



Digalox® DPM72-AV2

Instruction manual (Rev-2024-05)

Graphic panel meter for Volt & Ampere

Package contents: Panel meter Digalox® DPM72-AV2, mounting bracket, 5 jumpers, 2 instruction manuals (EN + DE)

1. Safety instructions

- Read instruction manual carefully before operating the device! Keep for later reference.
- Mounting and installation must be carried out by suitably qualified and competent persons only.
- **WARNING: The measurement inputs of the device can carry life-threatening voltages!**
- **WARNING: When working on the device hazardous voltages must not be connected to the device! The terminals J1-J6 are not isolated from the measuring circuit.**
- **DANGER: When the USB port is connected, only voltages lower than 50 V may be applied to the measurement inputs. The USB port is not isolated from the measurement circuit.**
- At the maximum current strength (10 A), 500 mW of waste heat is generated at the current sense resistor. The tip of the current sense resistor becomes very hot (87 °C). Maintain the appropriate safety distances and pay attention to good ventilation!
- The device is not intended to protect persons or facilities against harm. Specific devices must be used to guarantee safety (protection relays, cut-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 250 V AC switches must be isolated for at least 500 V.
- Do not use the device in the presence of explosive or flammable substances!
- All cables carrying hazardous voltages must be secured with external separators.

2. Meaning of symbols



General warning sign
(Attention, observe the documentation!)

3. Intended use

- Measurement of current, voltage and frequency in the specified measuring ranges.
- Indoor use non condensing, non corrosive.
- Panel mounting.
- In operation, supply the device preferably via screw terminals with 12 to 24 V AC/DC instead of via USB.
- Failure to comply with these instructions will void all guarantee and warranty.

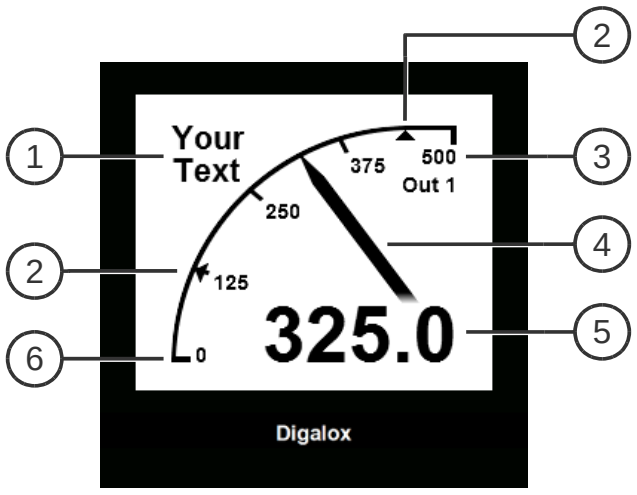
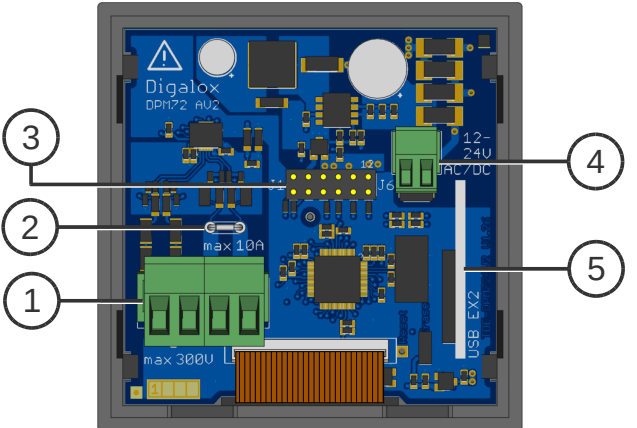
4. Description

The measurement types volt AC/DC, ampere AC/DC, frequency and 5 A or 1 A for current transformer are supported. The unit can be switched between different measurement modes via an external switch. Minimum and maximum values are recorded. They can be displayed and reset using an external switch. Measured values are recorded over a time span of 36 seconds up to 14 days. The time base as well as the display of the measuring history can be switched by an external switch. The measured values remain stored as long as the device is supplied with voltage.

