

## Digalox DPM72-AV Instruction manual (Rev-2018-03)

**Package contents:** Panel meter Digalox DPM72, 5x jumpers, 1x mounting bracket

### 1. Intended use

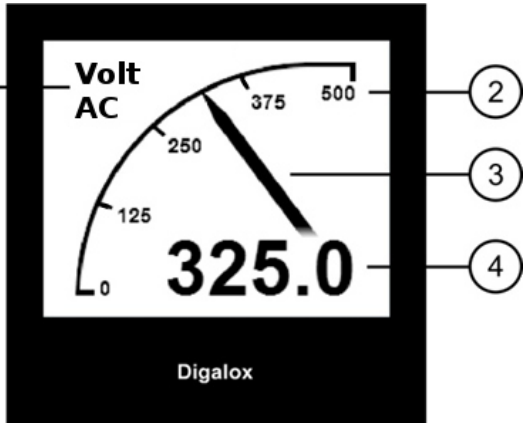
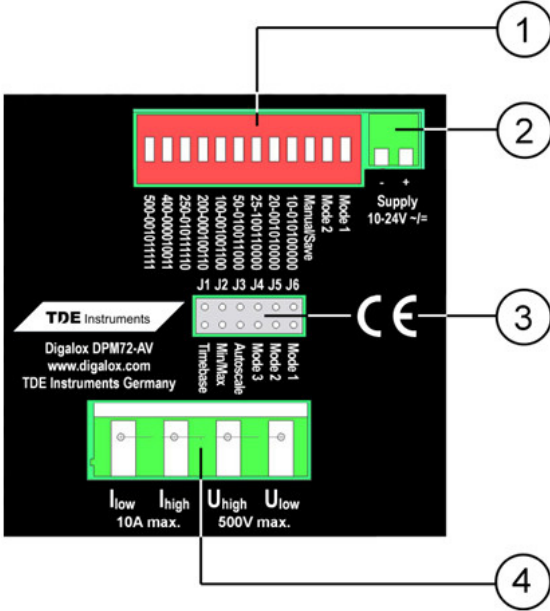
- Indoor use non condensing, non corrosive.
- Panel mounting.
- Failure to comply with these instructions will void all guarantee and warranty.

### 2. Safety instructions

- **Note: the measurement inputs of the device can carry life-threatening voltages!**
- **When working on the device hazardous voltages must not be connected to the device!**
- **The device must not be used as the only protective device or protective shutdown.**
- Read instruction manual carefully before operating the device!
- The device is not intended to protect persons or facilities against harm. Specific devices must be used to guarantee safety (protection relays, off-switches, etc).
- When connecting switches to the terminals J1-J6 only switches must be used whose isolation voltage is at least twice the maximum occurring measurement voltage. For example, when measuring 250V AC switch must be isolated for at least 500V.
- Do not open the housing!
- Do not use the instrument in the presence of explosive or flammable substances!
- All cables carrying hazardous voltages must be secured with external separators.

