

Product Introduction

Pushbutton / Indicator / Combined Light / Cam Switch / Relay / Current Transformer
/ Control Cabinet / Tower Light / Limit Switch

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Product Introduction

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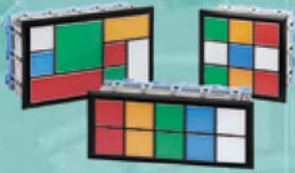


APT

Product Introduction

Pushbutton / Indicator / Combined Light / Cam
Switch / Relay /

Current Transformer / Control Cabinet / Tower Light /
Limit Switch





Company Profile

APT has been established in 1993. Today it is now a Chinese leading manufacturer of low-voltage components and has been specialized in the manufacturing of low voltage products such as pushbuttons, indicators, cam switches and general-purpose relays. In August 2008, Siemens Electrical Apparatus Ltd. Suzhou (hereinafter referred to as “Siemens”) made the wholly-owned acquisition of APT, putting the APT brand and related products under the operation of Siemens. With unified quality control and R&D resources of Siemens, APT focuses on manufacturing pushbuttons, indicators and other important low-voltage products such as tower lights, control cabinets, combined lights, current transformers and limit switches etc.

Through over 20 years of promotion and application, the APT products have been widely serving dozens of industrial fields in China , including power, energy, rail transit, elevator, logistics, machine tool, etc. They have been successively selected and applied in Qinshan Nuclear Power Plant, the Three Gorges Project, ShenzhouVSpacecraft, Qinghai-Tibet Railway locomotives, “Harmony” Electric Multiple Unit, “Fuxing” Electric Multiple Unit, international airports and urban metros and have become the preferred brand for national key projects. At the same time, Siemens gives full play to its international operation experience to continuously enhance the management and business development of APT and better serve the Chinese market through advanced technology and improved product line.



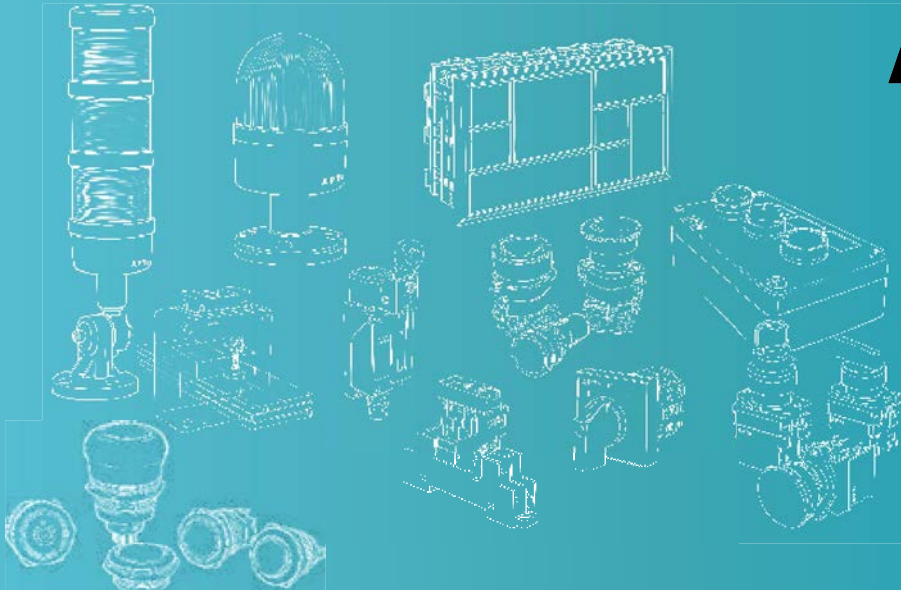
APT Core Values

Quick Flexible Low-Cost Loyalty

A — **Advanced** (idea, technology, management …)

P — **Perfect** (personality, product, organization …)

T — **Top** (life, contribution, enterprise …)



FM Series Metal Pushbutton Indicator

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LA39 Series Pushbutton

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AD16 Series Indicator and Buzzer

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x.R Series Miniature General-Purpose Relay

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ALH-0.66 Series Current Transformer

