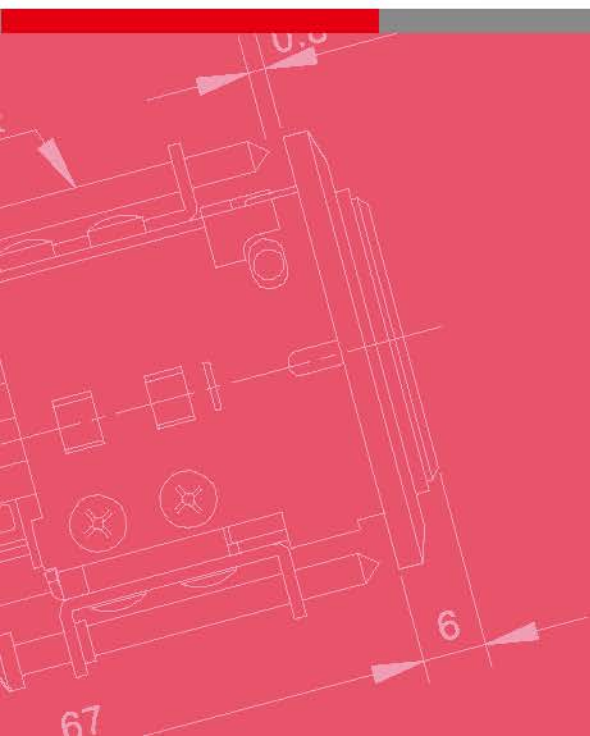


AD16-30JC

Combined indicator



APT, established in 1993, has been specialized in the manufacturing of low voltage products such as pushbuttons and indicators and is one of the leading low voltage control device manufacturers in China. Through years of promotion and application, APT Series products have been widely serving dozens of industrial fields in China, including power, machinery, steel, metallurgy, petrochemical, transportation, water treatment, food, packaging, textile, harbor and construction etc. They have been successively chosen and used by the national key projects such as Qinshan Nuclear Power Plant, the Three Gorges Project, the Qinghai-Tibet Railway locomotives, Shenzhou V Spacecraft, Shanghai Pudong International Airport, National Stadium ("Bird's Nest")

In August, 2008, according to the asset purchase agreement between Shanghai APT Co., Ltd. (hereinafter referred to as "APT") and Siemens Electrical Apparatus Ltd. Suzhou (hereinafter referred to as "Siemens"), both parties have completed the business transaction. APT brand and related products will be under the operation of "Siemens" Group. As a new member of Siemens Group, APT will succeed and promote the business operation philosophy of the former "APT", i.e. customer orientation. With the quality management and R&D resources of Siemens, APT will focus on the manufacture of pushbuttons, indicators components and other important low voltage products such as the signal lighting, cam switch, relays, current transformers and limit switches etc. Furthermore, Siemens will develop its international business operation experience to strengthen the management and business development of APT and better serve Chinese and global market demands through its advanced technology.

We will do better!



Combined Indicator Lights
AD16-30JC



Contents

Application	01
Standards	01
Structure and Features	01
Technical Data	02
Working Conditions	02
Comparison Table of Voltage, Current and Code	02
Model	03
Table of External Size and Panel Size	04
Terminal Wiring	06
External Size	06
Examples of Combined indicator	08
Accessories	09
Cautions	09
Dismantling and Installation Methods of Combined Light windows	10
Dismantling and Installation Methods of Combined Light Lampshade	10
Dismantling and Installation Methods of Combined Light Bead	10
Installation Method of Combined indicator	10
Ordering Methods	11



AD16-30JC Combined indicator

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.

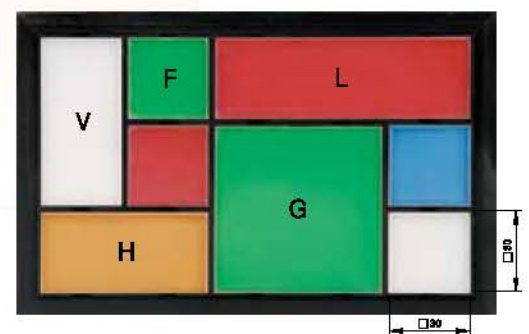
Type F: 30x30mm; Type H: 30x60mm; Type L: 30x90mm; Type V: 60x30mm; Type G: 60x60mm.

