# **GEFRAN**

# RECTILINEAR DISPLACEMENT TRANSDUCER WITH BALL TIP



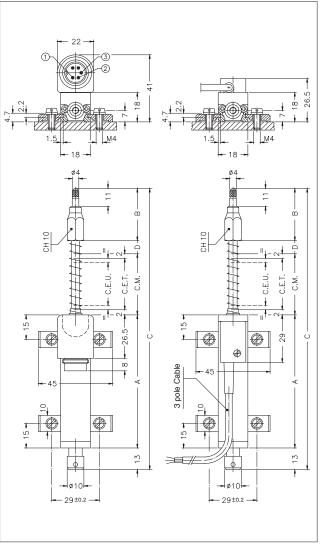
#### Principal characteristics

- The side connection creates a through-rod structure with double rod support, guaranteeing greater overall strength of the transducer.
- The return spring automatically returns the rod to zero position, making the transducer suitable for comparator applications.
- The tip with stainless steel ball is suitable for applications where the object to be measured is not subject to shifts transverse to the transducer axle.
- Ideal for checking the flatness or thickness of panels of various materials. Can also be used for valves or mechanical parts when the rod cannot be attached to the moving object.

### **TECHNICAL DATA**

Useful electrical stroke (C.E.U.)       10/25/50/75/100         Resolution       Infinite         Independent linearity (within C.E.U.)       see table         Displacement speed       ≤ 10 m/s         Displacement force       ≤ 4 N         Life       >25x10°m strokes,or 100x10° operations, whichever is less (within C.E.U.)         Vibrations       52000Hz, Amax =0,75 mm amax. = 20 g         Shock       50 g, 11ms.         Tolerance on resistance       ± 20%         Recommended cursor current       10mA         Maximum cursor current       10mA         Maximum applicable voltage       see table         Electrical isolation       >100 μΩ a 500V=, 1bar, 2s         Dielectric strength       < 100 μA a 500V~, 50Hz, 2s, 1bar         Dissipation at 40°C (0W at 120°C)       see table         Actual Temperature       < 1,5ppm/°C         Coefficient of the output voltage       < 1,5ppm/°C         Working temperature       -30+100°C         Storage temperature       -50+120°C         Case material       Anodised aluminium Nylon 66 G 25         Control rod material       Stainless steel AISI 303         Fixing       Brackets with variable longitudinal axis		
Independent linearity (within C.E.U.)       see table         Displacement speed       ≤ 10 m/s         Displacement force       ≤ 4 N         Life       >25x10°m strokes,or 100x10° operations, whichever is less (within C.E.U.)         Vibrations       52000Hz, Amax =0,75 mm amax. = 20 g         Shock       50 g, 11ms.         Tolerance on resistance       ± 20%         Recommended cursor current       < 0,1 μA		10/25/50/75/100
(within C.E.U.)       see table         Displacement speed       ≤ 10 m/s         Displacement force       ≤ 4 N         Life       >25x10°m strokes,or 100x10° operations, whichever is less (within C.E.U.)         Vibrations       52000Hz, Amax =0,75 mm amax. = 20 g         Shock       50 g, 11ms.         Tolerance on resistance       ± 20%         Recommended cursor current       < 0,1 μA	Resolution	Infinite
Displacement force ≤ 4 N  Life		see table
Separation   Se	Displacement speed	≤ 10 m/s
Life operations, whichever is less (within C.E.U.)  Vibrations 52000Hz, Amax =0,75 mm amax. = 20 g  Shock 50 g, 11ms.  Tolerance on resistance ±20%  Recommended cursor current 10mA  Maximum cursor current 10mA  Maximum applicable voltage see table  Electrical isolation >100MΩ a 500V=, 1bar, 2s  Dielectric strength <100 μA a 500V~, 50Hz, 2s, 1bar  Dissipation at 40°C (0W at 120°C) see table  Coefficient of the output voltage  Working temperature -30+100°C  Storage temperature -50+120°C  Case material Anodised aluminium Nylon 66 G 25  Control rod material Brackets with variable longitudinal	Displacement force	≤ 4 N
Shock   50 g, 11ms.     Tolerance on resistance   ± 20%     Recommended cursor current   < 0,1 μA     Maximum cursor current   10mA     Maximum applicable voltage   Electrical isolation   >100MΩ a 500V=, 1bar, 2s     Dielectric strength   < 100 μA a 500V~, 50Hz, 2s, 1bar     Dissipation at 40°C (0W at 120°C)   See table     Actual Temperature   Coefficient of the output voltage   Working temperature   -30+100°C     Storage temperature   -50+120°C     Case material   Anodised aluminium Nylon 66 G 25     Control rod material   Brackets with variable longitudinal	Life	operations, whichever is less
Tolerance on resistance ± 20%  Recommended cursor current	Vibrations	, , , , , , , , , , , , , , , , , , , ,
Recommended cursor current       < 0,1 μA	Shock	50 g, 11ms.
current < 0,1 μA  Maximum cursor current 10mA  Maximum applicable voltage see table  Electrical isolation >100MΩ a 500V=, 1bar, 2s  Dielectric strength <100 μA a 500V~, 50Hz, 2s, 1bar  Dissipation at 40°C (0W at 120°C) see table  Actual Temperature Coefficient of the output voltage  Working temperature -30+100°C  Storage temperature -50+120°C  Case material Anodised aluminium Nylon 66 G 25  Control rod material Brackets with variable longitudinal	Tolerance on resistance	± 20%
Maximum applicable voltage       see table         Electrical isolation       >100 MΩ a 500V=, 1bar, 2s         Dielectric strength       < 100 μA a 500V~, 50Hz, 2s, 1bar		< 0,1 μΑ
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Dissipation at 40°C (0W at 120°C) see table  Actual Temperature Coefficient of the output voltage  Working temperature -30+100°C Storage temperature -50+120°C  Case material Anodised aluminium Nylon 66 G 25  Control rod material Stainless steel AISI 303  Fixing Brackets with variable longitudinal	Electrical isolation	>100MΩ a 500V=, 1bar, 2s
(0W at 120°C)  Actual Temperature Coefficient of the output voltage  Working temperature  Storage temperature  Case material  Control rod material  Stainless steel AISI 303  Brackets with variable longitudinal	Dielectric strength	< 100 μA a 500V~, 50Hz, 2s, 1bar
Coefficient of the output voltage  Working temperature -30+100°C  Storage temperature -50+120°C  Case material Anodised aluminium Nylon 66 G 25  Control rod material Stainless steel AISI 303  Fixing Brackets with variable longitudinal		see table
Storage temperature -50+120°C  Case material Anodised aluminium Nylon 66 G 25  Control rod material Stainless steel AISI 303  Fixing Brackets with variable longitudinal	Coefficient of the output	<1,5ppm/°C
Case material  Anodised aluminium Nylon 66 G 25  Control rod material  Stainless steel AISI 303  Brackets with variable longitudinal	Working temperature	-30+100°C
Control rod material  Stainless steel AISI 303  Brackets with variable longitudinal	Storage temperature	-50+120°C
Fixing Brackets with variable longitudinal	Case material	Anodised aluminium Nylon 66 G 25
Fixing	Control rod material	Stainless steel AISI 303
	Fixing	_