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XK Series Control Cabinet

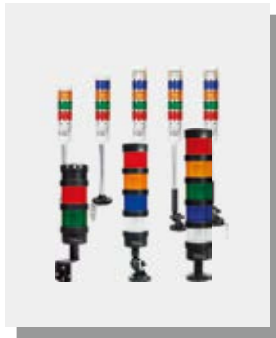
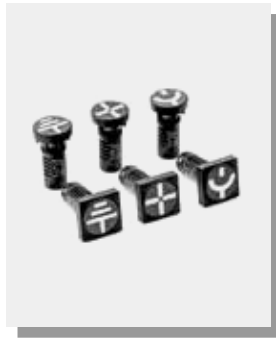
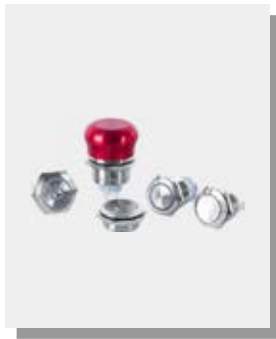
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TL Series Tower Light

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ALS Series Limit Switch

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N/E/S/L series metal pushbutton indicator

Scope of application

FM series metal pushbutton indicators have been widely applied in industries such as medical device, logistics equipment, communication equipment, numerical control machine tool, laser equipment, charging pile, automobile industry, industrial robot, testing equipment, building management, commercial kitchenware, and civil equipment etc.

N series

- Diverse installation hole diameters (Ø12/Ø16/Ø19/Ø22/Ø25)
- Rich types of products, complete specifications and series
- The protection class is up to IP65
- Annular illuminated type, bidirectional conduction structure LED, no need to distinguish the positive and negative polarities during use
- Bicolor illuminated structure is available for spring-return or latching pushbutton
- All series products adopt the plug-in wiring method, with standard wired terminal block optional for Ø16/Ø19/Ø22/Ø25
- Aluminium alloy anodic oxidation coloring products can be customized for all series products
- Laser engraving of pattern and text can be carried out according to the customer 's drawing



Major technical feature

Product specification		FM12N	FM16N	FM19N	FM22N	FM25N
Conventional thermal current I _{th}		3A	5A			
Mechanical endurance		Momentary for 1 million times Latching for 300,000 times	spring return for 1 million times 100,000 times for knob and key switch 50,000 times for emergency stop button		Latching for 300,000 times	
Electrical endurance		Momentary for 100,000 times Latching for 50,000 times	spring return for 200,000 times 50,000 times for latching button, knob, key switch and emergency stop button			
Working temperature		-25°C~ +55°C				
Installation hole diameter		Φ12	Φ16	Φ19	Φ22	Φ25
Protection class		IP65	IP65 for spring return and latching, IP40 for the knob, IP54 for the key switch, IP54 for emergency stop button (with IP65 customizable)			
Rated voltage/ current under various usage categories	AC-15	24V/1A 110V/1A 220V/0.5A	24V/3A		110V/1A	220V/0.5A
	DC-13	24V/0.7A	110V/0.2A	220V/0.1A		

E series

- Diverse installation hole diameters (Ø12/Ø16/Ø19/Ø22/Ø25/Ø30)
- Diverse head shapes
- Protection class of IP65
- Annular or dotted illuminated type, bidirectional conduction structure LED, no need to distinguish the positive and negative polarities during use
- Screw wiring or plug-in wiring method is optional
- Ø22/Ø25 can be provided with A standard wired terminal block
- Aluminium alloy anodic oxidation coloring products can be customized for all series products
- Laser engraving of pattern and text can be carried out according to the customer ' s drawing



© Major technical feature

Product specification		FM12E	FM16E	FM19E	FM22E	FM25E	FM30E
Conventional thermal current I_{th}		5A					
Mechanical endurance		spring return for 1 million times			Latching for 300,000 times		
Electrical endurance		Momentary for 200,000 times			Latching for 50,000 times		
Working temperature		-25°C~ +55°C					
Installation hole diameter		Φ12	Φ16	Φ19	Φ22	Φ25	Φ30
Protection class		IP65					
Rated voltage/ current under various usage categories	AC-15	24V/2 110V/1A 220V/0.5A		24V/3A	110V/1A	220V/0.5A	
	DC-13		24V/0.7A	110V/0.2A	220V/0.1A		

