Measurement and Sensor Systems

Linear Displacement Transmitters

FSG
FERNSTEUERGERÄTE

Linear Displacement Transmitters

For measuring linear displacements on machines and converting them into electrical signals for teletransmission purposes - linear displacement transmitters of the **potentiometric or inductive** type can be used, depending on their application.

In addition to other application they are used on

– **bending machines and injection moulding machines**
– **actuator drives of valves and traps**
– **transport vehicles**
– **thickness, distance and pressure gauges**

Potentiometric linear displacement transmitters comprise high-resolution wirewound resistance elements, capable of measuring length up to 1 m with high accuracy and a linearity of ± 0,1%.

For protection against mechanical damage, plunger with sintered metal bearing and pull-back spring (optional), wiper guide, wiper and resistance element are encapsulated in a robust aluminium casing, degree of protection IP 65.

For measurements relevant to safety, transmitters of this type are available with double-track potentiometer.

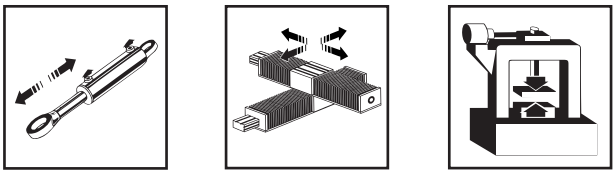
Inductive linear displacement transmitters comprise a non-contact differential inductor system providing high linearity and resolution, capable to perform reliable measuring ranges from 0 to 0.5 mm up to 0 to 500 mm even under extremely severe environmental conditions.

A separate or built-in oscillator/demodulator unit transforms the linear displacement of the plunger controlled differential inductor system into a current or voltage output signal.

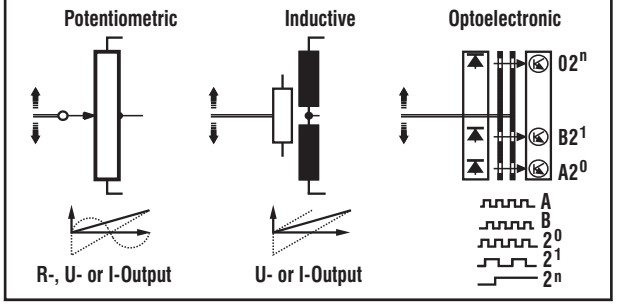
For the determination of measuring length in the range of several meters, the program offers extra rope length transmitters (further information see data sheet “Rope Length Transmitters”).

Accessories: For indicating and monitoring the measured lengths picked up by these systems, indicating instruments and limit indicators are available (further information see data sheets “Signal Indication” and “Signal Converters”).

Application range



Measuring systems



Specifications

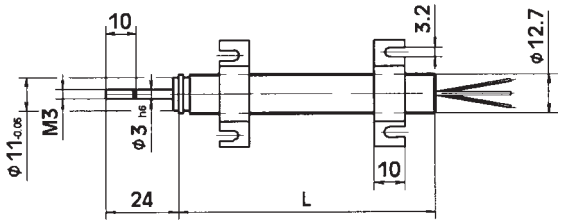
System versions	potentiometric															
Models																
Series	**SP 0 … / 12,7***						**SP … / 28**				**SP … / 35**					
Measuring length	25	55	85	115	145	175	25	50	100	150	100	200	250	300	400	500
Casing material	Al,anodised						Al,anodised or V4A stainless-steel									
Degree of protection	IP 40						IP 65									
Plunger	stainless steel, sintered metal bearing						stainless steel, sintered metal bearing									
Pull-back spring	up to 55 mm measuring length						optional									
Resistance	up to 10 kΩ ± 5%						up to 100 kΩ ± 5%									
Linearity	≤ ± 0,5%						≤ 0,5%up to 0,05%									
Multiple design	–						twofold									
Output	–						–				0 / 4 - 20 mA					
Burden	–						–				max. 600 Ω					
Supply	–						–				18 - 33 VDC					

* Economical small-size model

System versions	inductive							
Models								
Series	**W5 - 01**		**W5 - 01 / 28**		**W25 … W500 - 01**			
Measuring length	0 - 5 mm				25	50	100	150	200	250	500
Casing material	Al, anodised				Al, anodised or V4A stainless-steel						
Degree of protection	IP 30		IP 65		IP 65						
Plunger	stainless steel, sintered metal bearing				stainless steel, sintered metal bearing						
Pull-back spring	✓				✓						
Linearity	≤ ± 0,1%				≤ ± 0,3%						
Output	Current or voltage only in connection with separate signal converter (as well degree of protection EEx)				0 / 4 - 20 mA						
Burden					max. 600 Ω						
Supply					18 - 33 VDC						

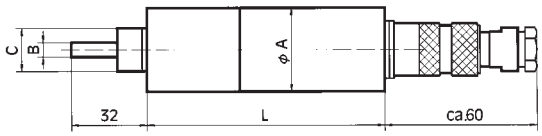
Models

SP 0 … / 12,7



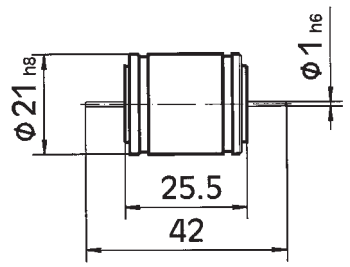
Dimension	Measuring length					
for stroke	25	55	85	115	145	175
L	55	85	115	145	175	205

SP … / 28 / 35

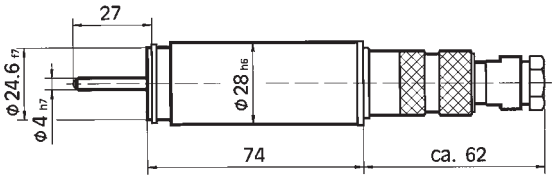


Dimension	Measuring length SP … / 28				Measuring length SP … / 35					
for stroke	25	50	100	150	100	200	250	300	400	500
L	102,4	127,4	177,4	227,4	185	285	335	385	485	585
Ø	A Ø28 B Ø6 C Ø15				A Ø35 B Ø10 C Ø18					

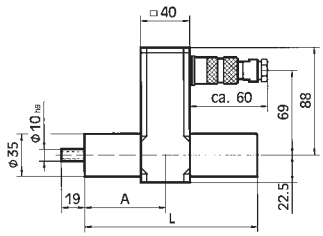
W5 - 01



W5 - 01 / 28



W25 … W 500 - 01



Dimension	Measuring length						
for stroke	25	50	100	150	200	250	500
A	41	66	116	166	216	266	516
L	91,5	114,5	241,5	341,5	441,5	541,5	1041,5

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