With the additionally available USB interface the following parameters can be adjusted using the configuration software “Digalox[®] Manager”: scale endpoint, scale caption, display style (pointer, tachometer, bar graph, and more), splash image, and more. Recorded measurement values can be read and a continuous transmission of measurement values can be enabled. Using the software, values can be viewed and exported as CSV file.

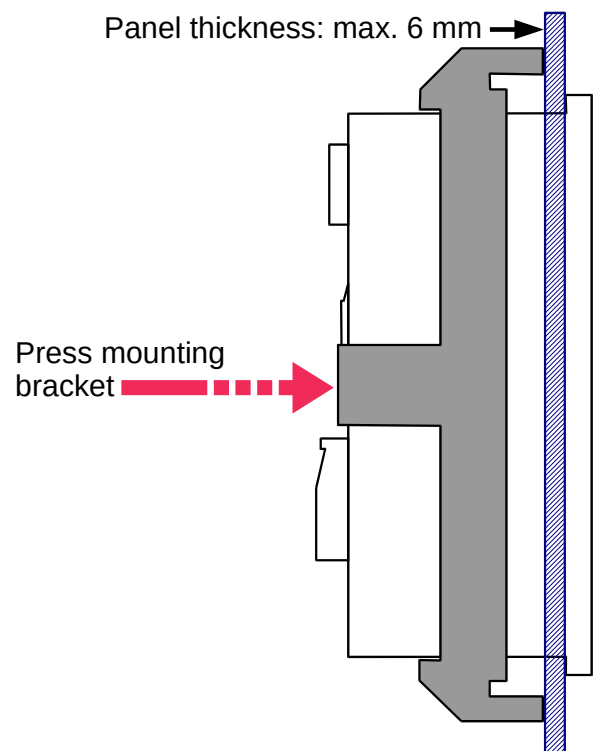
In the “Downloads” area of www.digalox.com you can find the latest version of the instruction manual and the software “Digalox[®] Manager”.

5. Product overview

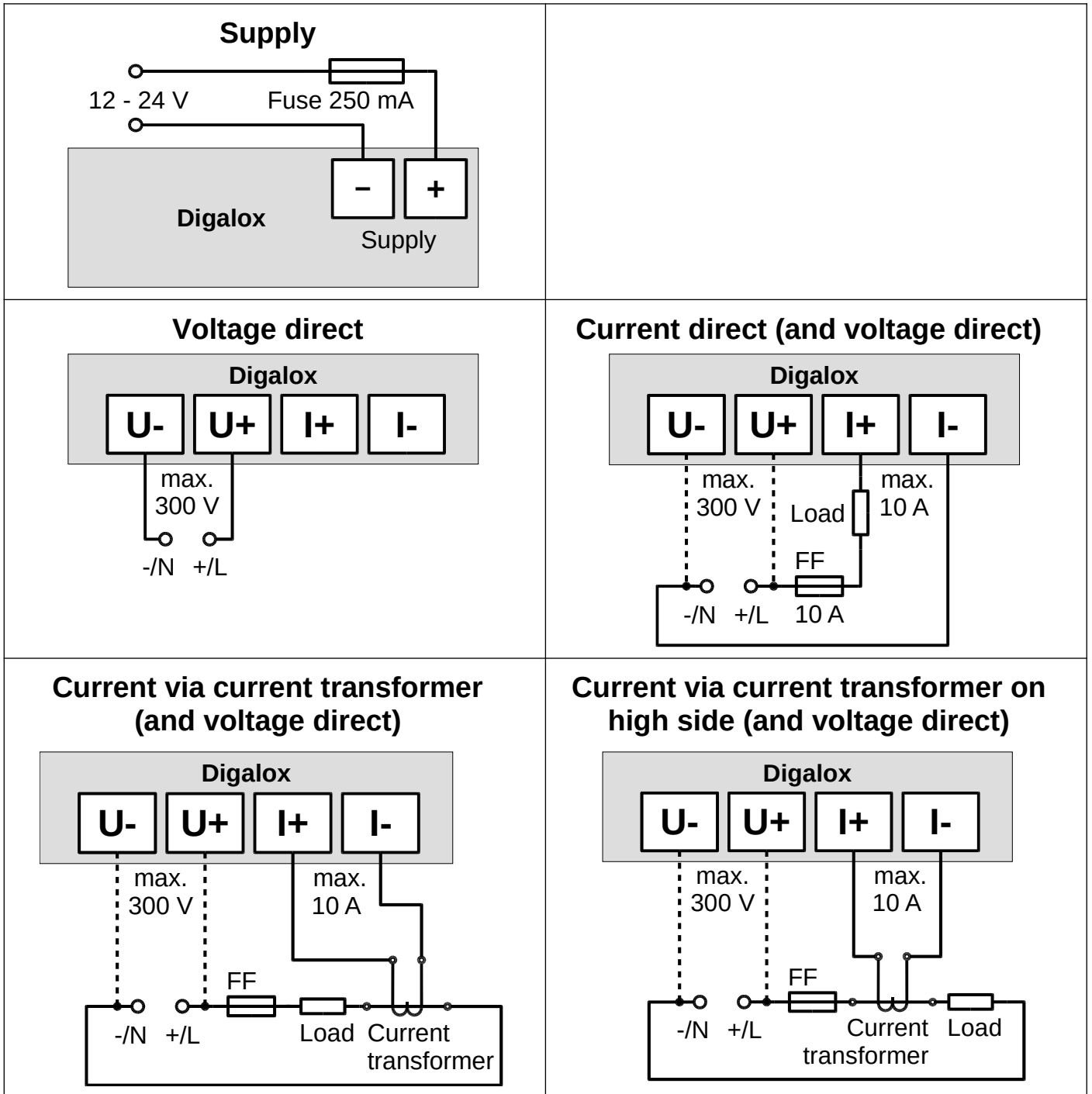
	<p>Front</p> <ol style="list-style-type: none">1 Unit or free text2 Threshold values3 Upper scale caption4 Graphical measurement display5 Digital measurement value6 Lower scale caption
	<p>Back</p> <ol style="list-style-type: none">1 Measurement inputs2 Measuring resistor (hot!)3 Jumper pins J1–J6 for activating/switching of graphical historic data display, min/max display, auto-scaling, measurement mode4 Supply voltage input5 Interface (optional)

