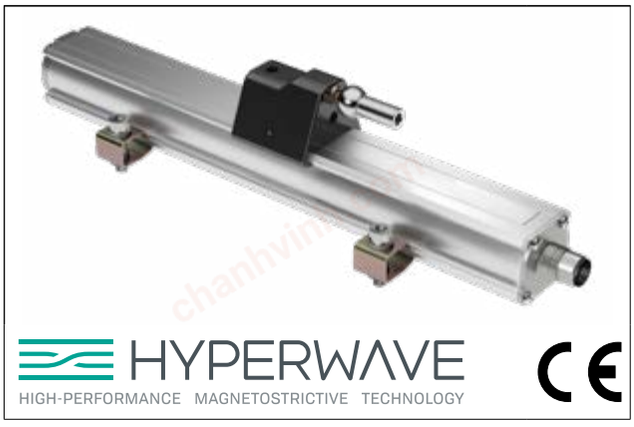
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GEFRAN

WPP-A

CONTACTLESS MAGNETOSTRICTIVE LINEAR POSITION TRANSDUCER (ANALOG OUTPUT)



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 mesurement 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

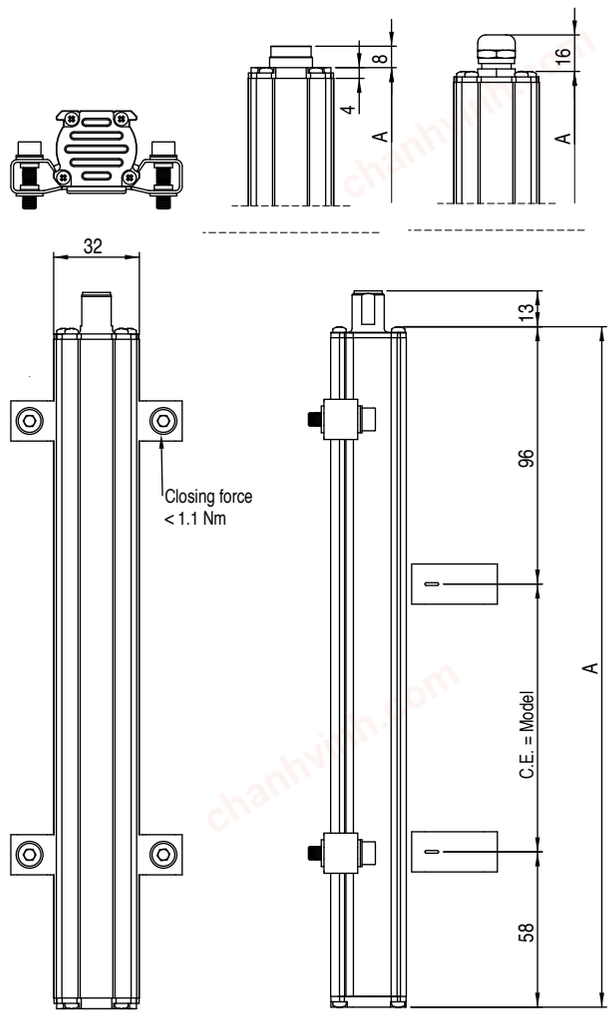
Note: 1) For strokes > 2500 mt use sliding or floating cursors with max. distance of 4mm
2) For multi-cursor versions, the cursors have to work under the same distance and temperature conditions

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

TECHNICAL DATA

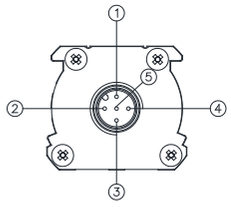
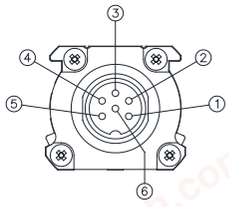
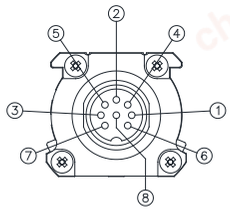
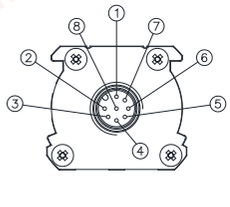
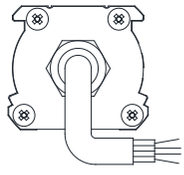


