

## Performance and Features

### Application

The combined indicator lights with the model as AD16-30JC (hereinafter referred to as "Combined indicator") are applicable to the ship electrical and electronic devices of AC 50HZ (or 60HZ) and 380V, 220V, 110V, 48V, 24V rated working voltage, and 24V, 48V, 110V, 220V DC rated working voltage as the indicator lights for various light indication signals and light execution signals.

### Standards

The combined indicator comply with National Standard – General Technical Specifications for Ship Indicator Lights: GB11155-89.

The combined indicator comply with National Standards – GB/T 14048.1 and GB14048.5.

### Structure and Features

1. The combined indicator can provide single-light with 5 windows: F, H, L, V and G. The customers can combine them according to their own requirements.

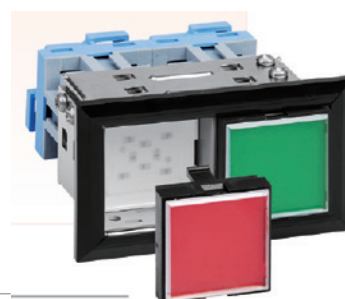
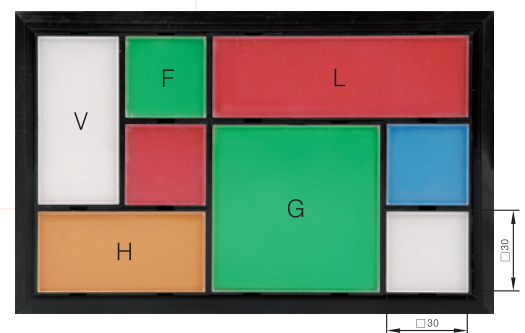
Type F: 30x30mm; Type H: 30x60mm; Type L: 30x90mm; Type V: 60x30mm; Type G: 60x60mm.

2. The overall appearance of the combined indicator is steady and grand with the transparent and uniform light color. The black frames between the single lights are well distinguished.

3. The combined indicator can be combined into a large-sized combined indicator with a maximum quantity of cells as 10x20 according to the demands of customers, and the lampshade can be selected with the colored background and white background.

4. The base of the combined indicator have a large hole area for the heat radiation window, and they can be thoroughly penetrated both horizontally and vertically after the combination in order to ensure the reliable heat radiation of the combined indicator.

5. The combined indicator can be installed conveniently and easily. The light beads can be removed or changed in the direction of the lampshade surface on the installation panel only by disconnecting the power supply.



# CCC, CE, UL Combined indicator

AD16-30JC series

**QUISURE**

*Keep quick, Make sure*

ISO9001:2015

QUALITY GUARANTEED

6. The electrical contact is the plug-in type and the terminals are protected by the terminal covers. The mechanical structure is reinforced by the metal-enclosed mounting plate to ensure its safety and reliability.

7. The light source of combined indicator is high-bright LED luminescent diode with a variety of colors such as red, yellow, green, blue, white and two-color, and is displayed in the colored or white background.

8. The lampshade of the combined indicator is square and the lampshade is connected with the enclosure in a normal way (demountable).

9. The single-light lighting type of the combined indicator includes continuous and flashes.

10. The rated voltage includes: AC/DC24V, AC/DC48V, AC/DC110V, AC220V, DC220V and AC380V.

## Technical data

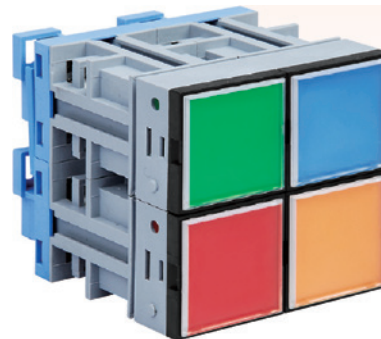
- Power frequency withstand voltage: 2.5KV (AC effective value), 1min.
- The voltage fluctuation range is  $\pm 20\%$ .
- Insulation resistance  $\geq 100M\Omega$ .
- Continuous working life  $\geq 10000h$ .
- Brightness  $\geq 120cd/m^2$
- Comparative Tracking Index (CTI)  $\geq 175V$ .
- Application frequency of AC combined indicator: 50Hz or 60Hz.
- Protection class: IP40.

