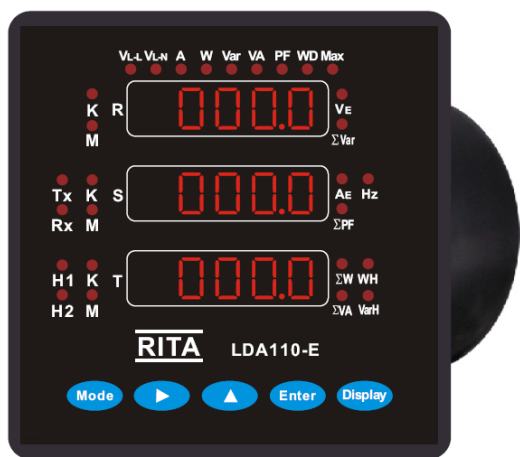


# RITA

## MULTI - POWER METER LDA-110E LDA-144E



**LDA-110E**



**LDA-144E**

- Panel size : 110 x 110mm (LDA-110E), 144 x 144mm (LDA-144E)
- Display of all the electric parameters — V, A, W, Var, VA, PF, Hz, WH, VarH...etc.
- True RMS conversion.
- Maximum value recording function (V, A, and W).
- Programmable PT and CT ratio.
- Data memory for all setup and electric parameters.
- Option : 2 channels of D/O.
- Manufactured in TAIWAN.

### RS-485 Interface

We use the most convenient and easiest RS-485 as our standard output port. Besides, we adopt Modbus RTU mode, one of the most popular protocol in the world, as our standard protocol.

RS-485 communication allows multiple devices to be connected to the same bus. Up to 30 devices can be connected to a single RS-485 bus, which consists of a shielded twisted pair cable.

The overall length of the RS-485 cable connecting all devices cannot exceed 4000ft (1219m).

### Option

- 2 Channels of Relay Output
- Contact Capacity : AC 250V, 1A resistive load  
DC 30V, 2A resistive load

## Specifications

|                                    |                                 |                                      |                                            |
|------------------------------------|---------------------------------|--------------------------------------|--------------------------------------------|
| Display                            | Red LED 0.4" high -----LDA-110E | CT , PT Ratio                        | 1~9999                                     |
|                                    | Red LED 0.6" high -----LDA-144E | Interface                            | RS-485 (Standard) or RS-232                |
| Over range Indication              | "o.L"                           | Power Supply                         | AC 90~260V , 50 / 60Hz                     |
| Conversion Rate                    | 1 / sec.                        |                                      | DC 24 , 120V , ±20% (option)               |
| Isolation                          | Input / Output / Power / Case   | Power Consumption                    | Approx. 7VA                                |
| Operating Temp.                    | 0~60°C / Below 90% R.H.         | Dielectric Strength<br>( DIN-IEC688) | AC 2.3kV / 1min between terminals          |
| Storage Temp.                      | -10~70°C / Below 80% R.H.       |                                      | AC 2.8kV / 1min between terminals and case |
| Temp. Coefficient                  | ±0.1% F.S / °C                  | Isolation Resistance                 | DC 500V , 100MΩ at above terminals         |
| Dimensions (mm)<br>(W) x (H) x (D) | 110 x 110 x 140 --- LDA-110E    | Weight                               | 750g (144E) , 600g (110E)                  |
|                                    | 144 x 144 x 100 --- LDA-144E    | Protection Level                     | IP42                                       |

## Input

|         |                                                                                                                         |           |                                                           |
|---------|-------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------|
| Voltage | V <sub>1</sub> , V <sub>2</sub> , V <sub>3</sub> , Neutral (3 phases voltages & neutral)                                | Overload  | Voltage.....750V continuous or 1.25 x rated continuous    |
| Range   | 600V <sub>L-L</sub> / 347V <sub>L-N</sub>                                                                               |           | Current.....3 x rated continuous , 10 x rated for 10 sec. |
| Current | 1 <sub>s</sub> , 1 <sub>L</sub> , 2 <sub>s</sub> , 2 <sub>L</sub> , 3 <sub>s</sub> , 3 <sub>L</sub> (3 phases currents) | Burden    | ≤0.2VA per voltage circuit , ≤0.2VA per current circuit   |
| Range   | 0~1A , 0~5A                                                                                                             | Frequency | 45~65Hz                                                   |

