

# INDUCTIVE SENSOR LVDT



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## Series LVIG

### Key-Features:

- Sensor with integrated or external electronics
- Rod with ball joint eyes
- Measurement ranges from 2 mm to 200 mm
- Linearity up to  $\pm 0.1\%$
- Analog output: 0...10 V or 4...20 mA
- Protection class up to IP67
- Temperature range up to  $-40...+120\text{ }^{\circ}\text{C}$

## TECHNICAL DATA - SENSOR WITH INTEGRATED ELECTRONICS

Measurement range	[mm]	2	5	10	20	50	100	200	
Linearity	[% F.S.]	< ±0.5 / optional: < ±0.25 or < ±0.1						< ±1	
Output		0...10 V / 4...20 mA							
Supply	[VDC]	24 ±20 %							
Current consumption (no load)	[mA]	voltage output: <20 / current output: <40							
Load resistance	[kΩ]	voltage output: >10 / current output: <0.5							
Noise	[mV <sub>RMS</sub> ]	<10							
Cut-off frequency (-3 dB)	[Hz]	100							
Connection		cable output, radial, 5 poles							
Protection class		IP65							
Operating temperature	[°C]	0...+70							
Storage temperature	[°C]	-30...+80							
Temperature coefficient	[% F.S./K]	±0.04							
Shock resistance		100 g, 2 ms (DIN IEC68T2-27)							
Vibration resistance		10 g, 2...2000 Hz (DIN IEC68T2-6)							
Housing		nickel plated steel							
Core		nickel iron alloy							
Weight approx.	[g]	155	180	195	245	305	510	860	

## TECHNICAL DATA - SENSOR FOR EXTERNAL ELECTRONICS

Measurement range <sup>1)</sup>	[mm]	2	5	10	20	50
Linearity	[% F.S.]	< ±0.5 / optional: < ±0.25				
Sensitivity	[mV/V/mm]	76	82	43	34	27
Calibrated at		5 V <sub>RMS</sub> / 2.5 kHz / RL = 1 MΩ				
Excitation voltage	[V <sub>RMS</sub> ]	1...10				
Excitation frequency	[kHz]	0.5...5				
Input resistance typ.	[Ω]	332	69	97	175	221
Input impedance typ.	[Ω]	790	134	188	345	369
Output impedance typ.	[Ω]	900	170	118	360	525
Connection		cable output, radial, 5 poles				
Protection class		IP65 / optional: IP67				
Operating temperature	[°C]	-40...+120				
Storage temperature	[°C]	-55...+120				
Temperature coefficient	[% F.S./K]	±0.02				
Shock resistance		200 g, 2 ms (DIN IEC68T2-27)				
Vibration resistance		10 g, 2...2000 Hz (DIN IEC68T2-6)				
Housing		nickel plated steel				
Core		nickel iron alloy				
Weight approx.	[g]	140		165		180

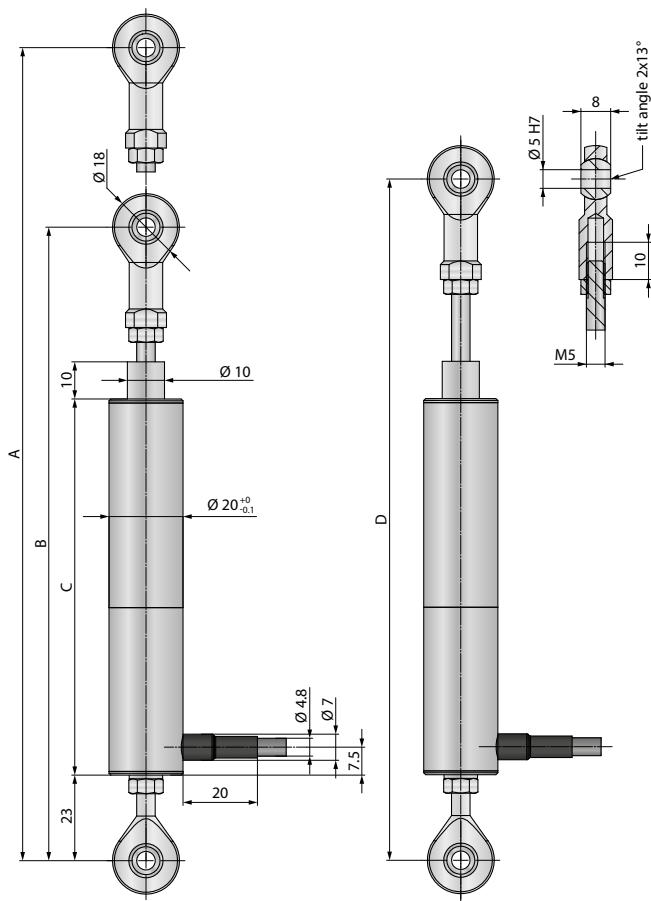
<sup>1)</sup> measurement ranges 100 and 200 mm on request