S series

- Ultrathin structure design, with total thickness less than 15mm
- Diverse installation hole diameters (Ø12/Ø16/Ø19/Ø22/Ø25)
- Protection class of IP65
- Ultra-short operating travel and ultra-lightweight pressing power for excellent inching operation experience
- The minimum load is 3V 1mA for the design of a low-voltage micro-current application



© Major technical feature

Product specification		FM12S	FM16S	FM19S	FM22S	FM25S
Conventional thermal current I _{th}		2A				
Mechanical endurance		1 million times				
Electrical endurance		200,000 times				
Working temperature		-25°C~ +55°C				
Installation hole diameter		Φ12	Φ16	Φ19	Φ22	Φ25
Protection class		IP65				
Rated voltage/ current under various usage categories	DC-12	24V/0.3A				

L series

- Diverse installation hole diameters (Ø12/Ø16/Ø19/Ø22/Ø25)
- High protection class of IP67
- Bidirectional conduction structure LED, no need to distinguish the positive and negative polarities during use
- High-quality , high-brightness LED with endurance of at least 50,000 hours
- Screw wiring or plug-in wiring method is optional
- Aluminium alloy anodic oxidation coloring products can be customized for all series products



© Major technical feature

Product specification	FM12L	FM16L	FM19L	FM22L	FM25L
Light brightness	> 100cd/m ²				
Power frequency withstand voltage (illuminated part to enclosure)	1500V AC, 50Hz, 1min				
Vibration resistance	10-50Hz, Amplitude of 1.2mm				
Working temperature	-25°C~ +55°C				
Installation hole diameter	Φ12	Φ16	Φ19	Φ22	Φ25
Protection class	IP67				
Enclosure material	Stainless steel, aluminium anodic oxidation (customized)				



LA39-A.B.C series pushbutton

◎ Scope of application

LA39 series pushbuttons can be used as supporting components for control circuits, signal conversion and interlocks in the industries within AC 50Hz (or 60Hz) 660V and DC 440V such as machine tool, textile, machinery, medical treatment, communication, power, transportation, metallurgy, chemistry, rail transit etc.

◎ Structural feature

- LA39 series pushbuttons have novel structure and aesthetic appearance.
- This series is of complete varieties and specifications, including spring return button, latching button, illuminated button, mushroom button, knob, key switch, emergency stop button etc.
- The whole series adopts imported raw materials, which are wear-resistant with long endurance.
- The luminous module of illuminated pushbutton adopts super high-brightness LED in pure color with even illumination and high brightness.
- The products are provided with a quick-action/slow-action type contact module, with contact self-cleaning function for accurate action and reliable contact.
- Diverse middle seats can be installed as needed.
- A complete variety of accessories can meet customer requirements.
- The products comply with RoHS standard and have passed CCC and CE certification.

◎ Structural feature

- Contact module structure includes quick-action type and slow-action type, among which the former has self-cleaning contact function for accurate action and reliable contact.
- The contact type includes 5 independent modules of 1NO, 1NC, 2NO, 2NC and 1NO1NC.
- Silver-nickel composite contact with a low resistivity and good conduction performance.



LA39-A series

- Metal head outer ring in either white or black, solid and durable.
- The first choice of the machinery industry with frequent operation or strong vibration impact due to the reliable structure of this series.
- There are two installation dimensions of Ø22mm and Ø25mm.



LA39-B series

- Plastic head outer ring, economic and aesthetic.
- The first choice of the industry with higher requirements on dual insulation or resistance to chemical corrosion.
- There are two installation dimensions of Ø22mm and Ø25mm.
- The unique square pushbutton and knob are optional.



LA39-C series

- Flush metal head in either white or black, with ultrathin installation effect, aesthetic and elegant.
- The first choice of the industry with demands on accidental collision prevention and intensive panel installation.
- The installation dimension of Ø30mm.

