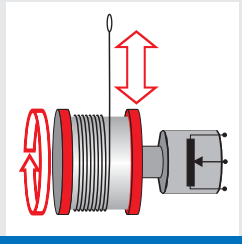
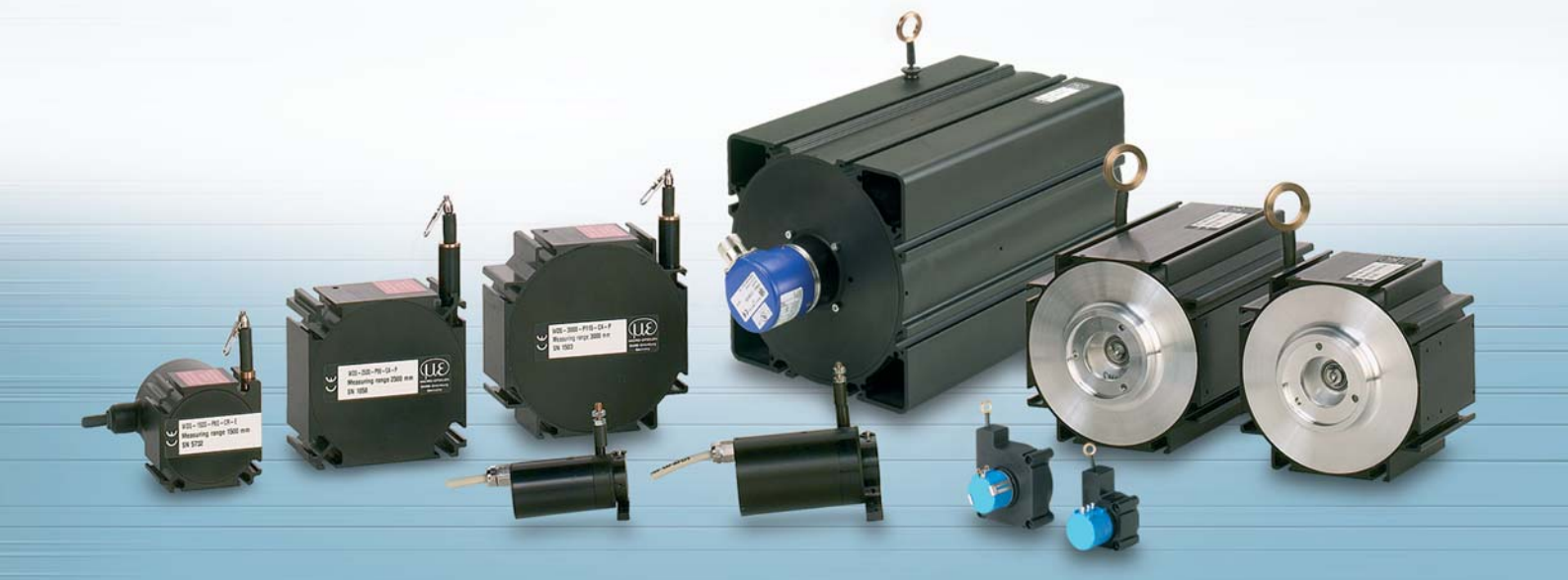
MICRO-EPSILON

More Precision.