• Comparison Table of Voltage and Current (Type F Single Light)

Lighting Type	Voltage	Current	Lighting Type	Voltage	Current
	AC/DC24V	16mA $\pm 1$		AC/DC24V	22mA $\pm 1$
	AC/DC48V	15mA $\pm 1$		AC/DC48V	24mA $\pm 1$
	AC/DC110V	11mA $\pm 1$		AC/DC110V	15mA $\pm 1$
	DC220V	14mA $\pm 1$		DC220V	15mA $\pm 1$
	AC220V	21mA $\pm 1$		AC220V	15mA $\pm 1$
	AC380V	18mA $\pm 1$		AC380V	18mA $\pm 1$

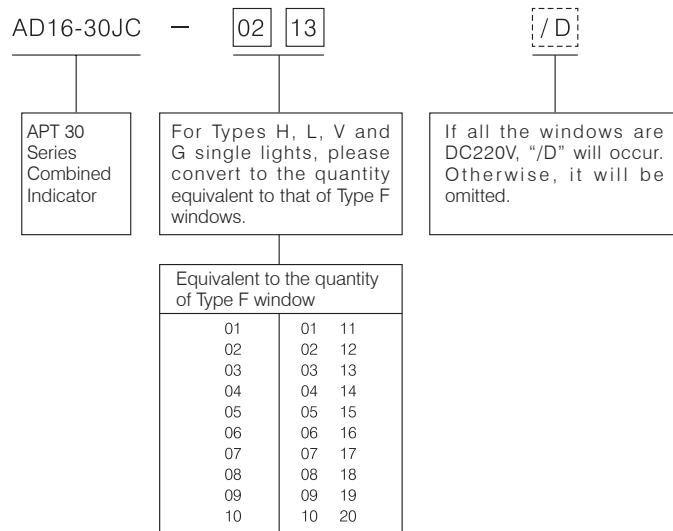
## Working Conditions

- Ambient temperature  $-25\text{ C} \sim +55\text{ C}$
- Relative air humidity  $\leq 95\%$ .
- Altitude of the installation location  $\leq 2000m$ .
- They can work normally under the humid tropic environment.



## Meaning of Model

Representation of Model



### Table of External Size and Panel Size

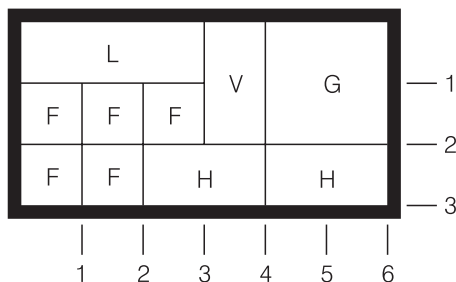
• External Size of Type F and Assembled window Quantity of Combined indicator (Please convert to Type F in regard to Types H, L, V & G)

Line (Longitudinal)	Row (Horizontal)	External Size		Hole Size																			
	a	A	(C)	(D)	(36)	(66)	(96)	(126)	(156)	(186)	(216)	(246)	(276)	(306)	(336)	(366)	(396)	(426)	(456)	(486)	(516)	(546)	(576)
01	43	(36)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
02	73	(66)	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
03	103	(96)	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	51	57	60	
04	133	(126)	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	
05	163	(156)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
06	193	(186)	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	
07	223	(216)	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	
08	253	(246)	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	130	144	152	160	
09	283	(276)	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180	
10	313	(306)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	

### Standards

- The total assembled windows quantity of the combined indicator is line (longitudinal) x row (horizontal).  
For example: the external size of 6 (lines) x 8 (rows) is 193mm (H) x 253mm (W) with the hole size as 186mm (H) x 246mm (W), and the total windows quantity is 48.
- The external size is the figure of line (Row A) and row (Row B).
- The hole size is the figure in the brackets of line (C) and row (D), and the tolerance of the hole size is +1.0mm, -0mm.
- Please refer to the following description for the total windows quantity, external size, hole size and pane conversion of the Combined indicator.