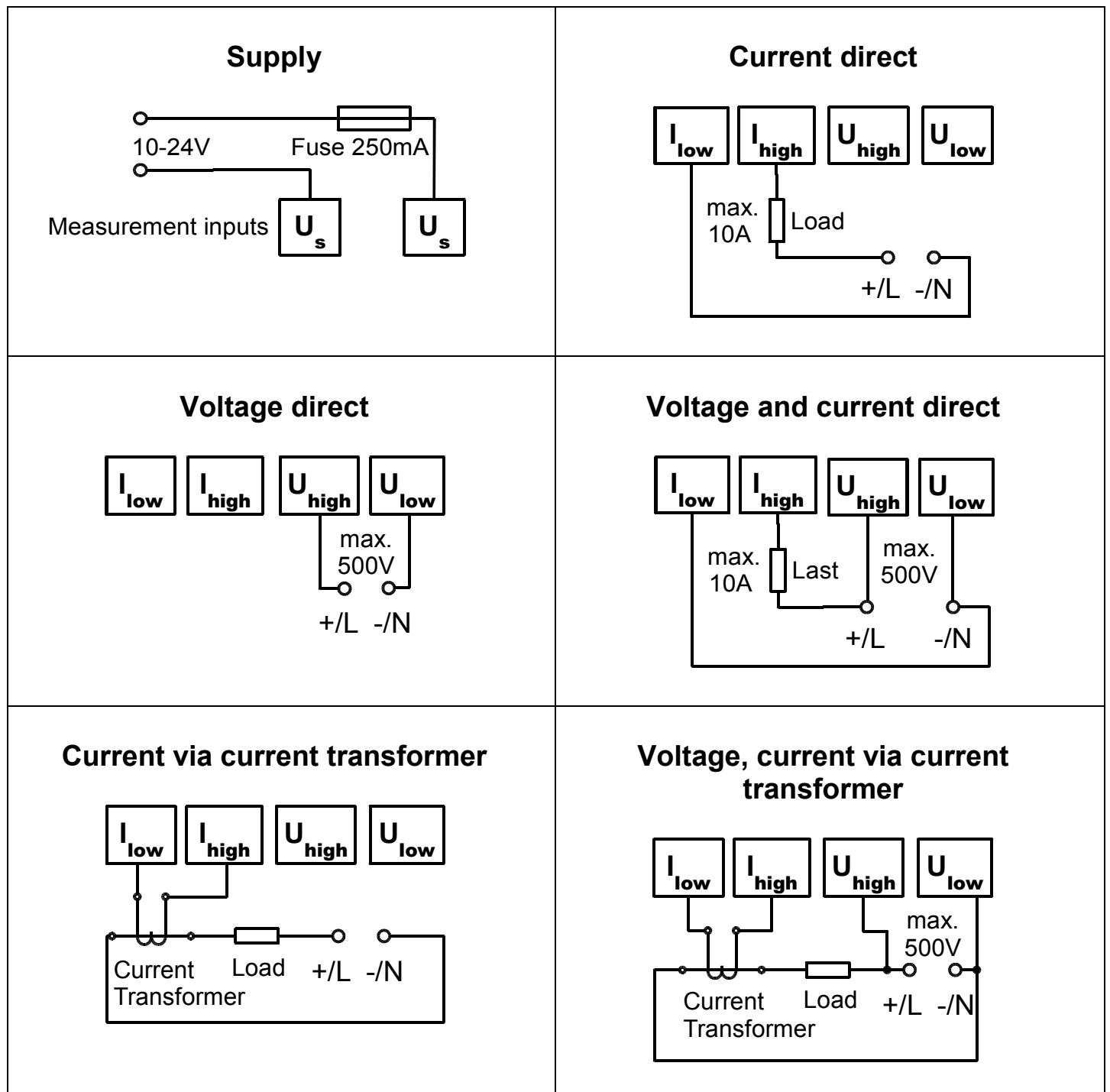
### 3. Description

The measuring modes Volt AC/DC, Ampere, frequency and 5A current transformer are supported. Scale endpoint of the indicator as well as scaling of the analogue signal and current transformer measurement can be adjusted freely via the DIP switch, alternatively the option for automatic adaption of the scale endpoint can be used. The unit can be switched between volt and ampere measurement via an external switch. Minimum and maximum values are recorded and can be displayed optionally using an external switch. Measure values are recorded over a time span of 3 minutes up to 14 days. The time base as well as the display of the measuring history can be activated by an external switch.

