

INDUCTIVE SENSOR LVDT



Content:

Technical Data2
Technical Drawing3
Probe Tips4
Electrical Connection4
Order Code5

Series LV

Key-Features:

- Spring loaded or guided rod
- Measurement ranges 2, 5, 10 and 25 mm
- Linearity up to $\pm 0.1\%$
- Resolution up to 0.01 %
- Output with external electronics: 0...10 V, 4...20 mA
- Protection class up to IP67
- Operating temperature -40...+120 °C

TECHNICAL DATA SENSOR LV

Measurement range MR	[mm]	2	5	10	25
Linearity ¹⁾	[%]	±0.2			
Improved linearity (optional) ¹⁾	[%]	±0.1			
Resolution	[%]	0.04	0.02	0.01	
Sensitivity	[mV/V/mm]	68	74	64	41
Calibrated at		3 V _{RMS} / 5 kHz			
Excitation voltage	[V _{RMS}]	1...10			
Excitation frequency	[kHz]	2...10			
Connection		connector output M12. axial or cable output. axial (TPE cable. standard length 2 m)			
Cable length to electronics max.	[m]	100			
Protection class		version without bellow (T / S): IP65 version with bellow (TF): IP67			
Operating temperature	[°C]	-40...+120			
Temperature coefficient ¹⁾	[%/K]	±0.02			
Version ²⁾		spring-loaded rod with bellow (TF) or without bellow (T), guided rod (S)			
Spring force MR centre (version TF)	[N]	1.5	1.7	-	
Spring force MR centre (version T)	[N]	1.2	1.5	1.6	1.5
Spring constant (version TF)	[N/mm]	0.15			-
Spring constant (version T)	[N/mm]	0.12			0.09
Motion frequency (1 mm stroke)	[Hz]	max. 100		max. 70	max. 25
Mounting	[mm]	clamping shaft: Ø 8 h6 or housing: Ø 12			
Housing		nickel-plated steel			
Weight (without cable)	[g]	<100			

¹⁾ based on the measurement range

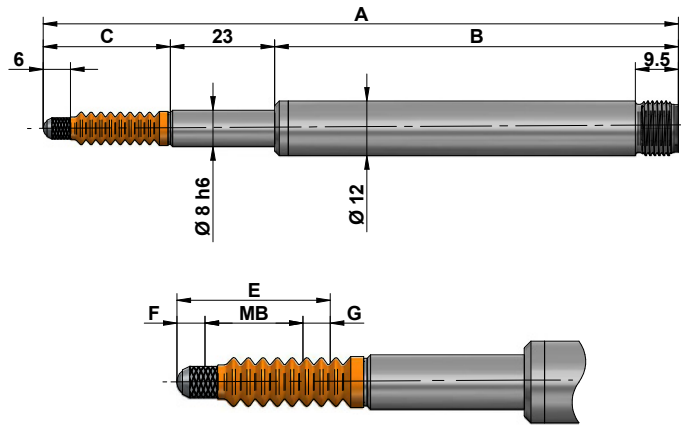
²⁾ Version with guided rod (S) is protected against falling out of the rod.
Version with bellow (TF) not available for measurement range 25 mm.

TECHNICAL DATA ELECTRONICS LVA

Output		0...10 V / 4...20 mA
Linearity	[% F.S.]	< ±0.01
Noise	[mV _{RMS}]	<20
Supply	[VDC]	18...36
Current consumption (without load)	[mA]	<50
Isolation voltage	[VDC]	500
Isolation resistance		1 GΩ at 500 VDC
Cut-off frequency		max. 10 % of excitation frequency
Sensor supply	[V _{RMS}]	3
Carrier frequency	[kHz]	5
Protection class		IP40
Operating temperature	[°C]	-25...+85
Storage temperature	[°C]	-25...+85
Temperature coefficient sensitivity	[% F.S./K]	< ±0.04
Temperature coefficient zero point	[% F.S./K]	< ±0.015
Mounting		DIN rail
Housing		Polyamid PA6.6