© Major technical feature

Product specification		LA39-A.B.C series pushbutton			
Conventional thermal current I _{th}		10A			
Mechanical endurance		3 million times for normal button / mushroom button / illuminated button 300,000 times for knob 100,000 times for latching button 50,000 times for key switch/emergency stop button			
Electrical endurance		≥600,000 times			
Working temperature		-25°C ~ +55°C			
Head protection class		LA39-A: IP54	LA39-B: IP40	LA39-C: IP54	
Rated capacity	Quick-action type	AC-15	24V/10A	110V/5A	220V/2.5A
		DC-13	24V/3.6A	110V/0.8A	220V/0.4A
	Slow-action type	AC-15	24V/10A	110V/10A	220V/6A
		DC-13	24V/6A	110V/1A	220V/0.5A

LA39-E series pushbutton

◎ Scope of application

LA39-E series pushbuttons are widely used as supporting components for control circuits, signal conversion and interlocks in the industries within AC 50Hz (or 60Hz) and AC/DC 220V such as machine tool, textile, ship, communication, power, automobile, medical device, rail transit etc. These products can sufficiently meet the demands on NC, programming controller, electronic and electrical control, and are the optimal choice for customers in terms of panel miniaturization and intensive control.

◎ Structural feature

- LA39-E series pushbuttons are characterized by compact structure, aesthetic appearance and simple installation.
- This series is of complete varieties and specifications, including momentary button, latching button, illuminated button, mushroom button, knob, key switch, emergency stop button etc.
- The products are designed with anti-rotation structure for accurate positioning and to prevent looseness.
- There are round, square, and rectangular buttons, which greatly satisfy the demand of customers in different situations.
- The illuminated button is designed with replaceable LED structure for convenient installation and maintenance.
- All structural parts adopt clip-on latching connection without fasteners, which is convenient for dismantling and installation, safe and reliable.
- The products comply with RoHS standard and have passed CCC and CE certification.



◎ Contact feature

- The base part is composed of 1NO 1NC or 2NO 2NC contacts.
- The contact is provided with self-cleaning function, as a single breakpoint snap-action structure for accurate action and reliable contact.
- Stable silver-nickel contact with good electric and heat conduction performance and a low contact resistance.

◎ Major technical feature

Product specification		LA39-E series pushbutton		
Conventional thermal current I_{th}	5A			
Mechanical endurance	1 million times for normal button / mushroom button / illuminated button		100,000 times for knob / latching button	
Electrical endurance	600,000 times for normal button / mushroom button / illuminated button		50,000 times for key switch/emergency stop button	
Working temperature	-25°C ~ +55°C			
Head protection class	IP40			
Rated capacity	AC-15	24V/2A	110V/1A	220V/0.5A
	DC-13	24V/0.7A	110V/0.2A	220V/0.1A

LA39-G series pushbutton

Scope of application



LA39-G series pushbuttons are widely used as supporting components for control circuits, signal conversion and interlocks in the industries within AC 50Hz (or 60Hz) and AC/DC 220V such as machine tool, textile, ship, communication, power, automobile, medical device, rail transit etc. These products can sufficiently meet the demands on NC, programming controller, electronic and electrical control, and are the optimal choice for customers in terms of panel miniaturization and intensive control.

Structural feature



- LA39-G series pushbuttons are characterized by modular structure, aesthetic appearance and simple installation and maintenance.
- This series is of complete varieties and specifications, including pushbutton, knob, key switch, emergency stop button etc.
- There are round, square, and rectangular buttons, which greatly satisfy the demand of customers in different situations.
- The products are designed with anti-rotation structure for accurate positioning and to prevent looseness.
- The contact modules can be added or reduced as needed, which is convenient for dismantling and installation, and the structure is reliable.
- The products comply with RoHS standard and have passed CCC and CE certification.



Contact feature

- One contact module has a pair of independent NO and NC contacts.
- The contact is designed with a dual-breakpoint quick-action structure to effectively improve contact reliability and electrical breaking capacity.
- At most 3 contact modules can be installed (3NO+3NC).
- The contact is made of silver and nickel, and the entire support is plated with silver for reliable contact under low voltage and micro current.