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.



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



AD16-30JC Combined indicator

Meaning of Model

Representation of Model

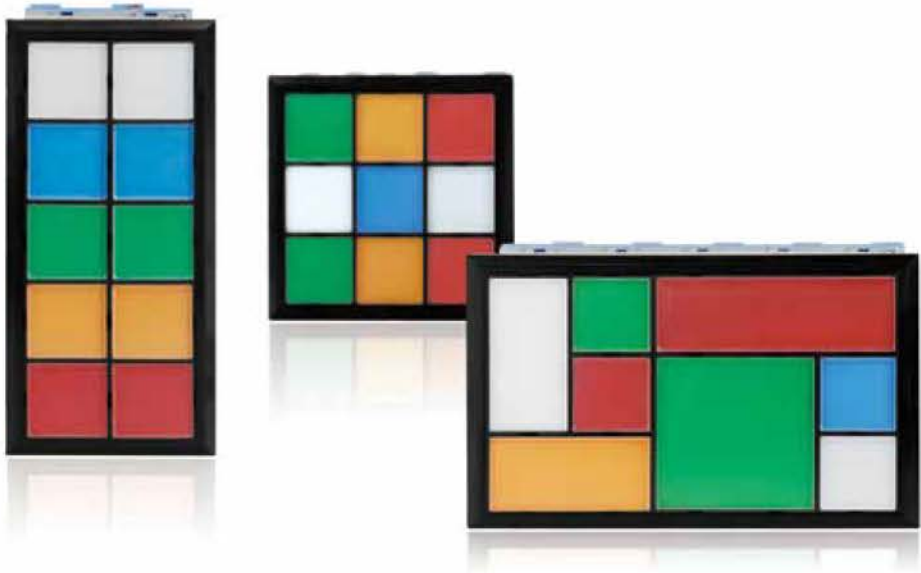
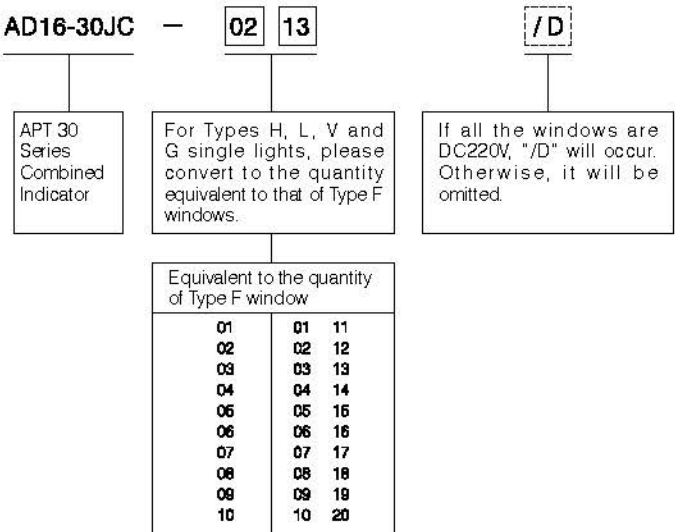


Table of External Size and Panel Size

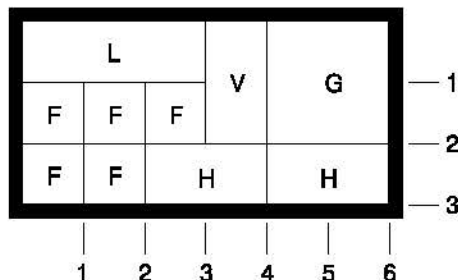
- External Size of Type F and Assembled window Quantity of Combined indicator (Please convert to Type F in regard to Types H, L, V & G)

Line (longitudinal)	Row (Horizontal) External Size	b B (D)	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
a A (C)			(36)	(66)	(96)	(126)	(156)	(186)	(216)	(246)	(276)	(306)	(336)	(366)	(396)	(426)	(456)	(486)	(516)	(546)	(576)	(606)
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.

