

# Digital Panel Meters

## AC/DC Current and Voltage Meter/Controller

### Type LDI35 AV2

CARLO GAVAZZI



- 3 1/2-dgt meter or 3-dgt + dummy zero
- For AC/DC current and voltage measurements
- Indicator or controller
- 200 VAC/DC, 500 VAC/DC and 2 AAC/DC, 5 AAC/DC
- All functions selectable by key-pad
- Password protection
- 48 x 96 mm
- Degree of protection: IP 50 (IP 65 on request)

## Product Description

3 1/2-dgt or 3-dgt + dummy zero multi-range  $\mu$ P-based indicator or controller for AC and DC current and voltage

measurements. Selectable input range. Ensures a degree of protection (front) of IP 50 (IP 65 on request).

## Ordering Key

**LDI35AV2D0XXXX**

Model	
Range code	
Power supply	
Setpoints	
Engineering unit	
Option	

## Type Selection

Range code	Power supply	Options
See Range Table	<b>A:</b> 24 VAC, -15% +10%, 50/60 Hz <sup>1)</sup> <b>B:</b> 48 VAC, -15% +10%, 50/60 Hz <sup>1)</sup> <b>C:</b> 115 VAC, -15% +10%, 50/60 Hz <sup>1)</sup> <b>D:</b> 230 VAC, -15% +10%, 50/60 Hz (standard)	<b>XX:</b> None (standard) <b>IX:</b> Degree of protection IP 65 <sup>1)</sup> <b>AX:</b> Excitation output <sup>1)</sup> <b>XT:</b> Tropicalization <sup>1)</sup>
<b>Setpoints</b> <b>0:</b> 0 setpoints <b>1:</b> 1 setpoint <sup>1)</sup>		

<sup>1)</sup> On request

## Input Specifications

<b>Rated input</b> Current: 2 AAC/DC, 5 AAC/DC, 40 to 400 Hz Voltage: 200 VAC/DC, 500 VAC/DC, 40 to 400 Hz	<b>AC Measurement</b> Measurement of the average value resulting from the sine half-wave rectification of the input current/voltage by rms calibration
<b>Overload protection</b> Continuous 1.2 x rated input For 1s 2 x rated input	<b>Sampling rate</b> 4 times/s, dual slope 16 bits A/D converter
<b>Accuracy</b> DC: (@ 25°C $\pm$ 5°C, R.H. $\leq$ 60%) $\pm$ 0.3% f.s., $\pm$ 1 dgt AC: (@ 25°C $\pm$ 5°C, R.H. $\leq$ 60%, 50/60 Hz, 5 to 100% f.s.) $\pm$ 0.5% f.s., $\pm$ 1 dgt	<b>Indication</b> 3 1/2 dgt: Max. 1999 (AC/DC) Min. -1999 (DC), 0 (AC) 3 + 0 dgt: Max. 9990 (AC/DC) Min. -1990 (DC), 0 (AC)
<b>Temperature drift</b> $\pm$ 200 ppm/°C	<b>Key-pad</b> 3 keys: "S" for menu selection. "UP" and "DOWN" for value programming/function selection.
<b>Display</b> 7-segment LED, h 14.2 mm, 3 1/2 digits or 3 digits + dummy zero selectable by means of the front key-pad	



## Output Specifications

<b>Excitation output</b>	
Voltage	15 VDC non-stabilized/ 40 mA max. (on request)
Insulation	100 V <sub>rms</sub> output to measuring input 4000 V <sub>rms</sub> output to AC supply input 500 V <sub>rms</sub> output to DC supply input
<b>Alarms</b>	
Number of setpoints	0 (1 on request)
Alarm types	Over range, up alarm, down alarm, down alarm with dis- abling at power-on, up alarm with latch, down alarm with latch
Setpoint adjustment	0 to 100% of the displayed range
Hysteresis	0 to 100% of the displayed range
On-time delay	0 to 255 s
Off-time delay	0 to 255 s
Relay status	Normally energized/de-ener- gized
Output type	
Contact	1 x SPDT
Rating	5A, 250 VAC/VDC 40 W/ 1200 VA, 130.000 cycles.
Min. response time	≤ 500 ms, filter excluded, set- point on-time delay: "0"
Insulation	2000 V <sub>rms</sub> output to measuring inputs 2000 V <sub>rms</sub> output to excitation output

