

**HYPERWAVE**  
HIGH-PERFORMANCE MAGNETOSTRICTIVE TECHNOLOGY



### Main characteristics

- Strokes from 50 to 1500mm
- Sliding or floating magnetic cursor
- Direct and reverse analog output for displacement
- Standard valve or M12 connector
- Work temperature: -20...+75°C
- IP67 protection
- Power supply 24Vdc ±20%
- Electromagnetic compatibility EMC 2014/30/EU
- Compliant to the directive RoHS 2011/65/EU

Contactless linear position transducer with magnetostriuctive technology for longer lifetime.

The absence of electrical contact on the cursor eliminates all wearing and guarantees almost unlimited life.

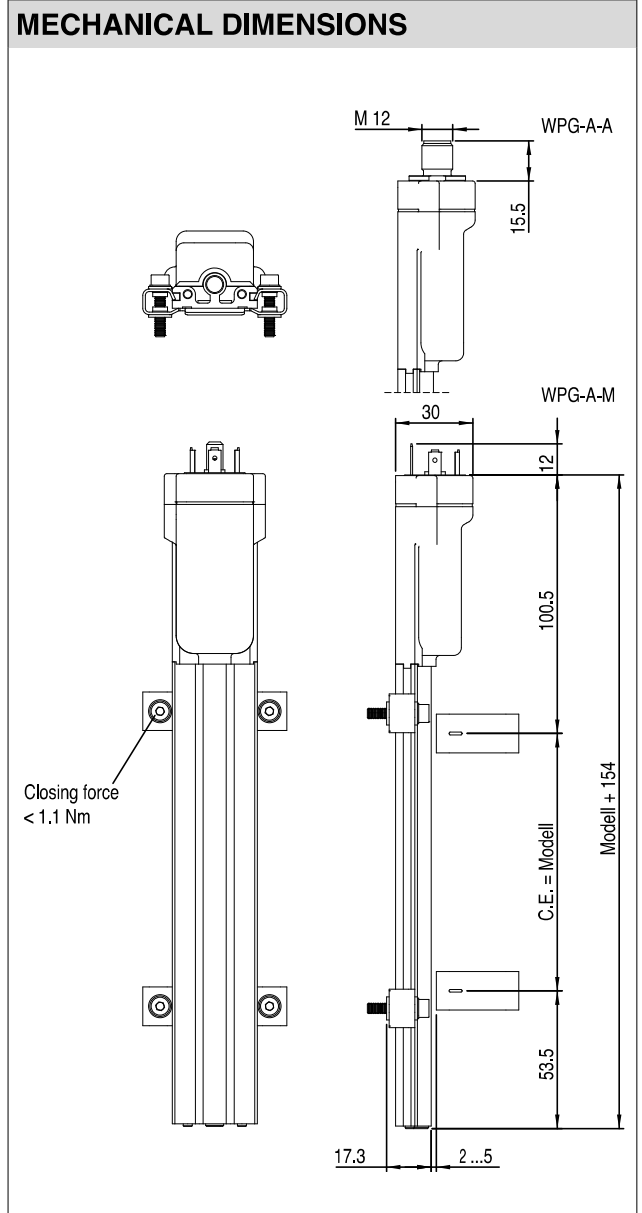
Direct and reverse signal for a wide flexibility of use.

The high performance in terms of EMC immunity make the WPG series suitable for use in industrial environments with presence of electromagnetic interferences.

TECHNICAL DATA	
Model	From 50 to 1500mm
Measurement taken	displacement
Position read sampling time (typical)	see table
Shock test DIN IEC68T2-27	100g-11 ms - single shock
Vibrations DIN IEC68T2-6	12g/10...2000 Hz
Displacement speed	≤ 10 m/s
Resolution	INFINITE (only limited by the electrical noise max 5 mVpp)
Cursor (see note)	Sliding cursor Floating separate cursor
Working temperature	-20...+75°C
Storage temperature	-40...+100°C
Coefficient of temperature	≤ 0.01% f.s. /°C (min. 0.015 mm/°C)
Protection	IP67