Major technical feature

Product specification	LA39-G series pushbutton			
Conventional thermal current I_{th}	5A			
Mechanical endurance	1 million times for normal button / mushroom button / illuminated button		100,000 times for knob/latching button	
Electrical endurance	600,000 times for normal button / mushroom button / illuminated button		50,000 times for knob/latching button	
Working temperature	-25°C ~ +55°C			
Head protection class	IP65			
Rated capacity	AC-15	24V/2A	110V/1A	220V/0.5A
	DC-13	24V/0.7A	110V/0.2A	220V/0.1A



LA39-F series pushbutton

◎ Scope of application

LA39-F series pushbuttons are widely used as supporting components for control circuits, signal conversion and interlocks in the industries within AC 50Hz (or 60Hz) and AC/DC 220V such as programming controller, electronic and electrical control, machinery, telecommunication, medical device, and instrument etc. These products are the optimal choice for customers in terms of panel miniaturization and intensive control.

◎ Structural feature

- LA39-F series pushbuttons are characterized by compact structure, aesthetic appearance and simple installation.
- There are round, square, and rectangular buttons, which greatly satisfy the demand of customers in different situations.
- The structural parts adopt clip-on latching connection, which is convenient for dismantling and installation, safe and reliable.
- Since the illuminated button is small inside, the current-limiting resistor shall be connected in series outside the button.
- Various texts, symbols and other signs can be configured based on customer requirements.
- The products comply with RoHS standard and have passed CCC and CE certification.

◎ Contact feature

- The base part is composed of 1NO 1NC or 2NO 2NC contacts.
- The contact has a single breakpoint snap-action structure for accurate action and reliable contact.
- Stable silver-nickel contact with good electric and heat conduction performance and a low contact resistance.

◎ Major technical feature

Product specification	LA39-F series 按钮		
Conventional thermal current I_{th}	3A		
Mechanical endurance	200,000 times for normal button / illuminated button 100,000 times for latching button		
Electrical endurance	200,000 times for normal button / illuminated button 100,000 times for latching button		
Working temperature	-25°C ~ +55°C		
Head protection class	IP40		
Rated capacity	AC-15	24V/2A	110V/1A 220V/0.5A
	DC-13	24V/0.7A	110V/0.2A 220V/0.1A

AD16-22 series indicator and buzzer



◎ Scope of application

AD16-22 series indicators are used as signal indication, signal warning or accident signal and in other situations where optical signal is used for indication, for lines of industries within AC 50Hz (or 60Hz) AC 380V and AC/DC 500V such as power, telecommunication, machine tool, ship, textile, printing, machinery, rail transit etc. Buzzers are used in the situation where the acoustical signal or acoustic-optical signal is used for indication.



◎ Structural feature

- The products adopt high-brightness pure-color LED luminous chip with low power consumption.
- The continuous working endurance is more than 30,000 hours.
- The luminance of the indicator is not lower than 100cd/m².
- There are various head types and complete voltage specifications.
- The anti-interference indicator can be customized.
- The imported raw materials are wear-resistant, with a high structural strength and good anti-vibration and anti-impact performance.
- Screw wiring structure is built in for convenient wiring and with a high safety factor.
- The standard hole is $\Phi 22\text{mm}$; hole diameters of $\Phi 25\text{mm}$ and $\Phi 30\text{mm}$ can be realized with a reducing ring.
- Various texts, symbols and other signs can be configured based on customer requirements.
- Single acoustic and acoustic-optical buzzers can satisfy usage requirements in specific situation.
- The buzzer sound volume is up to 80dB/10cm.
- The products comply with RoHS standard and have passed CCC and CE certification.



◎ Major technical feature

Product specification	AD16-22 series indicator and buzzer
Use frequency	AC50-60Hz
Allowable voltage fluctuation	$\pm 20\%$ (AC indicator)
Working temperature	-25°C ~+55°C
Head protection class	IP40、IP54、IP65
Pollution grade	Grade 3



AD16-16 series indicator and buzzer

◎ Scope of application

AD16-16 series indicators are used as signal indication, signal warning or accident signal and in other situations where optical signal is used for indication, for lines of industries within AC 50Hz (or 60Hz) AC 380V and AC/DC 220V such as power, telecommunication, machine tool, ship, textile, printing, machinery, rail transit etc. Buzzers are used in the situation where the acoustical signal or acoustic-optical signal is used for indication.