## TECHNICAL DATA - EXTERNAL ELECTRONICS LVA

Output		0...10 V / 4...20 mA
Linearity	[% F.S.]	< ±0.01
Noise	[mV <sub>RMS</sub> ]	<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 <sub>RMS</sub> ]	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

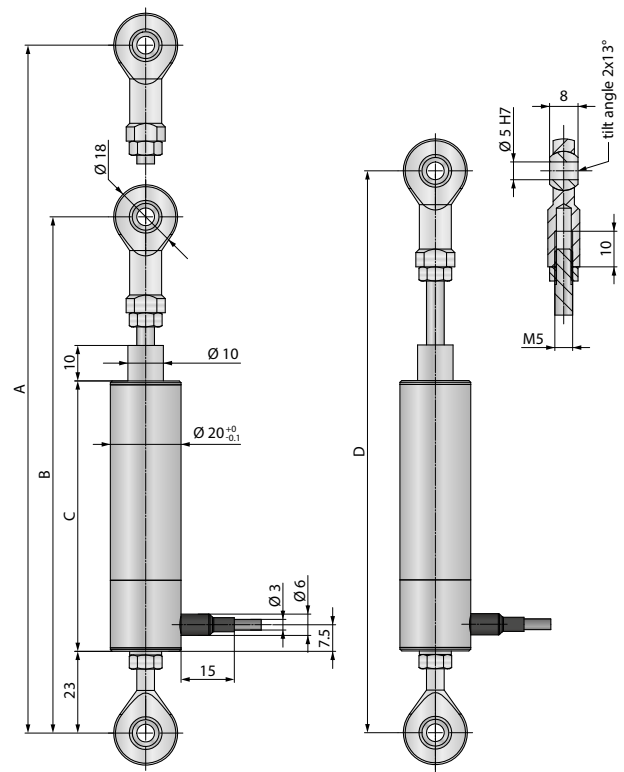
## TECHNICAL DRAWING - SENSOR

Sensor with integrated electronics



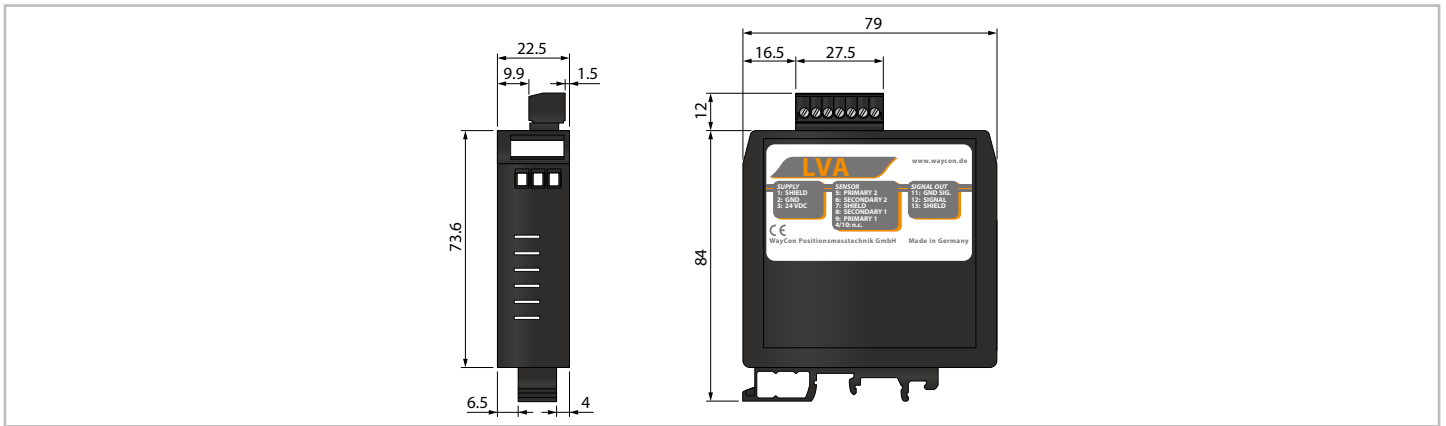
Measurement range		2	5	10	20	50	100	200
Rod outer position	A	182	196	235	310	515	785	
Rod inner position	B	163	170	204	250	384	570	
Housing length	C	87	101	140	185	320	490	
Middle of stroke ±1	D	173	183	219	280	443	678	

