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# Digital Panel Meters

## AC Ammeters and Voltmeters

### Type LDM30 AV1/AV5

CARLO GAVAZZI



- 3-dgt LED + dummy zero,  $\mu$ -based digital indicator, for TRMS AC current and voltage measurements
- Dip-switch-selectable ranges
- Front dimensions: 48 x 96 mm
- Front protection degree: IP 50 (IP 65 on request)

## Product Description

3-dgt plus dummy zero  $\mu$ P-based indicator, double input for AC current or voltage measurements. 112 selectable

primary ranges. Housing for panel mounting and IP 50 front protection degree (IP65 on request).

## How to order

**LDM30 AV5D0 XX**

Model \_\_\_\_\_  
 Range code \_\_\_\_\_  
 Power Supply \_\_\_\_\_  
 Set points \_\_\_\_\_  
 Options \_\_\_\_\_

## Type Selection

| Range code |              |                 | Power supply                           | Options   |
|------------|--------------|-----------------|--|---|
| AV1:       | 1A / 100V AC | See Range table | B: 24/48 VAC, -15%<br>+10%, 50/60 Hz   | XX: None  |
| AV5:       | 5A / 500V AC | See Range table | D: 115/230 VAC, -15%<br>+10%, 50/60 Hz | IX: IP65 protection degree<br>XT: Tropicalization |

## Specifications

|   |          |   |                                     |   |
|---|----------|---|-------------------------------------|---|
| <b>Rated input</b>                            |          |   | <b>Input range selection</b>        | DIP-Switch selectable   |
| <b>AV5</b>                                    |          | 5A (In) / 500V AC (Un),<br>45 to 400 Hz, TRMS   | <b>Decimal point position</b>       | DIP-Switch selectable   |
| <b>AV1</b>                                    |          | 1A (In) / 100V AC (Un),<br>45 to 400Hz, TRMS  | <b>Operating temperature</b>        | 0° to 50°C (32° to 122°F)<br>(R.H. < 90% non-condensing)                        |
| <b>Overload protection</b>                    |          |   | <b>Storage temperature</b>          | -10° to 60°C (14° to 140°F)<br>(R.H. < 90% non-condensing)                      |
| Continuous:                                   | Current: | 1.2 x In  | <b>Insulation reference voltage</b> | 300 VRMS to ground  |
|   | Voltage: | 1.2 x Un  | <b>Dielectric strength</b>          | 4000 VRMS for 1 minute  |
| For 1 s:                                      | Current: | 5 x In  | <b>Noise rejection</b>              | CMRR  |
|   | Voltage: | 2 x Un  |                                     | 100 dB, from 40 to 60 Hz  |
| <b>Accuracy</b><br>(@ 25°C ± 5°C, R.H. ≤ 60%) |          | ± 0.5% F.S., ± 1 DGT<br>(from 5% to 120% F.S.).<br>± 1% F.S., ± 1 DGT<br>(from 0% to 5% F.S.) | <b>EMC</b>                          | IEC 60801-2, IEC 60801-3,<br>IEC 60801-4 (level 2),<br>EN 50 081-1, EN 50 082-1 |
| <b>Temperature drift</b>                      |          | ± 200 ppm/°C  | <b>Safety standards</b>             | EN 61010-1, IEC 61010-1   |
| <b>Input impedance</b>                        |          |   | <b>Connections</b>                  | Screw-type  |
| <b>AV1</b>                                    |          | 1A: voltage drop 1V<br>100V: ≥ 1MΩ  | <b>Housing</b>                      |   |
| <b>AV5</b>                                    |          | 5A: voltage drop 250mV<br>500V: ≥ 1MΩ   | Dimensions                          | 1/8 DIN, 48 x 96 x 83 mm  |
| <b>Display</b>                                |          | 7-segment red LED,<br>h 14.2 mm, 4 digits   | Material                            | ABS,<br>self-extinguishing: UL 94 V-0   |
| <b>Measurement refresh time</b>               |          | 2 measurements/sec @50Hz  | <b>Degree of protection</b>         | Front: IP 50<br>(IP 65 on request);<br>Connections: IP20                        |
| <b>Display</b>                                |          |   | <b>Weight</b>                       | 250 g approx.   |
| Max./Min.                                     |          | 9990/0000   | <b>Approvals</b>                    | CE, cURus, CSA  |
| Over range                                    |          | EEEE Indication >120% In/Un<br>or up to the maximum<br>indication (9990)                      |                                     |   |