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ELECTRICAL / MECHANICAL DATA

Model		50	75	100	130	150	350	360	400	450	500	550	600	650	1200	1250	1300	1400	2250	2500		
		175	200	225	250	300	700	750	800	850	900	950	1000	1100	1500	1750	2000					
Sampling time	ms	0,5					1								1,5				2			
Electrical stroke	mm	**Model**																				
Independent linearity	± %/FS	Typical: ≤ ± 0,02 % FS (min ± 0,060 mm) with sliding cursor max: ≤ ± 0,02 % FS with floating cursor at a distance between 2 and 5 mm max: ≤ ± 0,04 % FS with floating cursor at a distance between 5 and 7 mm																				
Max.dimensions (A)	mm	**Model + 154**																				
Repeatability	mm	<0,01 (limited by the resolution of the output value)																				
Hysteresis	mm	<0,01 (limited by the resolution of the output value)																				

ELECTRICAL CONNECTIONS

OUTPUT WPP-A-A	OUTPUT WPP-A-B	OUTPUT WPP-A-C	OUTPUT WPP-A-H	OUTPUT WPP-A-F
				

	CONNECTORS				CABLES	OPTIONAL CABLES FOR	
Function	**WPP-A-A**	**WPP-A-B**	**WPP-A-C**	**WPP-A-H**	**WPP-A-F**	**WPP-A-A**	**WPP-A-H**
	5 pin M12	*6 pin M16*	*8 pin M16*	*8 pin M12*	*Standard cable*	*Pre-assembled 5 pin*	*Pre-assembled 8 pin*
Output cursor 1 0...10V 4...20mA 0...20mA	1	1	5 (1*)	5	Grey	Brown	Green
GND ***Output cursor 1*** (0V)	2	2	2	1	Pink	White	Yellow
Inverse output cursor 1 ***Output cursor 2*** ***Output speed*** 0...10V 4...20mA 0...20mA	3	3	3	3	Yellow	Blue	Pink
GND ***Output cursor 1*** ***Output cursor 2*** ***Output speed*** (0V)	2	4	6	2	Pink	White	Grey
Power supply+	5	5	7	7	Brown	Grey	Brown
Power supply GND	4	6	8	6	White	Black	Blue
n.c.	-	-	4	4	-	-	Red
n.c.	-	-	1(5*)	8	-	-	White

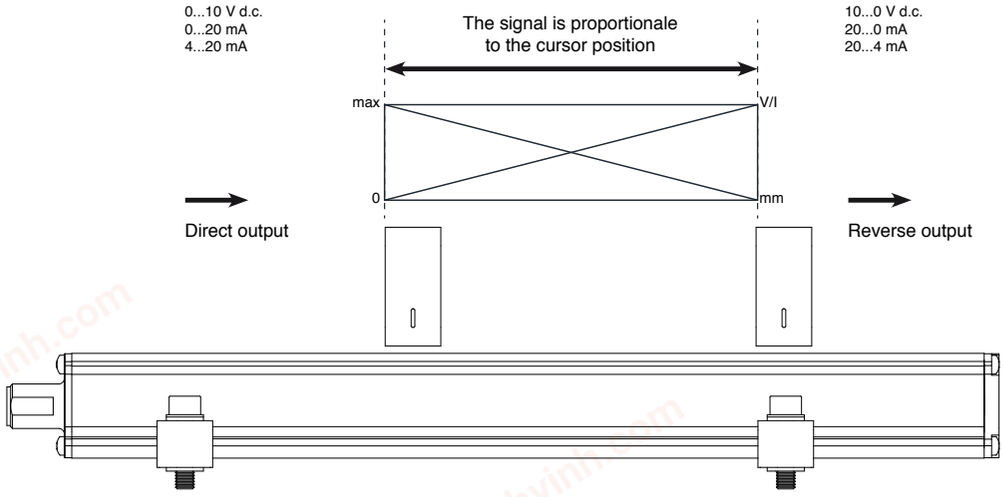
(*) = for version 4...20mA / 0...20mA

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

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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.



