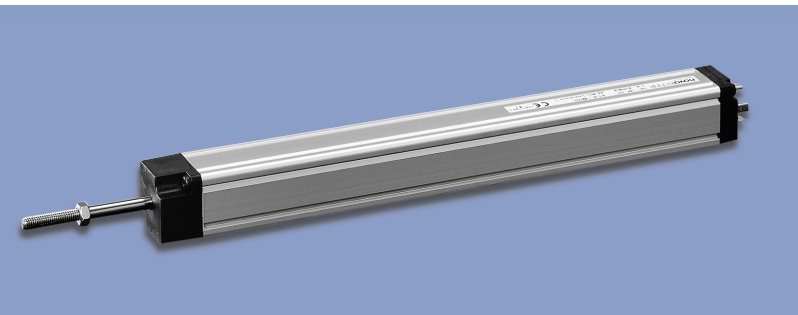


## Position Transducers potentiometric up to 900 mm

Series LWH



### Special features

- very long life  $>100 \times 10^6$  movements
- outstanding linearity
- high resolution 0.01 mm
- very high operating speed
- connection via plug and socket to DIN 43 650 (hydraulic connector)
- protection class IP 55

Designed for the direct, absolute measurement of displacement or length in control regulation and measuring applications.

High resolution (0.01 mm) combined with a stroke length of up to 900 mm permits the accurate measurement of linear displacement.

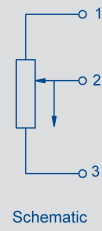
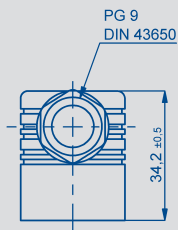
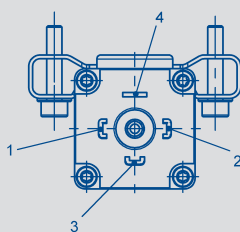
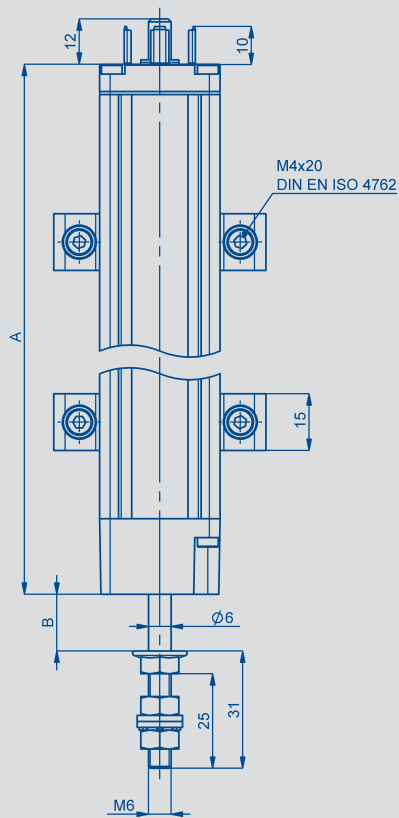
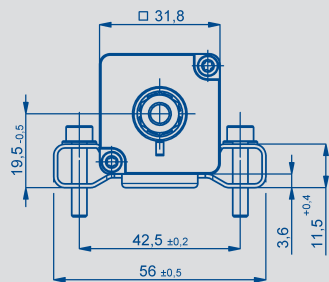
Rack and pinions or similar devices are not required because the design of the transducers is such that they may be built directly into the mechanical system.

Tighter tolerances on the extruded body combined with a special surface treatment permit high operating speeds and reduced wear. A pivoting front bearing overcomes „stick-slip“ type of operation even where some angular or out of parallel errors are present. The technique for fixing and making connections to the resistance track ensures the highest degree of reliability even under harsh working conditions.

By mounting overhead on difficult-to-reach machines it is possible to pre-mount the clamps to the mounting surface and then simply “snap-on” the transducer.

The transducer has mounting grooves on all four housing surfaces. Thus the transducer can always be mounted with the resistance element directed upwards (recognizable by the position of the middle mounting groove directly across from the resistance element), independent of the mounting surface.

Erosion particles from inside the transducer will therefore not remain on the resistance element, improving the life-span of the sensor.



