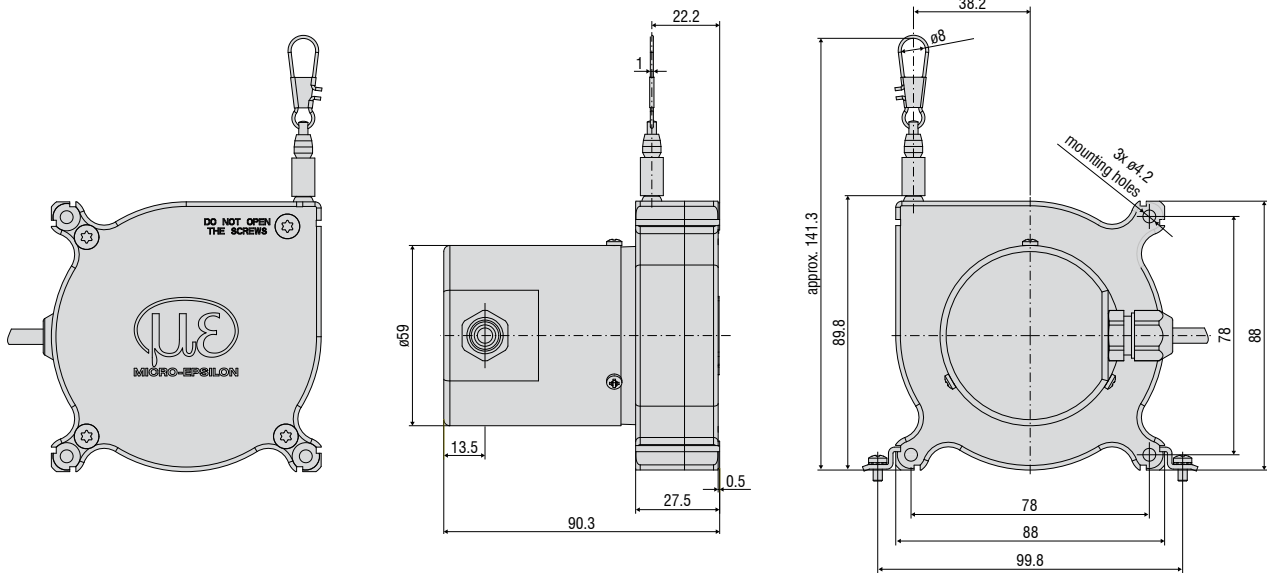# More Precision

wireSENSOR // Draw-wire displacement sensors

- *Robust plastic housing*

- *Customized versions for OEM*

- *Potentiometer, current
  and voltage output*

Model MK88

Model	WPS-2300-MK88	WPS-3500-MK88	WPS-5000-MK88
Output		P/U/I	
Sensor element		potentiometer	
Measuring range	2300mm	3500mm	5000mm
Linearity	<0.15% FSO	<0.3% FSO	<0.4% FSO
Resolution/Sensitivity		quasi infinite	
Temperature range		-20 to 80℃	
Material — housing		plastic, PA 6 GF 30	
Material — draw wire		coated polamide stainless steel (ø 0.45mm)	
Material — protection cap		plastic, PBT GF 20	
Wire mounting		wire clip	
Sensor mounting		mounting holes / mounting grooves on the sensor housing	
Wire retraction force (min)		4N	
Wire extension force (max)		9N	
Wire acceleration (max)		appr. 7g	
Protection class		IP 65	
Electrical connection		cable, radial, 1m	
Weight (with cable)		400-430g	

FSO = Full Scale Output
Specifications for analog outputs on page 51.

Article description

WPS -	2300 -	MK88 -	CR -	P

Output option:
P: potentiometer
U: voltage
I: current

Connection CR: integrated cable, radial, 1m

Model MK88

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, lenght 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

