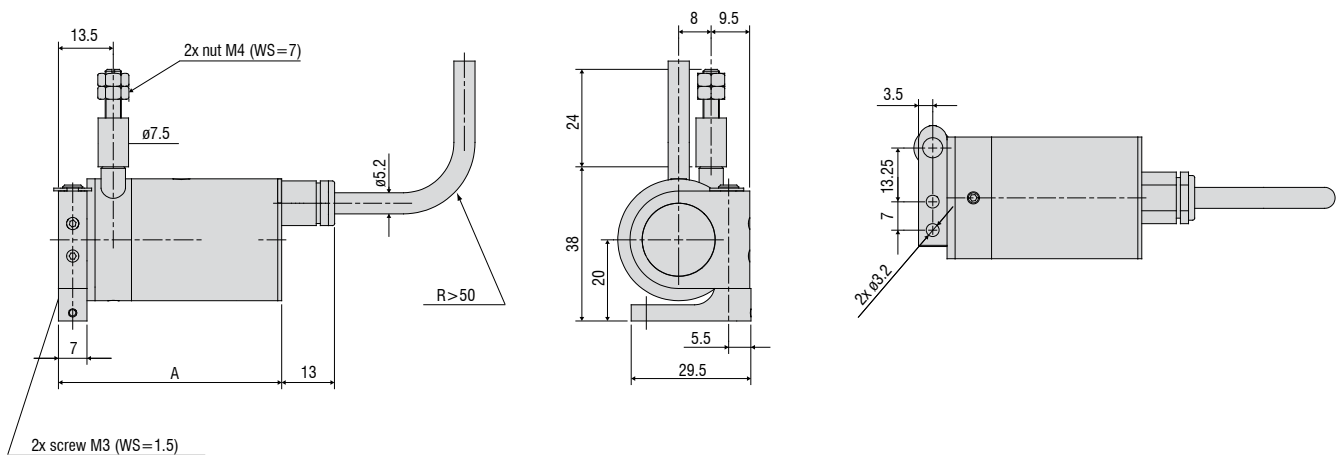MICRO-EPSILON

More Precision

wireSENSOR // 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	
Weight			appr. 150g	

FSO = Full Scale Output
Specifications for analogue outputs on page 47.

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

Accessories:

WE-xxxx-M4	Wire extension with M4-wire connection, x=length
WE-xxxx-Clip	Wire extension with eyelet, x=length
TR1-WDS	Pulley wheel, adjustable
TR3-WDS	Pulley wheel, fixed
GK1-WDS	Attachment head for M4
MH1-WDS	Magnetic holder for wire mounting
MH2-WDS	Magnetic holder for sensor mounting
MT-60-WDS	Mounting clamp for WDS-P60
FC8	Female connector for WDS, 8-pin
FC8/90	Female connector 90° for WDS
PC 3/8-WDS	Sensor cable, length 3m
PS 2020	(Power Supply 24 V / 2,5 A, Input 100 - 240 VAC, output 24 VDC / 2.5 A, for snap in mounting on DIN 50022 rail)
WDS-MP60	Mounting plate for P60 sensors