• Total windows quantity (as shown in the figure)



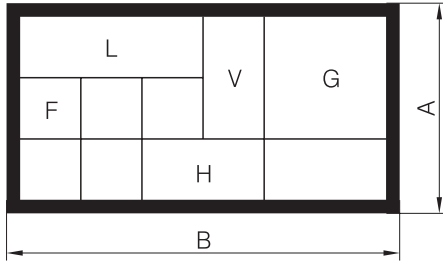
▲ Convert the longitudinal number and horizontal number of Types H, L, V & G into the equivalent quantity of Type F windows.

# CCC, CE, UL Combined indicator

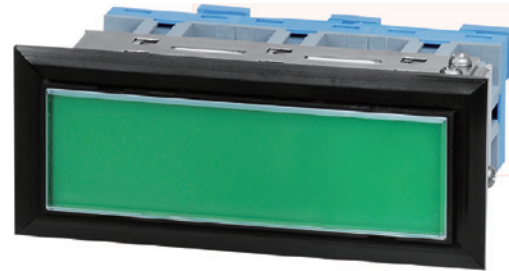
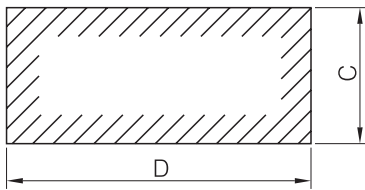
AD16-30JC series



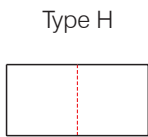
- External Size (as shown in the figure)



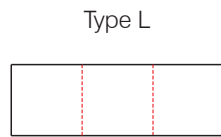
- Hole Size (as shown in the figure)



- windows Conversion



Equivalent to 2 Type F panes  
horizontal (1), longitudinal (2)



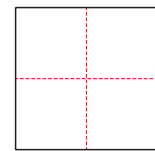
Equivalent to 3 Type F panes  
horizontal (1), longitudinal (3)

Type V

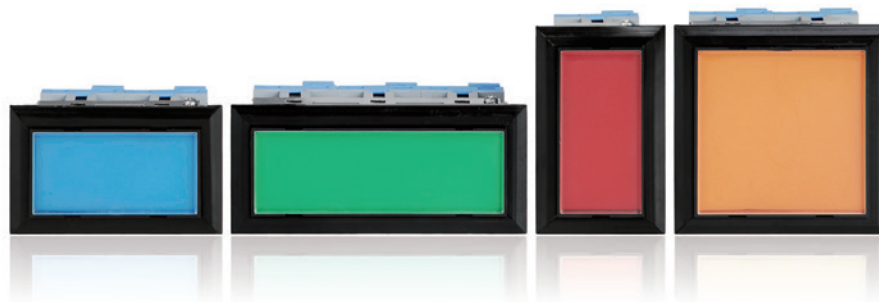


Equivalent to 2 Type F panes  
horizontal (2), longitudinal (1)

Type G

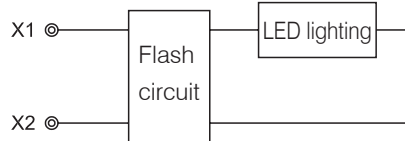
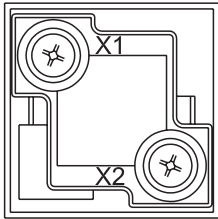


Equivalent to 4 Type F panes  
horizontal (2), longitudinal (2)

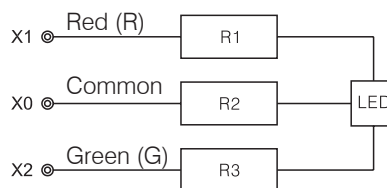
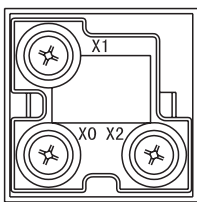


