

**Position Transducers  
up to 750 mm**

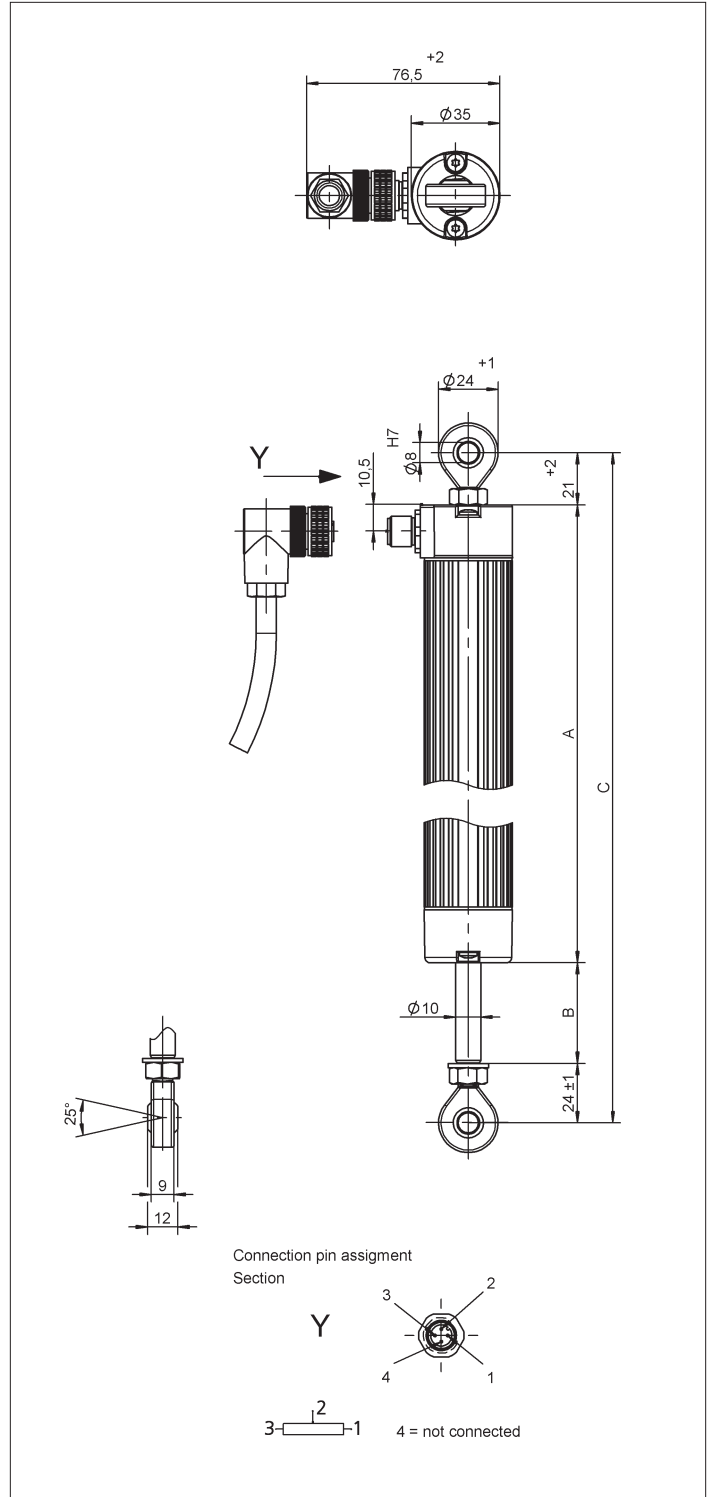
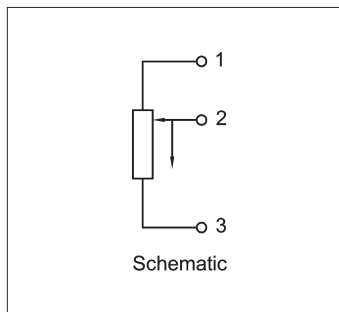
LWX Series



**Special features**

- seal rating IP 67
- all-metal housing
- corrosion resistant
- patented differential pressure compensation system compensates for pump effect of push rod movement
- high vibration resistance
- also available with shaft bellows for additional shaft protection in extreme environments
- can withstand oil and water environments
- twin-bearing actuating rod
- mountable over backlash-free pivot heads with a large angle of free movement (up to  $\pm 12.5^\circ$ )
- outstanding linearity
- resolution better than 0.01 mm
- life (depending on application) up to 50 million movements
- protection class IP 67

Designed for extreme operating environments, the LWX series features all-metal construction and patented pressure equalization technology to prevent buildup that could degrade operation in mechanical, vehicle, automation and robotic applications where an extended operating life is essential. These rugged position transducers provide direct, absolute measurement of displacement or length. A free-pivot-head mounted on the actuating rod eliminates backlash guaranteeing high accuracy.



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Description		Environmental Data		
Housing	aluminum, anodized	Temperature range	-30...+100	°C
Fixings	see drawing	Vibration	5...2000 $A_{max} = 0.75$ $a_{max} = 20$	Hz mm g
Actuator	stainless steel, rotatable	Shock	50 11	g ms
Bearings	sleeve bearing	Life	50 x 10 <sup>6</sup> (typical)	movem.
Resistance element	conductive plastic	Operating speed	5	m/s max.
Wiper assembly	precious metal multi-finger wiper, elastomer damped	Protection class	IP 67	
Electrical connections	4-pin M12 connector			

Type designations	LWX 75	LWX 100	LWX 150	LWX 225	LWX 300	LWX 360	LWX 450	LWX 500	LWX 600	LWX 750	
<b>Electrical Data</b>											
Defined electrical range	75	100	150	225	300	360	450	500	600	750	mm
Electrical stroke	76	102	152	228	304	366	457	508	610	762	mm
Nominal resistance	3	3	5	5	5	5	5	5	5	10	kΩ
Resistance tolerance	20										±%
Independent linearity	0.1	0.1	0.08	0.07	0.06	0.05	0.05	0.05	0.05	0.04	%
Repeatability	< 0.01										mm
Recommended operating wiper current	≤ 1										μA
Max. wiper current in case of malfunction	10										mA
Max. permissible applied voltage	42										V
Effective temperature coefficient of the output-to-applied voltage ration	typical 5										ppm/K
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10										MΩ
Dielectric strength (50 Hz, 2 s, 1 bar, 500 VAC)	≤ 100										μA
<b>Mechanical Data</b>											
Body length (dimension A)	201	227	277	354	430	505	619	684	810	994	±2 mm
Mechanical stroke (dimension B)	79	105	155	231	307	368	460	510	612	764	±2 mm
Minimum distance between pivot heads (dimension C)	247	273	323	400	476	551	665	730	856	1040	mm

**Recommended accessories**

Process-controlled indicators  
MAP...with display,  
Signal conditioner MUP.../MUK...  
for standardized output signals

**Important**

All values given for this series – including linearity, lifetime, micro-linearity, resistance to external disturbances and temperature coefficient in voltage dividing mode – are quoted for the device operating with the wiper voltage driving an operational amplifier working as a voltage follower where virtually no load is applied to the wiper ( $I_e \leq 1 \mu A$ ).

Subject to changes

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