## Programmable Measurement & Indicating

| Items                                                                                                       | L <sub>1</sub>   | L <sub>2</sub>   | L <sub>3</sub>   | Total | Average        | Accuracy (F.S) | Display (Max.)                                           |
|-------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------|-------|----------------|----------------|----------------------------------------------------------|
| V <sub>L-N</sub>                                                                                            | V <sub>1</sub>   | V <sub>2</sub>   | V <sub>3</sub>   |       | V <sub>E</sub> | ±0.25%         | 9999 V / KV                                              |
| V <sub>L-L</sub>                                                                                            | V <sub>12</sub>  | V <sub>23</sub>  | V <sub>13</sub>  |       |                |                |                                                          |
| A                                                                                                           | A <sub>1</sub>   | A <sub>2</sub>   | A <sub>3</sub>   |       | A <sub>E</sub> | ±0.25%         | 9999 A / KA                                              |
| W                                                                                                           | W <sub>1</sub>   | W <sub>2</sub>   | W <sub>3</sub>   | ΣW    |                | ±0.5%          | ±9999 W / KW / MW                                        |
| Var                                                                                                         | Var <sub>1</sub> | Var <sub>2</sub> | Var <sub>3</sub> | ΣVar  |                | ±0.5%          | ±9999 Var / KVar / MVar                                  |
| VA                                                                                                          | VA <sub>1</sub>  | VA <sub>2</sub>  | VA <sub>3</sub>  | ΣVA   |                | ±0.5%          | 9999 VA / KVA / MVA                                      |
| PF                                                                                                          | PF <sub>1</sub>  | PF <sub>2</sub>  | PF <sub>3</sub>  | ΣPF   |                | ±0.5%          | ±0.999                                                   |
| WH                                                                                                          |                  |                  |                  | WH    |                | ±0.5%          | 9999999999 KWH                                           |
| VarH                                                                                                        |                  |                  |                  | VarH  |                | ±0.5%          | 9999999999 KVarH                                         |
| Hz                                                                                                          |                  |                  |                  |       |                | ±0.1%          | 45.0 ~ 65.0 Hz                                           |
| <b>Accuracy Performance Range</b><br>V : 10 ~ 100%      PF : 0.5 ~ ±1.0<br>A : 5 ~ 100%      Hz : 45 ~ 65Hz |                  |                  |                  |       |                |                | <b>Measurement Range</b><br>V : 0 ~ 120%<br>A : 0 ~ 120% |

$$V_E = (V_{12} + V_{23} + V_{13}) / 3$$

$$\Sigma PF = \Sigma W / (V_1 A_1 + V_2 A_2 + V_3 A_3)$$

$$A_E = (A_1 + A_2 + A_3) / 3$$

$$\Sigma Var = \sqrt{VA_1^2 - W_1^2} + \sqrt{VA_2^2 - W_2^2} + \sqrt{VA_3^2 - W_3^2}$$

$$\Sigma W = W_1 + W_2 + W_3$$

## Ordering Code

Model — ☐ ☐ ☐ ☐ ☐

### Input ACV

1 : 600V<sub>L-L</sub> / 347V<sub>L-N</sub>

### Input ACA

1 : AC 5A

2 : AC 1A

Y : Option

### Interface

1 : RS-485

2 : RS-232

N : None

### Power Supply

1 : AC 90~260V, 50/60Hz

2 : DC 24V

3 : DC 120V

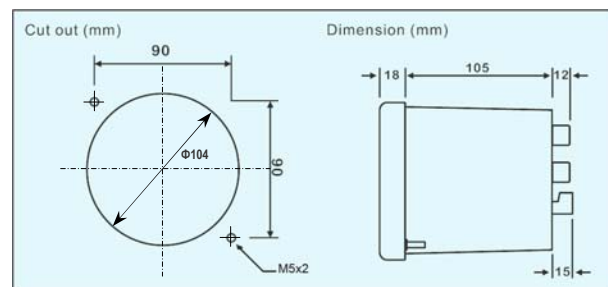
### Option

1 : 2 Relay output (DO) + 2 Digital input (DI)