Power Supply Specifications

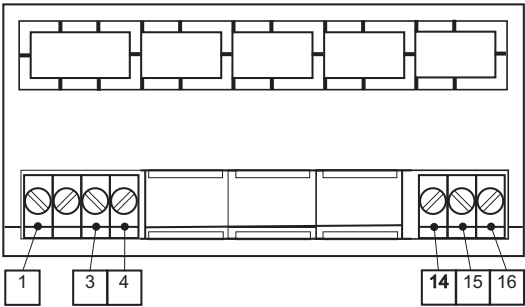
|                 |   |                   |        |
|-----------------|---|-------------------|--------|
| AC power supply | 24/48 VAC, 115/230 VAC,<br>-15% +10%,50/60 Hz | Power consumption | 3.2 VA |
|-----------------|---|-------------------|--------|

Range Table

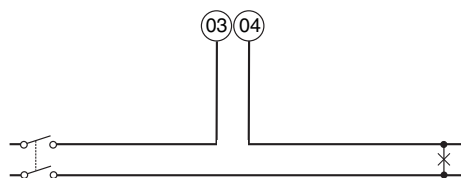
|  |     |     |     | A (Current)   |                        |        |    |       |     |        |     | V (Voltage)       |                        |                |    |                 |     |                 |     |  |
|--|-----|-----|-----|---------------|------------------------|--------|----|-------|-----|--------|-----|-------------------|------------------------|----------------|----|-----------------|-----|-----------------|-----|--|
| AV1: In=1A; Un=100V (110V)<br>AV5: In=5A; Un=500V (600V) |     |     |     | In: 1A, 5A AC |                        |        |    |       |     |        |     | Vn: 100V, 500V AC |                        |                |    |                 |     |                 |     |  |
|  |     |     |     |               |                        |        |    |       |     |        |     |                   |                        |                |    |                 |     |                 |     |  |
| Decimal point selection or dummy zero                    |     |     |     | 7             | 8                      | 7      | 8  | 7     | 8   | 7      | 8   | 7                 | 8                      | 7              | 8  | 7               | 8   |                 |     |  |
|  |     |     |     | ON            | ON                     | OFF    | ON | ON    | OFF | OFF    | OFF | ON                | ON                     | OFF            | ON | ON              | OFF | OFF             | OFF |  |
|  |     |     |     | “X.XX”        |                        | “XX.X” |    | “XXX” |     | “XXX0” |     | “X.XX”            |                        | “XX.X”         |    | “XXX”           |     | “XXX0”          |     |  |
| 6  |     |     |     |               |                        |        |    |       |     |        |     |                   |                        | ON (110V F.S.) |    | ON (110V F.S.)  |     |                 |     |  |
|  |     |     |     | OFF           |                        | OFF    |    | OFF   |     | OFF    |     | OFF               |                        | OFF            |    | OFF (100V F.S.) |     | OFF (100V F.S.) |     |  |
| 2  | 3   | 4   | 5   |               |                        |        |    |       |     |        |     |                   |                        |                |    |                 |     |                 |     |  |
| OFF  | OFF | OFF | OFF | 1.20A         |                        | 12.0A  |    | 120A  |     | 1200A  |     | -                 |                        | 11.0V          |    | 110V            |     | 1100V           |     |  |
| ON   | OFF | OFF | OFF | 1.25A         |                        | 12.5A  |    | 125A  |     | 1250A  |     | -                 |                        | 11.5V          |    | 115V            |     | 1150V           |     |  |
| OFF  | ON  | OFF | OFF | 1.50A         |                        | 15.0A  |    | 150A  |     | 1500A  |     | -                 |                        | 22.0V          |    | 220V            |     | 2200V           |     |  |
| ON   | ON  | OFF | OFF | 1.60A         |                        | 16.0A  |    | 160A  |     | 1600A  |     | -                 |                        | 23.0V          |    | 230V            |     | 2300V           |     |  |