wireSENSOR

Draw wire sensors / CET / String pots





wireSENSOR
Series MK77

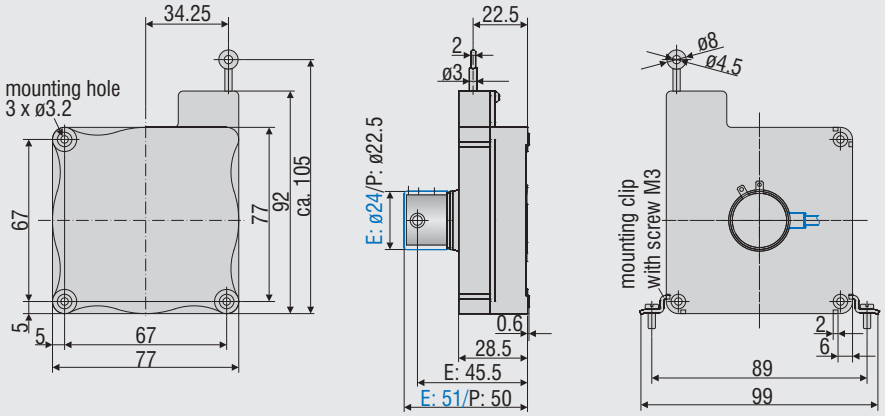
Low cost OEM sensors

Potentiometric or incremental output

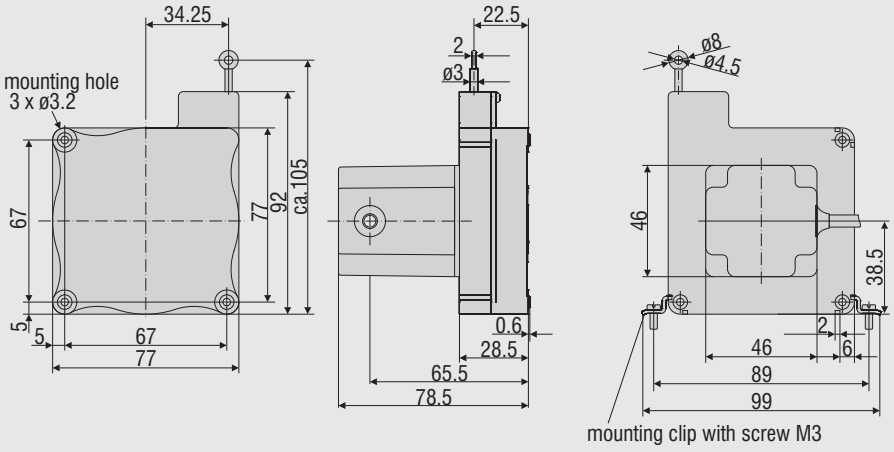
Customized versions

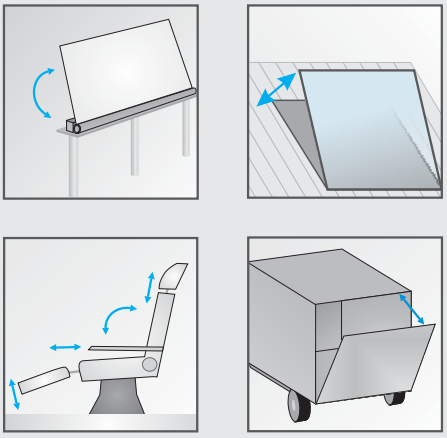
Sensors of the WPS series are used in high volume applications. Due to the favorable price and the compact sensor size, new possibilities in machine design and cost optimization are available to the user.

Model MK77-P25 / E / E830), with potentiometer or encoder



Model MK77-CR-P25, with potentiometer and integrated cable





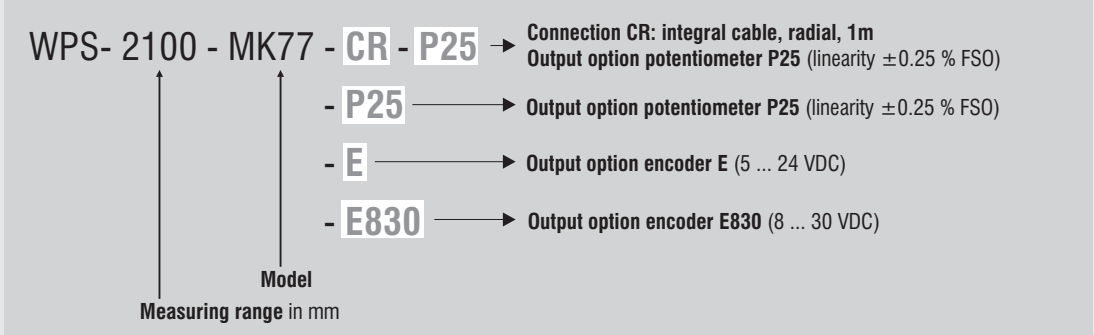
Dimensions in mm, not to scale. Please ask for detailed reference drawings.

Model			WPS-2100- MK77	WPS-2100- MK77
Output			P25	E/E830
Measuring range			2100mm	
Linearity	wire pot.	±0.25 % FSO	5.25mm	-
	encoder	±0.05 % FSO	-	1.05mm
Resolution	wire pot.		0.55mm	-
	encoder		-	0.43mm
Sensor element			wire potentiometer or incremental encoder	
Temperature range			-20 to 80 °C	
Material	housing		plastic	
	draw wire		coated polyamid stainless steel	
Wire mounting			eyelet	
Cable diameter			0.45mm	
Wire retraction force (min)			3.5 N	
Wire extension force (max)			5 N	
Wire acceleration (max)			5g	
Protection class			IP 20	IP 54
Electrical connection	P25		soldering tag	-
	CR-P25		cable radial, 1m	-
	E		-	cable radial, 2m
Weight	P25		appr. 0.2kg	-
	CR-P25		appr. 0.25kg	-
	E		-	appr. 0.27kg

FSO = Full Scale Output

Specifications for analog and digital outputs on page 33 and continuing.