6. Mounting

Carefully insert the device into the panel cut-out. Insert the mounting bracket from the back and push towards the panel until the device 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 (separately available).



7. Electrical connections



WARNING: The device may only be operated in one of the connection options shown above! Use an ultra-fast-acting fuse (FF) at the current measurement input.

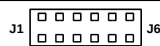






8. Configuration

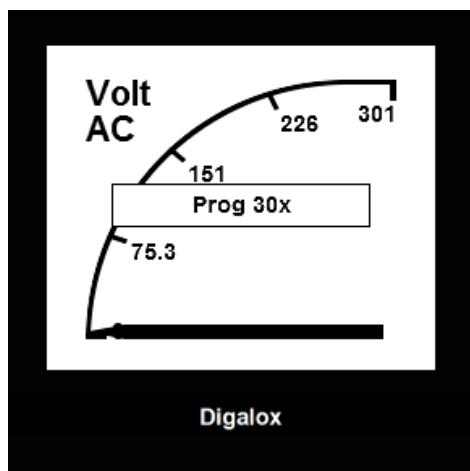
The device can be configured via jumpers or using the additionally available USB interface with the corresponding software “Digalox® Manager”. When configuring via jumpers the basic settings can be made. The configuration via USB allows full functionality.

Configuration via jumpers

Select measurement mode with jumpers at J4-J6 according to table "measurement mode".

Table measurement mode (factory preset, can be changed by software)

	Measurement mode	Display	Selection
1	V AC direct	Volt AC	
2	A AC direct	Ampere AC	
3	V DC direct	Volt DC	
4	A DC direct	Ampere DC	
5	AC Frequency	Freq. Hz	
6	5A AC scaled (current transformer)	Ampere CT	
7	1A AC scaled (current transformer)	Ampere CT	

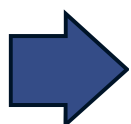


To configure the upper scale caption, connect J3 within 10 seconds after restart and disconnect it again. The device switches to programming mode. “Prog” appears in the display, followed by the upper scale caption, whereby the digit to be changed is shown as “x”. Use J2 to select which digit is to be changed. Change the value of the digit with J1. Connect J3 again to save.

If the measurement mode "5A AC scaled" or "1A AC scaled" is selected the upper scale caption must correspond to the primary value of the current transformer for correct scaling of the measured value.

