

WPG Series Magnetostrictive Linear Position Sensor Slides

Overview

The WPG series are contactless linear position transducer with magnetostrictive technology for longer lifetime.

The absence of electrical contact on the cursor eliminates all wear and almost guarantees an infinite life.

The performance gained from EMC immunity makes the WPG series suitable for use in industrial environments where electromagnetic interferences are present.

MAGNETOSTRICTIVE HYPERWAVE uses the magnetic characteristic and micro-elastic deformation of the primary element to pinpoint the exact position of the cursor.

Features

- Strokes from 50 to 500mm
- Purchase cursor separately
- Analog output represents direct measurement of displacement
- Working temperature: -20 to +75°C [-4 to +167°F]
- IP67 protection
- Power supply 24VDC $\pm 20\%$
- Electromagnetic compatibility EMC 2014/30/EU

HYPERWAVE
HIGH-PERFORMANCE MAGNETOSTRICTIVE TECHNOLOGY



WPG-A-M-0100-E



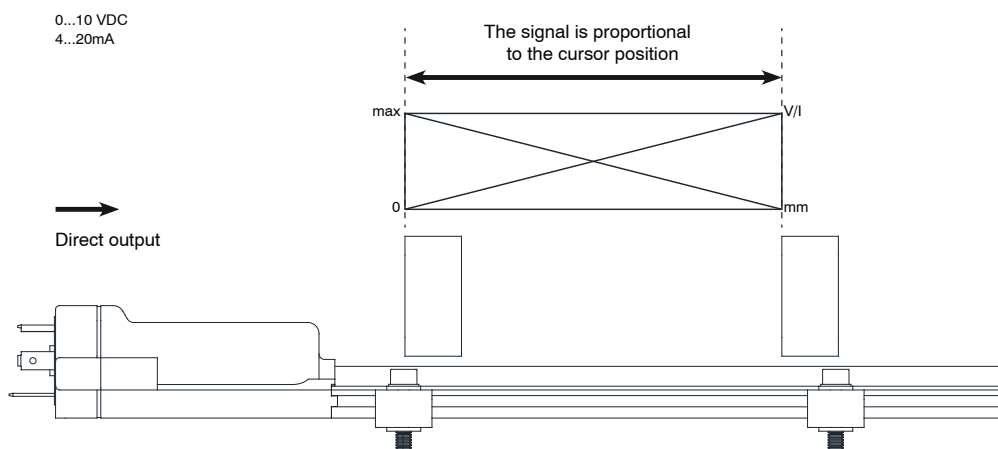
WPG Series Magnetostrictive Linear Position Sensor Slides Chart

| Part Number | Price | Drawing Link | Stroke | Output | Connection | Housing Material |
|--------------------------------|----------|---------------------|--------|----------|-----------------------------------|-------------------|
| WPG-A-M-0050-E | \$239.00 | PDF | 50mm | 4-20 mA | 18mm DIN 43650 Form A(CON006-1KJ) | anodized aluminum |
| WPG-A-M-0050-N | \$239.00 | PDF | 50mm | 0-10 VDC | | |
| WPG-A-M-0100-E | \$241.00 | PDF | 100mm | 4-20 mA | | |
| WPG-A-M-0100-N | \$241.00 | PDF | 100mm | 0-10 VDC | | |
| WPG-A-M-0150-E | \$242.00 | PDF | 150mm | 4-20 mA | | |
| WPG-A-M-0150-N | \$242.00 | PDF | 150mm | 0-10 VDC | | |
| WPG-A-M-0200-E | \$243.00 | PDF | 200mm | 4-20 mA | | |
| WPG-A-M-0200-N | \$243.00 | PDF | 200mm | 0-10 VDC | | |
| WPG-A-M-0250-E | \$244.00 | PDF | 250mm | 4-20 mA | | |
| WPG-A-M-0250-N | \$244.00 | PDF | 250mm | 0-10 VDC | | |
| WPG-A-M-0300-E | \$245.00 | PDF | 300mm | 4-20 mA | | |
| WPG-A-M-0300-N | \$245.00 | PDF | 300mm | 0-10 VDC | | |
| WPG-A-M-0400-E | \$259.00 | PDF | 400mm | 4-20 mA | | |
| WPG-A-M-0400-N | \$259.00 | PDF | 400mm | 0-10 VDC | | |
| WPG-A-M-0500-E | \$267.00 | PDF | 500mm | 4-20 mA | | |
| WPG-A-M-0500-N | \$267.00 | PDF | 500mm | 0-10 VDC | | |

Purchase cursor and mounting brackets separately

ANALOG OUTPUT

The WPG-A magnetostrictive transducers provide a direct voltage or current analog output proportional to the magnetic cursor's position. Since the output is direct, no signal electronic processing is required if interfaced with controllers or measurement instruments.



