

Panel Meters and Controllers

DC Current and Voltage Meter/Controller

Type LDI35 AV0

CARLO GAVAZZI



- 3 1/2-dgt meter or 3-dgt + dummy zero for DC current and voltage measurements
- Indicator or controller
- 200 mV, 20 V, 200 VDC and 2 mA, 20 mADC ranges
- All functions selectable by key-pad
- Password protection of programming parameters
- 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 μ P-based meter for DC current and voltage measurements. Select-

able input range. Ensures a degree of protection of IP 50 (IP 65 on request).

Ordering Key

LDI35AV0D0 XX XX

Model _____
 Range code _____
 Power supply _____
 Setpoints _____
 Engineering unit _____
 Option _____

Type Selection

Range code	Power supply		Options
See Range Table	A: 24 VAC, -15% +10%, 50/60 Hz ¹⁾	E: 120 VAC, -15% +10%, 50/60 Hz ¹⁾	XX: None (standard)
Setpoints	B: 48 VAC, -15% +10%, 50/60 Hz ¹⁾	F: 240 VAC, -15% +10%, 50/60 Hz ¹⁾	IX: Degree of protection IP 65
0: 0 setpoints	C: 115 VAC, -15% +10%, 50/60 Hz ¹⁾	3: 9 to 32 VDC with galvanic insulation ¹⁾	AX: Excitation output
1: 1 setpoint	D: 230 VAC, -15% +10%, 50/60 Hz (standard)	6: 40 to 150 VDC with galvanic insulation ¹⁾	XT: Tropicalization
¹⁾ Power supply on request			

Input Specifications

Rated input	200 mVDC 20 VDC 200 VDC 2 mADC 20 mADC	Sampling rate	4 times/s, dual slope, 16 bits A/D converter
Overload protection		Max. and. min indication	
Cont. Current:	1.2 x rated input	3 1/2 dgt:	Max. 1999 Min. -1999
Voltage:	1.2 x rated input	3 + 0 dgt:	Max. 9990 Min. -1990
For 1s Current:	5 x rated input	Key-pad	3 keys: "S" for menu selection "UP" and "DOWN" for value programming/function selection.
Voltage:	2 x rated input		
Accuracy (@ 25°C $\pm$ 5°C, R.H. $\leq$ 60%)	$\pm$ 0.3% f.s., $\pm$ 1 dgt		
Temperature drift	$\pm$ 200 ppm/°C		
Display	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

Excitation output voltage	
Voltage	15 VDC non-stabilized/ 40 mA max. (on request)
Insulation	100 V _{rms} output to measuring input 4000 V _{rms} output to AC supply input 500 V _{rms} output to DC supply input
Alarms	
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 _{rms} output to measuring inputs 2000 V _{rms} output to excitation output

Software Functions

Password	
1st level:	Numeric code of max. 3 di- gits; 2 protection levels of the programming data. Password "0", no protection. Password from 1 to 255, all data protected.
2nd level:	
Scaling factor	
Operating mode	Electrical scale compression, compression/expansion of the displayed scale (max. 2 with- out digital filter, > 2 with digi- tal 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.
Diagnostics	
Over range:	The display flashes when the limits of the displayed range are exceeded, the data are updated up to the maximum read-out. EEE - EE
Under range:	
Filter	
Filter operating range	From 0 to 1999/9990
Filtering coefficient	From 1 to 255
Max. data hold	Automatic storage (RAM only) of the max. value measured after last reset

Supply Specifications

AC supply	230 VAC, -15% +10%, 50/60 Hz (standard)
Insulation	24 VAC, 48 VAC, 115 VAC, 120 VAC, 240 VAC, -15% +10%, 50/60 Hz (on request) 4000 V _{rms} supply input to all other inputs/outputs
DC supply	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 _{rms} supply input to all other inputs/outputs
Power consumption	6.5 VA

General Specifications

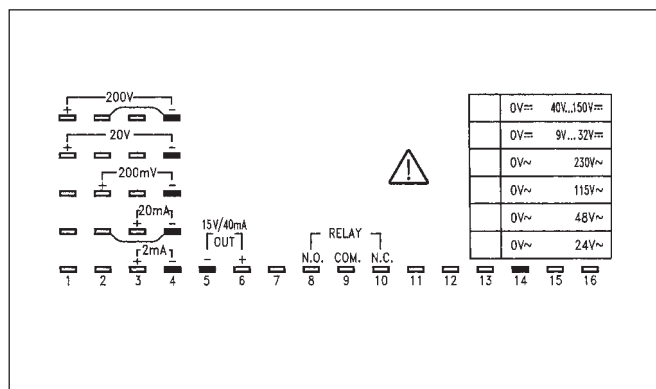
Operating temperature	0° to 50°C (32° to 122°F) (R.H. < 90% non-condensing)
Storage temperature	-10° to 60°C (14° to 140°F) (R.H. < 90% non-condensing)
Insulation reference voltage	300 V _{rms} to ground
Dielectric strength	4000 V _{rms} for 1 minute
Noise rejection	
NMRR	40 dB, 40 to 60 Hz
CMRR	100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

