



## Internally-mounted linear transducers with verification CANbus signal



- Verification signal provided by second array of Hall-effect sensors
- Absolute signal
- CANbus outputs
- Incredibly compact with various mounting options available
- Exceedingly reliable - over 100,000 supplied!
- Externally mounted version available - see ELV datasheet
- 0.1 mm or 0.3 mm resolution options
- Up to 6 metre (236") stroke
- -40 to 85°C operating temperature
- 325 bar operating pressure
- UN ECE Reg. 10.05: October 2014 (AUTOMOTIVE) rating as standard
- IP69K unmated Deutsch DT connectors
- Very robust solid-state/zero-wear design

The LV series of linear transducers utilises two independent sensing arrays to provide Verification of the position feedback data.

J1939 compatible CAN output:

Both arrays are independently and synchronously interrogated and - to minimise supporting infrastructure requirements - are transmitted simultaneously on a single CAN network. A message counter and checksum are encoded into the CAN message to ensure that failure modes for the single transmission channel can be easily identified.

Subject to reasonable modifications due to technical advances

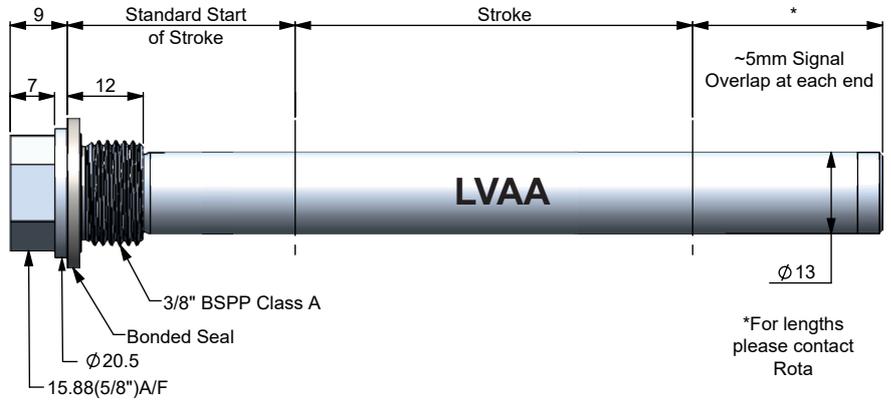
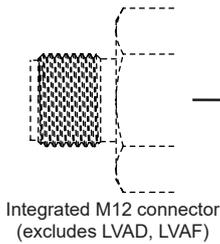
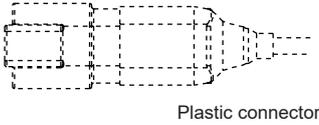




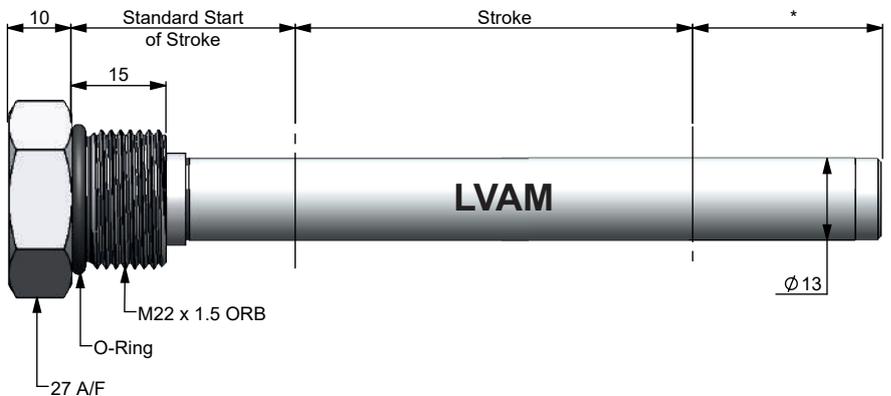
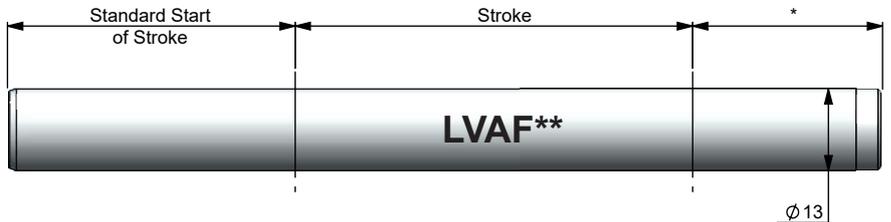
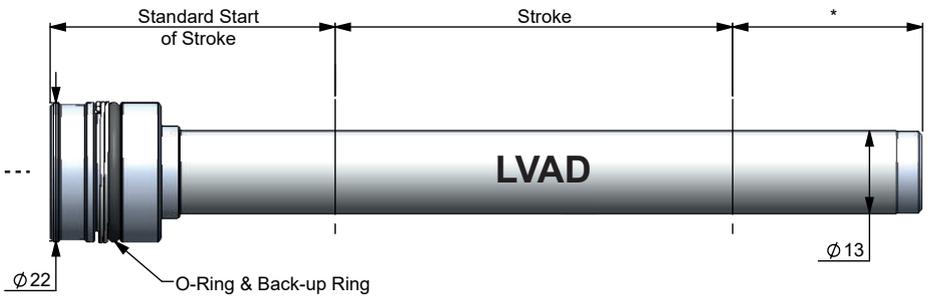
# LV MOUNTING CONFIGURATIONS

Mounting Configuration	Start of Stroke (mm)	
	V Magnet	VT Magnet
LVAA	41	56
LVAD	30	45
LVAF	35	50
LVAM	22	37

