GEFRAN

IK2 P

CONTACTLESS RECTILINEAR MAGNETOSTRICTIVE DISPLACEMENT TRANSDUCER (PROFIBUS OUTPUT)

Main features

- *Ability to control up to four cursors simultaneously*
- *Two M12 connectors for simplified connection to Profibus, one M8 connector for separate power connection (transducer can be powered without having to connect it to the bus)*
- *Local intelligence*
- *Profibus DPV0 interface on RS485 in conformity to IEC 61158*
- *Strokes from 50 to 4000 mm*
- *Displacement position settable via software up to 5 µm*
- *Speed resolution up to 0.01 mm/sec*
- *Linearity error ≤ 0.01%*
- *Repeatability error ≤ 0.001%*
- *Conforms to EC directives (EN 50081-1 50082-1)*
- *Resistance to vibration (DIN IEC68T2/6 12 g)*
- *IP67 protection*

Contactless absolute linear displacement transducer with magnetostrictive technology.
The Profibus fieldbus communication interface permits integration in complex systems with large communication distances, guaranteeing safe and rapid data transmission.
The contactless cursor eliminates problems of wear, for almost unlimited transducer life.
The countless advantages include reduced size for easier installation, high protection level for use in harsh environments, high performance in terms of linearity, repeatability, and resistance to vibration and impact, to assure maximum reliability.

CARATTERISTICHE TECNICHE

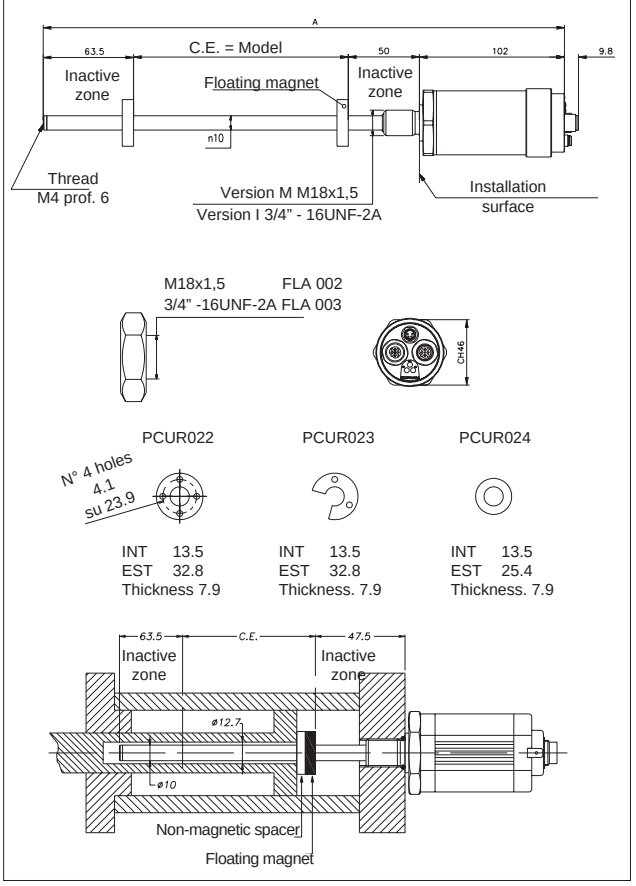
Model	from 50 to 4000 mm
Measurement read	Displacement
Displacement sampling time (typical)	1 ms
Shock test DIN IEC68T2-27	100g - 11ms - single blow
Vibrations DIN IEC68T2-6	12g / 10...2000Hz
Displacement speed	≤10 m/s
Max. acceleration	≤ 100 m/s² Displacement
Resolution	up to 5 µm
Cursor type	Separate floating magnet
Working temperature	-30...+75°C
Storage temperature	-40...+100°C
Temperature coefficient	20ppm FS / °C
Ambient protection	IP67

ELECTRICAL CHARACTERISTICS

Output signal	Profibus DPV0 on RS485
Rated power supply	24 Vdc ±20%
Max. power ripple	1Vpp
Max. input	100mA
Min. load on output	RS485 standard
Electrical isolation	500 V (D.C. supply/ground)
Protection against reversed polarity	Yes
Protection against overvoltage	Yes
Self-resetting internal fuse	Yes

MECHANICAL DIMENSIONS

Version IK2P

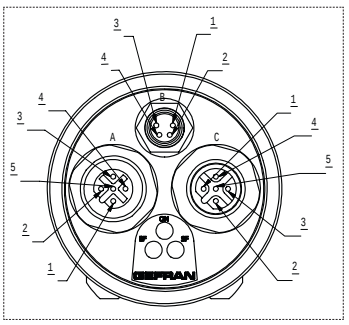


ELECTRICAL / MECHANICAL DATA

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
																						1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	
Electrical stroke (C.E.)	mm	**Model**																														
Independent linearity	± %F.S.	typical 0,02 (Max. 0,04)																														
Max. dimensions (A)	mm	**Model + 215,50**																														
Repeatability	mm	< 0,01																														
Hysteresis	mm	< 0,01																														
Minimum sampling time	ms	**1** for strokes from 0 to 1200mm; **2** for strokes from 1200 to 2400mm; **4** for strokes from > 2400mm																														