| OFF  | OFF | ON  | OFF | 1.75A         |                        | 17.5A  |    | 175A  |     | 1750A  |     | -                 |                        | 24.0V          |    | 240V            |     | 2400V           |     |  |
| ON   | OFF | ON  | OFF | 2.00A         |                        | 20.0A  |    | 200A  |     | 2000A  |     | -                 |                        | 38.0V          |    | 380V            |     | 3800V           |     |  |
| OFF  | ON  | ON  | OFF | 2.50A         |                        | 25.0A  |    | 250A  |     | 2500A  |     | -                 |                        | 40.0V          |    | 400V            |     | 4000V           |     |  |
| ON   | ON  | ON  | OFF | 3.00A         |                        | 30.0A  |    | 300A  |     | 3000A  |     | -                 |                        | 44.0V          |    | 440V            |     | 4400V           |     |  |
| OFF  | OFF | OFF | ON  | 3.50A         |                        | 35.0A  |    | 350A  |     | 3500A  |     | -                 |                        | 45.0V          |    | 450V            |     | 4500V           |     |  |
| ON   | OFF | OFF | ON  | 4.00A         |                        | 40.0A  |    | 400A  |     | 4000A  |     | -                 |                        | 50.0V          |    | 500V            |     | 5000V           |     |  |
| OFF  | ON  | OFF | ON  | 5.00A         |                        | 50.0A  |    | 500A  |     | 5000A  |     | -                 |                        | 60.0V          |    | 600V            |     | 6000V           |     |  |
| ON   | ON  | OFF | ON  | 6.00A         |                        | 60.0A  |    | 600A  |     | 6000A  |     | -                 |                        | 66.0V          |    | 660V            |     | 6600V           |     |  |
| OFF  | OFF | ON  | ON  | 7.00A         |                        | 70.0A  |    | 700A  |     | 7000A  |     | -                 |                        | 69.0V          |    | 690V            |     | 6900V           |     |  |
| ON   | OFF | ON  | ON  | 7.50A         |                        | 75.0A  |    | 750A  |     | 7500A  |     | -                 |                        | 70.0V          |    | 700V            |     | 7000V           |     |  |
| OFF  | ON  | ON  | ON  | 8.00A         |                        | 80.0A  |    | 800A  |     | 8000A  |     | -                 |                        | 80.0V          |    | 800V            |     | 8000V           |     |  |
| ON   | ON  | ON  | ON  | 9.99A         |                        | 99.9A  |    | 999A  |     | 9990A  |     | -                 |                        | 99.9V          |    | 999V            |     | 9990V           |     |  |
| 1  |     |     |     | ON            |                        |        |    |       |     |        |     |                   | V, voltage measurement |                |    |                 |     |                 |     |  |
|  |     |     |     | OFF           | A, Current measurement |        |    |       |     |        |     |                   |                        |                |    |                 |     |                 |     |  |

Terminal boards

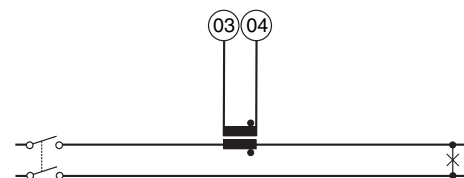
Back view of the instrument



## Wiring diagrams, current measurements

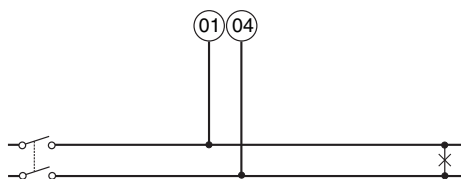


Direct connection

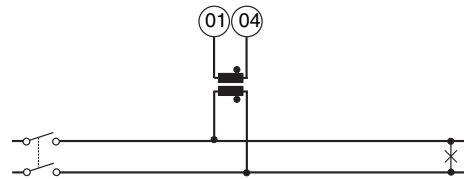


CT connection

## Wiring diagrams, voltage measurements

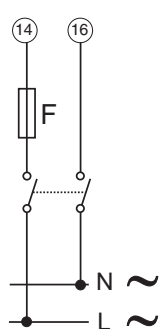
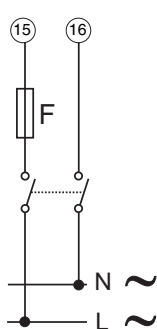
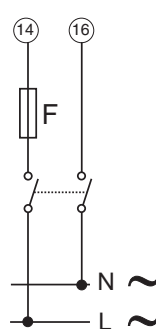