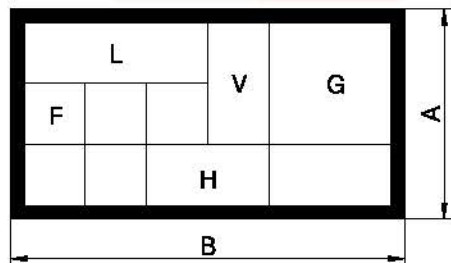
- Total windows quantity (as shown in the figure)



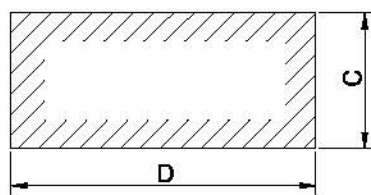
- ▲ Convert the longitudinal number and horizontal number of Types H, L, V & G into the equivalent quantity of Type F windows.

AD16-30JC Combined indicator

- External Size (as shown in the figure)



- Hole Size (as shown in the figure)



- windows Conversion

Type H



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

Type L



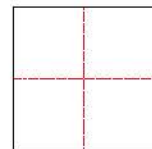
Equivalent to 3 Type F panes
horizontal (1), longitudinal (3)

Type V



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

Type G

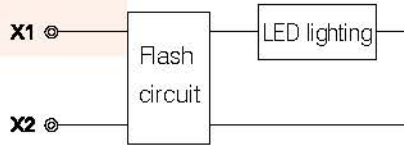
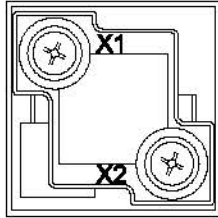


Equivalent to 4 Type F panes
horizontal (2), longitudinal (2)

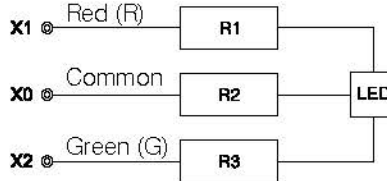
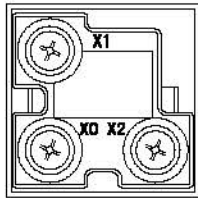