◎ Structural feature

- The products adopt high-brightness pure-color LED luminous chip with low power consumption.
- The continuous working endurance is more than 30,000 hours.
- The luminance of the indicator is not lower than 100cd/m².
- There are various head types and complete voltage specifications.
- The anti-interference indicator can be customized.
- The imported raw materials are wear-resistant, with a high structural strength and good anti-vibration and anti-impact performance.
- Welding or plug-in structure is for convenient wiring and with a high safety factor.
- Various texts, symbols and other signs can be configured based on customer requirements.
- Single acoustic and acoustic-optical buzzers can satisfy usage requirements in specific situation.
- The buzzer sound volume is up to 80dB/10cm.
- The products comply with RoHS standard and have passed CCC and CE certification.

◎ Major technical feature

Product specification	AD16-16 series indicator and buzzer
Use frequency	AC50-60Hz
Allowable voltage fluctuation	±20% (AC indicator)
Working temperature	-25°C ~+55°C
Head protection class	IP40、IP65
Pollution grade	Grade 3

AD16-30JC series combined indicator

◎ Scope of application



AD16-30JC series combined indicators are used as light signal indication and light execution signal for various equipment within AC 50Hz (or 60Hz) AC 380V and AC/DC 220V in the industries such as ship, engineering machinery, NC machine tool, rail transit etc. by integrating various distributed signals into a designated dimension for display in a scientific manner.

◎ Structural feature

- The products are designed as per GB1155-1989 (General Specification for Indicator Light in Ships) standard.
- The integrated module combination with an open type convective structure is adopted to ensure reliable heat dissipation of the combined light.
- There are 5 types of panes (F, H, L, V, G), which are optional based on customer requirements.
- The combined light can be installed conveniently and easily. The LED can be removed or changed front on the installation panel only by disconnecting the power supply.
- There are different types of illumination combinations such as monochrome & bi-color, normally on & flashing, acoustic-optical combination etc.
- Screw wiring structure is built in for convenient wiring and with a high safety factor.
- Max 10×20 combined light can be formed as demanded by the customer.
- The lampshade of the combined light can be displayed in the colored or white background.
- The products comply with RoHS standard and have passed CCC and CE certification.



◎ Main technical feature

Product specification	AD16-30JC series combined indicator
Use frequency	AC50-60Hz
Allowable voltage fluctuation	±20% (AC indicator)
Working temperature	-25°C ~+55°C
Head protection class	IP40
Continuous working endurance	≥30,000 hours

PB1 series pushbutton

◎ Scope of application

PB1 series pushbuttons can be used as supporting components for control circuits, signal conversion and interlocks in the industries within AC 50Hz (or 60Hz) 440V and DC 220V such as machine tool, textile, machinery, medical treatment, communication, power, transportation, metallurgy, chemistry, etc.

◎ Structural feature

- The products are designed with a modular structure consisting of single-chip clip-on type contact module and luminous module, which is reliable and convenient for installation.
- This series is of complete varieties and specifications, including momentary button, latching button, illuminated button, mushroom button, knob, key switch, emergency stop button etc.
- The imported oil-proof raw materials are adopted, corrosion resistant and with a long endurance.
- The contact module is designed with a slow-action structure, with contact self-cleaning function for reliable contact and high load capacity.
- The luminous module has complete voltage specifications with even illumination and high brightness.
- 3 pairs of contact modules can be installed on a single layer, max. 6 pairs of contact modules.
- The trigger-type emergency stop button can meet higher requirements.
- The products comply with RoHS standard and have passed CCC and CE certification.

◎ Contact feature

- There are two types of contact module, 1NO and 1NC (PB1J).
- There are five types of contact module, i.e. 1NO, 1NC, 2NO, 2NC and 1NO1NC (PB1S/PB1L).
- Silver-nickel composite contact with a low resistivity and good conduction performance.



PB1S series

- Metal head and middle seat with smooth surface, solid and durable.
- The middle seat is mounted with inclined screw, for good anti-vibration and anti-impact performance.
- The standard specification is of Φ 22mm.
- The contact modules can be added or reduced as needed.



PB1L series

- Plastic head and middle seat made of oil-proof material for outstanding anti-corrosion performance.
- The middle seat is mounted with straight screw, for convenient installation.
- The standard specification is of Φ 22mm.
- The contact modules can be added or reduced as needed.