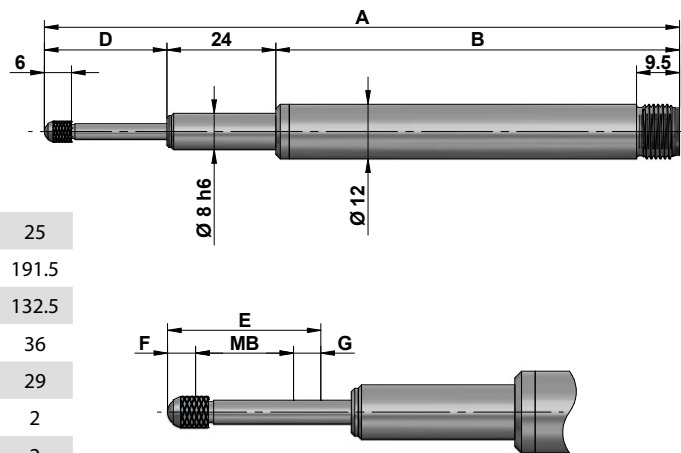
TECHNICAL DRAWING SENSOR LV

Version with bellow (TF)



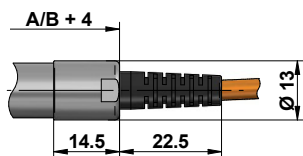
Measurement range MB	2	5	10
A	113	126	140
B	69	79	89
C	21	24	28
E (total stroke)	5	8	12
F (start stroke)	1.5	1.5	1
G (end stroke)	1.5	1.5	1

Version without bellow (T and S)

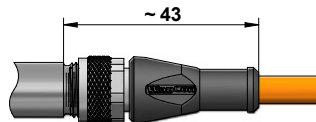


Measurement range MB	2	5	10	25
A	113	126	140	191.5
B	69	79	89	132.5
D	20	23	27	36
E (total stroke)	5	8	12	29
F (start stroke)	1.5	1.5	1	2
G (end stroke)	1.5	1.5	1	2

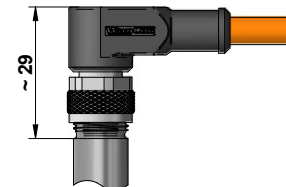
cable output



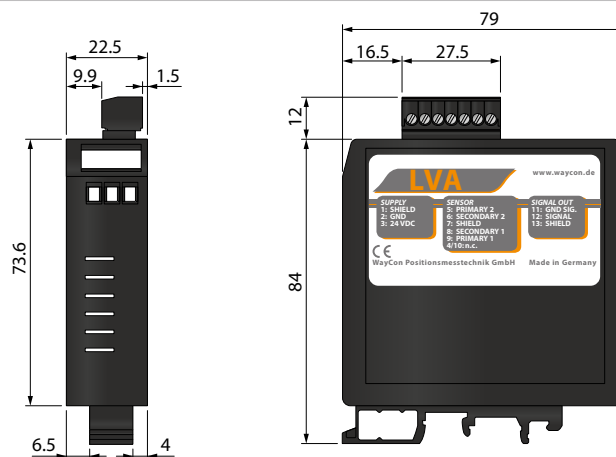
connector output with connection cable, straight connector



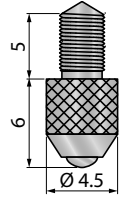
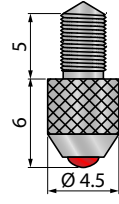
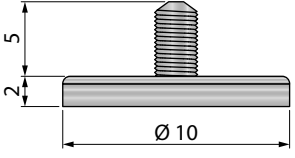
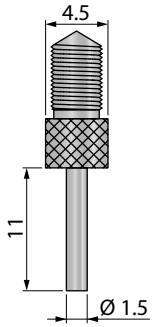
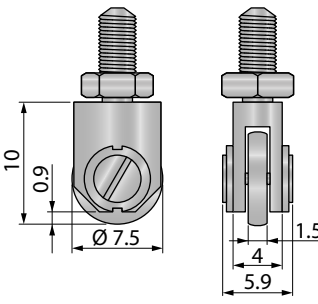
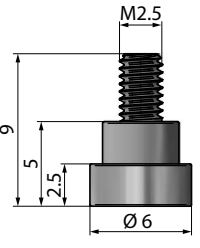
connector output with connection cable, angular connector