## Terminal Wiring

- Continuous type and flash type terminal wiring



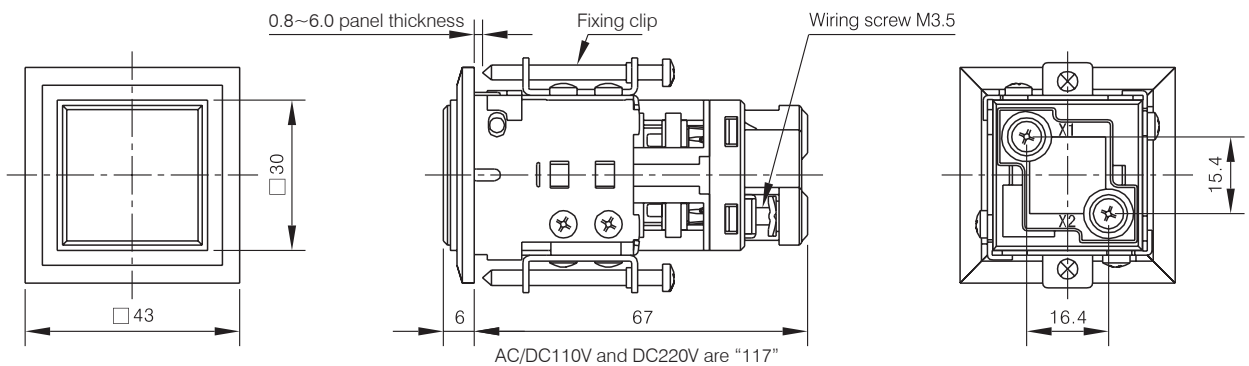
- Terminal wiring of multi-color light



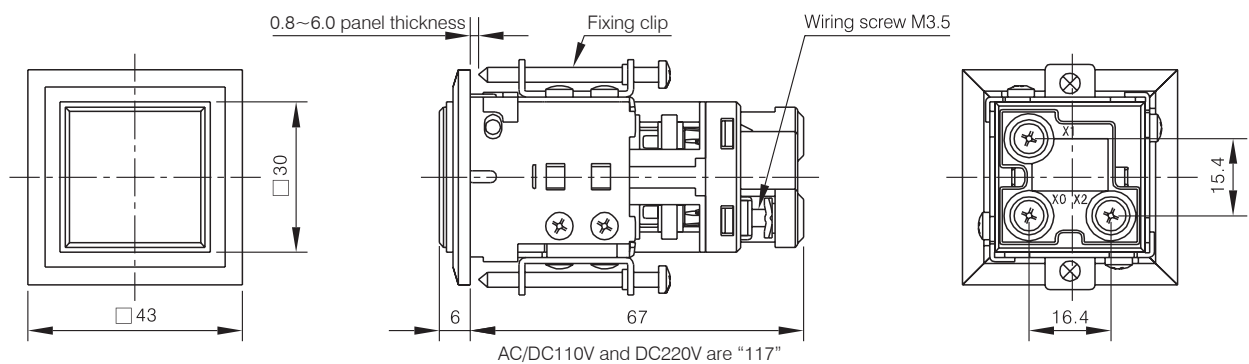
## External Size

- External Size Drawing Special for Type F Single window (Unit: mm)