PB1J series

- Compact-type integrated structure design, economic and practical.
- Mounted with single-hole nut, for convenient dismantling and installation.
- The standard specification is of Φ 22mm.



© Major technical feature

Product specification		PB1 series pushbutton			
Conventional thermal current I_{th}		PB1S/PB1L 10A PB1J 5A			
Mechanical endurance		3 million times for normal button / mushroom button / illuminated button 300,000 times for knob / latching button / on-off button / compact-type button			
Electrical endurance		50,000 times for key switch/emergency stop button 300 times for switching element			
Working temperature		-25°C ~ +70°C			
Protection class		IP65			
Rated capacity	PB1S/PB1L	AC-15	24V/6A	110V/6A	220V/6A
		DC-13	24V/6A	110V/1.2A	220V/0.4A
	PB1J	AC-15	220V/2A		
		DC-13	24V/1A		

LW39-16 series cam switch

◎ Scope of application

LW39-16 series cam switches are mainly used in the electrical lines within AC 50Hz (or 60Hz) 380V and DC 440V, rated current 16A for changeover of various control lines, phase-change measurement control of voltmeter and ampere meter, changeover and remote control of PTD device lines, and can also be used to directly control the start, speed regulation and reversing control of small-capacity motor.

◎ Structural feature

- The products are designed with a reliable module stacking structure for convenient maintenance.
- This series is of complete varieties and specifications, including normal type, the type with signage, handle with key type, panel with key type, illuminated type etc.
- The imported plastic raw materials are adopted, corrosion-resistant and with a long endurance.
- Clear angle positioning and reliable gear conversion.
- The silver matte panel can be engraved with various characters and patterns based on customer requirements.
- The products comply with RoHS standard and have passed CCC and CE certification.



LW39-16A series

- Panel dimension 64mm×64mm with aesthetic shape and external wiring mode for convenient use.
- Operating angle: 30° , 45° , 90°
- Max. number of the contact system pitches is 12.
- 7 types of handles are optional.



LW39-16B series

- Panel dimension 48mm×48mm with miniature shape and built-in wiring mode, safe and reliable.
- Operating angle: 30° , 45° , 60° , 90°
- Max. number of the contact system pitches is 12. It is recommended not to exceed 8 pitches (max. 8 pitches for 30° positioning angle).
- 5 types of handles are optional.
- The installation method includes five-hole installation, three-hole installation and base installation.



LW39-16C series

- Single-hole installation method for convenient installation, the contact system is same as that of B series.
- Built-in wiring mode, safe and reliable.
- Operating angle: 30° , 45° , 60° , 90°
- Max. number of the contact system pitches is 12. It is recommended not to exceed 8 pitches (max. 8 pitches for 30° positioning angle).



LW39 SERIES CAM SWITCH

© Major technical feature

Product specification		LW39-16 series cam switch			
Conventional thermal current I_{th}		16A			
Mechanical endurance		300,000 times (positioning type)			
Electrical endurance		200,000 times (AC) 100,000 times (DC)			
Working temperature		-25°C ~+55°C			
Protection class		IP40 (partially IP65 is customizable)			
Rated capacity	AC-15	24V/16A	110V/5A	220V/3A	380V/1.8A
	DC-13	24V/12A	110V/0.4A	220V/0.2A	440V/0.1A

LW39-25 series cam switch

Scope of application

LW39-25 series cam switches are widely applied in the places with greater capacity, especially suitable for the DC application environment. They are mainly used for the changeover of various control lines, phase-change measurement control of voltmeter and ampere meter, changeover and remote control of PTD device lines, and can also be used to directly control the start, speed regulation and reversing control of small-capacity motor.

Structural feature

- The products are designed with a rolling bearing structure with gentle action and hand feeling, for long mechanical endurance.
- This series is of complete varieties and specifications, including normal type, the type with signage, handle with key type, panel with key type, illuminated type etc.
- The imported plastic raw materials are adopted, corrosion resistant and with a long endurance.
- Built-in wiring mode, safe and reliable.
- Gold-plated silver alloy contact can ensure reliable contact under low voltage and micro current.
- The silver matte panel can be engraved with various characters and patterns based on customer requirements.
- Operating angle: 30°, 45°, 90°
- Max. number of the contact system pitches is 12.
- The products comply with RoHS standard and have passed CCC and CE certification.



