# DL8A AC/DC Voltage/Ampere Meter User Manual

## Features:

- ⊙ Accuracy:0.5%F.S
- ⊙ AC/DC universal, for AC signal it measures true value (TRMS).
- ⊙ Different input channel has different range; Wide measuring range.
- ⊙ Two Hi/Lo setting alarm output
- ⊙ With Analog output 4-20mA
- ⊙ RS485 communication interface, Modbus RTU protocol

For your safe, please read the below content carefully before you use the meter!

## ▣ Safe Caution

| |
|---|
| ※ Please read the manual carefully before you use the temperature controller. |
| ※ Please comply with the below important points.<br>⚠ Warning An accident may happen if the operation does not comply with the instruction.<br>⚠ Notice An operation that does not comply with the instruction may lead to product damage. |
| ※ The instruction of the symbol in the manual is as below.<br>⚠ An accident danger may happen in a special condition. |

### ⚠ Warning

1. A safty protection equipment must be installed or please contact with us for the relative information if the product is used under the circumstance such as nuclear control, medical treatment equipment, automobile, train, airplane, aviation and equipment etc.. Otherwise, it may cause serious loss, fire or person injury.
2. A panel must be installed, otherwise it may cause creepage (leakage).
3. Do not touch wire connectors when the power is on, otherwise you may get an electric shock.
4. Do not dismantle or modify the product. If you have to do so, please contact with us first. Otherwise it may cause electric shock and fire.
5. Please check the connection number while you connect the power supply wire or input signal, otherwise it may cause fire.

### ⚠ Caution

1. This product cannot be used outdoors. Otherwise the working life of the product will become shorter, or an electric shock accident may happen.
2. When you connect wire to the power input connectors or signal input connectors, the moment of the No.20 AWG (0.50 $mm^2$ ) screw tweaked to the connector is 0.74n.m - 0.9n.m. Otherwise the connectors may be damaged or get fire.
3. Please comply with the rated specification. Otherwise it may cause electric shock or fire, and damage the product.
4. Do not use water or oil base cleaner to clean the product. Otherwise it may cause electric shock or fire and damage the product.
5. This product should be avoid working under the circumstance that is flammable, explosive, moist, under sunshine, heat radiation and vibration. Otherwise it may cause explosion.
6. In this unit it must not have dust or deposit, otherwise it may cause fire or mechanical malfunction.
7. Do not use gasoline, chemical solvent to clean the cover of the product because such solvent can damage it. Please use some soft cloth with water or alcohol to clean the plastic cover.

## 1. Code Illustration

DL8A-□□□□□□

- Range
- A: AC/DC current V: AC/DC voltage
- 10: No RS485 18:With RS485
- Alarm:C: With 2 relay alarm output
- Output: R: No Analogue Output D: With Analogue Output 4-20mA
- DL8A Series Voltage/Ampere Meter

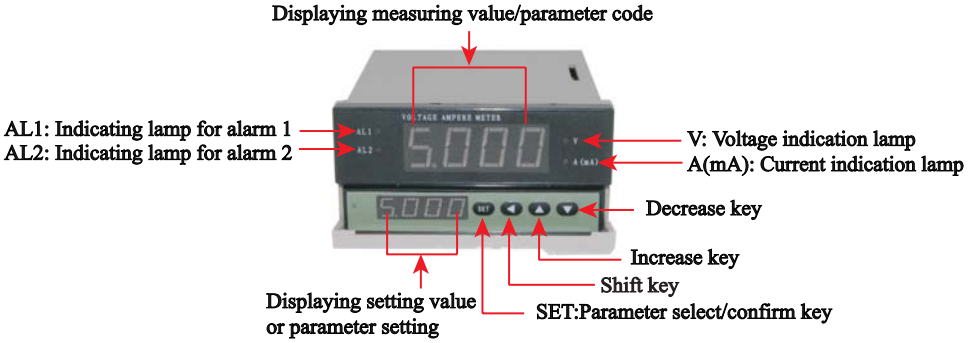
| Code | Input channel and Range | Alarm | Analog output | Communication | Default channel and range |
|---|---|---|---|---|---|
| DL8A-RC10V600 | IN1：0～10V；IN2：0～100V；IN3：0～600V | 2 alarm | NO | NO | IN3: 600V |
| DL8A-DC10V600 | IN1：0～10V；IN2：0～100V；IN3：0～600V | 2 alarm | 4-20mA | NO | |
| DL8A-DC18V600 | IN1：0～10V；IN2：0～100V；IN3：0～600V | 2 alarm | 4-20mA | RS485 | |
| DL8A-RC10A1 | IN1: (IN1：0～10mA; IN2: 0～100mA)；IN2: (IN3：0～1000mA) (The IN1 & IN2 outside the bracket are for the terminal connectors) | 2 alarm | NO | NO | IN3: 1000mA |
| DL8A-DC10A1 | IN1: (IN1：0～10mA; IN2: 0～100mA)；IN2: (IN3：0～1000mA) (The IN1 & IN2 outside the bracket are for the terminal connectors) | 2 alarm | 4-20mA | NO | |
| DL8A-DC18A1 | IN1: (IN1：0～10mA; IN2: 0～100mA)；IN2: (IN3：0～1000mA) (The IN1 & IN2 outside the bracket are for the terminal connectors) | 2 alarm | 4-20mA | RS485 | |
| DL8A-RC10A1000 | IN1：AC 0～5A; IN2: DC 0～75mV | 2 alarm | NO | NO | IN1: 5A (Above 5A, a CT is needed.) |
| DL8A-DC10A1000 | IN1：AC 0～5A; IN2: DC 0～75mV | 2 alarm | 4-20mA | NO | |
| DL8A-DC18A1000 | IN1：AC 0～5A; IN2: DC 0～75mV | 2 alarm | 4-20mA | RS485 | |