- continuous, flash type

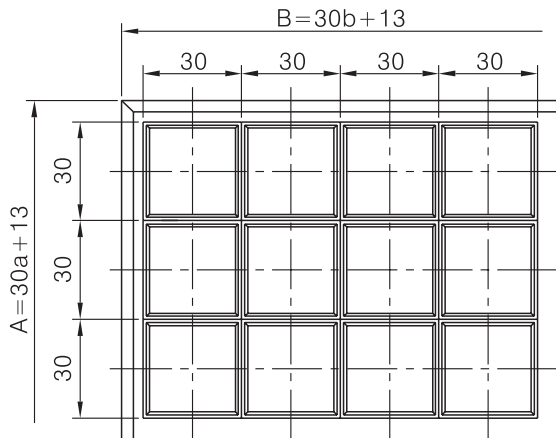


- multi-color type

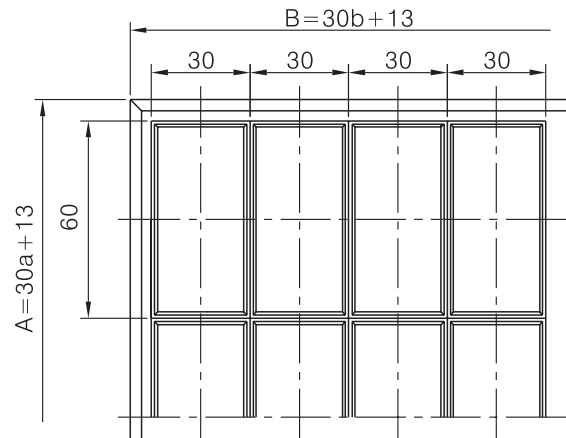


## 2. Front Size of Single Light (Unit: mm)

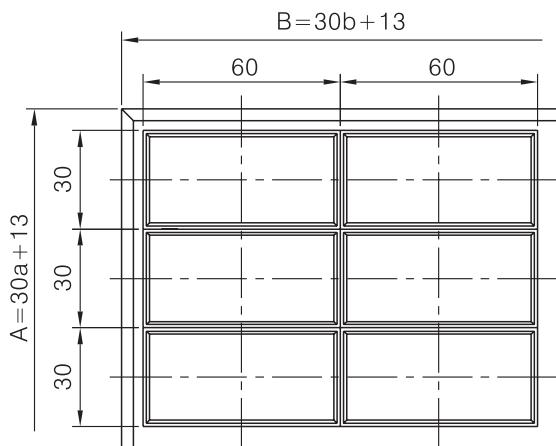
- Type F



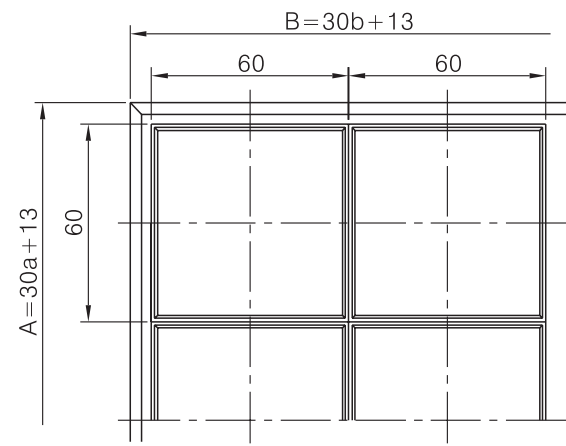
- Type V



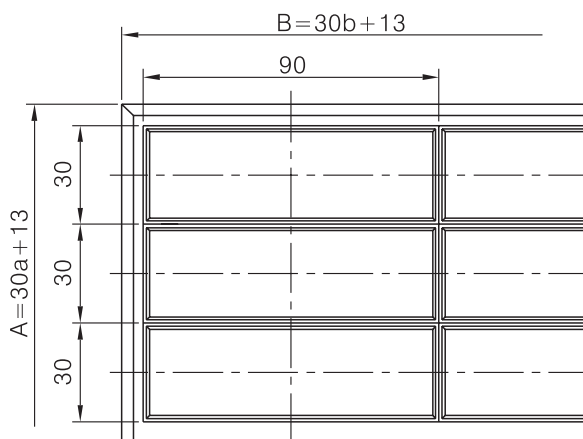
- Type H



