More Precision

wireSENSOR // Draw-wire displacement sensors
Low-cost draw-wire displacement sensors

wireSENSOR MK88 analog

- Robust plastic housing
- Customized versions for OEM
- Potentiometer, current and voltage output

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

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

**Article description**

<table>
<thead>
<tr>
<th>WPS - 2300 - MK88 - CR - P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output option:</td>
</tr>
<tr>
<td>P: potentiometer</td>
</tr>
<tr>
<td>U: voltage</td>
</tr>
<tr>
<td>I: current</td>
</tr>
<tr>
<td>Connection CR: integrated cable, radial, 1m</td>
</tr>
<tr>
<td>Model MK88</td>
</tr>
</tbody>
</table>

Measuring range in mm
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.
## Output specifications analog

### Output Plug M16 -SA / -SR

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

### Integrated cable -CA / -CR Open contacts

- **1 = input +**, 2 = ground, 3 = signal
- **white = input +**, **brown = ground**, **green = signal**

### Open contacts

- **1 = input +**, 2 = ground, 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<sub>eff</sub>
- **Temperature coefficient**: ±0.005% FSO/°C
- **Electromagnetic compatibility (EMC)**: EN 61000-6-4, EN 61000-6-2

### Adjustment ranges (if supported by the model)

- **Zero**: ±20% FSO
- **Sensitivity**: ±20%

### Current Output (I)

- **Supply voltage**: 14 ... 27VDC (non stabilised)
- **Current consumption**: max. 35mA
- **Output current**: 4 ... 20mA
- **Load**: <600Ohm
- **Signal noise**: <1,6 µA<sub>eff</sub>
- **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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### Diagrams

1. **Potentiometric output (P)**
   - 1 = input +, 2 = ground, 3 = signal
   - white = input +, brown = ground, green = signal

2. **Voltage output (U)**
   - 1 = supply, 2 = ground, 3 = signal
   - white = supply, brown = ground, green = signal

3. **Current Output (I)**
   - 1 = supply, 2 = ground
   - white = supply, 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