

The **VLT0953** is a compact, short stroke contactless position sensor with integral electronics, designed for actuator and solenoid positional feedback applications.

Manufactured to quality standards required for high performance, high cyclic control and measurement systems, there are three specific stroke lengths 1mm, 2mm and 4mm.

Produced from a robust stainless steel case for total sensor integrity, the internal winding and electronics are fully encapsulated for superior performance under temperature and vibration.

A number of customer specific options are available when ordering, including the choice of either metric or imperial thread mounting, shaft or free core for customer integration, voltage output and different cable lengths up to 9m.

Supplied with a nitrile O ring to seal the front face, the fully welded pressure area of the sensor will operate up to 300 bar. The rear of the sensor and cable exit are designed to be environmentally protected against the ingress of dust and water to IP66.

Providing a 0 - 5VDC output signal from either a 5VDC or 8 – 30VDC supply, this sensor can operate to a maximum of 125°C (257°F).

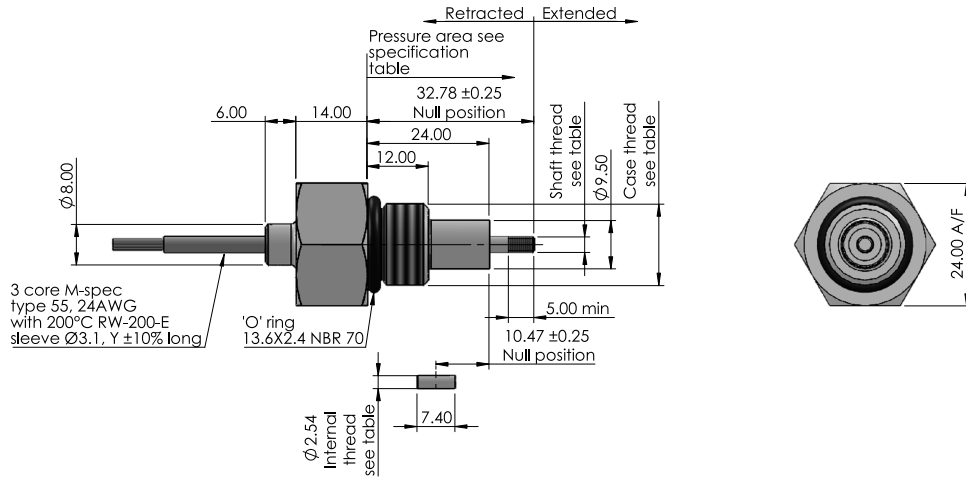
A 3-wire device, they are fitted with Raychem fire and chemical resistant, high temperature RW-200-E sleeved type 55 26AWG signal cabling.

### Key features and benefits

- Measurement ranges 1mm, 2mm and 4mm
- Contactless technology
- Integral electronics
- Choice of metric or imperial thread mounting
- Maximum operating temperature 125°C (257°F)
- Pressure area operates to a working pressure of 300 bar
- Sealed to IP66
- Robust design
- Choice of cable length between 0.5 to 9m
- Custom designs available on request



# VLT0953 – Hexagon case with rear cable exit



**Ordering information: VLT0953-AB-XX-Y-ZZZ**

Thread type  
 1. Metric  
 2. Imperial

1. Shaft  
 2. Free core

Output signal  
 V1 - 0.0 - +5.0V  
 V2 - +0.25 - +4.75V  
 V3 - +0.5 - +4.5V

Output increasing  
 see graph

Measurement range (mm)  
 01 - 1mm, 02 - 2mm, 04 - 4mm

Cable length 0 to 9  
 0 - 0.5m, 1 - 1m, ..., 9 - 9m

Sensor	Case thread	Shaft/Core thread
VLT0953-11-	M16x1.5-6g	M3x0.5-6g
VLT0953-12-	M16x1.5-6g	M2x0.4-6H both ends
VLT0953-21-	5/8-18UNF-2A	4-48UNF-2B
VLT0953-22-	5/8-18UNF-2A	1-72UNF-2B both ends

LVDT Specification								
Ordering code	01	02	04	01	02	04		
Measurement range	1 (±0.5)	2 (±1)	4 (±2)	1 (±0.5)	2 (±1)	4 (±2)	mm	
<b>Mechanical specification</b>								
Mechanical range	±2.5						mm	
<b>Performance specification</b>								
Non-linearity (see note 1)	<±0.70						%FS	
Resolution	TBD							
Thermal drift	<±0.030±0.010	<±0.010±0.010	<±0.005±0.005	<±0.030±0.010	<±0.010±0.010	<±0.005±0.005	%FS/°C	
Update time	TBD						ms	
Stability (see note 3)	TBD						%FS	
Repeatability	TBD						%FS	
Hysteresis	TBD						%FS	
<b>Electrical specification</b>								
Input voltage (+Vs)	+5.0±5% regulated			+8 to +30 unregulated				VDC
Line regulation (see note 4)	Ratiometric with supply						<0.1	%FS/V
Reverse polarity (VR) (max)	-30V						VDC	
Output voltage (Vout)	0 - 5V max						VDC	
Sensitivity <±2% (see note 1)	Vout (span) / measurement range						mV/mm	
Output load	>2						Kohms	
Output noise and ripple	TBD						%FS RMS	
Electrical connections	3 core Type 55M-26AWG with FDR25 sleeve							
Cable length	0.5 to 9.0						m	
<b>Environmental specification</b>								
Operation temperature	-40 to +125						°C	
Shaft velocity (see note 5)	<1000						mm/s	
IP rating (Cable exit)	IP66							
Torque setting	40						Nm	
Pressure rating (see note 6)	300						bar	
Sensor weight (excluding cable)	56						grams	
Materials	Shaft and Body - 316 stainless steel Core - Nickel iron alloy							

- Note:
- Non-linearity error and sensitivity is calculated from least squares best fit method
  - Thermal drift is defined as:- Maximum ratiometric change from reading at ambient (+20°C) to ratiometric reading over operating temperature range.
  - Within 20 seconds of power on condition and over 30 minutes period. (Whilst delta temperature sensor <2°C.)
  - When +Vs = +8Vdc to +30Vdc.
  - Dependant on medium within core guide tube bore.
  - Do not operate between +5.25 and +8V.
  - General dimension tolerance is ±0.25

Electrical connections	
Red	Supply +Vs
Black	Supply 0V
White	Analogue signal Vout