#### Description

Housing	aluminium, anodized
Fixings	adjustable clamps, snap on all sides
Actuator	stainless steel, rotatable
Bearings	pivoting sleeve bearing
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper, elastomer-damped
Electrical connections	4pole socket to DIN 43650

Type designations	LWH 75	LWH 100	LWH 130	LWH 150	LWH 175	LWH 200	LWH 225	LWH 250	LWH 275	LWH 300	LWH 325	LWH 360	LWH 375	LWH 400	LWH 450	LWH 500	LWH 550	LWH 600	LWH 750	LWH 900		
<b>Electrical Data</b>																						
Defined electrical range	75	100	130	150	175	200	225	250	275	300	325	360	375	400	450	500	550	600	750	900	mm	
Electrical stroke	77	102	132	152	178	203	228	254	279	304	330	366	381	406	457	508	559	610	762	914	mm	
Nominal resistance	3	3	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	10	10	kΩ	
Resistance tolerance																					±%	
Independent linearity	0,1	0,1	0,09	0,08	0,07	0,07	0,07	0,07	0,07	0,06	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,04	0,04	±%	
Repeatability																					mm	
Recommended operating wiper current																					μA	
Max. wiper current in case of malfunction																					mA	
Max. permissible applied voltage																					V	
Effective temperature coefficient of the output-to-applied voltage ratio																					ppm/K	
Insulation resistance (500 VDC, 1 bar, 2 s)																					MΩ	
Dielectric strength (50 Hz, 2 s, 1 bar, 500 VAC)																					μA	
<b>Mechanical Data</b>																						
Body length (dimension A)	146	171	201	222	248	273	298	324	349	375	400	436	451	476	527	578	629	680	832	984	±2 mm	
Mechanical stroke (dimension B)	85	110	140	161	186	212	237	262	288	313	339	374	390	415	466	516	567	618	770	923	±2 mm	
Total weight	220	250	290	320	350	380	410	440	470	500	530	570	590	620	680	740	805	870	1050	1230	g	
Weight of actuator and wiper	50	55	60	65	72	78	85	90	95	100	105	115	120	125	135	145	160	170	210	245	g	
Operating force horizontal																					N	
vertical																					N	
<b>Environmental Data</b>																						
Temperature range											-30... +100											°C
Vibration											5... 2000 A <sub>max</sub> = 0.75 a <sub>max</sub> = 20											Hz mm g
Shock											50 11											g ms
Life											>100 x 10 <sup>6</sup>											movements
Operating speed											10											m/s max.
Operational acceleration											200 (20 g)											m/s <sup>2</sup> max.
Protection class											IP 55 (DIN 400 50 / IEC 529)											

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Order designations	
Type	Art.no.
LWH 50*	024302
LWH 75	024303
LWH 100	024304
LWH 110*	024360
LWH 130	024305
LWH 150	024306
LWH 175	027307
LWH 200	024308
LWH 225	024309
LWH 250	024310
LWH 275	024311
LWH 300	024312
LWH 325	024313
LWH 360	024314
LWH 375	024315
LWH 400	024316
LWH 425*	024317
LWH 450	024318
LWH 500	024320
LWH 550	024322
LWH 600	024324
LWH 650*	024326
LWH 750	024330
LWH 800*	024332
LWH 850*	024334
LWH 900	024336

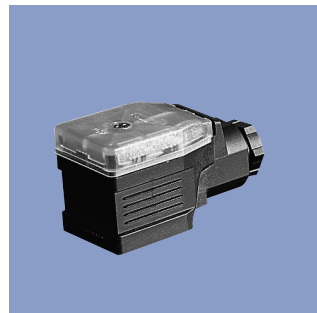
\*) Technical datas on request  
 Other lengths on request

#### Included in delivery

1 plug connector GDM 3009,  
 1 sealing gasket GDM 3-16,  
 2 fixing clamps with 4 screws

#### Recommended accessories

Pivot head (see accessoires)  
 Z 60  
 Process-controlled indicators  
 MAP... with display Signal  
 conditioner MUW.../MUK ...  
 for current supply 24 V and-  
 standardized output signals.



Signal conditioner MUW200  
 and MUW250 for current  
 supply 24 V and standardized  
 output signals integrated in a  
 socket.

#### Important

All the values given in this  
 data sheet for linearity, lifetime  
 and temperature coefficient in  
 the voltage dividing mode are  
 quoted for the device opera-  
 ting with the wiper voltage  
 driving on operational amplifier  
 working as a voltage follower,  
 where virtually no load is app-  
 lied to the wiper ( $I_e \leq 1 \mu A$ ).