ORDER CODE

Position transducer

W	P	P	A						

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

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.

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CURSORS ON REQUEST

PCUR202/PCUR230



Floating Cursor

PCUR210



Sliding cursor,
axial joint low

PCUR211

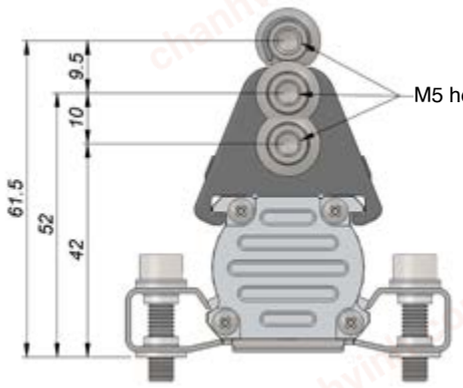


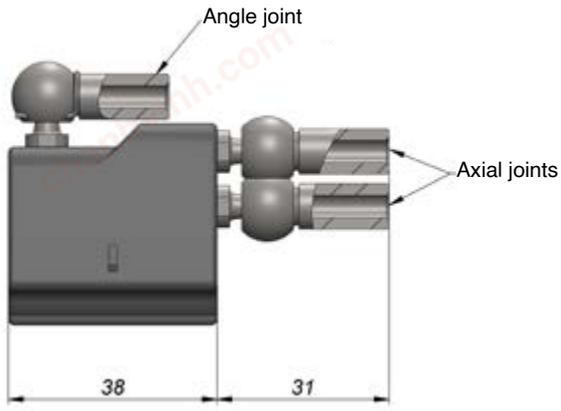
Sliding cursor,
axial joint high

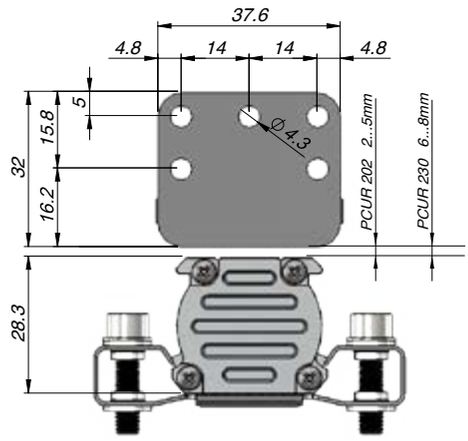
PCUR212



Sliding cursor,
axial joint angle







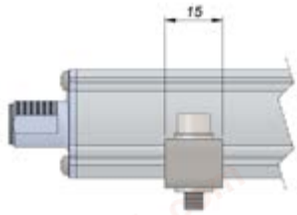


BRACKETS ON REQUEST

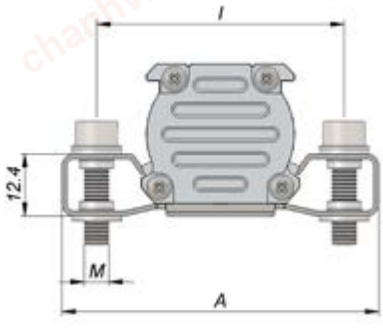


P K I T □ □ □

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



Brackets code	Interaxis (i)	Screw (V)	Dimension (A)
PKIT090	42.5	**M4**	**56**
PKIT091	50	**M5**	**63.5**



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OPTIONAL FEMALE CONNECTORS

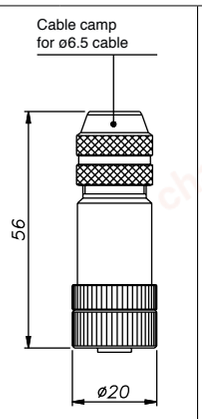
For A-H outputs, M12 thread connector

Code: **CON031 for 5-pin output (WPP-A-A)**
CON041 for 5-pin output (WPP-A-A)
CON035 for 8-pin output (WPP-A-H)
CON042 for 8-pin output (WPP-A-H)

