Data Sheet for Amplifier

Amplifier for inductive sensors (displacement sensors) — Series IMA2-LVDT

The IMA2-LVDT signal conditioner transfers the output signal of an linear inductive sensor into a standardized output signal.

- For all LVDT displacement sensors
- Temp. coefficient <0,02% F.S./°C
- Misc. output signals
- Galvanically isolated

Electrical Data	
Supply voltage	24 VDC (18..36 VDC), optional 12 VDC (9..18 VDC)
Power consumption (no load)	max. 80 mA @ 24 VDC, max. 150 mA @ 12 VDC
Supply voltage sensor	1,2..5 V_{RMS}
Frequency-Supply voltage	2,5 (max. 20) kHz
LVDT-Sensitivity	500 mV_{RMS} / 1000 mV_{RMS} / 1900 mV_{RMS}
Setting range offset	< ±20%
Setting range amplification	< ±50%
Output signal	0..5 V / 0..10 V / ±5 V / ±10 V / 0..20 mA / 4..20 mA
Noise, residual ripple	< 20 mV_{eff}
Linearity deviation	< ±0,01%
Temperature coefficient sensitivity	< ±0,04% /° C
Temperature coefficient zero point	< ±0,015% /° C
Limit frequency / Output (3db)	1 kHz
Insulation resistance 1.)	1 GOhm @ 500 VDC
Insulation voltage1.)	500 VAC, 1 min
Overvoltage max.	40 V

Mechanical Data, Environmental Conditions, Miscellaneous	
Housing	UEGM (PhoenixConact)
Mounting	DIN Rail
Operating temperature range	-25..+85°C
Storage temperature range	-30..+85°C
Mass	ca. 100 g

1.) According IEC 60393
2.) Determined by climatic conditions according to IEC 68-1, para. 5.3.1 without load collectives

P3 AMERICA
PRECISION SENSORS & JOYSTICKS

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Definition LVDT Sensitivity Class	A	B	C	D
U_{prim} [V_{RMS}] Supply Voltage Sensor @ 100 Ω Load	3,0	3,0	3,0	1,6
U_{sec} [V_{eff}] Output Voltage Sensor @ Input Voltage Amplifier	500 ±50%	1000 ±50%	1900 ±50%	1900 ±50%
Excitation frequency	2,5 kHz or 5 kHz			

Sensitivity LVDT	MAC						
	2	5	10	20	50	100	200
Sensitivity class	A	A	B	B	C	D	D
U_{prim} [V_{RMS}] / U_{sec} [V_{eff}]	3,0 / 0,5	3,0 / 0,5	3,0 / 1,4	3,0 / 1,5	3,0 / 2,0	1,6 / 1,6	1,6 / 1,6

Sensitivity LVDT	RAC									
	25	50	100	150	200	300	400	500	750	940
Sensitivity class	C	C	D	D	D	D	D	D	D	D
U_{prim} [V_{RMS}] / U_{sec} [V_{eff}]	2,7 / 1,9	2,1 / 1,9	1,3 / 1,9	1,3 / 1,9	0,7 / 2,2	0,8 / 2,0	1,3 / 1,9	1,0 / 2,0	0,7 / 2,2	0,7 / 2,5

