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Scanreco / Linear lever / L2

Type: Linear lever L2

Specification: L2

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Introduction of L2.

Developed for applications where ergonomics and system integrity are paramount, the L2 is an compact, low profile linear lever that provides smooth, precise fingertip control in one axis. The L2 is sealed to IP66 to enable it to operate in extreme environments. With all the components contained within the handle it is ideal for mounting in low profile panels and arm rests. Installation time has been reduced through the use of a standard electronic connector, and the linear lever has been designed for maintenance-free operation.

Typical applications include remote control chest packs and the control of cranes and machines for heavy duty industrial applications, mobile hydraulic, offshore applications, or material handling equipment.

Mechanical Design

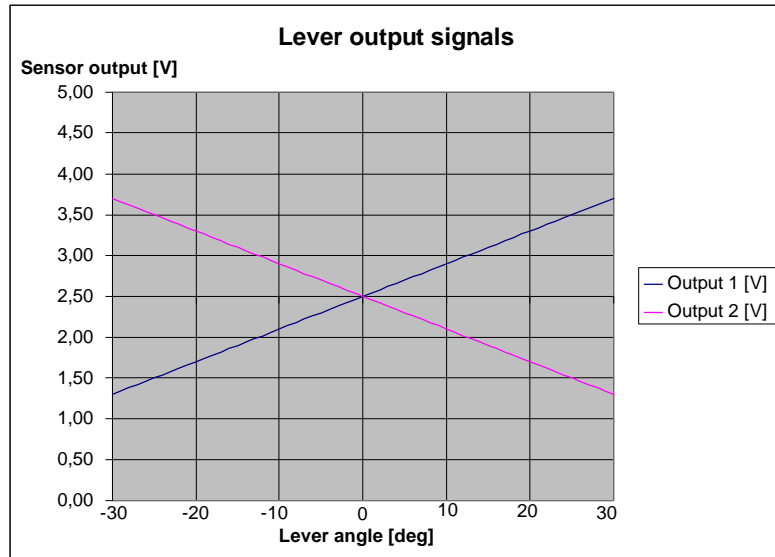
Mechanical dimensions

Maximum height	74.5 mm
Dimension base plate	38 x 55 mm
Mounting hole	Four 3.5mm in 46 x 29 mm
Weight	≤ 58 g
Number of axis	One
Lever action	Spring return to centre ($\pm 0.5^\circ$)
Maximum play (centre position)	$\pm 0.5^\circ$
Deflection	$\pm 30^\circ \pm 1^\circ$
Lever spring breakout force	Approx. 1.0N $\pm 10\%$ (Measured on the top of lever)
Lever spring force (end position)	Approx. 3.5N $\pm 10\%$ (Measured on the top of lever)
Material	Plastic

Electrical Design

Short circuit protection

Output voltage 1 in zero position	2.50V ± 60 mV (Opposite polarity to output 2)
Output voltage 2 in zero position	2.50V ± 60 mV (Opposite polarity to output 1)
Output voltage 1 in + 3° position	2.60V ± 60 mV (Opposite polarity to output 2)
Output voltage 2 in + 3° position	2.60V ± 60 mV (Opposite polarity to output 1)
Output voltage 1 in - 3° position	2.40V ± 60 mV (Opposite polarity to output 2)
Output voltage 2 in - 3° position	2.40V ± 60 mV (Opposite polarity to output 1)
Output voltage 1 in max position	3.60V + 100mV - 50mV (Opposite polarity to output 2)
Output voltage 2 in max position	1.40V + 50mV - 100mV (Opposite polarity to output 1)
Output voltage 1 in min position	1.40V + 50mV - 100mV (Opposite polarity to output 2)
Output voltage 2 in min position	3.60V + 100mV - 50mV (Opposite polarity to output 1)
Output sum (Output 1 + Output 2)	Supply voltage $\pm 4\%$

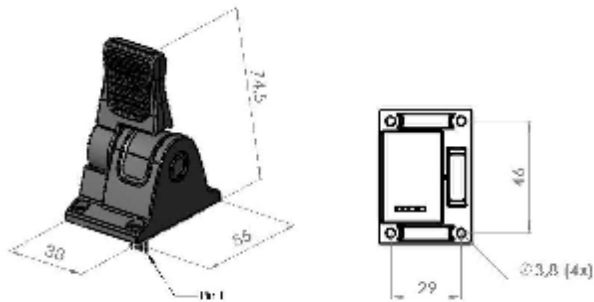


Output voltage is proportional to supply voltage. Defined output voltage above is specified with supply voltage +5.0V \pm 1%.

Sink/source capability
 Supply voltage
 Current consumption
 Power on time
 Linearity deviation

\pm 10mA (Without output deviation)
 5 V \pm 5%
 13.5mA \pm 10%
 < 100 μ s (output within \pm 10%)
 <1% (of signal at full deflection)
 deviation from ideal straight line.

Connector



Pin1: +5V
 Pin2: GND
 Pin3: Output voltage 1
 Pin4: Output voltage 2

Operating Life

Operating life (Allowing ± 1.5 degrees play in zero position)	>5 million operations
Mechanical life (Allowing ± 2.9 degrees play in zero position)	>15 million operations
Reliability	Max 1‰ faulty units after 2 years of normal use.

Environment

Operating temperature (full function)	-30°C(IEC68-2-1) to +70°C(IEC 68-2-2)
Storage temperature	-40°C(IEC68-2-1) to +80°C(IEC 68-2-2)
Environmental protection	IP66 (above mounting panel)*
EMC Immunity level	30 V/m (80 MHz-1GHz / single lever)
EMC Radiated emission	EN55022 Class B
ESD Immunity level	15 kV air, 8kV contact, according to IEC 61000-4-2
Free fall	1 m concrete IEC 60068-2-32
Salt spray	Scanreco cycle +2/+60 C, (10+10min) x 150
Temp. chock	MIL STD 883, Method 1010.7 sevB.

*It is recommended that the L2 linear lever is fitted from the top of the mounting panel using four screws (not supplied). The panel cut-out and centers for the screw positions are as shown in the panel mounting detail above. Seal integrity can only be achieved when using the sealing gasket supplied and screws are tightened. The installer should also ensure the mounting screws are adequately sealed.

Ordering code :

47600

Disclaimer: All rights reserved. Design, equipment, technical data, information and specification are subject to change or improvement.

Revision History

Release	Date: YYYY-MM-DD	Edited By	Changes
2009-01-09		Hassan Shalalvand	First creation of document