

# 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 <sub>RMS</sub>
Frequency-Supply voltage	2,5 (max. 20) kHz
LVDT-Sensitivity	500 mV <sub>RMS</sub> / 1000 mV <sub>RMS</sub> / 1900 mV <sub>RMS</sub>
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 <sub>eff</sub>
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

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Definition LVDT Sensitivity Class	A	B	C	D
$U_{\text{prim}} [V_{\text{RMS}}]$ Supply Voltage Sensor @ 100 $\Omega$ Load	3,0	3,0	3,0	1,6
$U_{\text{sec}} [V_{\text{eff}}]$ Output Voltage Sensor @ Input Voltage Amplifier	500 $\pm$ 50%	1000 $\pm$ 50%	1900 $\pm$ 50%	1900 $\pm$ 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
$U_{\text{prim}} [V_{\text{RMS}}] / U_{\text{sec}} [V_{\text{eff}}]$	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
$U_{\text{prim}} [V_{\text{RMS}}] / U_{\text{sec}} [V_{\text{eff}}]$	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
$U_{\text{prim}} [V_{\text{RMS}}] / U_{\text{sec}} [V_{\text{eff}}]$	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						
<b>Description</b>		Selection: standard=black/bold, possible options=grey/cursive				
<b>Series:</b>	<b>IMA2-LVDT</b>					
<b>Excitation frequency:</b>						
<b>2,5 kHz</b>			<b>2,5</b>			
<b>5,0 kHz</b>			<b>5</b>			
<b>Sensitivity Class:</b>						
$U_{\text{prim}} [V_{\text{RMS}}] / U_{\text{sec}} [V_{\text{eff}}]$ <b>3,0 / 500 <math>\pm</math>50%</b>				<b>A</b>		
$U_{\text{prim}} [V_{\text{RMS}}] / U_{\text{sec}} [V_{\text{eff}}]$ <b>3,0 / 1000 <math>\pm</math>50%</b>				<b>B</b>		
$U_{\text{prim}} [V_{\text{RMS}}] / U_{\text{sec}} [V_{\text{eff}}]$ <b>3,0 / 1900 <math>\pm</math>50%</b>				<b>C</b>		
$U_{\text{prim}} [V_{\text{RMS}}] / U_{\text{sec}} [V_{\text{eff}}]$ <b>1,6 / 1900 <math>\pm</math>50%</b>				<b>D</b>		
<b>Supply voltage:</b>						
<b>24 V (18..36 VDC)</b>					<b>24 V</b>	
<i>Option 12 V (9..18 VDC)</i>					<i>12 V</i>	
<b>Output signal:</b>						
<b>0..5 V</b>						<b>05</b>
<b>0..10 V</b>						<b>10</b>
<b><math>\pm</math>5 V</b>						<b>55</b>
<b><math>\pm</math>10 V</b>						<b>11</b>
<i>Option 0..20 mA</i>						<i>20</i>
<i>Option 4..20 mA</i>						<i>42</i>

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

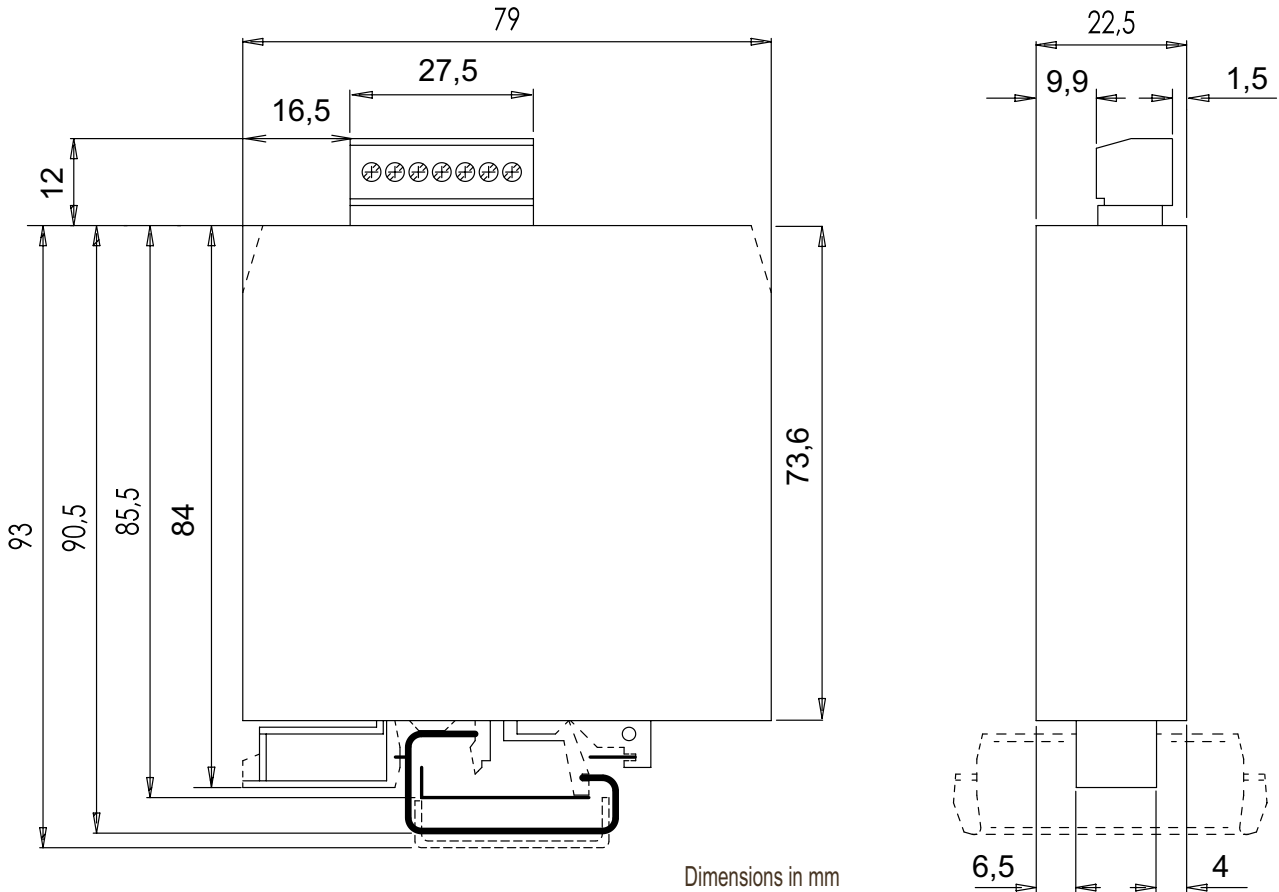
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## Drawing



## Connection