Terminal Wiring

- Continuous type and flash type terminal wiring



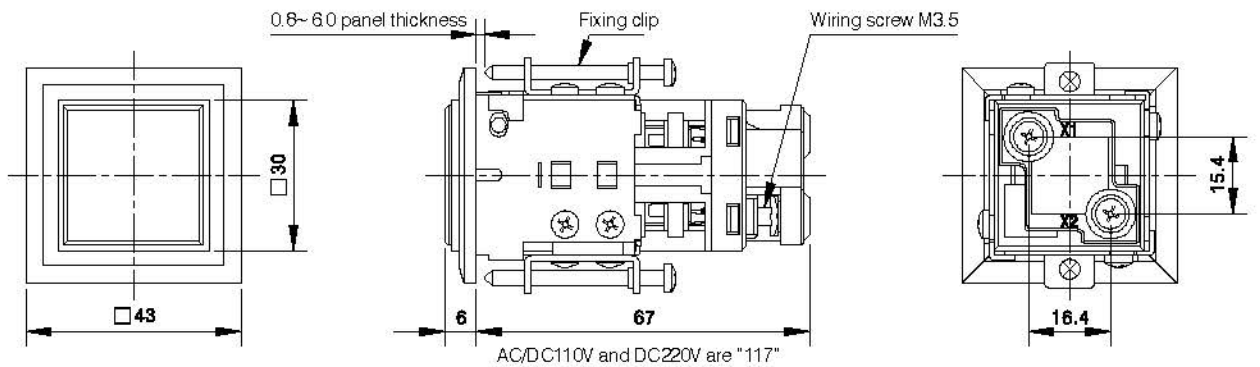
- Terminal wiring of multi-color light



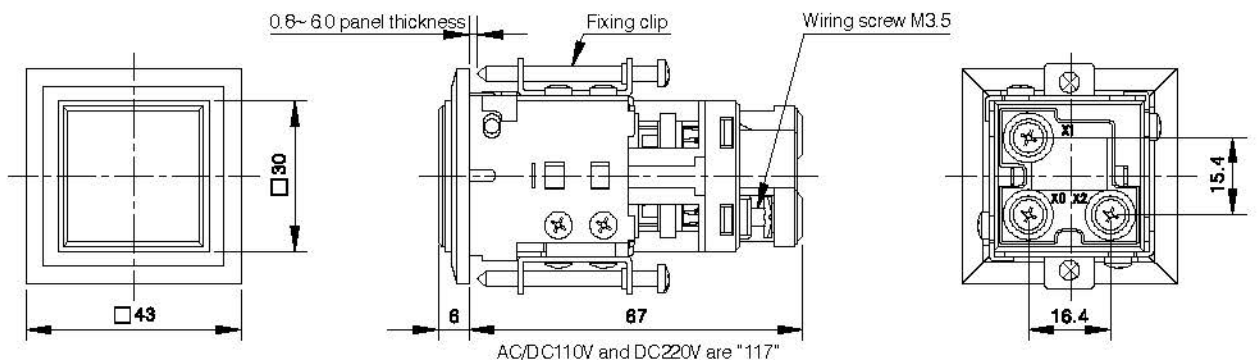
External Size

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

- continuous, flash type



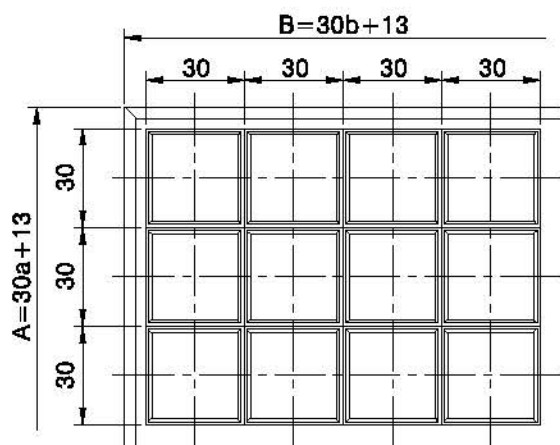
- multi-color type



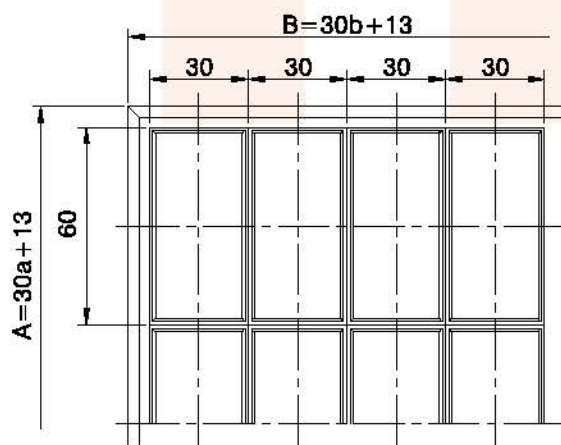
AD16-30JC Combined indicator

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