Range Table

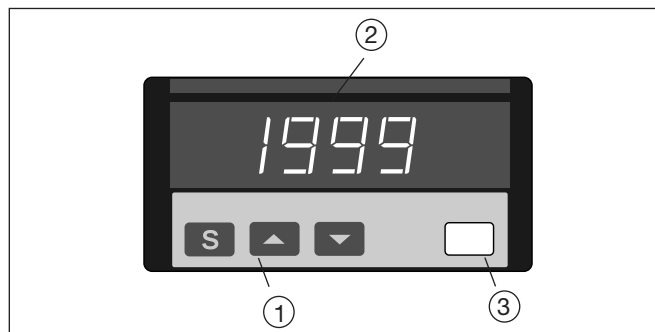
Rated inputs	Ranges (3 1/2 dgt)	Impedances
200 mVDC	-199.9 mV to 199.9 mVDC	$\geq 1 \text{ k}\Omega$
20 VDC	-19.99 V to 19.99 VDC	$\geq 120 \text{ k}\Omega$
200 VDC	-199.9 V to 199.9 VDC	$\geq 120 \text{ k}\Omega$
2 mADC	-1.999 mA to 1.999 mADC	$\leq 90 \Omega$
20 mADC	-19.99 mA to 19.99 mADC	$\leq 90 \Omega$

Rated inputs	Ranges (3 + 0 dgt)	Impedances
100 mVDC	-19.90 mV to 99.90 mVDC	$\geq 1 \text{ k}\Omega$
10 VDC	-1.990 V to 9.990 VDC	$\geq 120 \text{ k}\Omega$
100 VDC	-19.90 V to 99.90 VDC	$\geq 120 \text{ k}\Omega$
1 mADC	-199.0 mA to 999.0 μ ADC	$\leq 90 \Omega$
10 mADC	-1.990 mA to 9.990 mADC	$\leq 90 \Omega$

Terminal Board



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-dgt or 3-dgt + dummy zero (maximum read-out 1999/9999).

Alphanumeric indication by means of 7-segment display for:

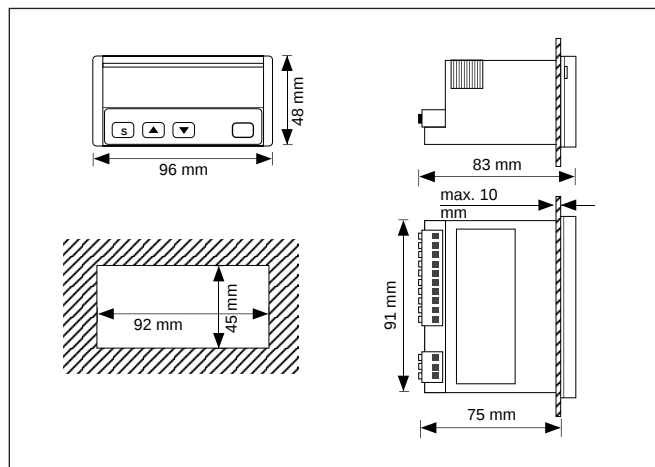
- Displaying of the measured value, over-range, burn-out and programming indications.
- Indication of programming parameters.

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).

mV = 01	W = 08	MΩ = 16	% = 24	mm HG = 32	cm = 40
V = 02	kW = 09	Hz = 17	mbar = 25	l/min = 33	m = 41
kV = 03	MW = 10	kHz = 18	bar = 26	l/h = 34	kg = 42
μ A = 04	var = 11	RPM = 19	psi = 27	kg/min = 35	ppm = 43
mA = 05	kvar = 12	m/s = 20	ata = 28	ton/h = 36	kA = 44
A = 06	Mvar = 13	m/min = 21	ate = 29	m ³ /min = 37	cos ϕ = 45
mW = 07	Ω = 14	$^{\circ}$ C = 22	kg/cm ² = 30	m ³ /h = 38	m ³ = 46
	k Ω = 15	$^{\circ}$ F = 23	mm H ₂ O = 31	mm = 39	μ s = 47

Dimensions



Excitation Output