Configuration via USB interface with software “Digalox® Manager”

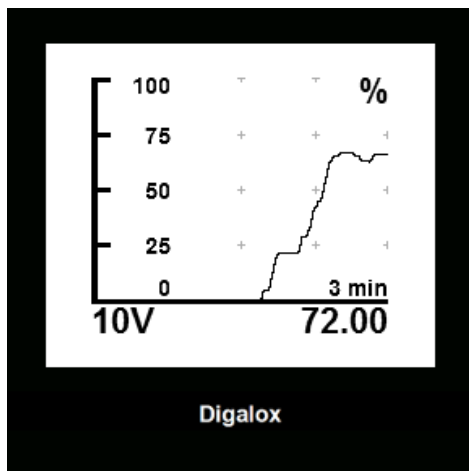
Connect the device and the computer using a USB cable. The device driver is installed automatically if the computer is connected to the Internet.



After restart, the device always shows the first display value or the one that is selected by the jumpers J4-J6 (see table “measurement mode”).

9. Other settings

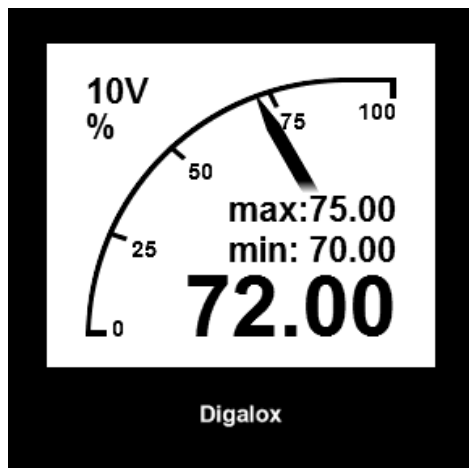
The following functions can be activated independently during operation by short-circuiting connectors J1-J3, e.g. using a jumper or switch:



J1: Graphical historic data display

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 (1, 3, 6, 12, 24, 48, 72), minutes (3, 15, 30) or seconds (36).

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, the software "Digalox® Manager" and the optional USB interface has to be used.



J2: Min-Max display

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

The device automatically changes the upper scale caption depending on the current measuring value, e.g. between 10, 100 and the set upper scale caption.

10. Maintenance

Periodically check all external cable connections.