ELECTRICAL DATA		
Output signal	0...10 V (N/M/J) 0.1...10.1 V (W/R)	4...20 mA (E/S/Z)
Nominal power supply	24 Vdc ± 20%	24 Vdc ± 20%
Max. power ripple	1 Vdc	1 Vdc
Typical current consumption	35 mA	60 mA
Output load	≥10 KΩ	50...500Ω
Max. output value	12 V	30 mA
Output signal in absence of cursor	10.5 V	21 mA
Electrical isolation (*)	500 V	500 V
Protection against polarity inversion	Yes	Yes
Protection against overvoltage	Yes	Yes
Protection against power supply in output	Yes	Yes

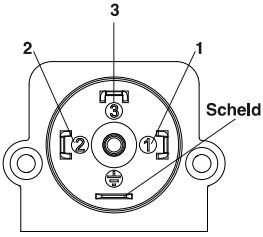
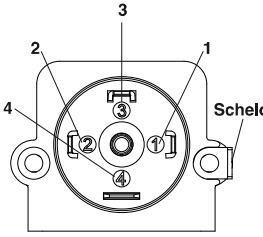
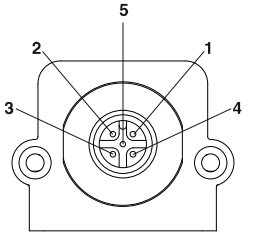
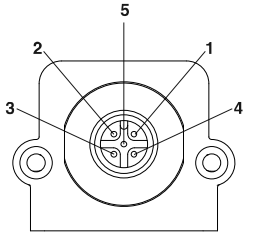

(\*) It includes a 31V 1.7J voltage suppressor

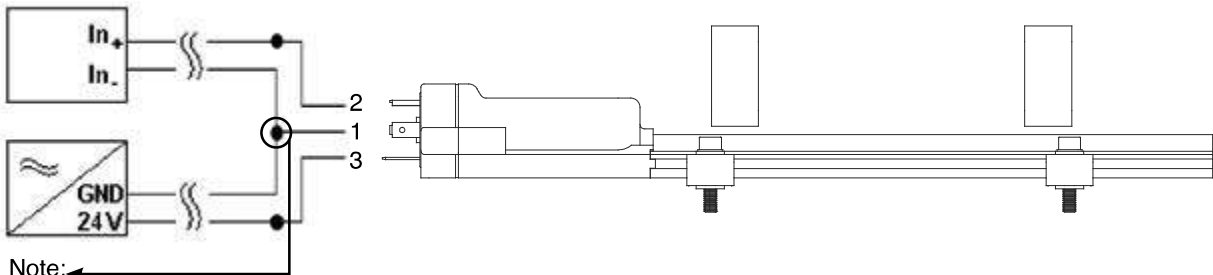


## ELECTRICAL / MECHANICAL DATA

Model		50	75	100	130	150	175	200	225	250	300	350	360	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200	1250	1300	1400	1500
Sampling time	ms	1										1,5					2					3										
Electrical stroke (E.S.)	mm	<b>Model</b>																														
Independent linearity	± %/FS	stroke > 250 mm with sliding cursors ≤ ± 0,04%F.S. (Min. ± 0,090 mm) stroke 50.....250 mm with sliding cursors ≤ ± 0,150 mm																														
Max. dimensions (A)	mm	<b>Model + 154</b>																														
Repeatability	mm	≤ 0,01 (typical)																														
Hysteresis	mm	≤ 0,02 (typical)																														

