

The **VLT0954** and **VLT0955** are compact, short stroke contactless high temperature position sensors, 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 LVDT sensor is designed to convert linear movement from a separate non-contacting core or shaft into a proportional voltage output.

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.

Depending on the model selected, the sensor is supplied with either a gasket or a nitrile O ring to seal the front face; the fully welded pressure area of the VLT0955 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 IP68/IP69K.

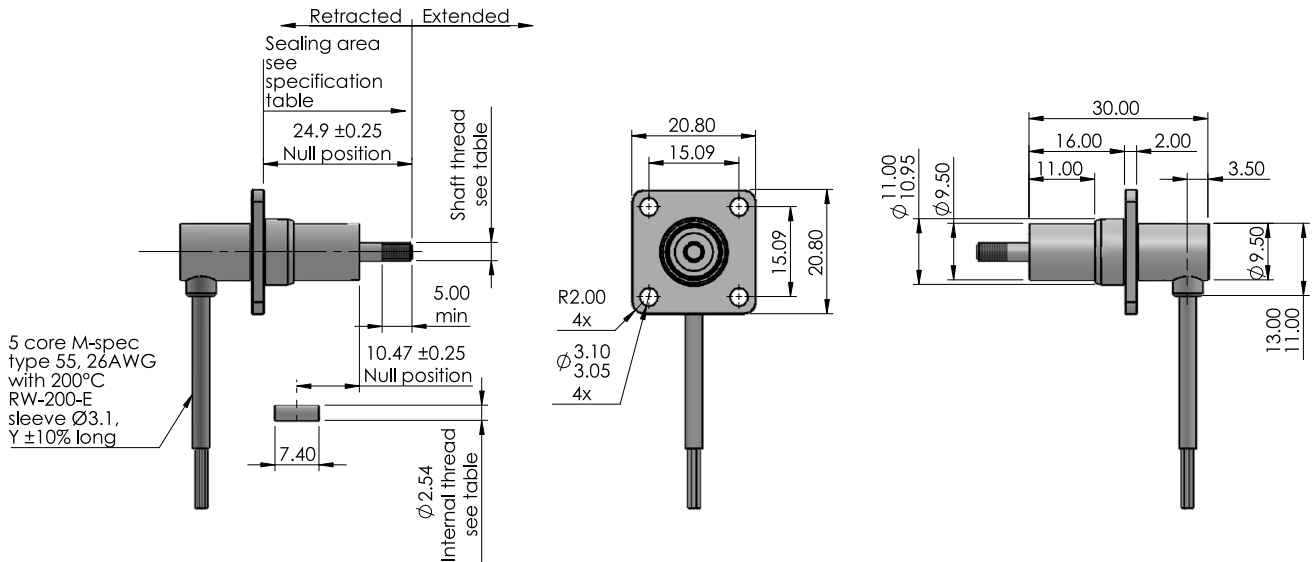
A 5-wire device, they are fitted with Raychem fire and chemical resistant, high temperature RW-200-E sleeved type 55 26AWG signal cabling.

### Key features and benefits

- Measurement ranges 1mm, 2mm and 4mm
- Contactless technology
- Choice of metric or imperial thread mounting
- Maximum operating temperature 200°C (400°F)
- Pressure area operates to a maximum working pressure of 300 bar
- Sealed to IP66
- Robust design
- Choice of cable length between 0.5 to 9m
- Custom designs available on request
- [Electronic signal conditioning available](#)