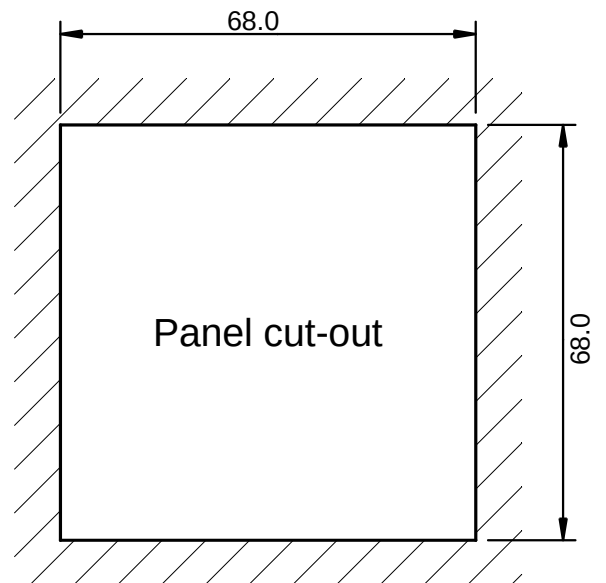
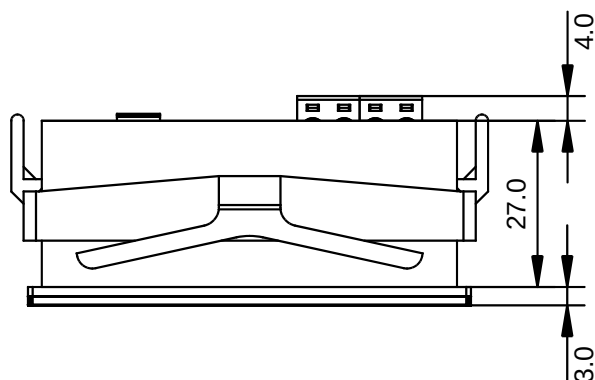
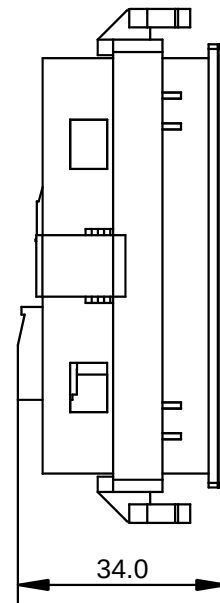
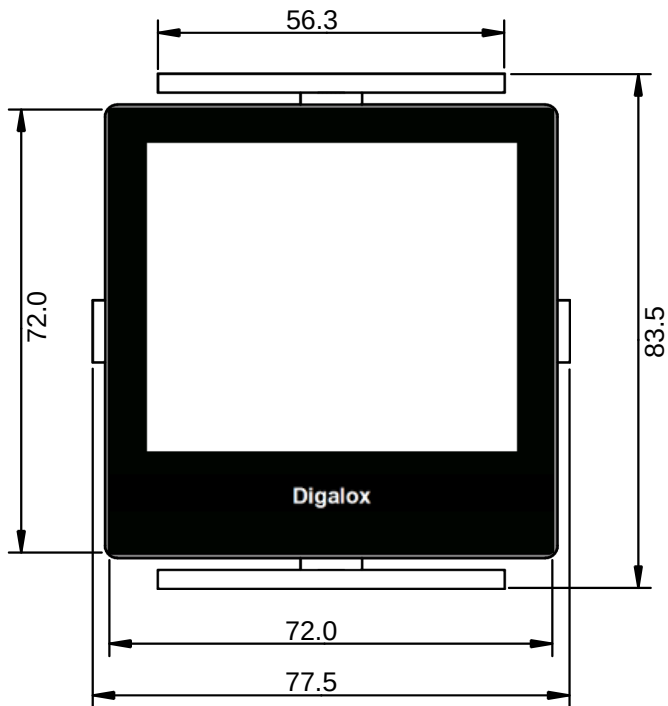
11. Cleaning

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

12. Specification

Supply	12 - 24 V AC/DC $\pm 10\%$ (50/60 Hz $\pm 10\%$)
Required external fuse for supply	250 mA, fast (F)
Power consumption	Max. 1.2 W
Display	LCD graphic display 192 × 160 pixels, 16 grey levels
Measuring range voltage	± 300 V AC/DC, 10 - 500 Hz
Accuracy voltage	± 1 % true RMS
Internal resistance voltage	1.3 M Ω
Measuring range ampere	± 10 A AC/DC and 5 A AC for current transformer, 10 - 500 Hz
Accuracy ampere	± 1 % true RMS
Internal resistance ampere	5 m Ω
Required external fuse for ampere	For rated current, ultrafast (FF)
Measuring range frequency	10 - 1000 Hz
Accuracy frequency	± 0.1 Hz
Measuring value update	5 Hz (32 kHz sampling rate)
Recording of measurement	36 seconds to 14 days, 180 internal memory locations
Connections (measuring inputs) - Wire gauge - Wire strip length - Pitch	0.2 – 2.5 mm ² (28 - 12 AWG) 7 mm 5.08 mm
Connections (supply) - Wire gauge - Wire strip length - Pitch	0.13 – 1.3 mm ² (26 - 16 AWG) 6 - 7 mm 3.5 mm
Operating temperature	0 °C to +50 °C
Storage temperature	-20 °C to +70 °C
Operating altitude	0 to 2000 m above sea level
IP code	IP65 (front), IP00 (back)
Dimensions	72 mm × 72 mm × 34 mm
Panel cut-out	68 mm × 68 mm
Mounting depth	31 mm (with plugs, cable direction rear facing)
Net weight	107 g

13. Dimensions [mm]



14. Available accessories

- TDE Instruments Digalox[®] DPM72 gasket EPDM/SBR
- TDE Instruments Digalox[®] EX-USB USB interface
- ENTES ENT.A Current transformer with 5 A secondary current

15. Contact information

TDE Instruments GmbH, Gewerbestraße 8, D-71144 Steinenbronn

Phone: +49 7157 20801, Technical support: +49 351 84127746

E-mail: info@tde-instruments.de

Internet: www.tde-instruments.de, www.digalox.com