 <p>The image shows the front panel of the Digalox DPM72-AV meter. It features a semi-circular scale with markings at 0, 125, 250, 375, and 500. A needle points to the 325.0 mark. Below the scale, the text 'Digalox' is visible. Four numbered callouts (1-4) point to specific features: 1 points to the 'Volt AC' text, 2 points to the '500' mark, 3 points to the needle, and 4 points to the digital value '325.0'.</p>	<p><b>Front</b></p> <ol style="list-style-type: none"> <li>1 Measure mode text</li> <li>2 Upper scale caption</li> <li>3 Graphical measurement display</li> <li>4 Digital measurement value</li> </ol>																											
 <p>The image shows the back panel of the Digalox DPM72-AV meter. It features a red DIP switch (1), a green supply voltage input (2), a green CE mark (3), and a green measurement input (4). The panel also includes a manual save button, a supply voltage input (10-24V +/-), and a CE mark. The panel is labeled with 'TDE Instruments', 'Digalox DPM72-AV', 'www.digalox.com', and 'TDE Instruments Germany'. It also includes a table of modes and their corresponding manual save and auto-scale values.</p> <table border="1"> <thead> <tr> <th>Mode</th> <th>Manual Save</th> <th>Auto-scale</th> </tr> </thead> <tbody> <tr> <td>Mode 1</td> <td>10-010100000</td> <td>Mode 1</td> </tr> <tr> <td>Mode 2</td> <td>20-001010000</td> <td>Mode 2</td> </tr> <tr> <td>Mode 3</td> <td>25-100100000</td> <td>Mode 3</td> </tr> <tr> <td>Mode 4</td> <td>50-010010000</td> <td>Mode 4</td> </tr> <tr> <td>Mode 5</td> <td>100-000001000</td> <td>Mode 5</td> </tr> <tr> <td>Mode 6</td> <td>200-000001000</td> <td>Mode 6</td> </tr> <tr> <td>Mode 7</td> <td>250-000001000</td> <td>Mode 7</td> </tr> <tr> <td>Mode 8</td> <td>500-000001000</td> <td>Mode 8</td> </tr> </tbody> </table> <p>Below the table, there are four measurement inputs labeled I<sub>low</sub>, I<sub>high</sub>, U<sub>high</sub>, and U<sub>low</sub>. The I<sub>low</sub> input is labeled '10A max.' and the U<sub>low</sub> input is labeled '500V max.'.</p>	Mode	Manual Save	Auto-scale	Mode 1	10-010100000	Mode 1	Mode 2	20-001010000	Mode 2	Mode 3	25-100100000	Mode 3	Mode 4	50-010010000	Mode 4	Mode 5	100-000001000	Mode 5	Mode 6	200-000001000	Mode 6	Mode 7	250-000001000	Mode 7	Mode 8	500-000001000	Mode 8	<p><b>Back</b></p> <ol style="list-style-type: none"> <li>1 DIP switch for setting measurement mode and upper scale caption</li> <li>2 Supply voltage input</li> <li>3 Jumpers for configuration or connection external switch for activating/switching measurement mode, graphical historic data display, min/max display, auto-scaling</li> <li>4 Measurement inputs</li> </ol>
Mode	Manual Save	Auto-scale																										
Mode 1	10-010100000	Mode 1																										
Mode 2	20-001010000	Mode 2																										
Mode 3	25-100100000	Mode 3																										
Mode 4	50-010010000	Mode 4																										
Mode 5	100-000001000	Mode 5																										
Mode 6	200-000001000	Mode 6																										
Mode 7	250-000001000	Mode 7																										
Mode 8	500-000001000	Mode 8																										

## 4. Electrical Connections

The device may only be operated in one of the connection options shown below.



## 5. Configuration

The device can be configured via DIP switches and jumpers.

### Scale

In modes where a scaling is necessary to represent the correct measurement value (for example 5A AC for current transformer) the upper scale value corresponds to the primary value of the current transformer.

Example: upper scale value = 50 = primary value of the current transformer

### Configuration via DIP switches and jumpers if only one measurement mode is required (Manual mode)

1. Set DIP switch 10 to ON position.
2. Set measurement mode with jumpers at J4-J6 according to table "Measurement mode", column "Manual mode".
3. Set upper scale caption for the first measurement mode with DIP switches 1-9 (see "Configuration of the upper scale caption").
4. Connect supply voltage.

### Configuration via DIP switches and jumpers if it is required to switch between multiple measurement modes via an external switch (Save mode)

The required measurement modes are configured and saved sequentially.

1. Connect supply voltage.
2. Set DIP-switch 10, 11 and 12 to OFF position.
3. Set the measurement mode with jumpers at J4-J6 according to table "Measurement mode", column "Save mode".
4. Set DIP switch 10 to ON position.
5. Set upper scale caption for the first measurement mode with DIP switches 1-9 (see "Configuration of the upper scale caption").
6. Set time base for graphical historic data display (optional, see "Other settings").
7. Set DIP switch 10 to OFF position.
8. "Saved" appears on the display. The configuration of the first measurement mode is now completed.
9. When using multiple measurement modes repeat steps 2-8 until all required measurement modes are configured. The time base must not be set again, as it is used for all measurement modes.
10. In operation the measuring modes can be changed with a switch at J4-J6 according to table "Measurement mode", column "Save mode".

## Configuration of the upper scale caption

The upper scale caption is binary coded using DIP switches 1-9. Possible values are 1 to 500. Switch 1 corresponds to 256, switch 2 corresponds to 128, switch 3 corresponds to 64, etc., switch 9 corresponds to 1. For configuration, proceed as follows:

1. Connect supply voltage.
2. Set DIP switch 10 to ON Position.
3. Set DIP switches 1-9 to OFF position.
4. Start with 1st switch.
5. Set switch to ON position.
6. If the displayed value is greater than the desired value, set the switch back to OFF position.
7. If the displayed value is less than the desired value, leave switch to ON position and move on to the next switch.
8. Repeat steps 5 to 7 until desired value is displayed.