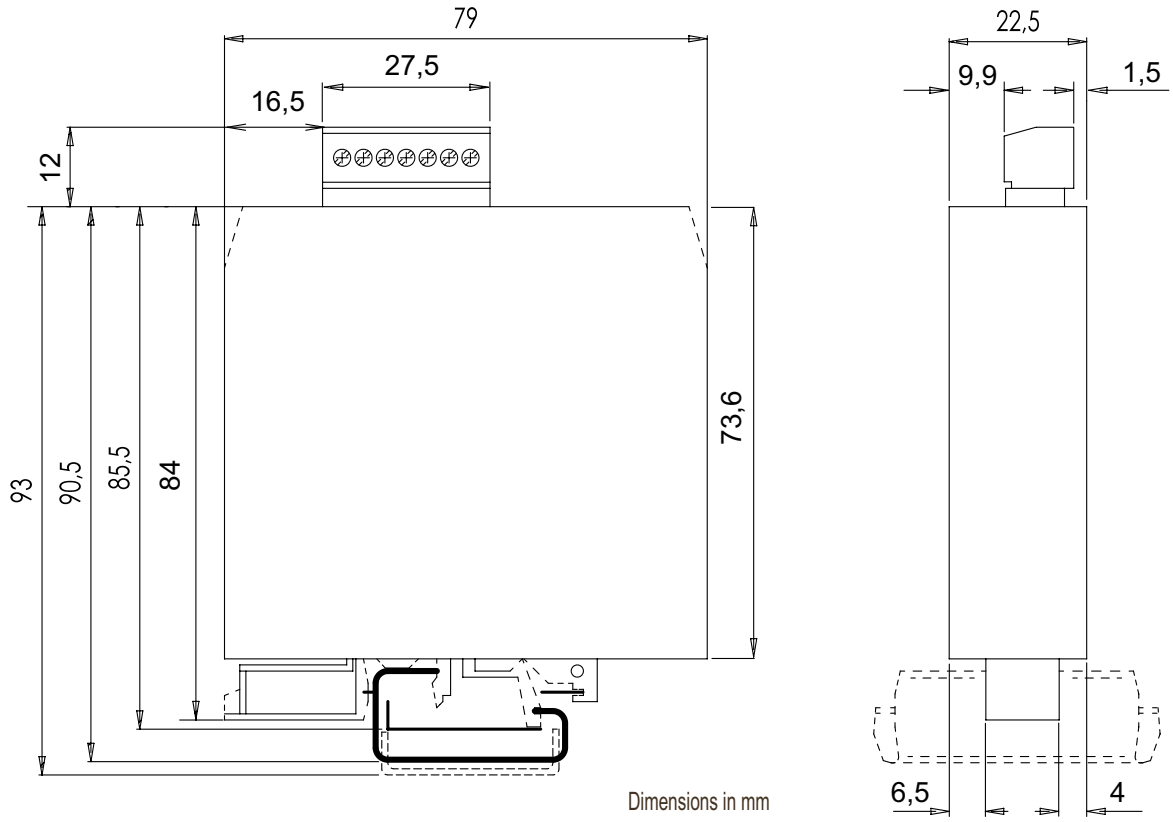
Sensitivity LVDT	EVT					
	1	2	5	7	10	13
Sensitivity class	A	B	B	C	C	C
U_{prim} [V_{RMS}] / U_{sec} [V_{eff}]	3,0 / 0,45	2,9 / 1,0	2,3 / 1,0	2,3 / 1,0	1,9 / 1,0	2,4 / 1,9

Order code

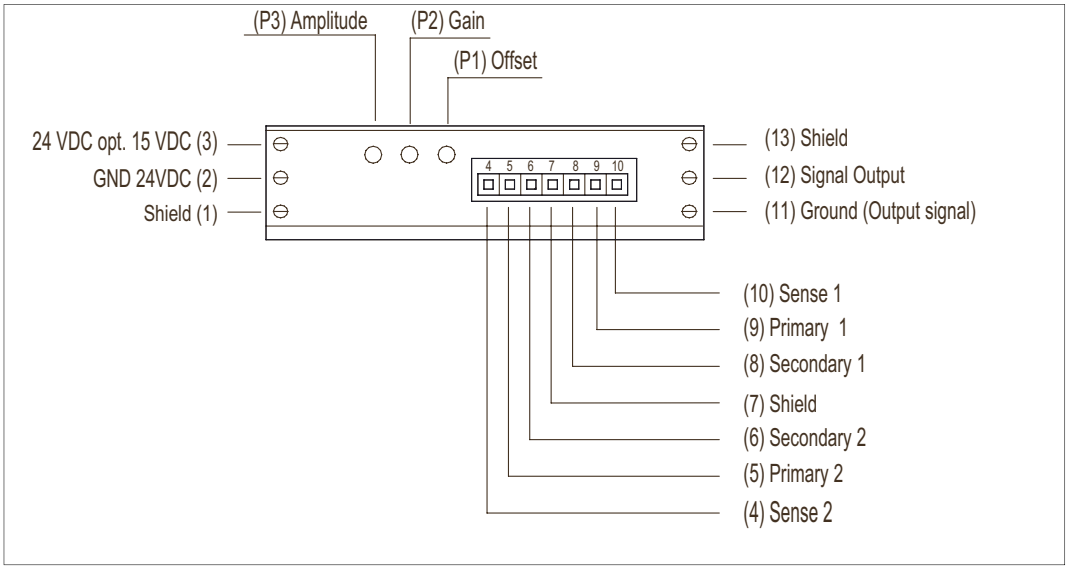
Description	Selection: standard=black/bold, possible options=grey/cursive				
Series:	**IMA2-LVDT**				
Excitation frequency: **2,5 kHz** **5,0 kHz**		**2,5** **5**			
Sensitivity Class: **U_{prim} [V_{RMS}] / U_{sec} [V_{eff}] 3,0 / 500 ±50%** **U_{prim} [V_{RMS}] / U_{sec} [V_{eff}] 3,0 / 1000 ±50%** **U_{prim} [V_{RMS}] / U_{sec} [V_{eff}] 3,0 / 1900 ±50%** **U_{prim} [V_{RMS}] / U_{sec} [V_{eff}] 1,6 / 1900 ±50%**			**A** **B** **C** **D**		
Supply voltage: **24 V (18..36 VDC)** *Option 12 V (9..18 VDC)*				**24 V** *12 V*	
Output signal: **0..5 V** **0..10 V** **±5 V** **±10 V** *Option 0..20 mA* *Option 4..20 mA*					**05** **10** **55** **11** *20* *42*

For higher quantities or on-going demand, additional options are available on request

Drawing



Connection



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