TECHNICAL DRAWING ELECTRONICS LVA



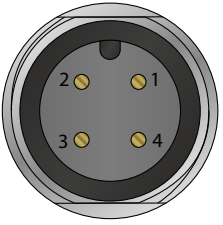
ACCESSORIES PROBE TIPS

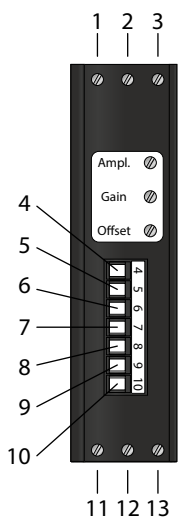
<p>Standard: ball probe tip, steel</p> 	<p>TP-K-6-R: ball probe tip, ruby</p> 	<p>TP-T-10-S: probe plate</p> 
<p>TP-S-11-S: probe pin, steel</p> 	<p>TP-R-7.5-S: probe roller, steel Suitable for surface roughness with max. edge height (90°): 1 mm</p> 	<p>TP-T-6-M: magnetic probe tip Magnetic holding force: approx. 560 g Temperature range: up to 120 °C</p> 

ELECTRICAL CONNECTION

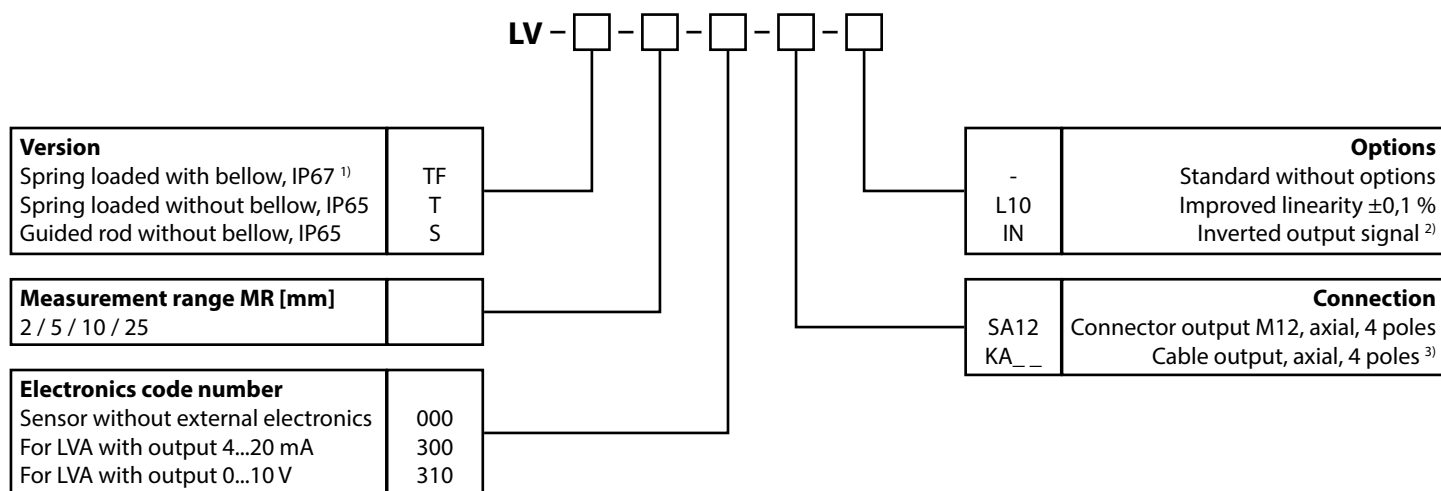
Sensor LV				DIN rail electronics LVA	
Function	Cable output	Connector output	Connection cable K4P...	Function	Terminal
Primary 1	BN	Pin 1	BN	Shield	1
Primary 2	WH	Pin 2	WH	GND _{supply}	2
Secondary 1	BU	Pin 3	BU	+V	3
Secondary 2	BK	Pin 4	BK	n. c.	4
				Primary 2	5
				Secondary 2	6
				Shield	7
				Secondary 1	8
				Primary 1	9
				n. c.	10
				GND _{signal}	11
				Signal	12
				Shield	13