## Table common switch combinations

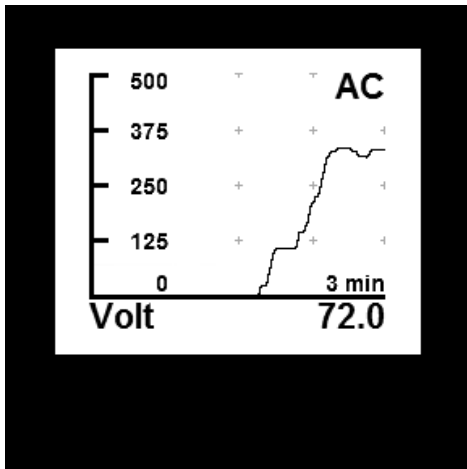
Value	Combination (DIP switch 1-9)	Value	Combination (DIP switch 1-9)	Value	Combination (DIP switch 1-9)
10		50		200	
20		100		250	
25		150		500	

## Table measurement mode

Measurement mode	Display	Scale	Manual mode	Save mode
V AC direct	Volt AC			
A AC direct	Ampere AC			
V DC direct	Volt DC			
A DC direct	Ampere DC			
AC Frequency	Frequency Hz			
5A AC scaled (Current transformer)	Ampere CT	Upper scale caption		
1A AC scaled (Current transformer)	Ampere CT	Upper scale caption		

## 6. Other settings

The following functions can be activated independently by short-circuiting connectors J1-J3 by jumper or switch during operation:

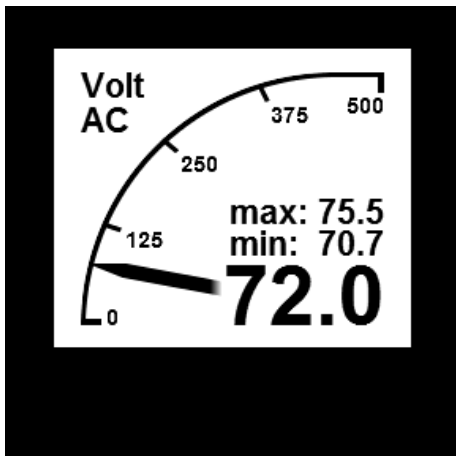


### J1: Graphical historic data display

To activate the graphical historic data display connector J1 is shorted. The unit displays the stored values within the set time base as a graphical trend.

The time base can be set to days (7, 14), hours (6, 12, 24, 48, 72) or minutes (3, 15, 30, 60).

The time base can be changed by alternately opening and closing J1 (interval < 2 sec). When first opening and closing J1 the current time base is displayed. For each subsequent opening and closing the time base changes to the next setting. In order to save the setting permanently, DIP switch 10 must be switched from ON to OFF position.



### J2: Min-Max-display

To activate the Min-Max display connector J2 is shorted. The display shows the maximum and minimum values recorded since the last reset. The values can be reset by opening and closing connection J2 shortly (interval < 2 sec). The display shows "minmax reset".

### J3: Auto scaling

To activate auto-scaling J3 connector is shorted. The device automatically changes the upper scale caption depending on the current measuring value in steps of 10, 100 and the set of top scale caption.

## 7. Mounting

Carefully insert the instrument into the panel cutout. Insert the mounting bracket from the back and push towards the panel until instrument sits tight. Make sure the mounting bracket is snapped into the side of the housing. To ensure IP65 protection (dust and water jet) when mounting in a front panel, use optional gasket.

## 8. Specifications

	<b>DPM72AV</b>
Supply	10-24V AC/DC
Display	LCD graphic display 192x160 Pixel
Measuring range voltage	± 500V AC/DC
Accuracy voltage	1%
Internal resistance voltage	2,6MΩ
Measuring range ampere	± 10A AC/DC and 5A AC CT
Accuracy ampere	1%
Internal resistance ampere	5mΩ
Measuring range frequency	10-500Hz
Accuracy frequency	0,1Hz
Recording of measurement	3 min to 14 days
Operating temperature	0°C to +50°C
Storage temperature	-20°C to +70°C
Front panel	72 mm x 72 mm
Panel cut out	68 mm x 68 mm
Protection front	IP65 from the front

## 9. Cleaning

Observe the safety instructions before cleaning the instrument. Clean instrument with a dry lint-free soft cloth. Do not use solvents.

## 10. Contact Information

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