ELECTRICAL CONNECTIONS AND CONFIGURATION OF LEDs

IK2P W OUTPUT



CONNECTOR A (M12 FEMALE)	
1	5VD_ISO
2	LINE_A/N
3	GND_ISO
4	LINE_B/P
5	GROUND

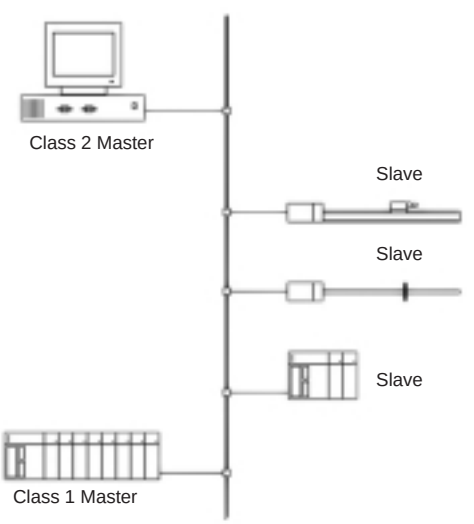
CONNECTOR B (M8 MALE)	
1	24V
2	N.C.
3	0V
4	N.C.

CONNECTOR C (M12 MALE)	
1	5VD_ISO
2	LINE_A/N
3	GND_ISO
4	LINE_B/P
5	GROUND

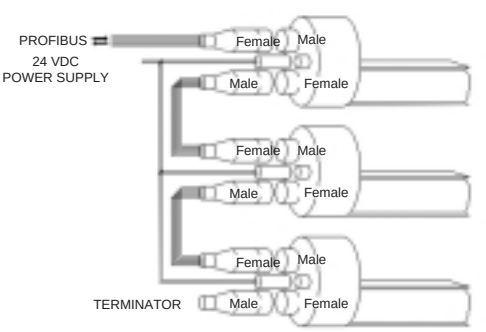
GREEN LED (ON)	RED LED (System Fault)	RED LED (Bus Fault)	CODE
Off	Off	Off	Device not powered
On	On	On	Internal device error (incorrect initialization) Master not connected to network
On	Off	On	Correct initialization Network error, master not connected to network
On	On	Off	Incorrect number of magnets Magnet out of measurement range Internal device error
On	On/Off	Flashing (f=1Hz)	Master connected to network Incorrect parameterization or configuration
On	Off	Off	Device in data exchange

PROFIBUS AND CONNECTION STRUCTURE

A Profibus network lets you connect peripheral devices defined as Slaves (transducers or actuators) to main control units defined as Class 1 Masters (typically PLCs).
The network software is installed by means of a Class 2 Master containing the database with the GSD files of all connected devices. The network is drawn and parameterized with a graphics tool, then the configuration is loaded in the Class 1 Masters in the network.
The Class 1 Master(s) launch(es) the communication process with the peripheral devices according to the configuration received from the Class 2 Master.
This process includes an exchange of initial data regarding identification of the Slaves and their parameterization and configuration.
When this phase is done, control of the application begins with an exchange of process data on the network. The GSD file contains all of the data on device identification, supported functions, and length and format of data packets.



Connection with two M12 connectors + 1 M8 connector:
- no T connection needed
- standard M12 and M8 connectors
- separate power supply line (ideal for use of programmer)



ORDER CODE

Displacement transducer I K 2 P W ☐ ☐ ☐ ☐ ☐

Configurator ☐ 0 0 0 2 X X X X 0 0 ☐ 0 X X

Model

1 cursor	**1**
2 cursors	**2**
4 cursors	**4**

M	Standard M18x1.5 threading
I	3/4 – 16 UNF threading

Node number programmer
XXX = standard; node = 125
nnn = Node indicated in order

0	No certificate to be attached)
L	Linearity curve to be attached

Ex.: IK2-P-W-0500-2 0000-2-PXXX-00-M-0-XX
Model IK2 transducer, Profibus DP output, 2 M12 connectors + 1 M8 connector, model 500, 2 cursors, system resolution 0.005 mm, node number to be specified in order, standard M18x1.5 threading.

OPTIONAL CABLES

M8 axial 4-pin female connector, prewired with 3-meter power cable	**PCAV700**
M8 axial 4-pin female connector, prewired with 5-meter power cable	**PCAV701**
M12 axial 5-pin female connector, prewired with 3-meter power cable	**PCAV702**
M12 axial 5-pin female connector, prewired with 5-meter power cable	**PCAV704**
M12 axial 5-pin male connector, prewired with 3-meter power cable	**PCAV703**
M12 axial 5-pin male connector, prewired with 5-meter power cable	**PCAV705**

OPTIONAL ACCESSORIES

Profibus terminator (M12 axial male connector)	**CON049**
M12 axial 5 pin male connector	**CON380**
M12 axial 5 pin female connector	**CON390**
Node number programmer	**XXXXXX**

GSD file downloadable from website www.gefran.com

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