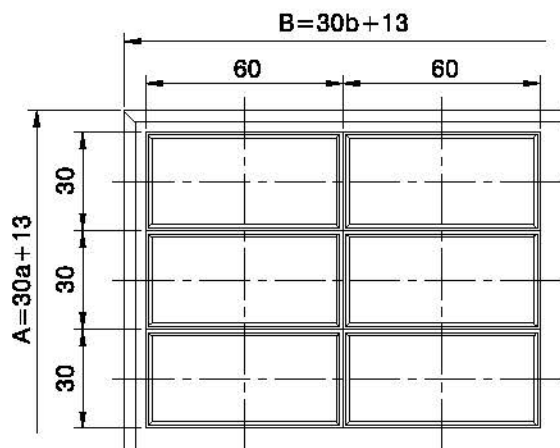
• Type F



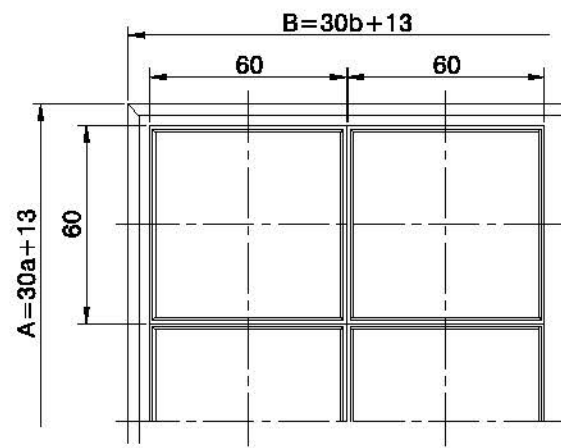
• Type V



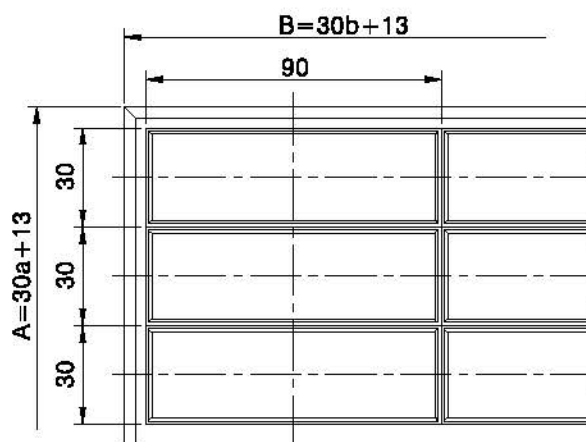
• Type H



• Type G

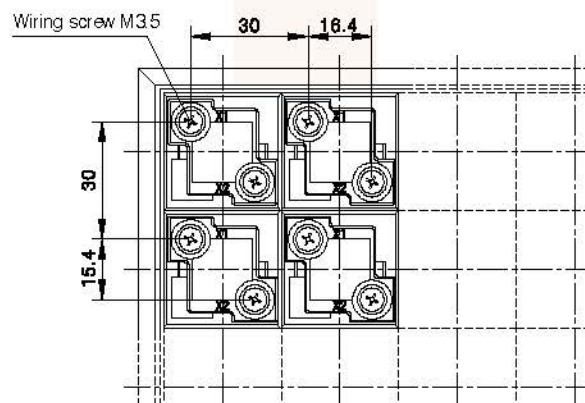
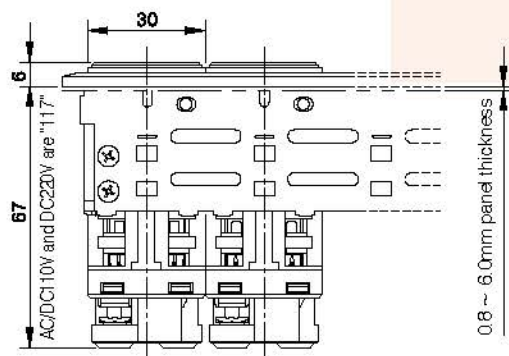


• Type L

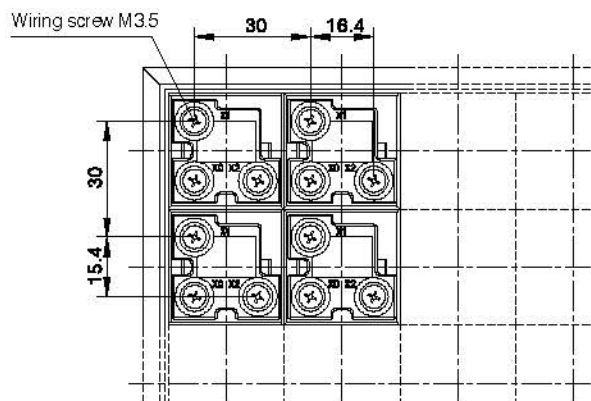
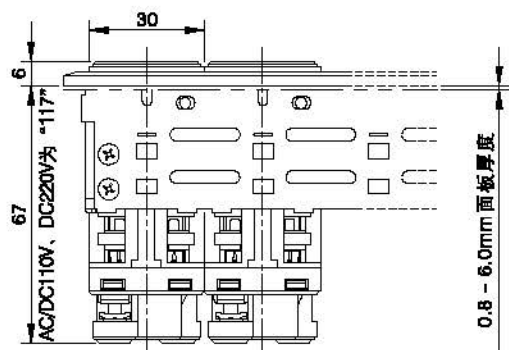


3. Side Size and Back Size of Type F Single Light (sides and backs of Types H, L, V and G are the same as those of Type F, unit: mm)