- Type G

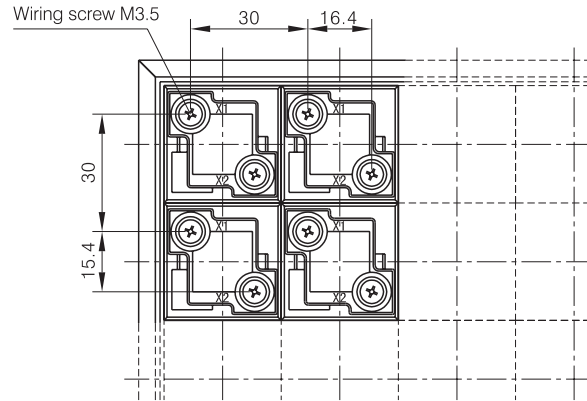
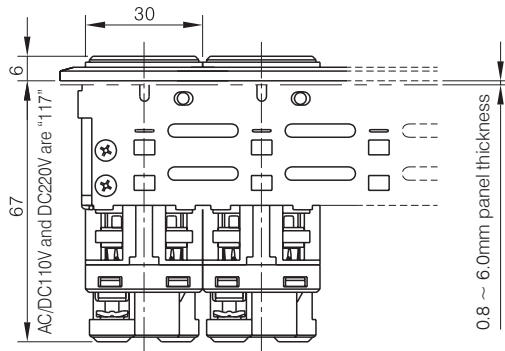


- Type L

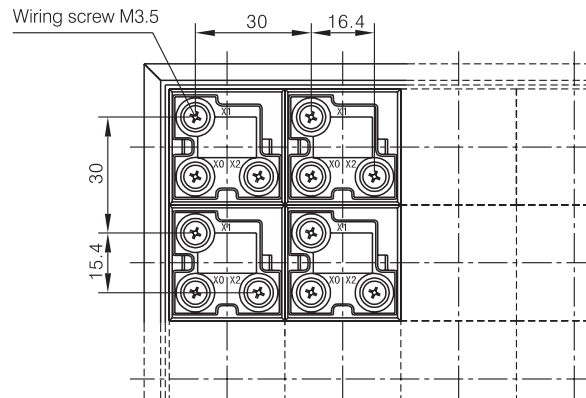
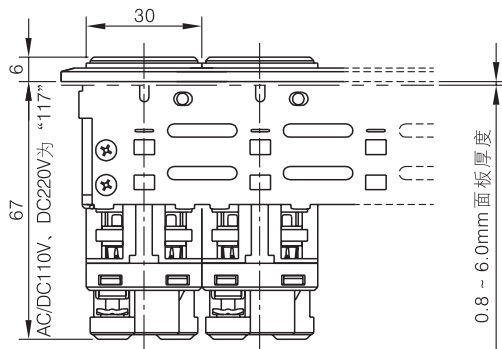


### 3. Side Size and Back Size of Type F Single Light (sides and backs of Types H, L, V and G are the same as those of Type F, unit: mm)