## Supply Specifications

<b>AC supply</b>	
	230 VAC, -15% +10%, 50/60 Hz (standard) 24 VAC, 48 VAC, 115 VAC, 120 VAC, 240 VAC, -15% +10%, 50/60 Hz (on request)
Insulation	4000 V <sub>rms</sub> supply input to all other inputs/outputs
<b>DC supply</b>	
	9 to 32 VDC, G.I. max. inrush current: ≤ 1.2 A/200 ms 40 to 150 VDC, G.I., max. inrush current: ≤ 0.6 A/200 ms
Insulation	500 V <sub>rms</sub> supply input to all other inputs/outputs
<b>Power consumption</b>	6.5 VA

## Software Functions

<b>Password</b>	
1st level	Numeric code of max. 3 di- gits; 2 protection levels of the programming data
2nd level	Password "0", no protection Password from 1 to 255, all data protected
<b>Scaling factor</b>	
Operating mode	Electrical scale compression, compression/expansion of the displayed scale (max. 2 without digital filter, > 2 with digital filter)
Electrical scale	Programmable within the whole measuring range
Decimal point position	Programmable within the displaying range
Displayed scale	Programmable within the whole displaying range
<b>Diagnostics</b>	
	The display flashes when the limits of the displayed range are exceeded, the data are updated up to the maximum read-out
Over range	EEE (AC/DC)
Under range	- EE (DC)
<b>Filter</b>	
Filter operating range	From 0 to 1999/9990
Filtering coefficient	From 1 to 255
<b>Max. data hold</b>	
	Automatic storage (RAM only) of the max. value measured after the last reset

## General Specifications

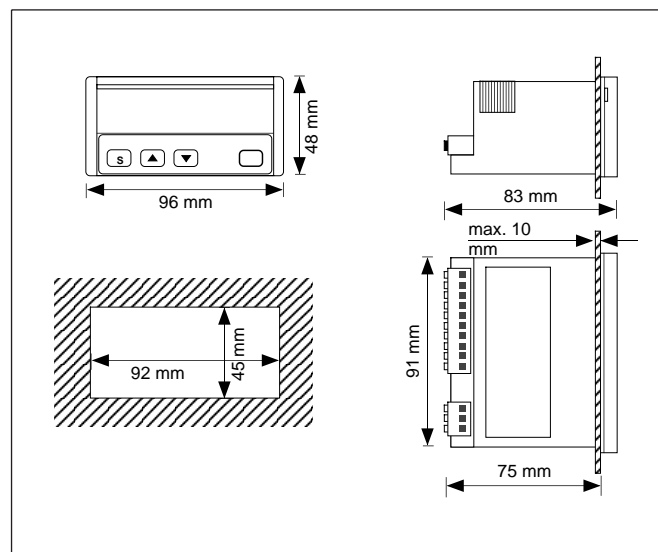
<b>Operating temperature</b>	0° to 50°C (32° to 122°F) (R.H. < 90% non-condensing)
<b>Storage temperature</b>	-10° to 60°C (14° to 140°F) (R.H. < 90% non-condensing)
<b>Insulation reference voltage</b>	300 V <sub>rms</sub> to ground
<b>Dielectric strength</b>	4000 V <sub>rms</sub> for 1 minute
<b>Noise rejection</b>	
NMRR	40 dB, 40 to 60 Hz
CMRR	100 dB, 40 to 60 Hz
<b>EMC</b>	
	IEC 60801-2, IEC 60801-3, IEC 60801-4 (level 3), EN 50 081-1, EN 50 082-1
<b>Safety standards</b>	
	EN 61 010-1, IEC 61010-1, VDE 0411
<b>Connector</b>	
	Screw-type
<b>Housing</b>	
Dimensions	1/8 DIN, 48 x 96 x 83 mm
Material	ABS, self-extinguishing: UL 94 V-0
<b>Degree of protection</b>	
	IP 50 (IP 65 on request)
<b>Weight</b>	
	340 g approx.
<b>Approval</b>	
	CE