Direct connection

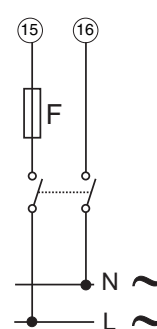


VT connection

## Wiring diagrams, power supply

**230VAC**F= 500mA  
250V T**115VAC**F= 500mA  
250V T**48VAC**

F= 1A 250V T

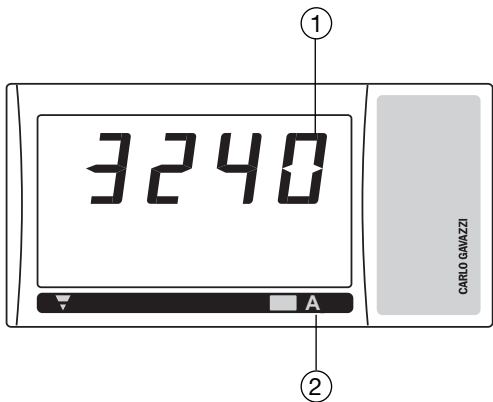
**24VAC**

F= 1A 250V T



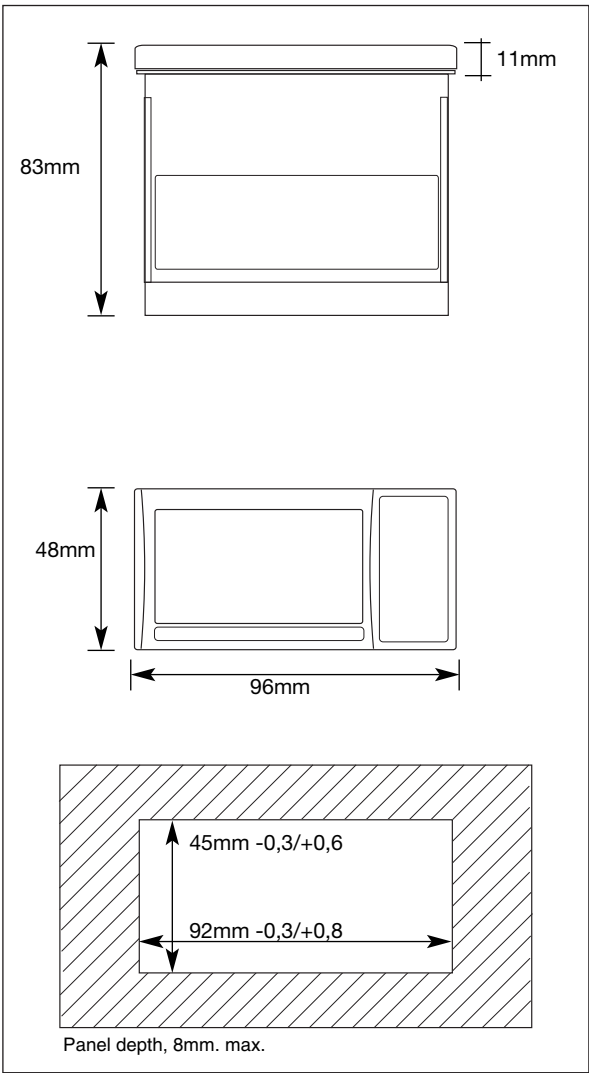


Front panel description



- 1. **Display**  
3 dgts + dummy zero (maximum indications 9990).  
Alpha-numerical indication with 7-segment LCD to display measurement values and over range indication
- 2. **Engineering unit**  
The instrument is supplied with a complete set of labels with the main engineering units.

Dimensions



Engineering units