## VLT0954-AB-XX-Y – Square flange case with side cable exit



**Ordering information:**

**VLT0954-AB-XX-Y**

Thread type  
 1. Metric  
 2. Imperial

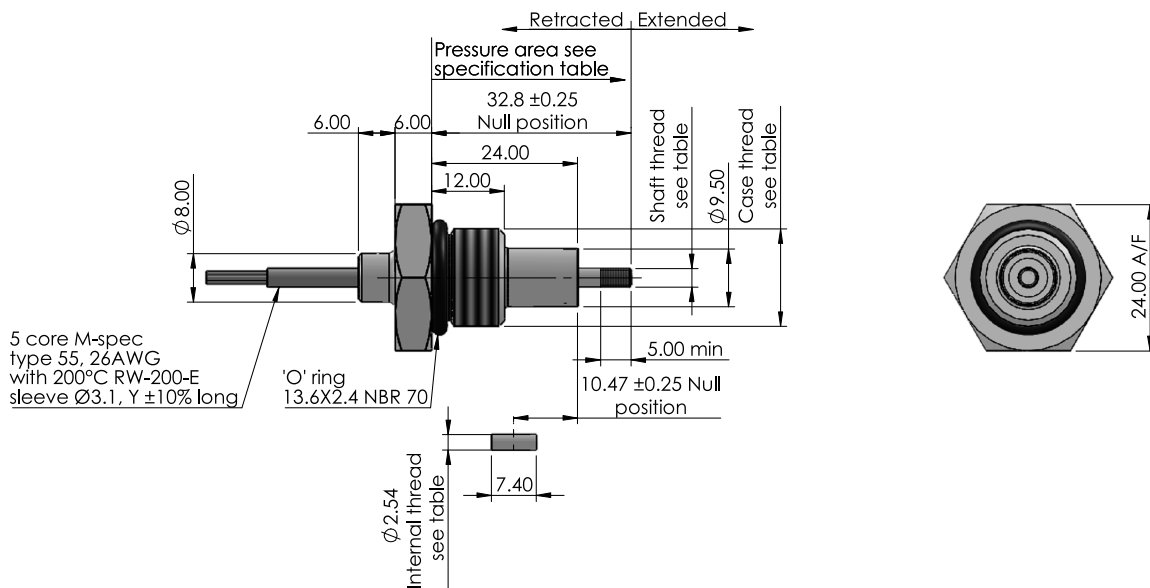
1. Shaft  
 2. Free core

Stoke length  
 01 - 1mm, 02 - 2mm, 04 - 4mm

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

| Sensor      | Shaft/Core thread    |
|-------------|----------------------|
| VLT0954-11- | M3x0.5-6g            |
| VLT0954-12- | M2x0.4-6H both ends  |
| VLT0954-21- | 4-48UNF-2B           |
| VLT0954-22- | 1-72UNF-2B both ends |

## VLT0955-AB-XX-Y – Hexagon case with rear cable exit



**Ordering information:**

**VLT0955-AB-XX-Y**

Thread type  
 1. Metric  
 2. Imperial

1. Shaft  
 2. Free core

Stoke length  
 01 - 1mm, 02 - 2mm, 04 - 4mm

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

| Sensor      | Case thread  | Shaft/Core thread    |
|-------------|--------------|----------------------|
| VLT0955-11- | M16x1.5-6g   | M3x0.5-6g            |
| VLT0955-12- | M16x1.5-6g   | M2x0.4-6H both ends  |
| VLT0955-21- | 5/8-18UNF-2A | 4-48UNF-2B           |
| VLT0955-22- | 5/8-18UNF-2A | 1-72UNF-2B both ends |



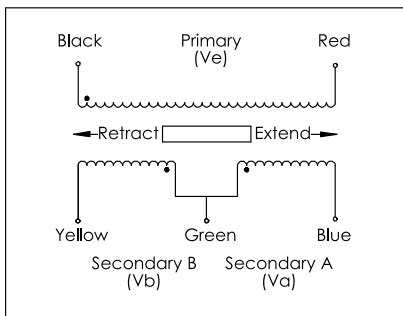
## Electrical and mechanical specification for VLT0954 and VLT0955

| Specification   |  |               |               |                |
|---|--|---------------|---------------|----------------|
| Ordering code   | 01   | 02            | 04            |                |
| Electrical stroke                                       | 1.0 (±0.50)  | 2.0 (±1.00)   | 4.0 (±2.00)   | mm             |
| Mechanical stroke                                       | Electrical stroke +1mm each end minimum  |               |               |                |
| Input conditions (Ve)                                   | 3.0V ±5% RMS @ 10KHz ±5%   |               |               |                |
| Non-linearity (see notes 1,2)                           | <±0.30   | <±0.50        | <±0.75        | %FS            |
| Ratiometric sensitivity (±5%) (see notes 1,3)           |  |               |               | 0.272 /mm      |
| Summed O/P voltage (±20%)                               |  |               |               | 1.15 V/Ve      |
| Output voltage range (nominal)                          | 1.490 - 1.960  | 1.236 - 2.194 | 0.788 - 2.663 | V RMS          |
| Input impedance   |  |               |               | >150 Ohms      |
| Thermal drift (see note 4)                              | <±0.020  | <±0.010       | <±0.005       | %FS/°C         |
| Insulation resistance @500Vdc (primary-sec, coils-case) |  |               |               | >100 Mohms     |
| Operating temperature                                   |  |               |               | -55 to +200 °C |
| Environmental (cable exit)                              |  |               |               | IP66           |
| Pressure rating (VLT0955)                               |  |               |               | 300 bar        |
| Weight VLT0954 (approx exluding cable)                  |  |               |               | 25 grams       |
| Weight VLT0955 (approx exluding cable)                  |  |               |               | 45 grams       |
| Materials   | Case - Stainless steel 316L<br>Core - Nickel iron alloy<br>Shaft - Stainless steel 316 |               |               |                |

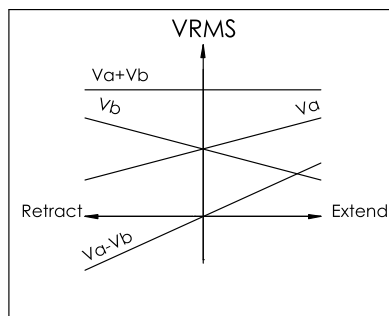
**Notes:**

1. Non-linearity error and sensitivity is calculated from least squares best fit method.
2. Full scale (FS) is total stroke x ratiometric sensitivity.
3. Ratiometric sensitivity is calculated using  $(V_a - V_b) / (V_a + V_b)$ .
4. Thermal drift is defined as:- Maximum ratiometric change from reading at ambient (+20°C) to ratiometric reading over operating temperature range.
5. General dimension tolerance ±0.25

### Electrical connections



### LVDT AC output schematic



### VLT0954 gasket JN011-011

