

Linear Position Sensor - VLPSC series



- Signal conditioned voltage or current outputs with zero span adjustment
- Self-aligning pivot bearing mountings
- Outstanding repeatability and linearity
- Dual seal design for extended reliability and longer life
- Elastomer damped wipers for shock and vibration durability



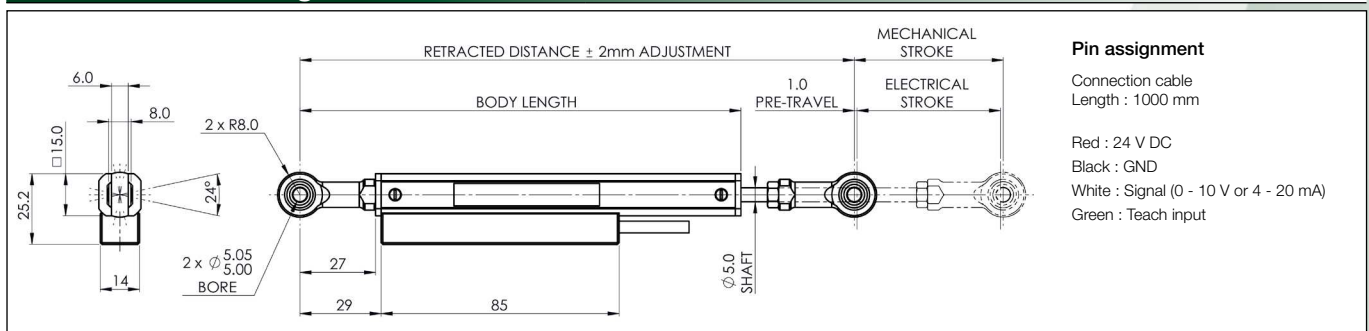
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Based on the well proven VLP series linear position sensor, the VLPSC offers integrated signal conditioning electronics with 0 -10 VDC output or 4..20 mA outputs in a tried and tested IP65 sealed design that provides long life and extremely reliable performance. The sensor is available up to 250 mm stroke length in 25 or 50 mm increments. With self-aligning spherical bearing mounts and an improved O-ring and felt shaft sealing arrangement, the range provides up to +/- 0.05% independent linearity and positioning repeatability to 0.01 mm. The conductive plastic resistance element technology maintains complete and even contact with very low electrical noise, even under the most arduous physical and environmental conditions.

Specifications

Electrical stroke	25 to 250 mm (8 measurement range options)	Operating temperature	-40 to +90°C
Mechanical stroke	+1.5 mm of electrical stroke	Humidity	5 % to 95 %
Output signal	0 - 10 V or 4 - 20 mA (automatic detection)	Max. supply voltage	12-24 VDC (30VDC overload)
Output impedance	R > 600 Ohm : voltage output 0 - 10 V R < 600 Ohm : current output 4 - 20 mA	Reverse voltage protection	30V
Resolution	Input : 12 bit Output : 12 bit	Cable type /length	Ø4.2 mm, 1000 mm, optional 3000mm
Temperature coefficient	32ppm/K	Life	> 25 x 10 ⁶ Cycles (VLP Sensor)
Sampling rate	4kHz	Sealing	IP65 - VLP Sensor (IP67 on request) IP67 - Signal conditioning unit
Refresh rate	1kHz	EMC	61000-4-6
		Teach input	High : 13 V to power supply Low : 0 V to 9 V

Dimensions & wiring



VLPSC - Model code		25	50	75	100	150SE	150	200	250
Total electrical travel TE	mm	27	52	77	102	152	152	202	250
Active electrical travel AE	mm	25	50	75	100	150	150	200	250
Repeatability	mm	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.07
Centre stroke 95% absolute linearity	+/- %	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Retracted mounting distance	mm (+/- 2)	173	198	223	248	273	298	351	401
Body length	mm	132.5	157.5	182.5	207.5	248.5	257.5	310.5	360.5

Teach procedure

Step	Description
1	Normal operation
2	Connect teach line to power supply. (at least 5 seconds / at most 60 seconds)
3	After 5 seconds LED starts flashing fast. Teach mode started. (Auto detection of possible output signal : flashing red = current output; flashing green = voltage output)
4	Disconnect teach line from power supply. LED is flashing slow red. (If only output should be changed between voltage and current, wait here for more than 2 minutes. VLPSC will change to normal operation with new detected output type and old start and end positions.)
5	Move rod extension within 2 minutes to the desired start position
6	Connect teach line to power supply (at least 1 second / at most 60 seconds)
7	After 1 second, LED starts flashing red-green. The start position has been taught
8	Disconnect teach line from power supply. LED is flashing slow red-green.
9	Move rod extension within 2 minutes to the desired end position
10	Connect teach line to power supply (at least 1 second / at most 60 seconds)
11	After 1 second LED starts flashing green. The end position has been taught
12	Disconnect teach input from power supply. Teach process finished. LED changes to green if teaching was correct. If LED is red there was an error, repeat teach process.
13	Check, if new measurement range has been taught correctly. Otherwise repeat the Teach process or check for errors*

* Reasons for red LED:

- Adjusted measuring range is less than 10% of the input range.
- Teach input is permanently high.
- Internal error.