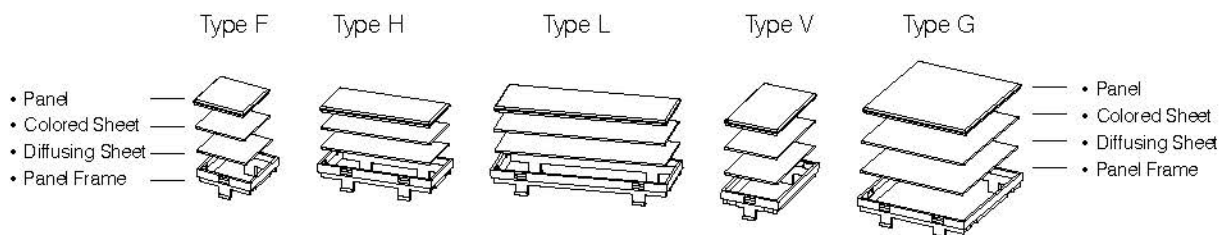
- continuous type, flash type



- multi-color type



Examples of cover

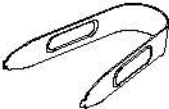

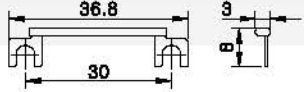



AD16-30JC Combined indicator

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.

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.



AD16-30JC Combined indicator

Ordering Methods

There are two ways to purchase the combined indicator online for allocation through the network as follows:

1. Visit the website: <http://180.168.217.14/VC/>

2. Visit APT homepage: <http://www.china-apt.com/> → Product and Service → Online Model Selection of Combined indicator

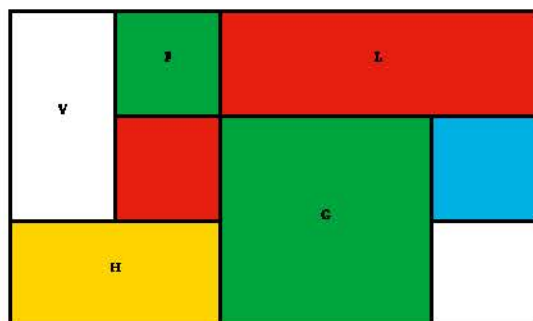
The username and password shall be entered for the above two methods to log in the system for allocation.

The orders shall be placed according to the models of the finished products and the system information allocation number generated after system allocation.

Order Allocation Table:

Order Allocation Table of AD16-30JC Combined Indicator

Ordered by: test001		Contact Person: test001	Contact Tel: test001	E-mail: test001	Dealer Name: Global User (for test)
Material No. of Finished Product: 101035950		Model No. of Finished Product: AD16-30JC-0305	External Size: 103*163	Hole Size: 96*156	Reference No.: test001-1
					Print Date: June 30, 2011 10:51:25
					System Information Allocation No.: 06302011001