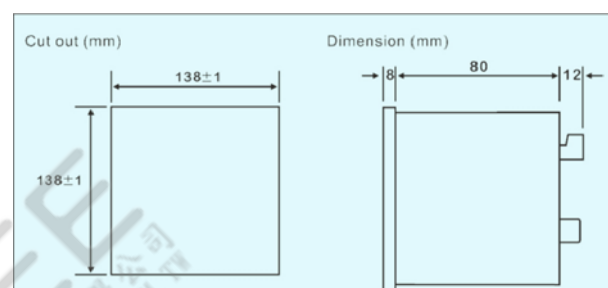
N : None

## Dimensions (mm)

### Model : LDA-110E

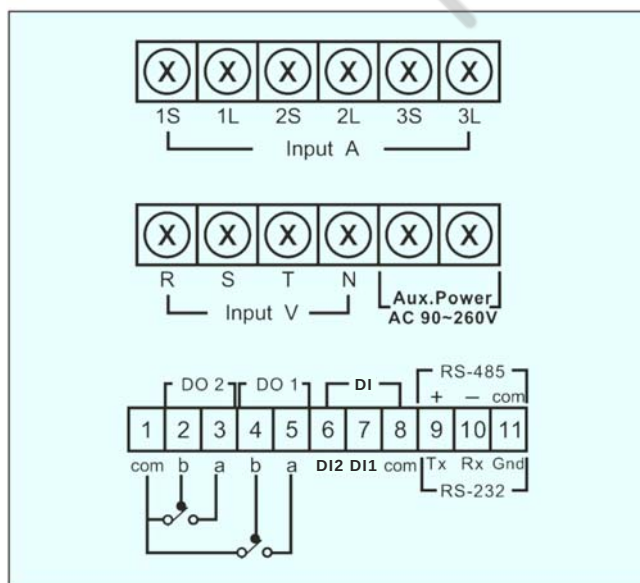


### Model : LDA-144E

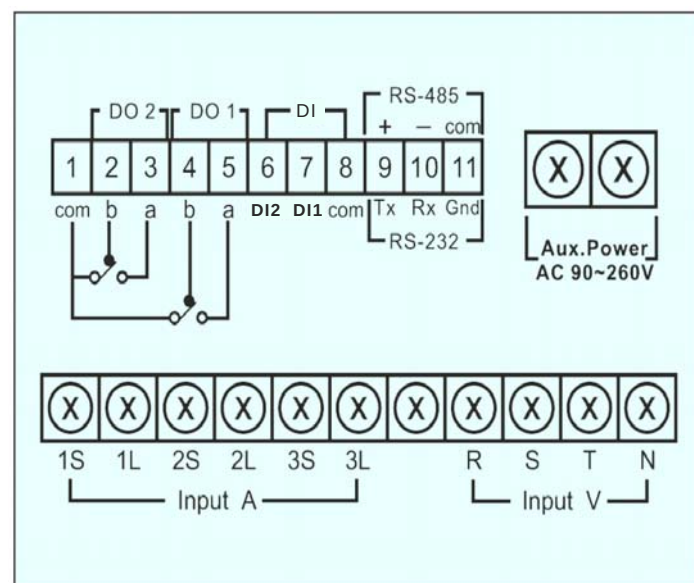


## Connection Diagram

### Model : LDA-110E

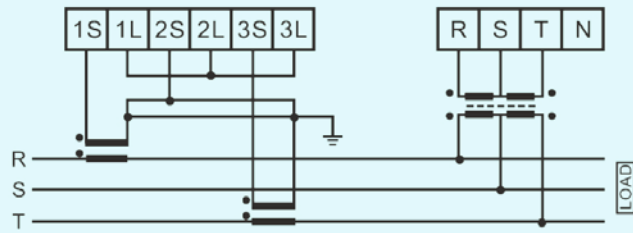


### Model : LDA-144E

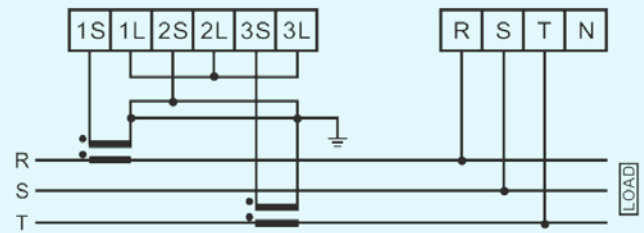


## Wiring Diagrams of Input (LDA-110E/144E)

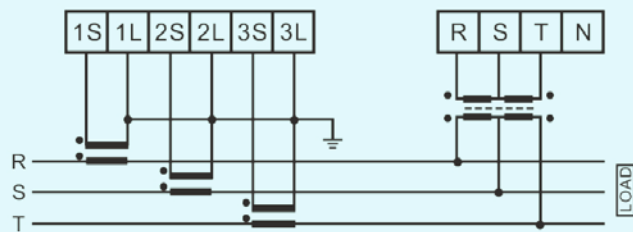
3phase 3wire (2CT. 2PT)



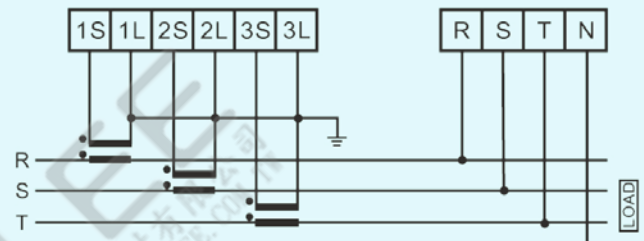
3phase 3wire (2CT. no PT)



3phase 3wire (3CT. 2PT)



3phase 4wire (no PT)



3phase 4wire