Application example with accessories

MT-60-WDS mounting clips

MH1-WDS magnetic holder

WE-x-Clip wire extension

TR3-WDS pulley wheel, fix

TR1-WDS pulley wheel, adjustable,
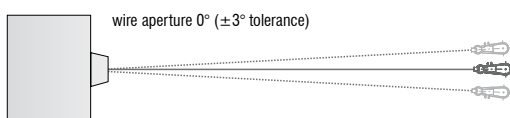
measuring range
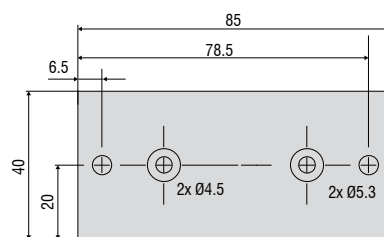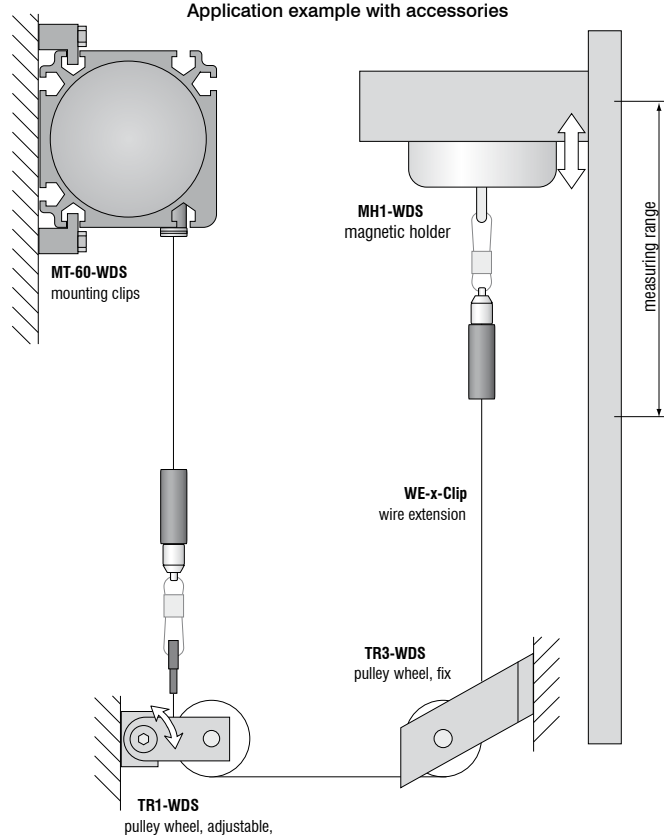

Mounting plate WDS-MP60

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 (±3° 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.


wire aperture 0° (±3° tolerance)

input +
ground
signal

1
2
3

100 %

R1K

0 %

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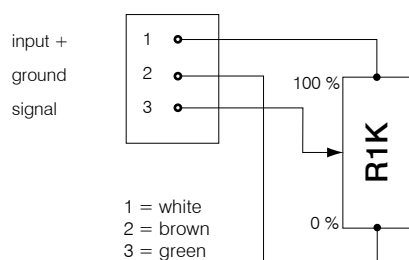
Potentiometric output (P)	
Supply voltage	max. 32VDC at 1kOhm / 1 Wmax
Resistance	1kOhm ±10% (potentiometer
Temperature coefficient	±0.0025% FSO/°C
Sensitivity	depends on measuring range individually shown on test report

supply
ground
signal
ground

1
2
3
4
5
6
7
8

zero   gain

U
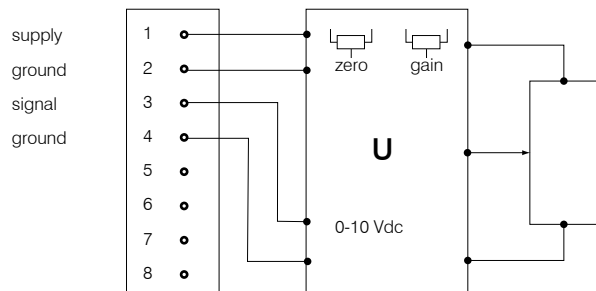
0-10 Vdc

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

supply
ground

1
2
3
4
5
6
7
8

zero   gain

I
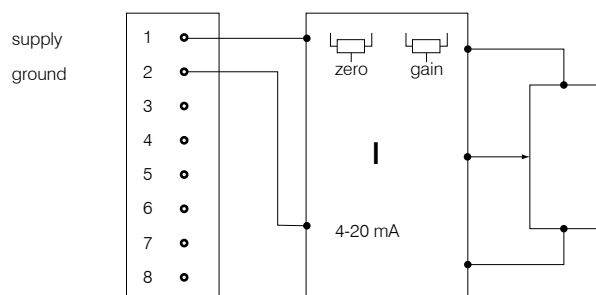
4-20 mA

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

High performance sensors made by Micro-Epsilon

Sensors and systems for displacement and position

Sensors and measurement devices for non-contact temperature measurement

2D/3D profile sensors (laser scanner)

Optical micrometers, fibre optic sensors and fibre optics

Colour recognition sensors, LED analysers and colour inline spectrometer

Measurement and inspection systems

MICRO-EPSILON

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