



# More Precision.

**wire**SENSOR

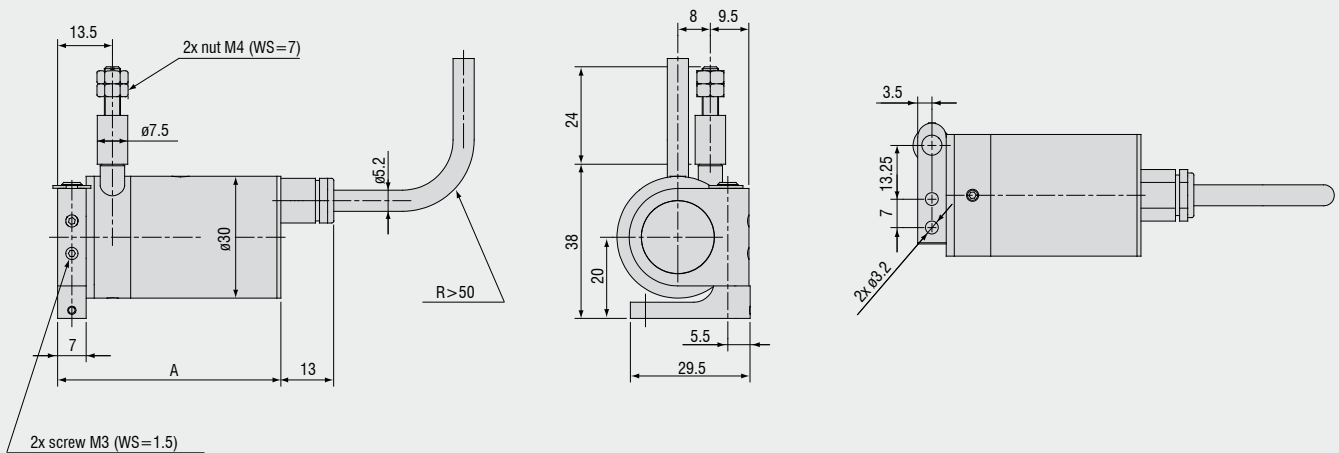
Draw-wire displacement sensors





- Extreme compact miniature sensor
- Flexible mounting via swivel flange
- High speed measurement, wire acceleration up to 100g

### Model MPM



Measuring range (mm)	A (mm)
50	55
150 / 250	64
50-HG	61
150 / 250-HG	70

Model		WDS-50 MPM	WDS-150 MPM	WDS-250 MPM
Output			P	
Measuring range		50mm	150mm	250mm
Linearity	±0.2% FSO	-	±0.3mm	±0.5mm
	±0.25% FSO	±0.125mm	-	-
Resolution		quasi infinite		
Sensor element		conductive plastic potentiometer	hybrid potentiometer	
Temperature range		-20 ... +80°C		
Material	housing	aluminium		
	draw wire	stainless steel (ø 0.45mm)		
Sensor mounting		swivel flange in two axes 180° / 360°		
Wire mounting		thread M4		
Wire acceleration		appr. 25g (Option HG: 100g)		
Wire retraction force (min)		1.5N (Option HG: 10N)		
Wire extension force (max)		3.5N (Option HG: 17N)		
Protection class		IP 65		
Vibration		20g, 20Hz - 2kHz		
Mechanical shock		50g, 20ms		
Electrical connection		integrated cable, axial, 3-leads, 1m long		
Weight		appr. 150g		

FSO = Full Scale Output

Specifications for digital outputs on page 43.

#### Article description

**WDS - 50 - MPM - C - P - HG**

Option HG: Wire acceleration up to 100g

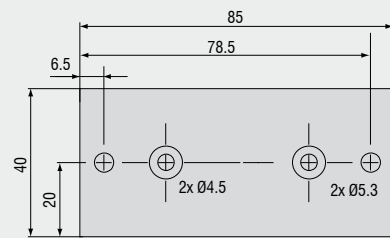
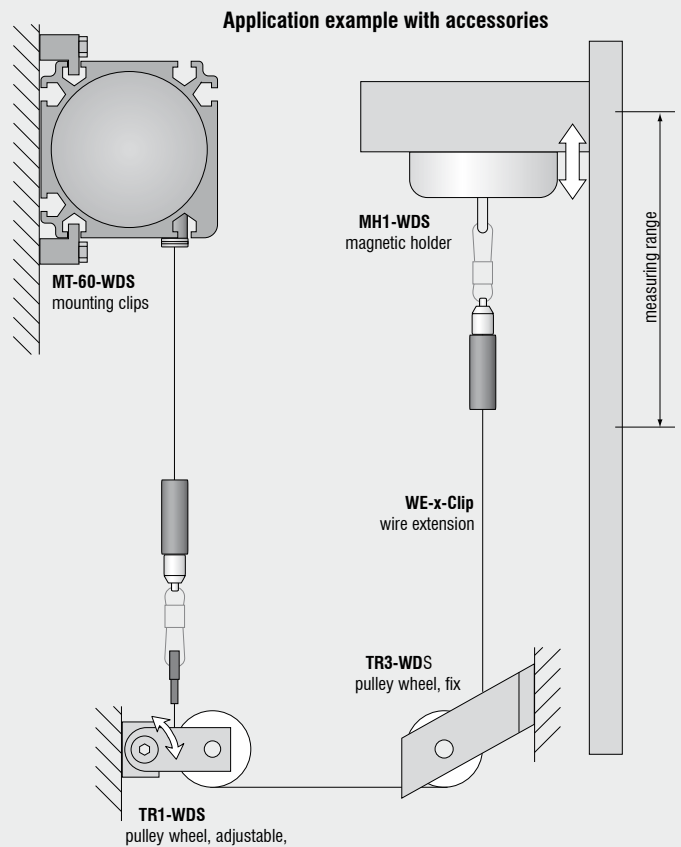
Output option:  
P: potentiometer