## ELECTRICAL CONNECTIONS

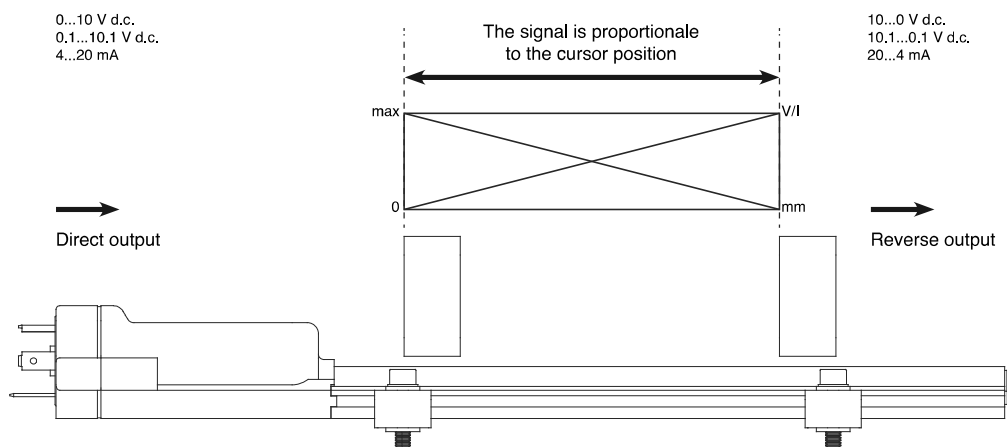
				
	<b>WPG-A-M-(N/W/E/M/R/S)</b>	<b>WPG-A-M-(J/Z)</b>	<b>WPG-A-A-(N/W/E/M/R/S)</b>	<b>WPG-A-A-(J/Z)</b>
PIN	Valve single output	Valve double output	5 pin M12 single output	5 pin M12 double output
1	Power supply -	Power supply -	Direct output	Direct output
2	Direct output	Direct output	GND output	GND output
3	Power supply +	Power supply +	n.d.	Reverse output
4	Scheld	Reverse output	Power supply -	Power supply -
5			Power supply +	Power supply +
		Scheld	Connector body	Connector body



Note: ←  
Make a connection as close as possible to transducer

## ANALOG OUTPUT

The WPG-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.



## ORDER CODE

Position  
transducer

W P G - A

0 0 0 0 X 0 0 0 X 0 0 X 0 X X

Analog output      **A**

### Connector

4 pin connector output EN175301-803A	<b>M</b>
5 pin connector output M12	<b>A</b>

### Model

### Output

0...10 V d.c.	1 cursor only for direct output	<b>N</b>
0.1...10.1 V d.c.	1 cursor only for direct output	<b>W</b>
4...20 mA	1 cursor only for direct output	<b>E</b>
10...0 V d.c.	1 cursor only for reverse output	<b>M</b>
10.1...0.1 V d.c.	1 cursor only for reverse output	<b>R</b>
20...4 mA	1 cursor only for reverse output	<b>S</b>
0...10 V d.c.	1 cursor for direct / reverse output	<b>J</b>
4...20 mA	1 cursor for direct / reverse output	<b>Z</b>

## CURSORS ON REQUEST

PCUR202



Floating Cursor

PCUR220



Sliding cursor,  
axial joint low

PCUR221

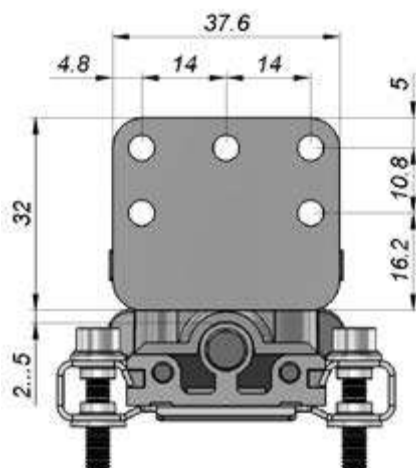
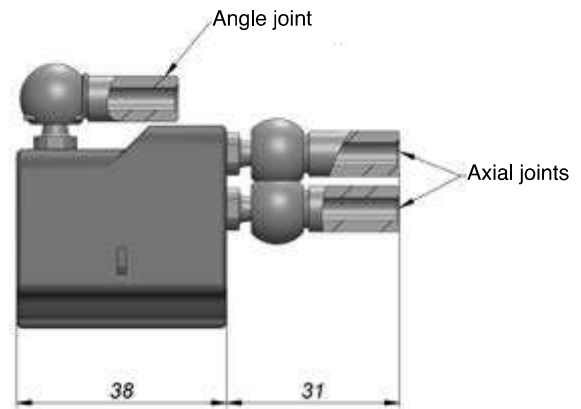
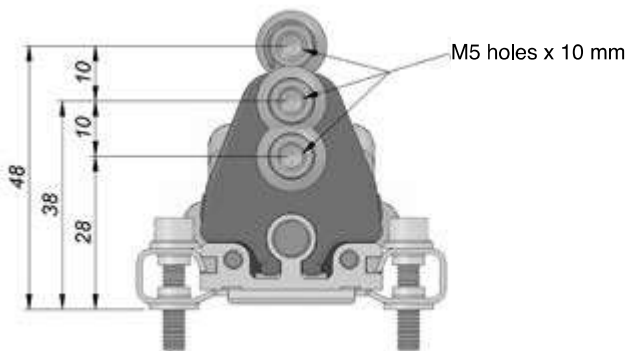