Article description



wireSENSOR
Accessories and mounting

WE-x-M4, WE-x-Clip Wire extension 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

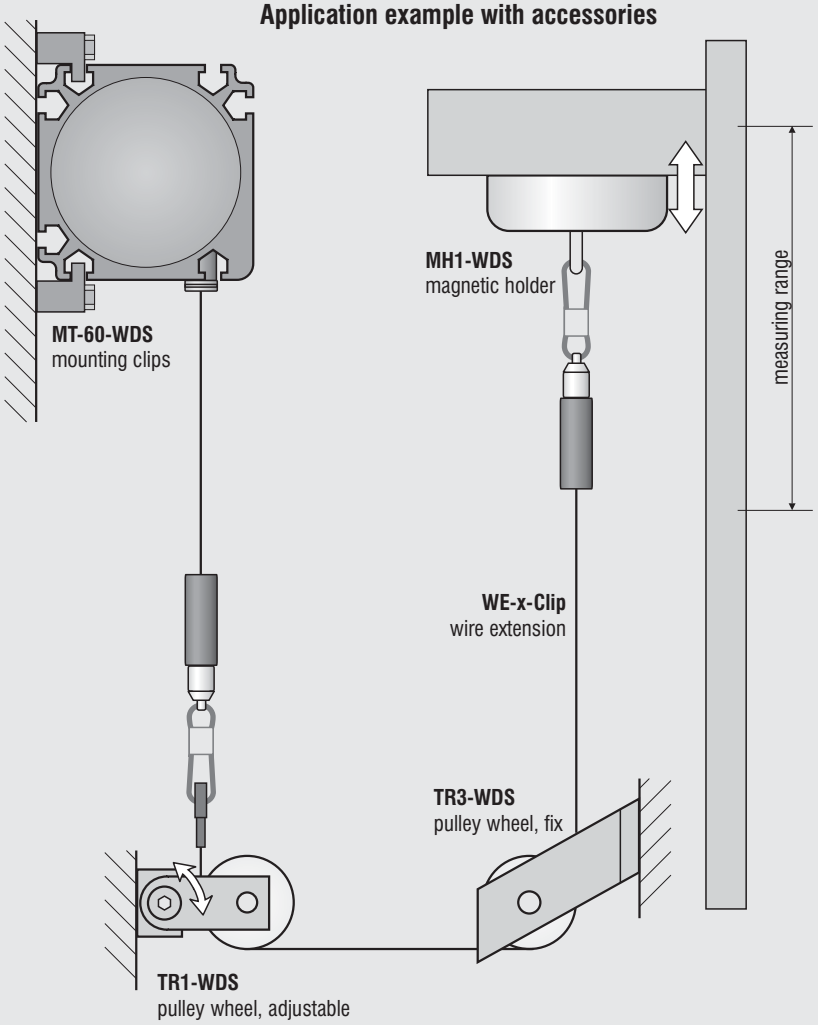
FC8/90 Female connector 90° for WDS, 8-pin

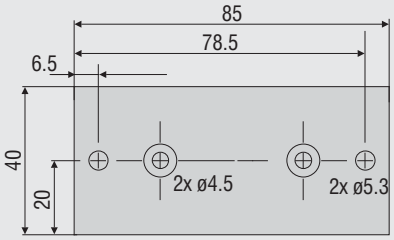
PC 3/8 Sensor cable, length 3 m

PS 2010 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

WDS-MP60 Mounting plate for P60 sensors

Application example with accessories





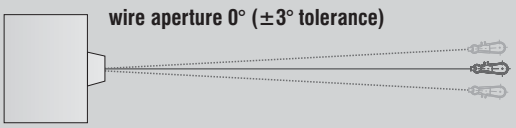
Mounting plate WDS-MP60

Installation information:

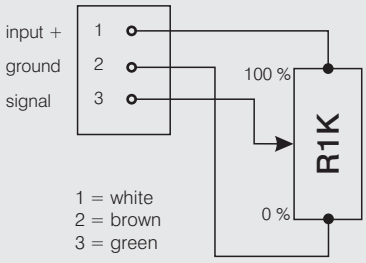
Wire attachment: The free return of the measurement wire is not permissible and it is essential that this is avoided during installation.