measuring range

WE-x-Clip
wire extension

TR3-WDS
pulley wheel, fix

TR1-WDS
pulley wheel, adjustable,
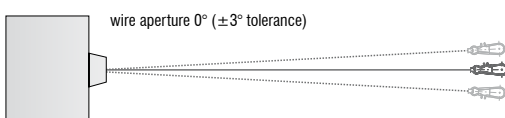
85
78.5
6.5
40
20
2x Ø4.5
2x Ø5.3
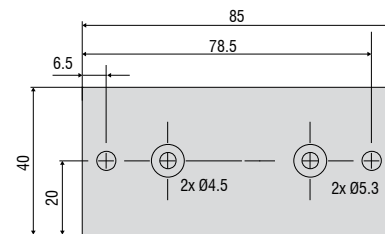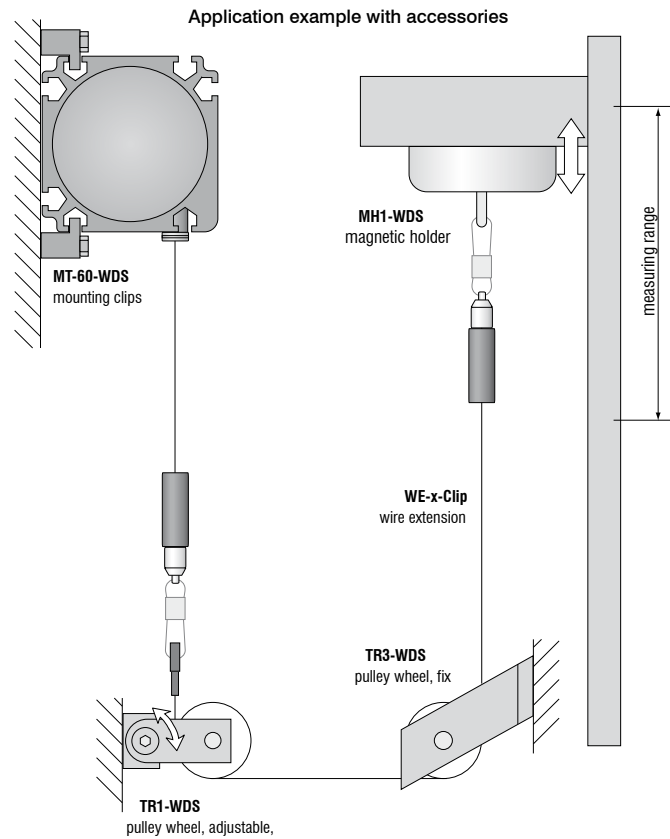
Mounting plate WDS-MP60
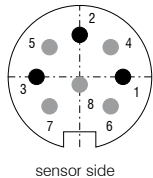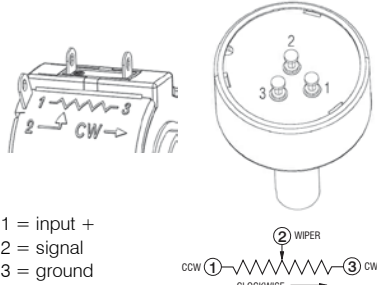
Installation information:
Wire attachment: The free return of the measurement wire is not permissible and it is essential that this is avoided during installation.
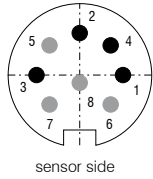**Wire exit angle:**
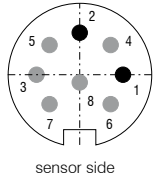When mounting a draw-wire displacement sensor, a straight wire exit (±3° tolerance) must be taken into account. If this tolerance is exceeded, increased material wear on the wire and at the wire aperture must be expected.

wire aperture 0° (±3° tolerance)

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

Potentiometric output (P)

Supply voltage	max. 32VDC at 1kOhm / 1 Wmax			
Resistance	1kOhm ±10% (potentiometer)			
Temperature coefficient	±0.0025% FSO/°C			

sensor side

1 = input +	white = input +	1 = input +
2 = ground	brown = ground	2 = signal
3 = signal	green = signal	3 = ground

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 61000-6-4 EN 61000-6-2

sensor side

Adjustment ranges (if supported by the model)

Zero	±20% FSO
Sensitivity	±20%

1 = supply	white = supply
2 = ground	brown = ground
3 = signal	green = signal
4 = ground	yellow = ground

Current Output (I)

Supply voltage	14 ... 27VDC (non stabilised)
Current consumption	max. 35mA
Output current	4 ... 20mA
Load	<600Ohm
Signal noise	$<1,6\,\mu A_{eff}$
Temperature coefficient	±0.01% FSO/°C
Electromagnetic compatibility (EMC)	EN 61000-6-4 EN 61000-6-2

sensor side

Adjustment range (if supported by the model)

Zero	±18% FSO
Sensitivity	±15%

1 = supply	white = supply
2 = ground	brown = ground

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

Color recognition sensors, LED analyzers and color inline spectrometer

Measurement and inspection systems