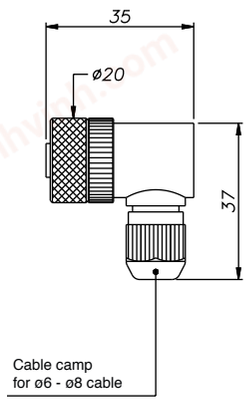
For B-C outputs, M16 thread connector

Code: **CON021 for 6-pin output (WPP-A-B)**
CON022 for 6-pin output (WPP-A-B)
CON023 for 6-pin output (WPP-A-B)
CON026 for 8-pin output (WPP-A-C)
CON027 for 8-pin output (WPP-A-C)
CON028 for 8-pin output (WPP-A-C)

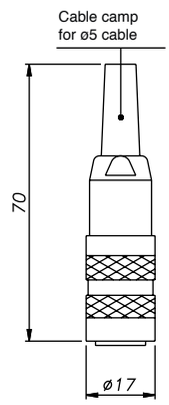
Connector extraction length: 10mm



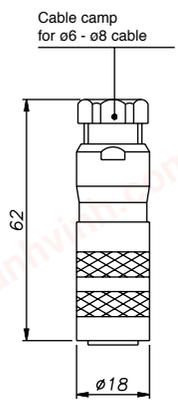
CON031
CON035
IP67 - IEC 48B



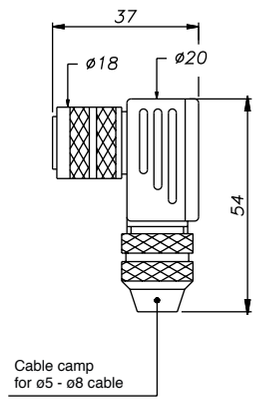
CON041
CON042
IP67



CON021
CON026
IP40 - EMC



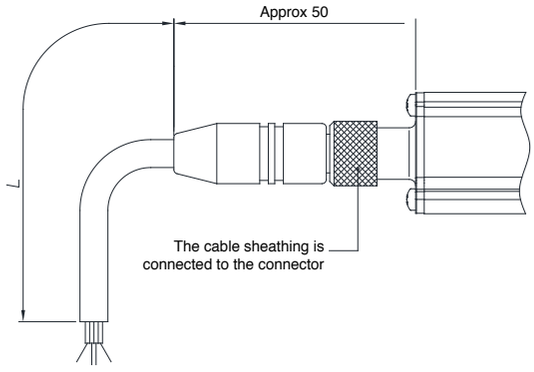
CON022
CON027
IP67 - EMC



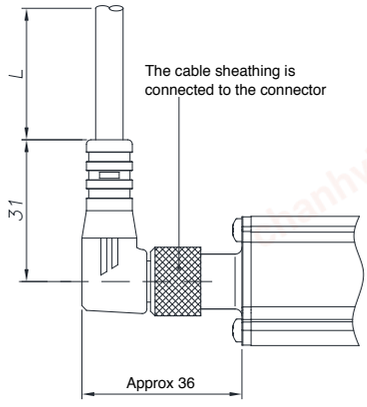
CON023
CON028
IP67 - EMC

OPTIONAL CABLES OUTPUT

PRE-ASSEMBLED CABLE WITH STRAIGHT CONNECTOR



PRE-ASSEMBLED CABLE WITH 90° CONNECTOR



5-pin cable code		WPP-A-A	
Lenght “L”		CODE	
		Straight cable	Cable to 90°
2	mt	**CAV011**	**CAV021**
5	mt	**CAV012**	**CAV022**
10	mt	**CAV013**	**CAV023**
15	mt	**CAV015**	**CAV024**

8-pin cable code		WPP-A-H	
Lenght “L”		CODE	
		Straight cable	Cable to 90°
2	mt	**CAV002**	**CAV005**
5	mt	**CAV003**	**CAV006**
10	mt	**CAV004**	**CAV007**
15	mt	**CAV009**	**CAV008**

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

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