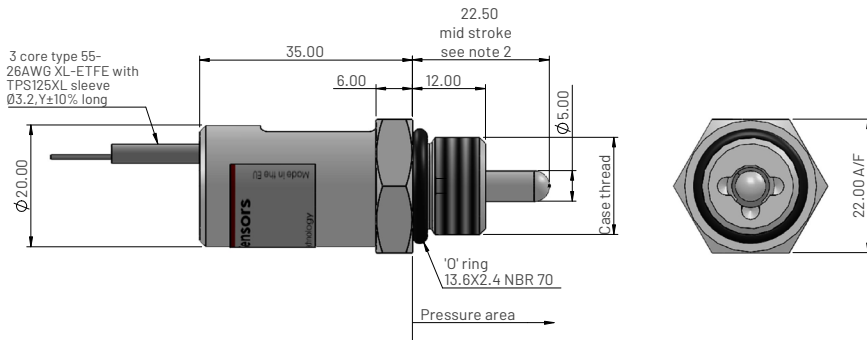


VHL2003 Series - Valve position sensor

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

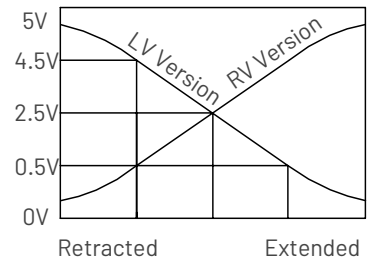
Electrical and mechanical specification for VHL2003

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)

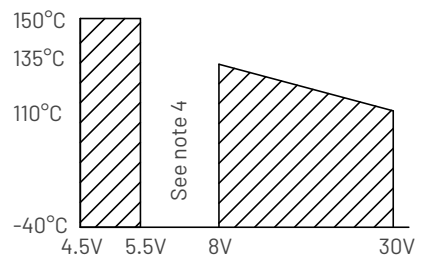
Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground

Output characteristics



Temperature de-rating

Supply voltage(Vs) vs temp



Notes

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