N or U - Cable Termination



\*For lengths please contact Rota



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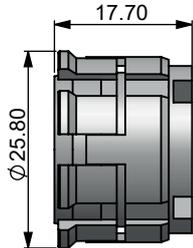
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# MAGNET, CABLE, AND CONNECTOR OPTIONS

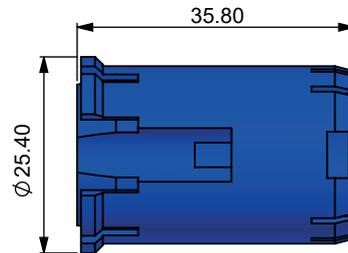
## 'V' Magnet (Rota P/N LA 2756)

<±0.2 mm Non-linearity 0.1 mm Resolution  
Up to 760 mm stroke only



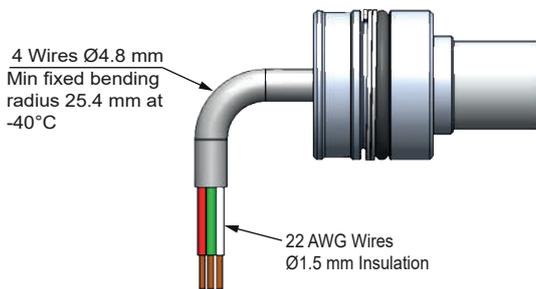
## 'VT' Magnet (Rota P/N LV 4485)

<±1.0 mm Non-linearity 0.3 mm Resolution



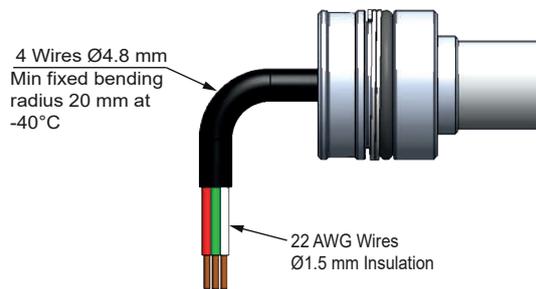
## N - Unscreened PVC Cable

-55°C to +105°C (-67°F to +221°F)



## U - Unscreened PUR Cable

-40°C to +90°C (-40°F to +194°F)



LV transducers are available with unscreened PVC or PUR cables, which can both be fitted with any of these connectors\*:

### Rota/Deutsch RT - Superior Sealing

Deutsch connector with Rota machined male contacts  
Operating Temperature:  
-55°C to +125°C

IP69k unmated (Steam Jet Clean 99°C at 150 Bar)

Enables transducer's Deutsch connector to be left unmated



Connector Model Rota pins for DT	Rota Order Code
DT04 4 pin	4RT
DT04 6 pin	6RT
DT04 8 pin	8RT

### Rota/Deutsch RM - Series

Minature contacts for smaller wire gauge applications

Operating Temperature:  
-55°C to +125°C

IP68 rated when mated



Connector Model Deutsch DTM	Rota Order Code
DTM04 4 pin	4RM
DTM04 6 pin	6RM
DTM04 8 pin	8RM

### AMP Superseal 1.5 - Series

Operating Temperature:  
-40°C to +125°C

IP67 rated when mated



Connector Model AMP Superseal	Rota Order Code
252106-1	4UP
252107-1	5UP
252108-1	6UP

### M12 Connector - Straight or 90 Degree

With screw terminals  
M12 A connector male contacts

Operating Temperature:  
-40°C to +85°C

IP67 rated when mated



Connector Model M12	Rota Order Code
M12 4 pin	4MH
M12 90° 4 pin	4M9

\*LVAD supplied with loose heatshrink and connector body for customer assembly, as connector body cannot fit through end cap.

For Deutsch/AMP connectors, pins will be fitted to cable.

See Rota customer drawing for connector pin outs

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Rota Limited, Manchester UK

www.rota-ltd.com

LVDS V1.03.01



# LV EXAMPLE ORDERING CODE

**LVA F 1964 VT 0.3 J 4RT N 0.3 XXXX**

<b>LV Series Linear Transducer</b>				<b>Unique Transducer Calibration Number</b>
<b>Mounting Style</b> A = 3/8" BSPP D = M5 Grubscrew F = Flat - No Mounting Head FA = 15° Angled FP = Parallel Offset M = M22 x 1.5				<b>Cable Length (m)</b> <b>N and U Terminations</b> Standard lengths: 0.15, 0.3, 0.5, 1.0, 1.5, & 2.0
<b>Stroke</b> (millimetres - max. = 6000 mm)				<b>Electrical Termination</b> N = PVC Cable - Unscreened U = PUR Cable - Unscreened J = M12 Integral Connector [not available for LVAD & LVAF]
<b>Magnet</b> V = 0.1 mm resolution (up to 760 mm stroke) VT = 0.3 mm resolution [not suitable for LVAF] RX = remote magnets [LVAF only - contact Rota for magnet options]			<b>Optional</b> 4RT = Deutsch DT04-4P with Rota contacts 6RT = Deutsch DT04-6P with Rota contacts 8RT = Deutsch DT04-8P with Rota contacts 4RM = Deutsch DTM04-4P 6RM = Deutsch DTM04-6P 8RM = Deutsch DTM04-8P 4UP = AMP 282106-1 5UP = AMP 282107-1 6UP = AMP 282108-1 5MH = M12 - 5 pin 5M9 = 90° M12 - 5 pin	
<b>Signal Resolution</b> 0.1 mm (for V magnet), 0.3mm (for VT magnet), contact Rota for R magnet resolution				
<b>Output Signal</b> J = CANbus SAE J1939 - CCJ Form to be completed* O = CANopen - CCO Form to be completed* Z = ISOBUS - CCZ Form to be completed*  *Ask Rota for this form (For CANbus Transducer Test Kit, order Rota part number LJ 2914)				

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