



Read this document carefully before using this device. The guarantee will be expired by damaging of the device if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

# ENDA EPV141 AC/DC VOLTMETER

Thank you for choosing ENDA EPV141 AC/DC voltmeter.

- \* 77 x 35mm sized.
- \* 3 digits display.
- \* Values between -100V and 100 V can be indicated with one decimal number.
- \* Easy to use by front panel keypad.
- \* Multifunctional alarm output (NO+NC) for upper and lower limits.
- \* CE marked according to European Norms.



RoHS  
Compliant



Order Code : EPV141-□-□□□□□□  
1 2

## 1 - Output

R..... Relay  
None...No relay

## 2 - Supply Voltage

230VAC...230V AC  
24VAC.....24V AC  
SM.....9-30V DC / 7-24V AC

## Technical Specifications

ENVIRONMENTAL CONDITIONS	
Ambient/stroge temperature	0 ... +50°C/-25 ... 70°C
Max. Relative humidity	80% up to 31°C decreasing linearly 50% at 40°C.
Rated pollution degree	According to EN 60529 Front panel : IP65 , Rear panel : IP20
Height	Max. 2000m

Do not use the device in locations subject to corrosive and flammable gases.

ELECTRICAL CHARACTERISTICS	
Supply	230V AC +10% -20%, 50/60Hz or 24V AC ±10% , 50/60Hz or optional 9-30V DC / 7-24V AC ±10% SMPS
Power consumption	Max. 5VA
Wiring	2.5mm <sup>2</sup> screw-terminal connections
Scale	AC and RMS 0V...500V DC -500V...500V
Sensitivity	0,1V (for input values between -100V and 100V) 1V (for input values that lower than -100V and higher than 100V )
Accuracy	AC ±1% (Full scale) (For square wave form ± 2%) DC ±1% (Full scale) RMS ±1% (Full scale) (For square wave form ± 2%)
Input Range	-500V...500V (Device damages 1250V peak and more voltage.)
Input Impedance	870kΩ
Frequency Range	DC , 10Hz - 200Hz (For square wave form 10Hz-70Hz)
EMC	EN 61326-1: 1997, A1: 1998, A2: 2001 (Performance criterion B for the EMC standard.)
Safety requirements	EN 61010-1: 2001 (Pollution degree 2, overvoltage category II)

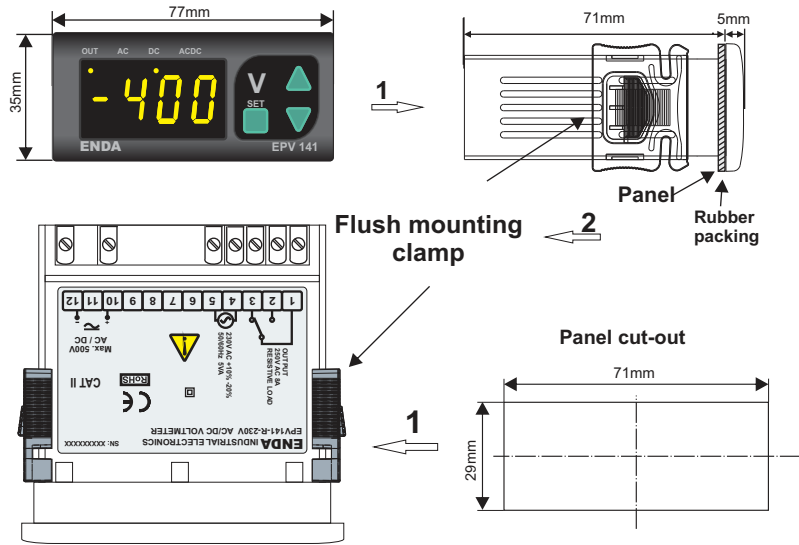
OUTPUTS	
Alarm output	Relay: 250V AC, 8A (for resistive load), NO+NC
Life expectancy for relay	Mechanical 30.000.000 ; Electrical 100.000 operation.