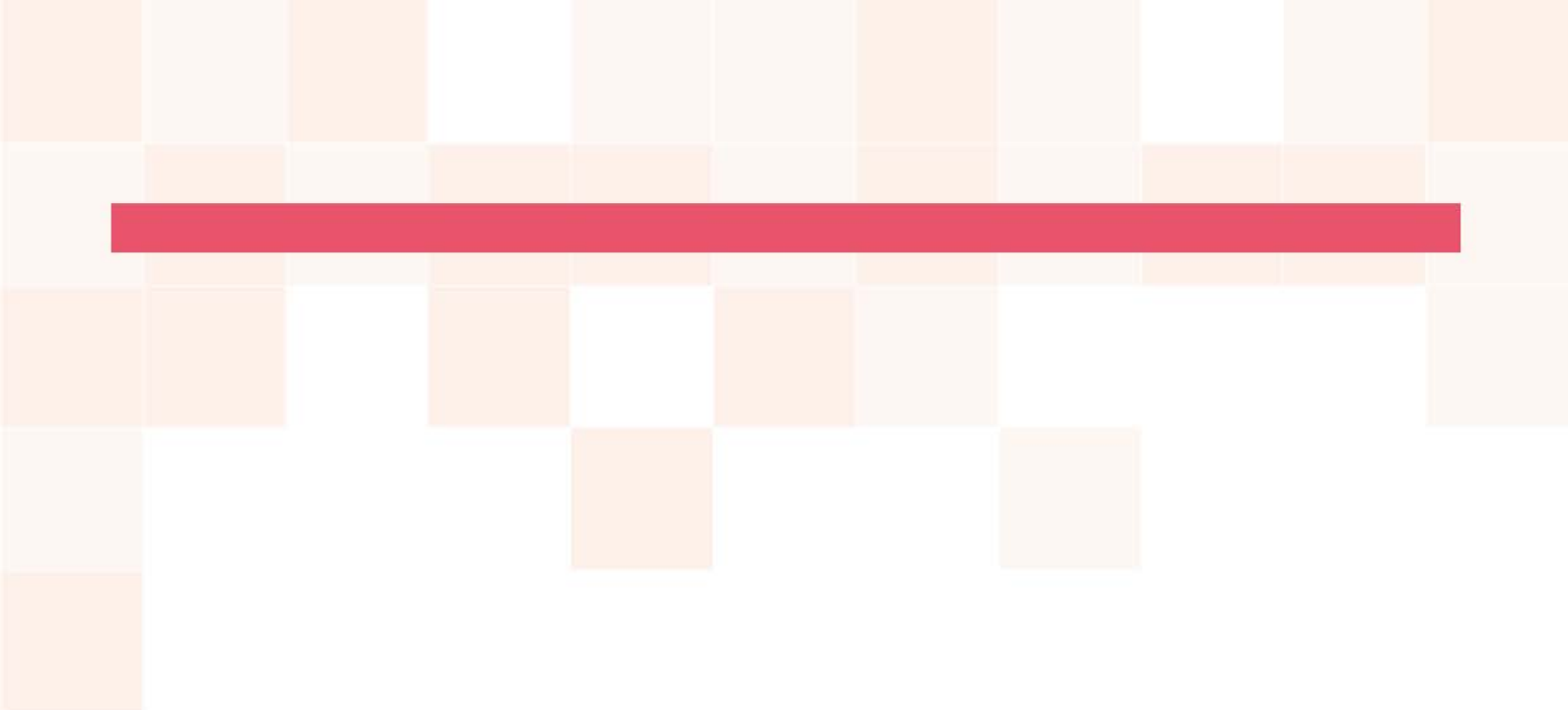


Customer Signature for Confirmation: _____ Date: _____

Remarks for Customer:

Requirement for model selection: 1. Please strictly follow the pane type, lighting type and voltage specification provided by us for model selection. 2. The cell of the two-color light only has red-green two-color normally ON type. No ordering on other two-color customization is accepted. 3. AC/DC110V has different cell length from those with different voltage specifications. If there are cells with over two voltage specifications to be installed together, the wiring terminal parts may be different in length. 4. The printing typefaces on the cells are the boldface as default and the font size shall be decided by the cell shape and the quantity of printed words. 5. We do not accept the order in regard to the mixed installation of DC220 and other voltages. Please call our customer service (021-56553757-8056) for any special requirement.

Declaration: 1. This parameter allocation table will be our only drawing standard and we will not accept the drawings for orders in any other format. 2. Once we receive your order requirement signed by you as confirmation and record it in SAP system, we will not accept any change. 3. The cell colors of actual products may be slightly different from those displayed in the computer screen and electronic format. Please refer to the actual products for the colors. 4. If the order is repeated with the same material number of a customer, please ensure that the allocations are completely identical. Otherwise, please reallocate. 5. This allocation table includes the appearance allocation table and technical parameter allocation table, which will be displayed in two pages due to the influence of the order types. Please make sure that the allocation information is delivered completely. 6. The above appearance parameter effect drawings including the font size and Song typeface which are only for reference. Please refer to the actual products. 7. All rights of this parameter allocation system are reserved by Siemens Electrical Apparatus Ltd., Suzhou.





www.china-apt.com

Siemens Electrical Apparatus Ltd., Suzhou APT Sales and Marketing
Rm 301, Tsidi Building No.55, Lane 777, West Guangzhong Road Shanghai
Zip Code: 200072
TEL: (021) 56553757
URL: <http://www.china-apt.com>
FAX: (021) 56551750
E-mail: sales@china-apt.com

