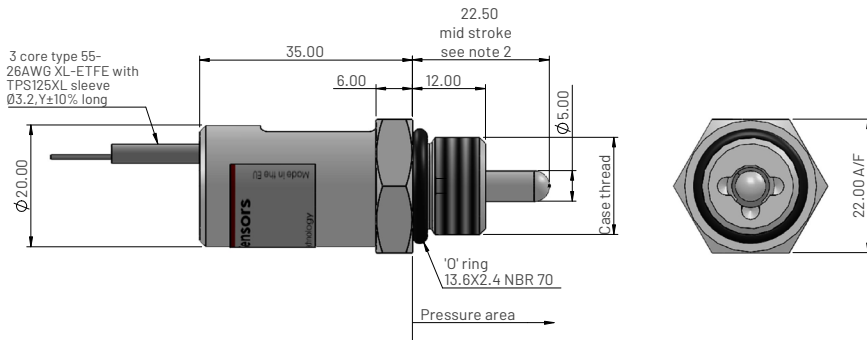


VHL2003 Series - Valve position sensor

Thread mounted. Sprung-loaded Shaft.

Dimensions for VHL2003-AB-XX-Y-ZZZ - Hexagon case with a sprung loaded shaft



Ordering information

VHL2003-AB-XX-Y-ZZZ

- Case thread
 - 1. M16x1.5-6g
 - 2. 5/8-18UNF-2A
- Stroke length
 - 05 - 5mm to 10 - 10mm
- Cable length 0 to 9
 - 0 - 0.5m, 1 - 1m ... 9 - 9m
- Output slope
 - See Output characteristics
- Output signal
 - V1 - 0.5 - 4.5

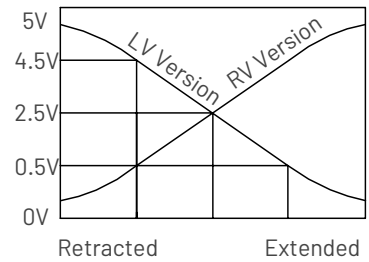
Electrical and mechanical specification for VHL2003

Input specification			
Supply voltage (Vs)	5.0±5% regulated	8 to 30 unregulated	VDC
Over voltage protection	Up to 50		VDC
Supply current	<15		mA
Reverse polarity protection	Up to -10		VDC
Power on settlement time	<100		ms
Input voltage rise time	0.25 minimum		V/ms
Output specification			
Output type	Analogue voltage		
Output direction	See output characteristics graph		
Voltage output (Vout)	0.5 to 4.5	0.5 to 4.5	VDC
Line regulation	Ratiometric with Vs	<0.01	%FS
Monotonic range	0 to 100% measurement range		
Load resistance	>10K		Ohms
Output noise	<5		mV RMS
Performance specification			
Measurement range	5 to 10 in 1mm increments		mm
Resolution	0.025		% of measurement range
Sensitivity tolerance (Note 3, 5)	<±2.5		%FS
Non-Linearity (see note 5)	<±1		%FS
Temperature coefficient (Vout)	<±0.003	<±0.011	%FS/°C
Update rate (nominal)	500		Hz
Max operating speed	1		m/s
General specification			
IP rating	IP68 and IP69K		
Shaft operation force (typical)	20		grams
Life (shaft in bush bearing)	25 million cycles		dependent on environment
Dither life	Contactless - no degradation		
Operational temperature	-40 to +150	See de-rating graph	°C
Storage temperature	-55 to +150		°C
Weight (approx.)	50		grams
Torque setting	40		Nm
Working pressure	300		bar
Materials	Case - Anodised aluminium Electronic cover - PBT glass filled (black) Shaft - Stainless steel 303		

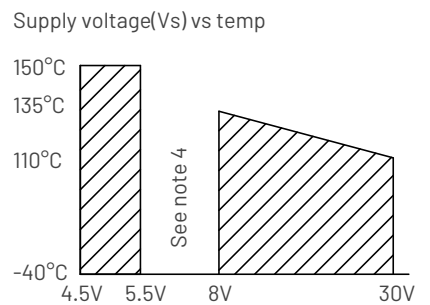
Electrical connections (see note 1)

Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground

Output characteristics



Temperature de-rating



Notes

- Incorrect wiring may cause internal damage.
- When the sensor is positioned as shown the instrument is mid-travel (2.5V output).
- Ideal sensitivity (mV/mm) is calculated from the ideal span of 4000mV (4.5-0.5VDC) divided by the measurement range in mm.
- Do not operate between 5.5V and 8V.
- Sensitivity and non-linearity are calculated from least squares best fit method.
- Due to the Hall effect technology used in this device, close proximity of ferrous materials and magnetic fields may influence output.
- General dimension tolerance is ±0.25mm.

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