HOUSING	
Housing type	Suitable for flush-panel mounting. (According to DIN 43 700)
Dimensions	W77xH35xD71mm
Weight	EPV141 Approx. 350g (after packing) EPV141-24 Approx. 350g (after packing)
Enclosure material	Self extinguishing plastics.



While cleaning the device, solvents (thinner, benzine, acid etc.) or corrosive materials must not be used.

# Dimensions



For removing mounting clamps:  
 - Push out the flush-mounting clamp  
 In direction 1 shown in figure below.  
 - Pull out the clamp in direction 2

- Note :**
- 1) Panel thickness should be maximum 7mm.
  - 2) If there is no 60mm free space at the back side of the device, it would be difficult to remove it from the panel.

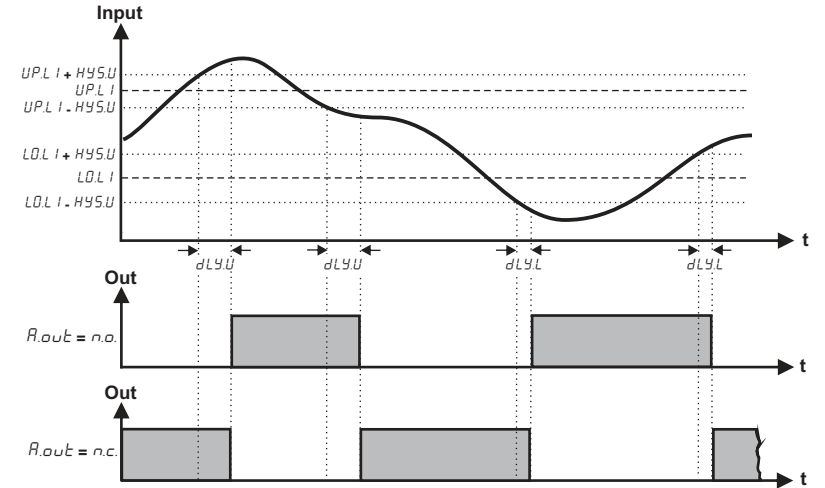
**NOTE :**  
**SUPPLY:**

**Not:**

- 1) Mains supply cords shall meet the requirements of IEC 60227 or IEC 60245.
- 2) In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument and it should be easily accessible by the operator.

**⚠ Fuse should be connected. Cable Size: 1,5mm<sup>2</sup>;**

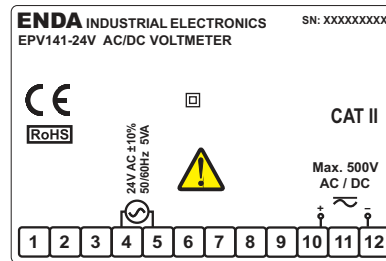
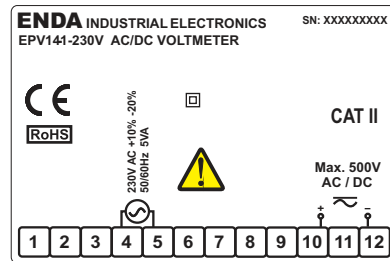
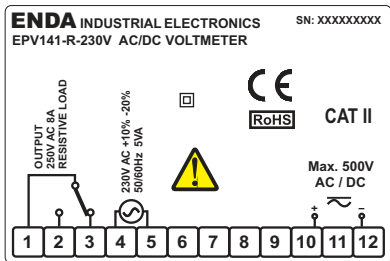
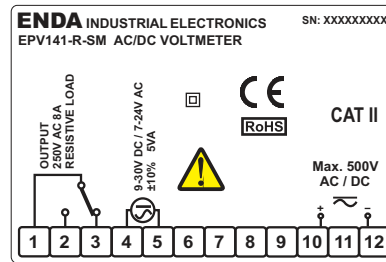
- Equipment is protected throughout by **DOUBLE INSULATION**
- Holding screw 0.4-0.5Nm.
- 10 - Faz
- 12 - Nötr



# Connection Diagram



ENDA EPV141 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The electrical connections must be carried on by a qualified staff and must be according to the relevant locally applicable regulations. During an installation, all of the cables that are connected to the device must be free of energy. The device must be protected against inadmissible humidity, vibrations, severe soiling and make sure that the operation temperature is not exceeded. The cables should not be close to the power cables or components.