Sensor for external electronics



Measurement range		2	5	10	20	50
Rod outer position	A	157	171	210	285	
Rod inner position	B	138	145	179	225	
Housing length	C	62	76	115	160	
Middle of stroke ±1	D	148	158	194	255	

## TECHNICAL DRAWING - EXTERNAL ELECTRONICS LVA



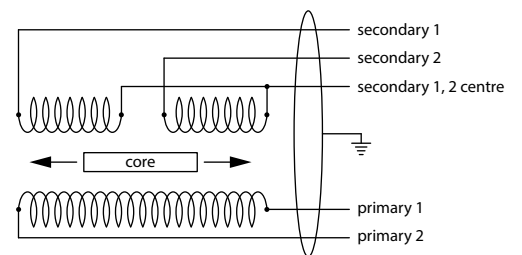
## ELECTRICAL CONNECTION

### Sensor with integrated electronics

Function	Cable colour
+V	BN
GND <sub>Supply</sub>	GY
Signal	GN
GND <sub>Signal</sub>	WH
n.c.	YE

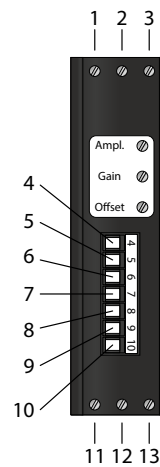
### Sensor for external electronics

Function	Cable colour
Primary 1	RD
Primary 2	BK
Secondary 1	OG
Secondary 2	YE
Secondary 1, 2 centre	WH
Shield	Housing

