Main characteristics

- Optimised mechanical structure
- Strokes from 50 to 2500 mm
- Sliding or floating magnetic cursor
- Availability of several analogue outputs (voltage or current) for direct position and speed measurement or reverse measurement (only position)
- Single or double cursors models availability
- Power supply 24Vdc ±20%
- Resistance to vibration (DIN IEC68T2/6 12g)
- IP67 protection
- Work temperature: -30...+75°C
- Electromagnetic compatibility EMC 2014/30/EU
- Compliant to the directive RoHS 2011/65/EU

Contactless linear position transducer with HYPERWAVE magnetostrictive technology. The absence of electrical contact on the cursor eliminates all wear and guarantees almost unlimited life. High performance in terms of environmental IP protection and EMC immunity. High accuracy of the measurement with reference to the non linearity, repeatability and hysteresis. High resistance to vibrations, mechanical shocks for use in a harsh industrial environment.

### TECHNICAL DATA

**Model**
From 50 to 2500 mm

**Measurement taken**
Displacement / Speed

**Position read sampling time (typical)**
From 0.5 ms to 3 ms (depending on stroke)

**Speed measurement range**
min 0..0.1 m/s max 0..10 m/s

**Accuracy speed**
< 2% (in all F.S.)

**Shock test DIN IEC68T2-27**
100g · 11ms - single shock

**Vibrations DIN IEC68T2-6**
12g / 10...2000Hz

**Displacement speed**
≤10 m/s

**Max. acceleration**
≤ 100 m/s² displacement

**Resolution**
16 bit (max electrical noise 5 mVpp)

**Cursor (see note)**
Sliding cursor Floating separate cursor

**Working temperature**
-30...+75°C

**Storage temperature**
-40...+100°C

**Coefficient of temperature**
0.005% F.S. / °C

**Protection**
IP67

Note:
1) For strokes > 2500 mt use sliding or floating cursors with max. distance of 4mm
2) For multi-cursor versions, the cursors have to work under the same distance and temperature conditions

### ELECTRICAL DATA

**Output signal**
0...10V (N/P/Y) 4...20mA (E/F/H) 0...20mA (B/C/D)

**Nominal power supply**
24 Vdc ±20% 24 Vdc ±20%

**Max. power ripple**
1Vpp 1Vpp

**Max. consumption**
70mA 90mA

**Max. output load**
5kΩ < 500Ω

**Max. output noise**
< 5mVpp < 5mVpp

**Max. output value**
12V 30mA

**Alarm output value**
10.5V 21mA

**Electrical isolation**
500V (*) 500V (*)

**Protection against polarity inversion**
Yes Yes

**Protection against overvoltage**
Yes Yes

**Protection against power supply in output**
Yes Yes

(*) It includes a 30V 0.4J voltage suppressor
### ELECTRICAL / MECHANICAL DATA

<table>
<thead>
<tr>
<th>Model</th>
<th>50</th>
<th>75</th>
<th>100</th>
<th>130</th>
<th>150</th>
<th>350</th>
<th>360</th>
<th>400</th>
<th>450</th>
<th>500</th>
<th>550</th>
<th>600</th>
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<th>1000</th>
<th>1200</th>
<th>1250</th>
<th>1300</th>
<th>1400</th>
<th>2250</th>
<th>2500</th>
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<tbody>
<tr>
<td></td>
<td>175</td>
<td>200</td>
<td>225</td>
<td>250</td>
<td>300</td>
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<td>750</td>
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<td>1500</td>
<td>1750</td>
<td>2000</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Sampling time</td>
<td>ms</td>
<td>0,5</td>
<td>1</td>
<td>1,5</td>
<td>2</td>
<td></td>
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<tr>
<td>Electrical stroke</td>
<td>mm</td>
<td></td>
<td>Model</td>
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<tr>
<td>Independent linearity</td>
<td>± %/FS</td>
<td>Typical: ± 0,02 % FS (min ± 0,060 mm) with sliding cursor</td>
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<tr>
<td></td>
<td>max:</td>
<td>± 0,02 % FS with floating cursor at a distance between 2 and 5 mm</td>
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<td></td>
<td>max:</td>
<td>± 0,04 % FS with floating cursor at a distance between 5 and 7 mm</td>
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</tr>
<tr>
<td>Max.dimensions (A)</td>
<td>mm</td>
<td>Model + 154</td>
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</tr>
<tr>
<td>Repeatability</td>
<td>mm</td>
<td>&lt;0,01 (limited by the resolution of the output value)</td>
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<tr>
<td>Hysteresis</td>
<td>mm</td>
<td>&lt;0,01 (limited by the resolution of the output value)</td>
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</tbody>
</table>

### ELECTRICAL CONNECTIONS

#### OUTPUT WPP-A-A

![Diagram of Output WPP-A-A]

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Output cursor 1 (0...10V)</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>Grey</td>
</tr>
<tr>
<td>Output cursor 2 (0...20mA)</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>Yellow</td>
</tr>
<tr>
<td>GND</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>Pink</td>
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</tbody>
</table>

#### OUTPUT WPP-A-B

![Diagram of Output WPP-A-B]

#### OUTPUT WPP-A-C

![Diagram of Output WPP-A-C]

#### OUTPUT WPP-A-H

![Diagram of Output WPP-A-H]

#### OUTPUT WPP-A-F

![Diagram of Output WPP-A-F]

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Power supply+</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>Brown</td>
</tr>
<tr>
<td>Power supply GND</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>White</td>
</tr>
<tr>
<td>n.c.</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>n.c.</td>
<td>-</td>
<td>-</td>
<td>1(5*)</td>
<td>8</td>
<td>-</td>
</tr>
</tbody>
</table>

(*) = for version 4...20mA / 0...20mA

The transducer case must be grounded with the cable sheathing on the control system side only.
ANALOG OUTPUT

The WPP-A magnetostrictive transducers provide a direct and reverse voltage or current analogue 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.