Wire exit angle:

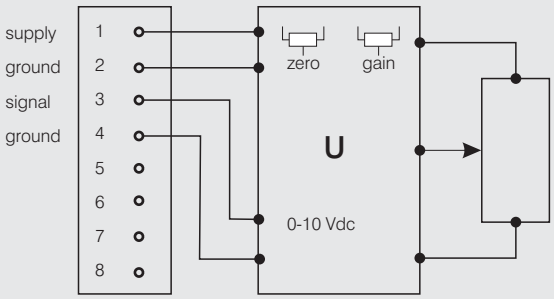
When mounting a draw-wire displacement sensor, a straight wire exit (±3° tolerance) must be taken into account. If this tolerance is exceeded, increased material wear on the wire and at the wire aperture must be expected.



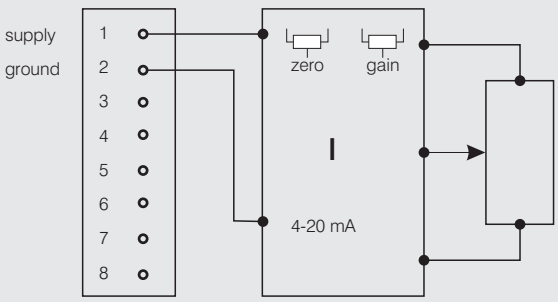
wireSENSOR
Electrical data analog



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



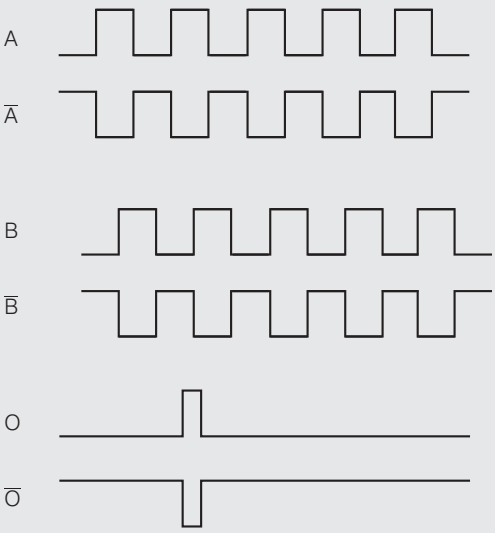
Voltage output (U)	
Supply voltage	14 ... 27 VDC (non stabilized)
Current consumption	30mA max
Output voltage	0 ... 10 VDC
	option 0 ... 5 / ±5 V
Load impendance	>5kOhm
Signal noise	0.5mV$_{eff}$
Temperature coefficient	±0.005 % FSO/°C
Electromagnetic compatibility (EMC)	EN 50081-2
	EN 50082-2
Adjustment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



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

wireSENSOR
Output specifications Incremental-encoder

Signal output



Output TTL	Linedriver (5 VDC)	
Level High	$\geq$ 2.5V	(with I = -20mA)
Level Low	$\leq$ 0.5V	(with I = 20mA)
Load High	$\leq$ 20mA	
Output	A, $\overline{A}$, B, $\overline{B}$, O	

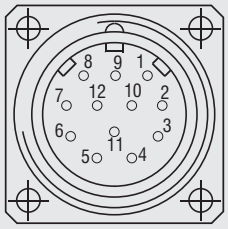
Output HTL	Push-pull (10 ... 30 VDC)	
Level High	$\geq$ UB -3V	(with I = -20mA)
Level Low	$\leq$ 1.5V	(with I = 20mA)
Load	$\leq$ 40mA	
Output	A, $\overline{A}$, B, $\overline{B}$, O	

Output E	Push-pull (5 VDC)
Level High	UB -2.5V
Level Low	$\leq$ 0.5V
Load	$\leq$ 50mA
Output	A, B, O

Output E830	Push-pull (8 ... 30 VDC)
Level High	UB -3V
Level Low	$\leq$ 2.5V
Load	$\leq$ 50mA
Output	A, B, O

Pin assignment TTL, HTL

Pin	Cable color	Assignment
1	pink	B inv.
2	blue	UB Sense
3	red	N (reference pulse)
4	black	N inv. (reference pulse inv.)
5	brown	A
6	green	A inv.
7	-	-
8	grey	B
9	-	-
10	white/green	GND
11	white	GND Sense
12	brown/green	UB



Pin 2 and Pin 12 are internally connected as well as Pin 11 and 10.

For cable length >10 m twisted pair wires are required.

Connection assignment E, E830

Pin	Cable color	Assignment
-	white	0V
-	brown	+UB
-	green	A
-	-	$\overline{A}$
-	yellow	B
-	-	$\overline{B}$
-	grey	0

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