

The **VLT1300 Series** linear position sensor is designed with a robust Ø13.0mm stainless steel case and provides a 4 to 20mA output signal for industrial motion and control applications.

Manufactured to quality standards required for high performance, they operate from an 8 to 40VDC supply and are specified extensively for actuator positional feedback where performance and reliability are part of the design criteria.

Available with measurement ranges between 25mm and 100mm (1" and 4"), they offer a choice of either a threaded case or body clamp mounting. Both models are fitted with either a stainless steel shaft or a free core to allow integration in to the customer's application.

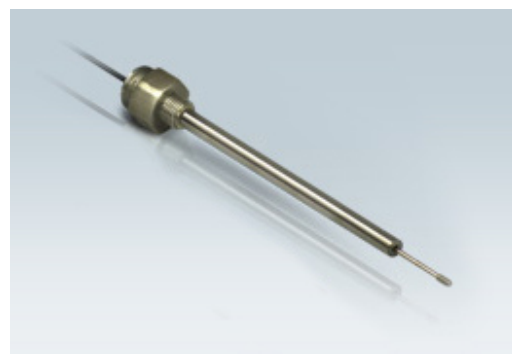
The fully welded pressure area permits both sensors to operate up to 300 bar, the VLT1303 is supplied with a nitrile O ring to seal the front face. They are designed to be environmentally protected against the ingress of dust and water to IP66.

For total system integrity, these sensors are fitted with fire and chemical resistant 2 core 22AWG signal cabling, which is available in a choice of different cable lengths up to 9m.

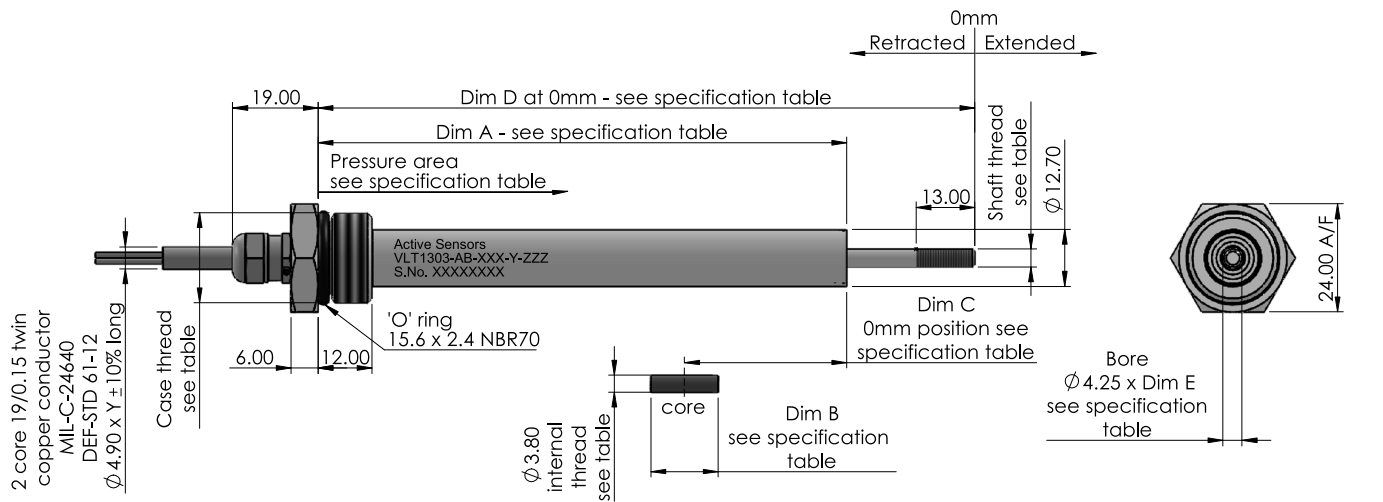
All models operate up to a temperature of 100°C (212°C).

Key features and benefits

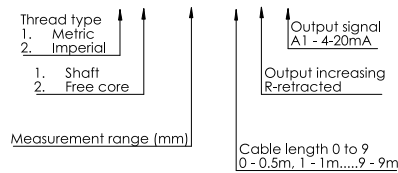
- 2 wire, 4 to 20mA output
- Measurement ranges 25mm to 100mm (1" and 4")
- Non-linearity $<\pm 0.50$ %FS
- Robust Ø13.0mm stainless steel case
- Maximum operating temperature 100°C (212°F)
- Pressure area operates to a maximum working pressure of 300 bar
- Sealed to IP66
- 2 core 22AWG MIL-C-24640 DEF-STD 61-12 cabling
- Choice of cable length between 0.5 to 9m
- Custom designs available on request