WPG Series Magnetostrictive Linear Position Sensor Slides

WPG Series Magnetostrictive Linear Position Sensor Slides Specifications

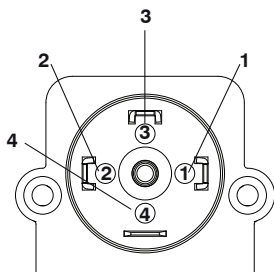
| | |
|---|--|
| Sampling Time | 1ms |
| Independent Linearity $\pm\%$FS | stroke: 50 to 250mm with sliding cursors $\leq \pm 0.150$ mm stroke > 250mm with sliding cursors $\leq \pm 0.04\%$ F.S. (Min. ± 0.090 mm) |
| Repeatability (mm) | ≤ 0.01 (Typical) |
| Hysteresis (mm) | ≤ 0.02 (Typical) |
| Displacement Speed | ≤ 10 m/s |
| Resolution | INFINITE (only limited by the electrical noise max 5 mVpp) |
| Operating Temperature | -20 to +75°C [-4 to +167°F] |
| Storage Temperature | -40 to +100°C [-40 to +212°F] |
| Temperature Coefficient | $\leq 0.01\%$ f.s. /°C (min. 0.015 mm/°C) |
| Vibration (DIN IEC68T2-6) | 12g/10...2000 Hz |
| Shock (DIN IEC68T2-27) | 100g-11ms - single shock |
| Electromagnetic Compatibility | EMC 2014/30/EU |
| Terminations | See wiring diagrams |
| Connection | 18mm DIN 43650 Form A, CON006-1KJ |
| Protection | IP67 |

WPG Series Magnetostrictive Linear Position Sensor Slides Electrical Data

| Series | -N models | -E models |
|--|------------------|--------------------|
| Output Signal | 0 to 10V | 4 to 20mA |
| Nominal Power Supply | 24VDC $\pm 20\%$ | |
| Max. Power Ripple | 1VDC | |
| Typical Current Consumption | 35mA | 60mA |
| Output Load | $\geq 10K\Omega$ | 50 to 500 Ω |
| Max. Output Value | 12V | 30mA |
| Output Signal in Absence of Cursor | 10.5 V | 21mA |
| Electrical Isolation (*) | 500V | |
| Protection Against Polarity Inversion | Yes | |
| Protection Against Overvoltage | Yes | |
| Protection Against Power Supply in Output | Yes | |

(*) Includes a 31V 1.7J voltage suppressor

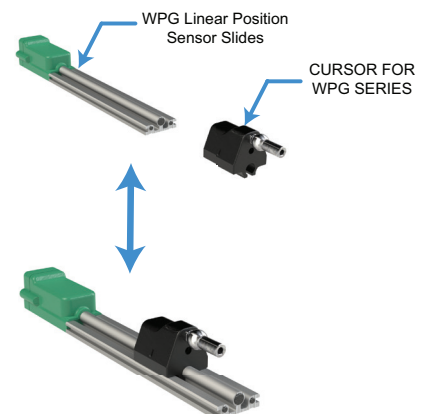
Wiring Diagram



Wiring Table

| | |
|--------------|----------------|
| Pin 1 | Power Supply - |
| Pin 2 | Direct Output |
| Pin 3 | Power Supply + |
| Pin 4 | Shield |

Cursor Assembly



WPG and WPP Series Accessories

**PCUR220-1KJ****PCUR221-1KJ****PCUR222-1KJ**

WPG Series Cursors

| Part Number | Price | Description | Drawing Link |
|---------------------------|---------|---|---------------------|
| <u>PCUR220-1KJ</u> | \$35.50 | Gefran cursor, 5mm axial joint low process connection, slide mount. For use with Gefran WPG series magnetostrictive sensors. | PDF |
| <u>PCUR221-1KJ</u> | \$37.50 | Gefran cursor, 5mm axial joint high process connection, slide mount. For use with Gefran WPG series magnetostrictive sensors. | PDF |
| <u>PCUR222-1KJ</u> | \$37.50 | Gefran cursor, 5mm axial joint process connection, slide mount. For use with Gefran WPG series magnetostrictive sensors. | PDF |

**PCUR210-1KJ****PCUR211-1KJ****PCUR212-1KJ**

WPP Series Cursors

| Part Number | Price | Description | Drawing Link |
|---------------------------|---------|---|---------------------|
| <u>PCUR210-1KJ</u> | \$35.50 | Gefran cursor, 5mm axial joint low process connection, slide mount. For use with Gefran WPP series magnetostrictive sensors. | PDF |
| <u>PCUR211-1KJ</u> | \$37.50 | Gefran cursor, 5mm axial joint high process connection, slide mount. For use with Gefran WPP series magnetostrictive sensors. | PDF |
| <u>PCUR212-1KJ</u> | \$37.50 | Gefran cursor, 5mm axial joint process connection, slide mount. For use with Gefran WPP series magnetostrictive sensors. | PDF |

WPG and WPP Series Cursor Floating Mount

| Part Number | Price | Description | Drawing Link |
|---------------------------|---------|---|---------------------|
| <u>PCUR202-1KJ</u> | \$32.00 | Gefran cursor, floating mount. For use with Gefran WPG and WPP series magnetostrictive sensors. | PDF |

**PCUR202-1KJ**

WPG Series Mounting Brackets

| Part Number | Price | Description | Drawing Link |
|---------------------------|--------|---|---------------------|
| <u>PKIT590-1KJ</u> | \$8.75 | Gefran mounting brackets, 42.5mm hole spacing. For use with Gefran WPG series magnetostrictive sensors. | PDF |
| <u>PKIT591-1KJ</u> | \$8.75 | Gefran mounting brackets, 50mm hole spacing. For use with Gefran WPG series magnetostrictive sensors. | PDF |

**PKIT590-1KJ**

WPP Mounting Brackets

| Part Number | Price | Description | Drawing Link |
|---------------------------|--------|---|---------------------|
| <u>PKIT090-1KJ</u> | \$8.75 | Gefran mounting brackets, 42.5mm hole spacing. For use with Gefran WPP series magnetostrictive sensors. | PDF |
| <u>PKIT091-1KJ</u> | \$8.75 | Gefran mounting brackets, 50mm hole spacing. For use with Gefran WPP series magnetostrictive sensors. | PDF |

**PKIT090-1KJ**