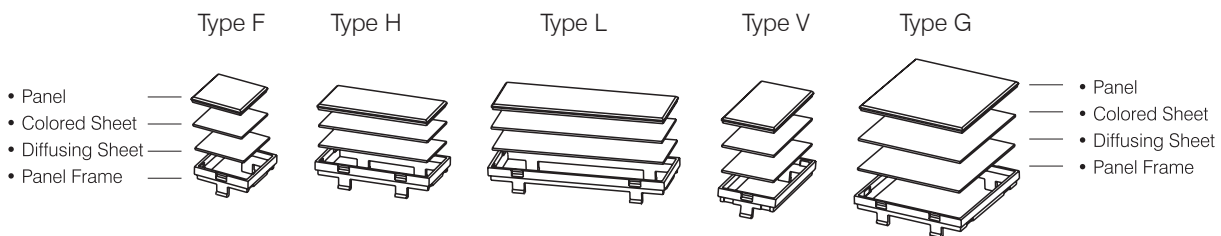
- continuous type, flash type



- multi-color type



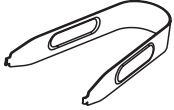

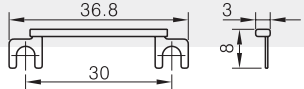

### Examples of cover



#### Size

Lighting Surface Type		Type F	Type H	Type L	Type V	Type G
(mm)	Pane (L × W)	30 × 30	30 × 60	30 × 90	60 × 30	60 × 60
	Lighting Surface (L × W)	28 × 28	28 × 58	28 × 88	58 × 28	58 × 58
	Colored Sheet (L × W × T)	27 × 27 × 1.0	27 × 57 × 1.0	27 × 87 × 1.0	57 × 27 × 1.0	57 × 57 × 1.0
	Diffusing Sheet (L × W × T)	27 × 27 × 1.0	27 × 57 × 1.0	27 × 87 × 1.0	57 × 27 × 1.0	57 × 57 × 1.0
	Printing symbol Area	25 × 25	25 × 55	25 × 85	55 × 25	55 × 55

#### Accessories

Name	Profile	Model	Remarks
Removing Clip		JC-1	
Connection Strap		JC-2	
Fixing Clip		JC-3	

#### Operation Precautions

- Panel Thickness**  
During the panel installation, please choose the panel thickness with consideration for the body weight of AD16-30JC type Combined indicator and wire weight of the wiring.
- Tightening Torque of Terminal Screw**  
Please use the wires with proper input voltage and current during the wiring and tighten the wiring screws with 1.0 ~1.3N • m tightening torque.
- Before the installation, removal, wiring, maintenance and inspection, please be sure to cut off the power supply.**  
Particularly when removing LED lamp beads, please be sure to switch off the power supply to the lamp first in order to avoid electric shock, burn and damage to LED lamp beads. Moreover, please do not use it when the lampshade is removed in order to avoid short circuit and damage to the lighting surface of LED lamp beads due to the entrance of sundries so that the brightness drops or the light turns off.
- Avoid the contact of chemical solvents with the Combined indicator.**
- Do not use the Combined indicator in the place with direct sunlight so as to avoid overheating that causes fire alarms or damage to the function of Combined indicator.**
- When the combination quantity is quite large, please use the fan or other tools for heat dissipation in order to avoid the overheating of the Combined indicator.**

## How to Install?

### Dismantling and Installation Methods of Combined indicator windows

- Insert a small slotted screwdriver into the slot under the panel frame and pry it downwards gently when dismantling the Combined indicator pane.
- First point the protruded ribs on the outside of the panel frame towards the groove of the Combined indicator enclosure and then press it in when installing the Combined indicator window.

### Dismantling and Installation Methods of Combined indicator Lampshade

- When dismantling the Combined indicator lampshade, insert a small slotted screwdriver into the slot on the holding-on groove side of the lampshade and dismantle it by gentle prying. As the holding-on groove of the lampshade is in different positions for the panel frames of different model numbers, please verify the position of the holding-on groove before dismantling.
- When installing the Combined indicator lampshade, install the colored sheet, symbol leaf (if any) and diffusing sheet on the inner side of the panel frame. First insert one end of the holding-on groove on the panel into the holding-on groove on the inner side of the panel frame and then press down the other end faces gently to fix the lampshade.

### Dismantling and Installation Methods of Combined indicator Bead

- When dismantling the Combined indicator bead, please be sure to switch off the power supply first. Insert deep into the groove and clamp both sides of the light beads with the removing clip (Model No. JC-1) to draw out the light bead.
- Notes: Draw out the light bead straightly from the product body without exerting the force on the connection terminal parts between the light bead and product body.
- When installing the Combined indicator bead, align the connecting part of the light bead with the connection terminal part in the product body and press it into the product body gently.

### Installation Method of Combined indicator

- When installing on the panel, after the product body is inserted from the panel front, insert the auxiliary fixing clip (Model No. JC-3) into the square hole on the mounting plate of the Combined indicator from the panel back and tighten the screws.