Connector, M12 (male)





ORDER CODE SENSOR

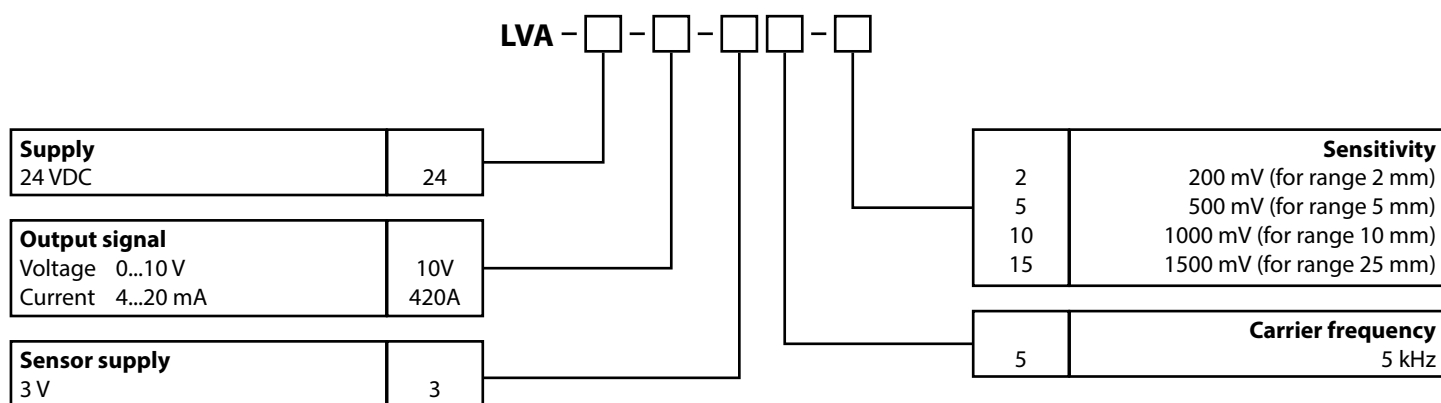


¹⁾ not available with measurement range 25 mm

²⁾ only in combination with electronics LVA.

³⁾ Length in m (min. 2 m). Example: KA02 = 2 m (standard length), KA05 = 5 m

ORDER CODE ELECTRONICS



ACCESSORIES

Probe tips		Cable with connector (female) M12, 4 poles, shielded	
TP-K-6-R	Ball probe tip, ruby	K4P2M-S-M12	2 m, straight connector
TP-T-10-S	Probe plate, steel	K4P5M-S-M12	5 m, straight connector
TP-S-11-S	Probe pin, steel	K4P10M-S-M12	10 m, straight connector
TP-R-7.5-S	Probe roller, steel	K4P2M-SW-M12	2 m, angular connector
TP-T-6-M	Magnetic probe tip	K4P5M-SW-M12	5 m, angular connector
		K4P10M-SW-M12	10 m, angular connector

Subject to change without prior notice.

WayCon Positionsmesstechnik GmbH

email: info@waycon.de

internet: www.waycon.biz

WayCon

Positionsmesstechnik

Head Office

Mehlbeerenstr. 4

82024 Taufkirchen

Tel. +49 (0)89 67 97 13-0

Fax +49 (0)89 67 97 13-250

Office Köln

Auf der Pehle 1

50321 Brühl

Tel. +49 (0)2232 56 79 44

Fax +49 (0)2232 56 79 45