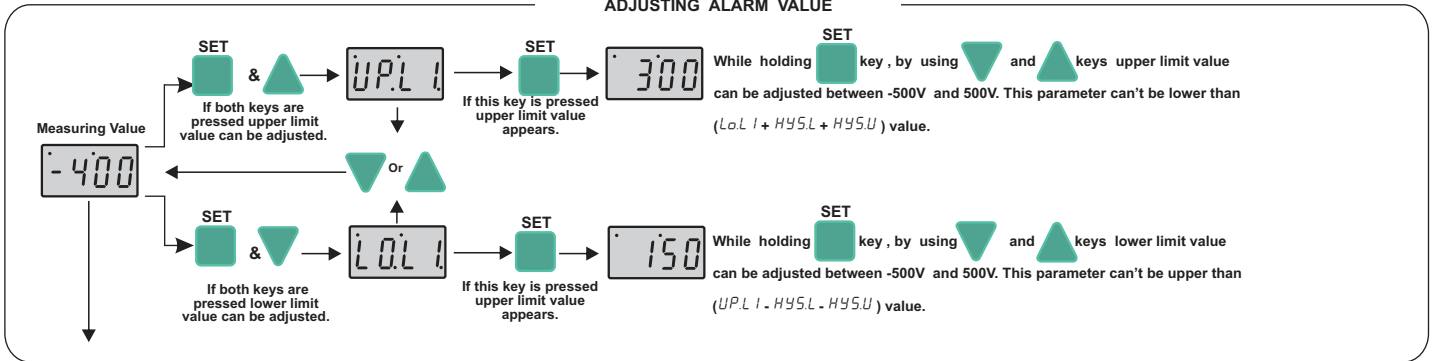
	$R_c$	$d_c$	$R_{c,d_c}$ (rms)
	$A \frac{1}{\sqrt{2}}$	0.000	$A \frac{1}{\sqrt{2}}$
	0.308 A	$A \frac{2}{\pi}$	$A \frac{1}{\sqrt{2}}$
	0.386 A	$A \frac{1}{\pi}$	$A \frac{1}{2}$
	A	0.000	A
	$A \frac{1}{2}$	$A \frac{1}{2}$	$A \frac{1}{\sqrt{2}}$
	$A \sqrt{\frac{d}{T} - \frac{d^2}{T^2}}$	$A \frac{d}{T}$	$A \sqrt{\frac{d}{T}}$
	$A \frac{1}{\sqrt{3}}$	0.000	$A \frac{1}{\sqrt{3}}$