VLT1303 – Hexagon case with a rear cable exit

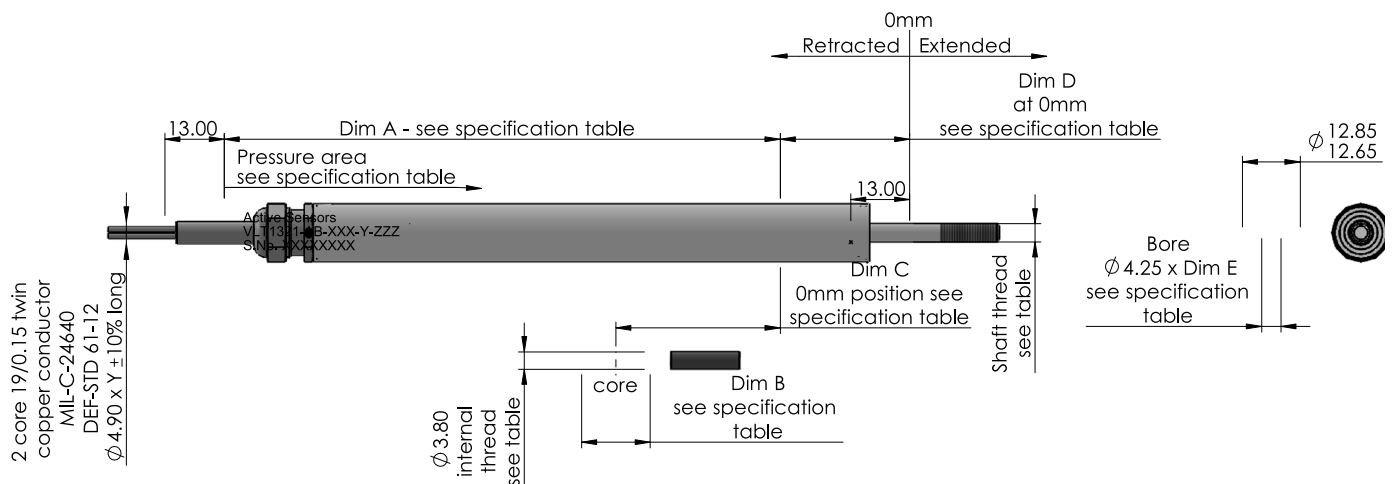


Ordering information: VLT1303-AB-XXX-Y-RA1

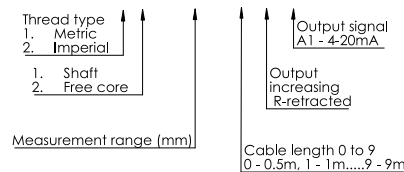


Sensor	Case thread	Shaft/core thread
VLT1303-11-	M20x1.5-6g	M4x0.7-6H
VLT1303-12-	M20x1.5-6g	M3x0.5-6H both ends
VLT1303-21-	3/4-16 UNF-2A	8-36UNF-2B
VLT1303-22-	3/4-16 UNF-2A	4-48UNF-2B both ends

VLT1321 – Body clamp mounting with a rear cable exit



Ordering information: VLT1321-AB-XXX-Y-RA1



Sensor	Case thread	Shaft/core thread
VLT1321-11-		M4x0.7-6H
VLT1321-12-		M3x0.5-6H both ends
VLT1321-21-		8-36UNF-2B
VLT1321-22-		4-48UNF-2B both ends

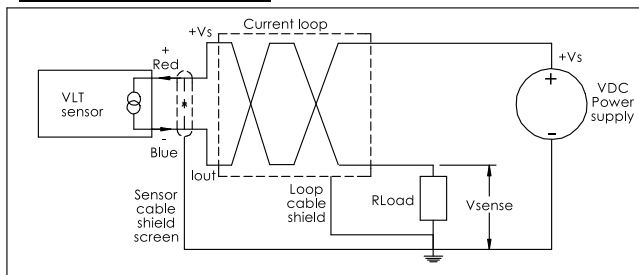
Electrical and mechanical specification for VLT1300

Parameter	Value				Units
	025	050	075	100	
Order code	025	050	075	100	
Measurement range	±12.5	±25.0	±37.5	±50.0	mm
Mechanical specification					
Mechanical range	Measurement range +1				mm
Body length (Dim A) VLT1303	117.5	142.5	167.5	192.5	mm
Body length (Dim A) VLT1321	122.0	147.0	172.0	197.0	mm
Core length (Dim B)	15.0	20.0	25.0	30.0	mm
Mid range (Dim C) (O/P 12mA)	36.0	48.5	61.0	73.5	mm
Shaft 0mm position (Dim D)	146.0	183.5	221.0	258.3	mm
Bore depth min (Dim E)	70.6	95.6	120.6	145.6	mm
Weight (excluding cable) approx VLT1303	110	125	145	190	grams
Cable length (max) (see note 7)	200				m
Weight (excluding cable) approx VLT1321	60	75	95	140	grams
Materials	Body and shaft - 316 stainless steel Core - Nickel iron alloy Cable gland - Nickel plated brass				
Performance specification					
Non-linearity (see note 1)	<±0.50				%FS
Resolution	Infinite				
Thermal drift	<±0.01				%FS/°C
Frequency response (see note 3)	500				Hz
Stability (see note 4)	<0.10				%FS
Repeatability	<0.05				%FS
Hysteresis	<0.05				%FS
Electrical specification					
Input voltage (+Vs)	8 - 40				VDC
Line regulation (see note 5)	<0.002				%FS/V
Reverse polarity (VR) (max)	-60				VDC
Output current (see graph)	2 wire 4-20mA				
Sensitivity (note 1) <±2%	640	320	213	160	µA/mm
Loop resistance (max) (see note 6)	(+Vs-7V)/0.02A				ohms
Output noise and ripple	<0.05				%FS RMS
Electrical connections	2 core x 22AWG (screened) Zerohal jacket				
Environmental specification					
Operation temperature	-30 to +100				°C
Shaft velocity (see note 8)	<1000				mm/sec
IP rating (cable exit)	IP66				
Pressure rating	300				bar
Torque setting VLT1303	52				Nm

Note:

1. Non-linearity error and sensitivity is calculated from least squares best fit method
2. Average thermal drift over operating temperature range
3. Nominal bandwidth (-3dB) with a 1st order (-20dB/decade) roll-off.
4. Within 20 seconds of power on condition and over 30 minutes period. (Whilst delta temperature sensor <2°C.)
5. When +Vs = +12Vdc to +30Vdc.
6. Includes all wiring resistance and RLoad resistance.
7. Includes all wiring between sensor and RLoad.
8. Dependent on medium within core guide tube bore.
9. General dimension tolerance ±0.25.

Electrical connections



XLT mA output schematic

