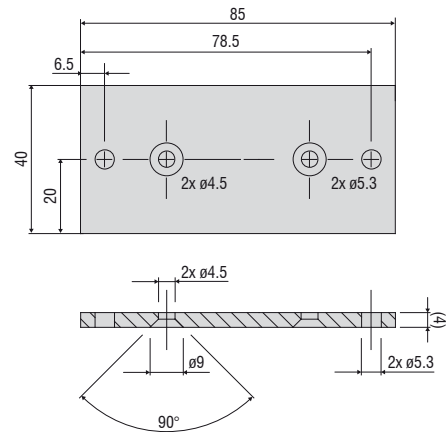
Dimensions in mm, not to scale.

Accessories

WE-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



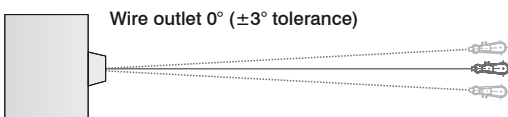
WDS-MP60
Mounting plate for P60 models



Installation instructions:

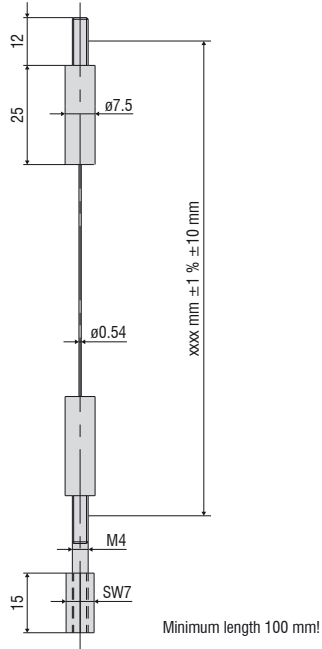
Wire attachment: during installation, do not allow at any time the measuring wire to freely return.

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.



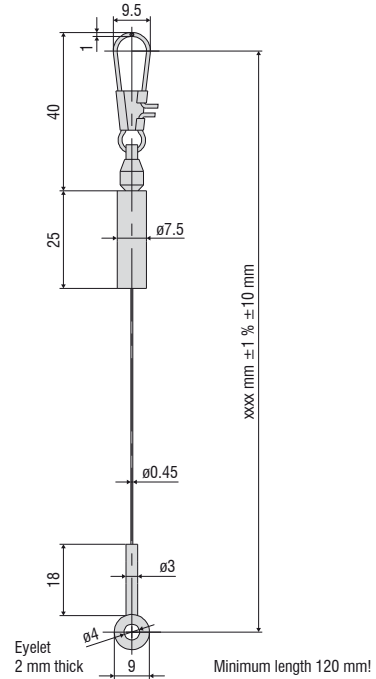
WE-xxxx-M4

Wire extension with M4 wire connection, x=wire length



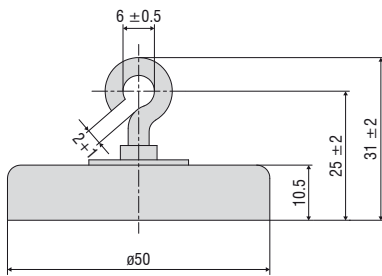
WE-xxxx-Clip

Wire extension with eyelet, x = wire length



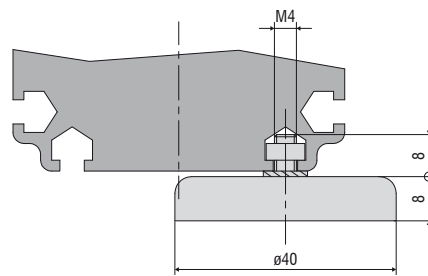
MH1-WDS

Magnetic holder for wire attachment



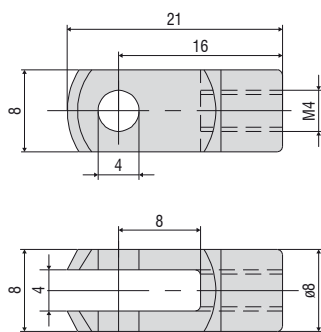
MH2-WDS

Magnetic holder for sensor mounting



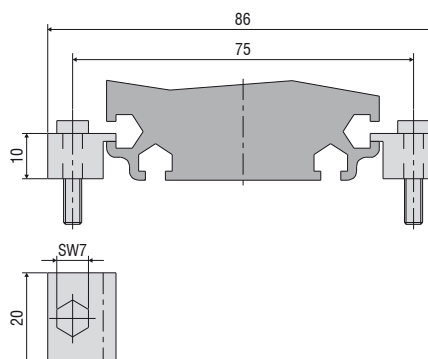
GK1-WDS

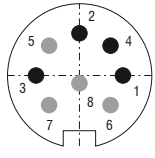
Fork head for M4



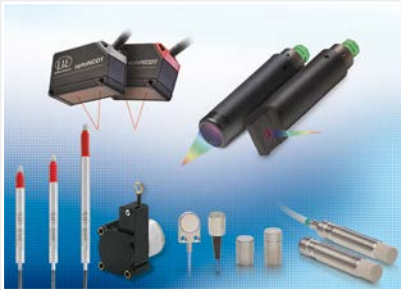
MT-60-WDS

Mounting clamps for WDS-P60



Output		Connector M16 -SA / -SR	Integrated cable -CA / -CR	Open contacts
Potentiometer output (P)		 <p>Sensor side</p> <p>1 = Input + 2 = Ground 3 = Signal</p>		 <p>1 = Input + 2 = Signal 3 = Ground</p>  <p>② WIPER CCW ① → → → ③ CW CLOCKWISE →</p>
Input voltage	max. 32 VDC with 1 kOhm / max. 1 W			
Resistance	1 kOhm ± 10 % (resistance divider)			
Temperature coefficient	±0.0025 % FSO/°C			
Voltage output (U)		 <p>Sensor side</p> <p>1 = Power supply 2 = Ground 3 = Signal 4 = Ground</p>		
Supply voltage	14 ... 27 VDC (non-stabilized)			
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)				
Zero	±20 % FSO			
Sensitivity	±20 %			
Current output (I)		 <p>Sensor side</p> <p>1 = Power supply 2 = Ground</p>		
Supply voltage	14 ... 27 VDC (non-stabilized)			
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)				
Zero	±18 % FSO			
Sensitivity	±15 %			

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