Connection:  
C: integrated cable, axial, 1m

Model MPM

Measuring range in mm

<b>WE-x-M4, WE-x-Clip</b>	Wire extension x=length
<b>TR1-WDS</b>	Pulley wheel, adjustable
<b>TR3-WDS</b>	Pulley wheel, fixed
<b>GK1-WDS</b>	Attachment head for M4
<b>MH1-WDS</b>	Magnetic holder for wire mounting
<b>MH2-WDS</b>	Magnetic holder for sensor mounting
<b>MT-60-WDS</b>	Mounting clamp for WDS-P60
<b>FC8</b>	Female connector for WDS, 8-pin
<b>FC8/90</b>	Female connector 90° for WDS
<b>PC 3/8</b>	Sensor cable, length 3 m
<b>PS 2010</b>	Power supply (chassis mounting 35 x 7.5 mm); input 120/230 VAC; output 24 VDC/2.5 A; L/B/H 120 x 20 x 40 mm
<b>WDS-MP60</b>	Mounting plate for P60 sensors



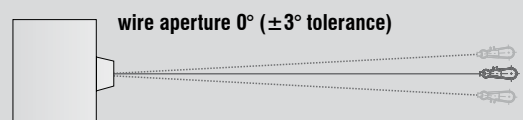
Mounting plate WDS-MP60

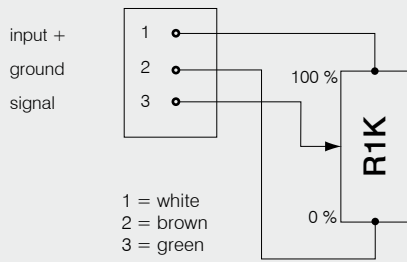
**Installation information:**

Wire attachment: The free return of the measurement wire is not permissible and it is essential that this is avoided during installation.

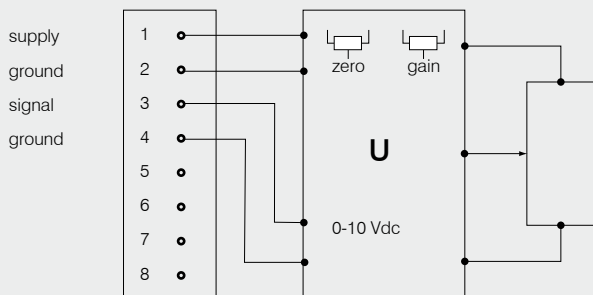
**Wire exit angle:**

When mounting a draw-wire displacement sensor, a straight wire exit ( $\pm 3^\circ$  tolerance) must be taken into account. If this tolerance is exceeded, increased material wear on the wire and at the wire aperture must be expected.

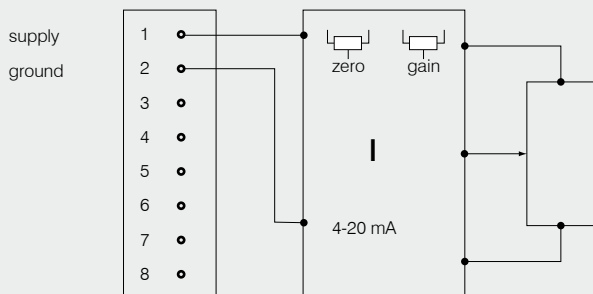




Potentiometric output (P)	
Supply voltage	max. 32VDC at 1kOhm / 1 Wmax
Resistance	1kOhm ±10% (potentiometer)
Temperature coefficient	±0.0025% FSO/°C
Sensitivity	depends on measuring range individually shown on test report



Voltage output (U)	
Supply voltage	14 ... 27VDC (non stabilized)
Current consumption	30mA max
Output voltage	0 ... 10VDC Option 0 ... 5 / ±5V
Load impedance	>5kOhm
Signal noise	0.5mV <sub>eff</sub>
Temperature coefficient	±0.005% FSO/°C
Electromagnetic compatibility (EMC)	EN 50081-2 EN 50082-2
Adjustment ranges	
Zero	±20 %FSO
Sensitivity	±20 %



Current Output (I)	
Supply voltage	14 ... 27VDC (non stabilized)
Current consumption	35mA max
Output current	4 ... 20mA
Load	<600Ohm
Signal noise	<1.6µA <sub>eff</sub>
Temperature coefficient	±0.01% FSO/°C
Electromagnetic compatibility (EMC)	EN 50081-2 EN 50082-2
Adjustment ranges	
Zero	±18% FSO
Sensitivity	±15%

## High performance sensors made by Micro-Epsilon



### Sensors and systems for displacement, position and dimension

Eddy current displacement sensors  
Optical and laser sensors  
Capactive sensors  
Linear inductive sensors  
Draw wire displacement sensors  
Laser micrometer  
2D/3D profile sensors (laser scanner)  
Image processing



### Sensors and systems for non-contact temperature measurement

IR handheld  
Stationary IR sensors  
Thermal imager



### Turn key systems for quality inspection

of plastics and film  
of tires and rubber  
of endless band material  
of automotive components  
of glass



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