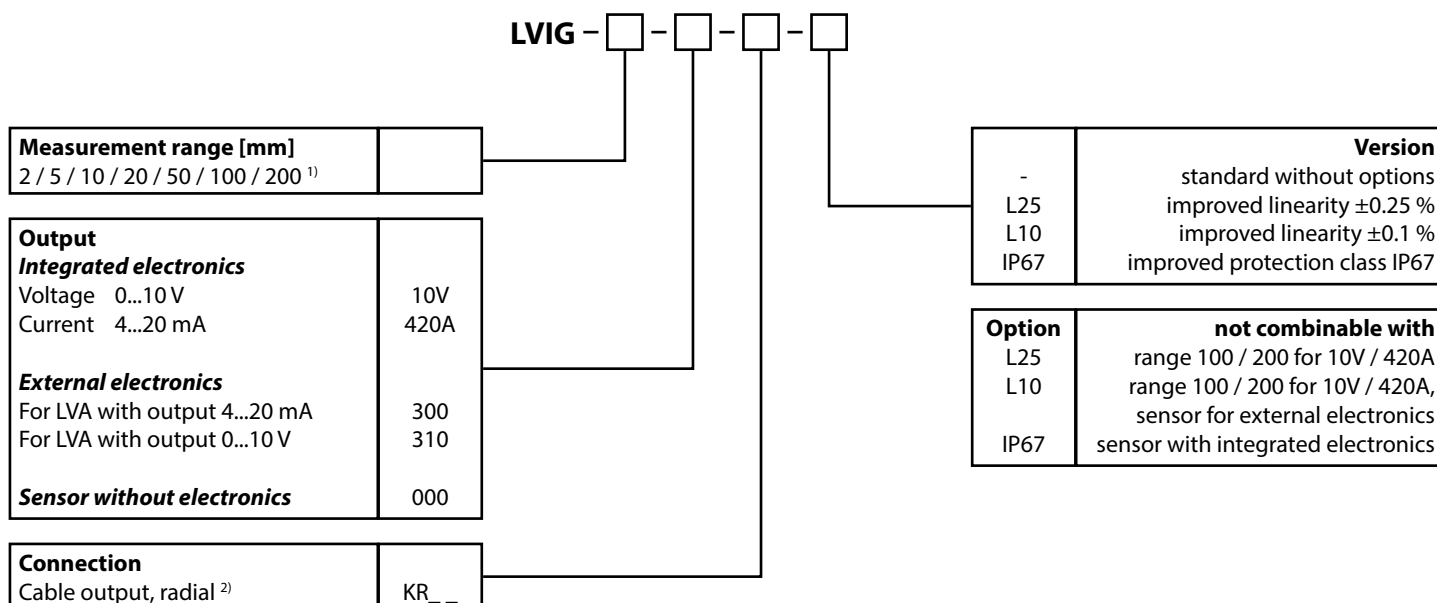


### DIN-rail electronics LVA

Function	Terminal
Shield	1
GND <sub>Supply</sub>	2
+V	3
n.c.	4
Primary 2	5
Secondary 2	6
Shield	7
Secondary 1	8
Primary 1	9
n.c.	10
GND <sub>Signal</sub>	11
Signal	12
Shield	13



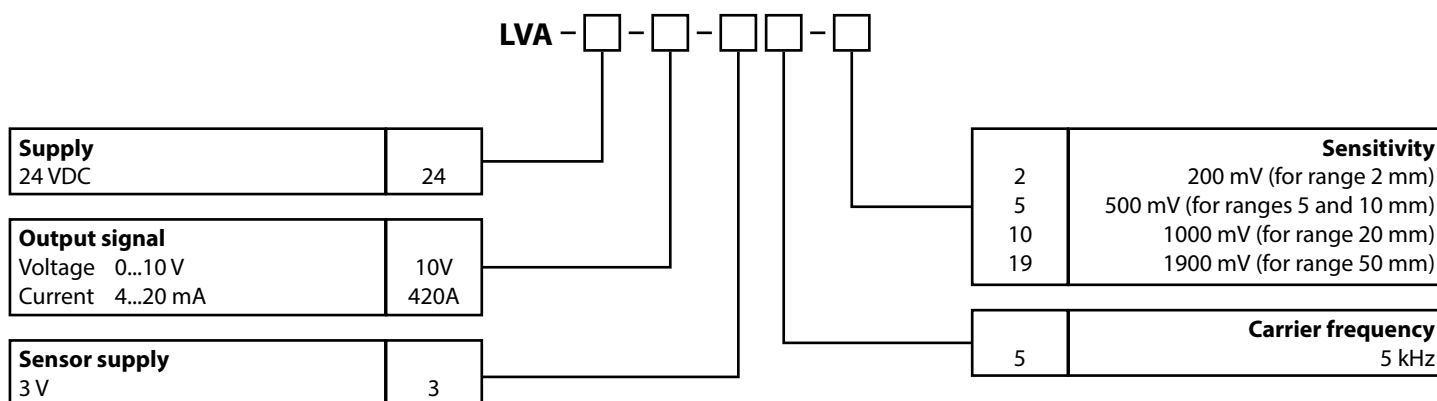
## ORDER CODE SENSOR



<sup>1)</sup> Sensor for external electronics: measurement range 100 and 200 on request

<sup>2)</sup> Length in m (min. 1 m). Example: KR01 = 1 m (standard), KR02 = 2 m

## ORDER CODE ELECTRONICS



Subject to change without prior notice.

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