Sliding cursor,  
axial joint high

PCUR222



Sliding cursor,  
axial joint angle

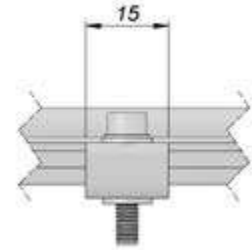


## BRACKETS ON REQUEST

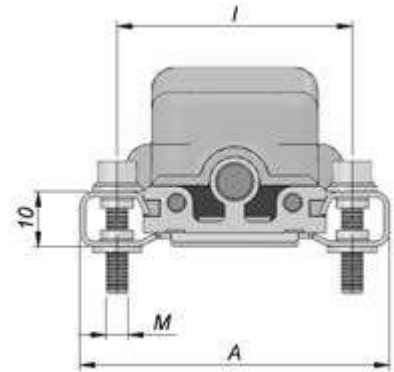


**P K I T** □ □ □

Brackets (2 brackets for every kit)		
Steel brackets, interaxis 42.5mm		<b>590</b>
Steel brackets, interaxis 50mm		<b>591</b>



Brackets code	Interaxis (i)	Screw (V)	Dimension (A)
PKIT590	42.5	<b>M4</b>	<b>56</b>
PKIT591	50	<b>M5</b>	<b>63.5</b>



## FEMALE CONNECTORS

### ON REQUEST

4-pin 90° radial female connector, EN175301-803A, IP65 PG9 clamp for  $\phi 6$ - $\phi 8$  mm cable

4-pin 90° radial female connector, EN175301-803A, IP67 PG9 clamp for  $\phi 6$ - $\phi 8$  mm cable

5-pin, axial female connector M12, IP67, clamp for  $\phi 6,5$  mm cable

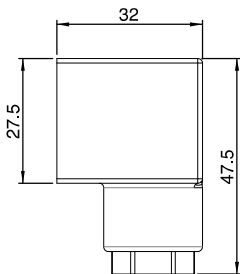
5-pin 90° female connector M12, IP67 clamp for  $\phi 6$ - $\phi 8$  mm cable

**CON006**

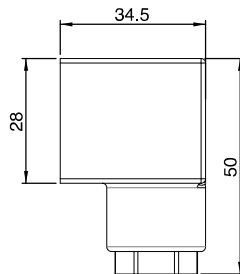
**CON069**

**CON031**

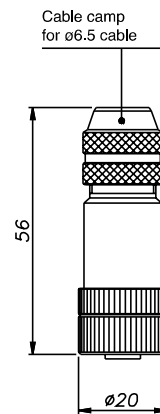
**CON041**



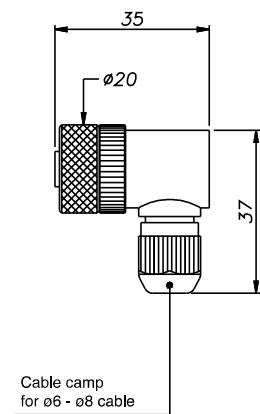
**CON006**  
IP65



**CON069**  
IP67



**CON031**  
IP67 - IEC 48B



**CON041**  
IP67

### Notes:

- The IP rating specified in this document normally applies with the suitable female connector plugged-in and properly wired.

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

**GEFRAN**

**GEFRAN spa**  
via Sebina, 74  
25050 PROVAGLIO D'ISEO (BS) - ITALIA  
ph. 0309888.1 - fax. 0309839063  
Internet: <http://www.gefran.com>

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