⚠ ①When you use the meter, please pay attention that input channel should correspond to range, otherwise, the meter will be malfunction.. ②Input signal < 1.2 times of range. ③When measuring AC signal, aviliable for 0～200Hz. When frequency is higher than 100Hz, the measuring accuracy is ±1%FS.

## 2. Technical Specification

| | |
|---|---|
| Power Supply | AC/DC 100～240V DC 24V (Need to be ordered ) |
| Display range | 0.001-9999 float decimal point display |
| Accuracy | ±0.5%F.S±2digit (For AC signal frequency under 100Hz) |
| Analog output | 4～20mA, load capacity≤600Ω, accuracy:±0.5%F.S |
| Communication | Standard RS485 interface, Modbus RTU Protocol |
| Relay capacity | AC 250V/3A or DC 30V/5A |
| Dielectric Strength | Between power supply connector and other connectors, relay output connectors and other connectors: DC 2000V, leakage current 0.5mA, 60S; Between input signal connectors and low voltage signal output connectors: DC 600V, leakage current 0.5mA, 60S. |
| Insulation Impedance | ≥100MΩ/500V DC |
| Ambient Temperature and humidity | Temperature：0-50 ℃ humidity:≤85%RH |
| Sampling rate | 2 times/S |
| Dimension(mm) | 96W*48H*110L |