0...10 V d.c. 4...20 mA
0...20 mA 20...0 mA
20...4 mA

Direct output

Reverse output

The signal is proportional to the cursor position

ORDER CODE

Position transducer W P P A

Analog output A

Connector
M12 5-pin connector output A

Available on request
DIN45322 6-pin connector output B
DIN45326 8-pin connector output C
M12 8-pin connector output H
PVC cable output F

Model

Output

0...10Vdc 1 cursor N
0...10Vdc 1 cursor, position and speed P
0...10Vdc 2 cursors (min. stroke 360mm) Y
4...20mA 1 cursor E
4...20mA 1 cursor, position and speed F
4...20mA 2 cursors (min. stroke 360mm) H

Available on request

0...20mA 1 cursor B
0...20mA 1 cursor, position and speed C
0...20mA 2 cursors (min. stroke 360mm) D
0...5Vdc 1 cursor K

Output of speed

Only for analogic output option C, F, P
Maximum measurable speed: 0.1...10.0 m/s
00.0 Function not required

00 A, B, C, H Outputs

Output F cable length

00 1 m
05 5 m
10 10 m
15 15 m

Mechanical and/or electrical characteristics differing from those in the standard version may be arranged on request.

Es.: WPP-A-B-0400-N, PKIT090, PCUR210
Transducer model WPP, analog output, 6-pin connector, model 400, 0...10Vdc output, PKIT090 brackets, PCUR210 standard cursor.
CURSORS ON REQUEST

PCUR202
Floating Cursor

PCUR210
Sliding cursor, axial joint low

PCUR211
Sliding cursor, axial joint high

PCUR212
Sliding cursor, axial joint angle

M5 holes x 10 mm

Angle joint

Axial joints

BRACKETS ON REQUEST

Brackets (2 brackets for every kit)
Steel brackets, interaxis 42.5mm 090
Steel brackets, interaxis 50mm 091

<table>
<thead>
<tr>
<th>Brackets code</th>
<th>Interaxis (i)</th>
<th>Screw (V)</th>
<th>Dimension (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKIT090</td>
<td>42.5</td>
<td>M4</td>
<td>56</td>
</tr>
<tr>
<td>PKIT091</td>
<td>50</td>
<td>M5</td>
<td>63.5</td>
</tr>
</tbody>
</table>
### OPTIONAL FEMALE CONNECTORS

For A-H outputs, M12 thread connector  
- Code: CON031 for 5-pin output (WPP-A-A)  
- CON035 for 8-pin output (WPP-A-H)  
- CON042 for 8-pin output (WPP-A-H)

For B-C outputs, M16 thread connector  
- Code: CON021 for 6-pin output (WPP-A-B)  
- CON026 for 8-pin output (WPP-A-C)  
- CON028 for 8-pin output (WPP-A-C)

Connector extraction length: 10mm

### OPTIONAL CABLES OUTPUT

**PRE-ASSEMBLED CABLE WITH STRAIGHT CONNECTOR**

<table>
<thead>
<tr>
<th>5-pin cable code</th>
<th>WPP-A-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenght “L”</td>
<td>CODE</td>
</tr>
<tr>
<td></td>
<td>Straight cable</td>
</tr>
<tr>
<td>2 mt</td>
<td>CAV011</td>
</tr>
<tr>
<td>5 mt</td>
<td>CAV012</td>
</tr>
<tr>
<td>10 mt</td>
<td>CAV013</td>
</tr>
<tr>
<td>15 mt</td>
<td>CAV015</td>
</tr>
</tbody>
</table>

**PRE-ASSEMBLED CABLE WITH 90° CONNECTOR**

The cable sheathing is connected to the connector.

<table>
<thead>
<tr>
<th>8-pin cable code</th>
<th>WPP-A-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenght “L”</td>
<td>CODE</td>
</tr>
<tr>
<td></td>
<td>Straight cable</td>
</tr>
<tr>
<td>2 mt</td>
<td>CAV002</td>
</tr>
<tr>
<td>5 mt</td>
<td>CAV003</td>
</tr>
<tr>
<td>10 mt</td>
<td>CAV004</td>
</tr>
<tr>
<td>15 mt</td>
<td>CAV009</td>
</tr>
</tbody>
</table>

Electrical installation requirements and Conformity certificate are available on our web site: www.gefran.com

**GEFRAN spa** reserves the right to make aesthetic or functional changes at any time and without notice.