#### **MECHANICAL DIMENSIONS**

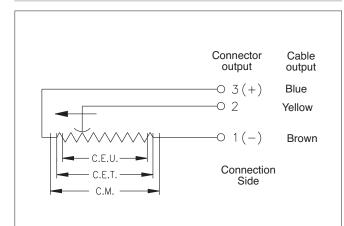


Important: all the data reported in the catalogue linearity, lifetime, temperature coefficient are valid for a sensor utilization as a ratiometric device with a max current across the cursor Ic  $\leq$  0.1  $\mu$ A.

# **MECHANICAL / ELECTRICAL DATA**

Model		10	25	50	75	100
Useful electrical stroke (C.E.U.) +1/-0	mm	10	25	50	76	101
Theoretical electrical stroke (C.E.T.) ±1	mm	C.E.U. +1			76	101
Resistance (C.E.T.)	kΩ	1	1	5	5	5
Independent linearity (within C.E.U.)	± %	0.3	0.2	0.1	0.1	0.1
Dissipation at 40° (0W at 120°C)	W	0.2	0.6	1.2	1.8	2.4
Maximum applicable voltage	V	14	25	60	60	60
Mechanical stroke (C.M.)	mm	C.E.U. + 5				
Case length (A)	mm	C.E.U. + 38				
Tip length (B)	mm	32	32	40	40	40
Total length (C)	mm	108	138	196	251	307
Quote (D)	mm	-	-	-	5	11

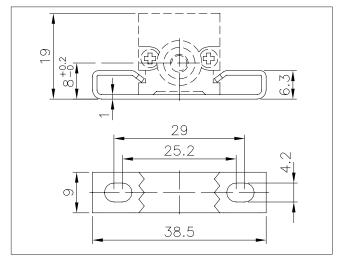
#### **ELECTRICAL CONNECTIONS**



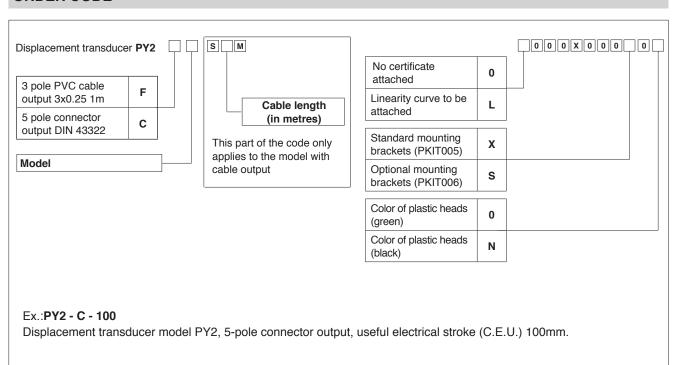
#### **INSTALLATION INSTRUCTIONS**

- Respect the indicated electrical connections (DO NOT use the transducer as a variable resistance)
- When calibrating the transducer, be careful to set the stroke so that the output does not drop below 1% or rise beyond 99% of the supply voltage.

#### **OPTIONAL FIXING KIT PKIT006**



#### **ORDER CODE**



# **ACCESSORIES**

STANDARD ACCESSORIES		
Fixing kit: 4 brackets, M4x10 screws, washer	PKIT005	
Fixing kit: 2 "wraparound" brackets (0000X000S00 configurator option)	PKIT006	
Tip with bal	PTAS000	
OPTIONAL ACCESSORIES		
5-pin axial female PCB connector DIN43322 IP40 clamp for wire ø4 - ø6 mm	CON011	
5-pin axial female PCB connector DIN43322 IP65 clamp PG7 for wire ø4 - ø6 mm	CON012	
5-pin 90° radial female PCB connector DIN43322 IP40 clamp for wire ø4 - ø6 mm	CON013	

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice

Iran agent

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