## Range Table

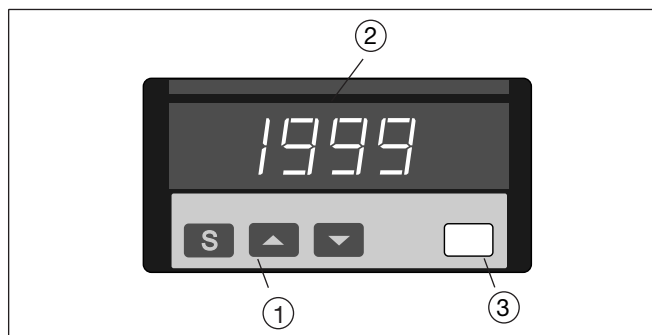
Rated inputs	Ranges (3 1/2 dgt)	Impedances
200 VDC	- 199.9 V to 199.9 VDC	$\geq 1 \text{ M}\Omega$
500 VDC	- 500 V to 500 VDC	$\geq 1 \text{ M}\Omega$
2 ADC	- 1.999 A to 1.999 ADC	$\leq 0.05 \Omega$
5 ADC	- 5.00 A to 5.00 ADC	$\leq 0.05 \Omega$
200 VAC	- 0 V to 199.9 VAC	$\geq 1 \text{ M}\Omega$
500 VAC	- 0 V to 500 VAC	$\geq 1 \text{ M}\Omega$
2 AAC	- 0 A to 1.999 AAC	$\leq 0.05 \Omega$
5 AAC	- 0 A to 5.00 AAC	$\leq 0.05 \Omega$

Rated inputs	Ranges (3 + 0 dgt)	Impedances
100 VDC	- 19.99 V to 99.90 VDC	$\geq 1 \text{ M}\Omega$
500 VDC	- 50.0 V to 500.0 VDC	$\geq 1 \text{ M}\Omega$
1 ADC	- 199.0 mA to 999.0 mA	$\leq 0.05 \Omega$
5 ADC	- 1.99 A to 5.000 ADC	$\leq 0.05 \Omega$
100 VAC	- 0 V to 99.90 VAC	$\geq 1 \text{ M}\Omega$
500 VAC	- 0 V to 500.0 VAC	$\geq 1 \text{ M}\Omega$
1 AAC	- 0 mA to 999.0 mAAC	$\leq 0.05 \Omega$
5 AAC	- 0 A to 5.000 AAC	$\leq 0.05 \Omega$

## Dimensions



## Front Panel Description



### 1. Key-pad

Set-up and programming procedures are easily controlled by the 3 pushbuttons.

“S”

- Selection key to select programming function (instrument configuration) or measurement and alarm detection.

“▲” and “▼”

- Up and down keys for increasing or decreasing programming values.

### 2. Display

3 1/2-digit or 3-digit + dummy zero (maximum read-out 1999/9990).

Alphanumeric indication by means of 7-segment display for:

- Displaying of the measured value, over-range, burn-out and programming indications.
- Indication of programming parameters.

### 3. Engineering unit

Screen for interchangeable unit label. The symbols in the shaded areas are those available on the set of engineering unit labels supplied with the LDI35 (engineering unit label to be inserted by customer).

	W = 08	MΩ = 16	% = 24	mm HG = 32	cm = 40
mV = 01	kW = 09	Hz = 17	mbar = 25	l/min = 33	m = 41
V = 02	MW = 10	kHz = 18	bar = 26	l/h = 34	kg = 42
kV = 03	var = 11	RPM = 19	psi = 27	kg/min = 35	ppm = 43
μA = 04	kvar = 12	m/s = 20	ata = 28	ton/h = 36	kA = 44
mA = 05	Mvar = 13	m/min = 21	atm = 29	m³/min = 37	cos φ = 45
A = 06	Ω = 14	°C = 22	kg/cm² = 30	m³/h = 38	m³ = 46
mW = 07	kΩ = 15	°F = 23	mm H₂O = 31	mm = 39	μs = 47

## Terminal Board