## 3. Panel Illustration



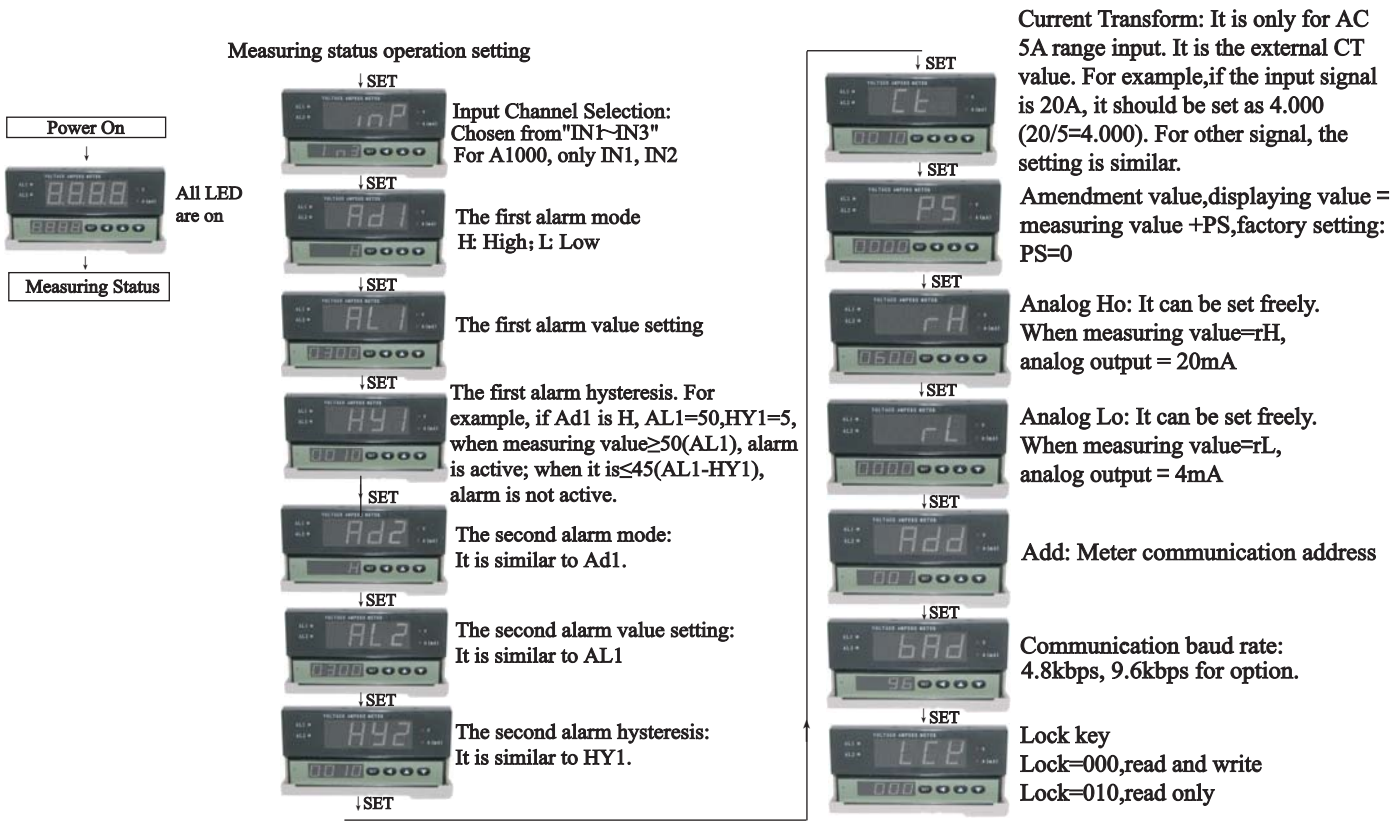

## 4. Operations

① The second row LED is defaulted to display range and input channel alternately after power on, press "◁" to display range only, press this key again the LED returns to default display.

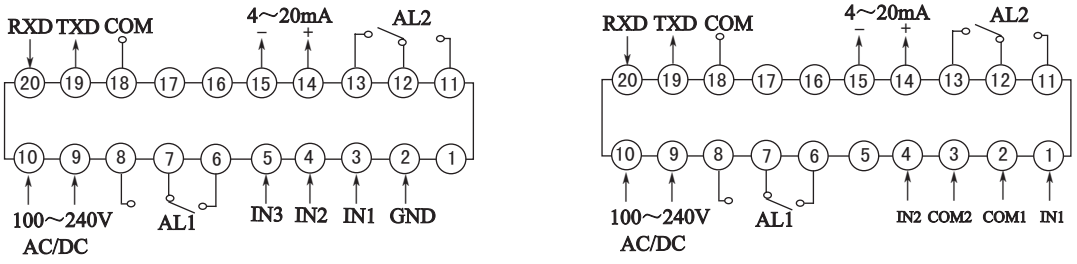
② Press"SET"key>3S in the measuring status, the meter shows the setting menu.

③ When modifying setting value, press " △ / ▽ " to change value; press ◁ to shift decimal point, after modifying press "SET" to confirm and it shows the next menu. After setting, press "SET" >3S to exit menu. If you don't operate it for a long time, it will exit menu automatically.

| No. | Paremeter code | Setting range | Factory value | Indication |
|---|---|---|---|---|
| 1 | INP | IN1～IN3 | For A1000, the default one is IN1. For other range, the default one is IN3. | AL,HY,Ct,PS, rH,rL have the same unit as the Range. |
| 2 | Ad1 | H or L | H | |
| 3 | AL1 | -1999 ～9999 | 90% of measuring range | |
| 4 | Hy1 | -1999 ～9999 | 1.000 | |
| 5 | Ad2 | H or L | L | |
| 6 | AL2 | -1999 ～9999 | 10% of measuring range | |
| 7 | Hy2 | -1999 ～9999 | 1.000 | |
| 8 | Ct | 0～9999 | 1.000 | |
| 9 | PS | -1999 ～9999 | 0.000 | |
| 10 | rH | -1999 ～9999 | maximum of the range | |
| 11 | rL | -1999 ～9999 | minimum of the range | |
| 12 | Add | 0～255 | 001 | |
| 13 | bAd | 4.8 or 9.6 | 9.6 | |
| 14 | LCK | 0～255 | 000 | |




## 5. Connection drawing




Voltage input

Current input

Connection drawing for signal input directly (without CT)
Note:please subject to the diagram on the product if any changes.

## 6. Notice for use and storage

1. It is suggested that the meter gets on power for 15 minutes before measuring.
2. Working environment is 0～50℃， humidity below 85%RH.
3. The calibration interval for this meter is one year.
4. Please keep the meter from shaking and shocking. Don't place the meter in the environment full of excess dust and hazard chemicals and gas.
5. If the meter is not used for long time, please get on power every 3 months, each time not less than 4 hours.
6. To be stored in the environment at 0～50℃, humidity below 60%RH, no direct sunshine. The meter should not contact with organic solvent or oil.

## 7. Mounting dimension