# EPV141 PROGRAMMING DIAGRAM



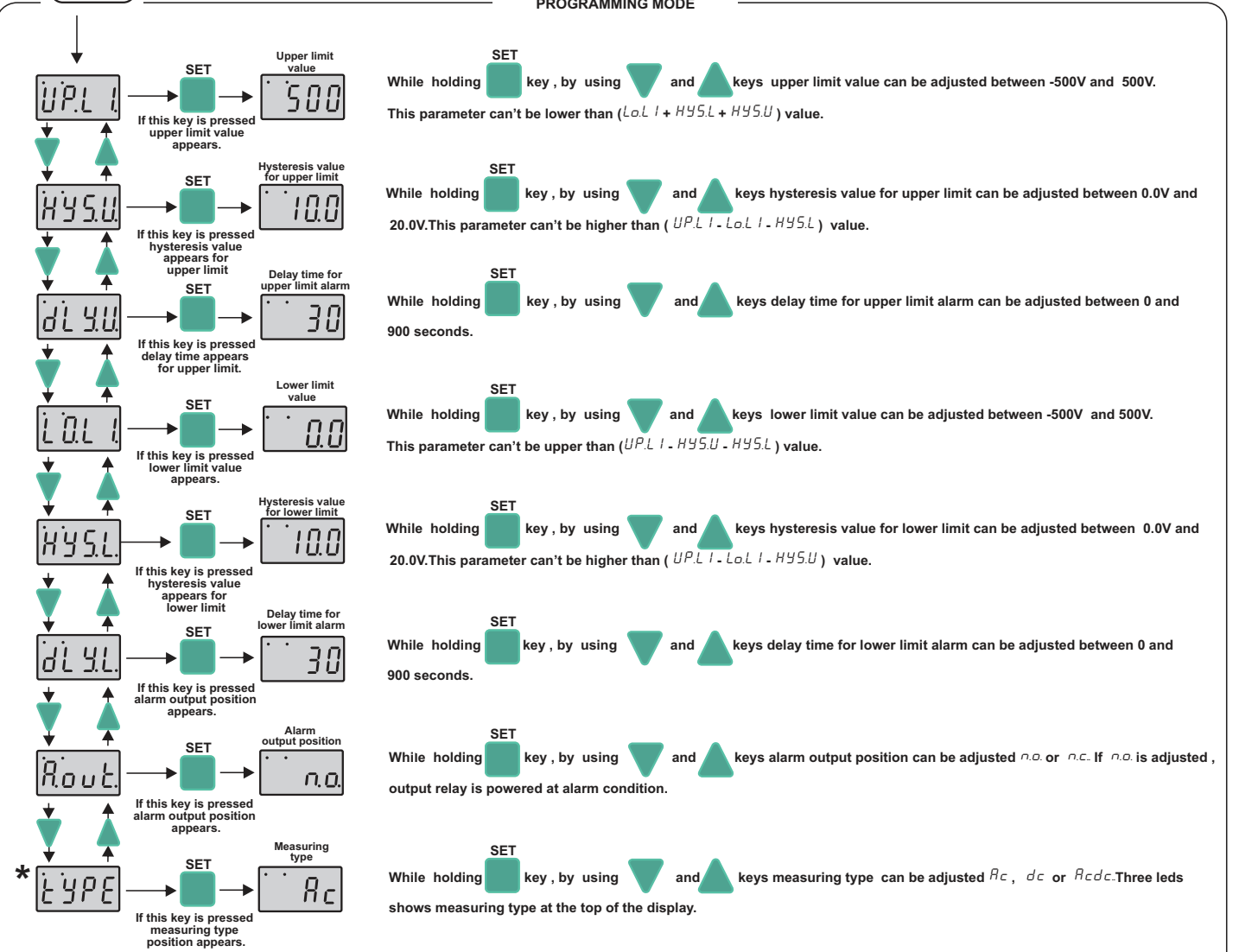
- Increment key** Used for increasing the setpoint value, as well as the parameter when in programming. When held down for a few seconds, the change rate accelerates.
- Decrement key** Used for decreasing the setpoint value, as well as the parameter when in programming. When held down for a few seconds, the change rate accelerates.
- Programming key** Used for adjusting the value of the setpoint in the run mode and for adjusting the selected parameter in the programming mode.

## ADJUSTING ALARM VALUE



If both & keys are pressed and held for 5 seconds, programming mode is entered or to running mode is returned.

## PROGRAMMING MODE



(\*) There is only *TYPE* parameter at the models (EPV141, EPV141-24) that have no relay. If you wait 25 seconds before holding down the keys or power off and power up again, you skip to operation mode.

## ERROR MESSAGES



Means, measured voltage value is higher than up scale.



Means, measured voltage value is lower than down scale.