Major technical feature

Product specification		LW39-25 series cam switch			
Conventional thermal current I_{th}		25A			
Mechanical endurance		300,000 times (positioning type)			
Electrical endurance		200,000 times (AC) 100,000 times (DC)			
Working temperature		-25°C ~+55°C			
Protection class		IP40 (partially IP65 is customizable)			
Rated capacity	AC-15	24V/25A	110V/18A	220V/12A	380V/8A
	DC-13	24V/20A	110V/2.5A	220V/1.25A	440V/0.5A

LW39-63 series cam switch

Scope of application

LW39-63 series cam switches are widely applied in the places for control of the connection, disconnection and changeover of the high-capacity circuits, the startup, acceleration, control and stop of single motors, the changeover of electrical control in high-capacity control circuits, and remote control in the PTD equipment.

Structural feature

- The products are only applicable to the AC application environment.
- The imported plastic raw materials are adopted, corrosion resistant and with a long endurance.
- The silver matte panel can be engraved with various characters and patterns based on customer requirements.
- Operating angle: 30°, 45°, 60°, 90°
- Max. number of the contact system pitches is 8.
- Multiple specific order codes can be configured for motor control.
- The products comply with RoHS standard and have passed CCC and CE certification.



Major technical feature

Product specification	LW39-63 series cam switch			
Conventional thermal current I_{th}	63A			
Mechanical endurance	300,000 times (positioning type)			
Electrical endurance	200,000 times (AC) 100,000 times (DC)			
Working temperature	-25°C ~+55°C			
Protection class	IP40			
Rated capacity	AC-15	24V/28A	110V/22A	220V/16A 380V/8A

LW39-10 series cam switch

Scope of application

LW39-10 series cam switches are widely applied in the places with quite small installation space for changeover of various control lines, phase-change measurement control of voltmeter and ampere meter, changeover and remote control of PTD device lines, and can also be used to directly control the start, speed regulation and reversing control of small-capacity motor.

Structural feature

- The products are designed with a single-hole installation structure for convenient dismantling and installation.
- The installation hole diameter includes $\Phi 16\text{mm}$ and $\Phi 22\text{mm}$.
- Clear angle positioning and reliable gear conversion.
- The silver matte panel can be engraved with various characters and patterns based on customer requirements.
- Operating angle: 30° , 45° , 90°
- Max. number of the contact system pitches is 8.
- The products comply with RoHS standard and have passed CCC and CE certification.



Major technical feature

Product specification		LW39-10 series cam switch			
Conventional thermal current I_{th}		10A			
Mechanical endurance		300,000 times (positioning type)			
Electrical endurance		200,000 times (AC) 100,000 times (DC)			
Working temperature		$-25^\circ\text{C} \sim +55^\circ\text{C}$			
Protection class		IP65			
Rated capacity	AC-15	24V/10A	110V/4A	220V/2A	380V/1.2A
	DC-13	24V/8A	110V/0.25A	220V/0.12A	

SR/NR/ER/HR/PR series miniature general-purpose relay

☉ Scope of application

x.R series relay is usually used in the control circuits of automation. It is actually a kind of “automatic switch” to control heavy-current operation by using low current, and plays roles of self-regulation, safety protection, circuit changeover etc. in circuits.

SR series

- Full-automatic production line to ensure stable quality.
- Provided with lockable test button function, convenient for debugging and maintenance.
- Coil AC or DC specification can be recognized effectively based on LED light color.
- Thin shape design to effectively save installation space.
- Mechanical indication device for clearly identifying contact action status.
- A wide range of working temperature.
- Product logo adopts laser engraving, firm and clear.
- Products with surge suppression circuit can be produced with AC/DC power.
- UL/CQC/CE certified.
- Comply with requirements of EU RoHS environmental protection standard.



☉ Major technical feature

Product specification	SR series		
Conventional thermal current I_{th}	1 C/O 12A	2 C/O 8A	
Mechanical endurance	10 million times		
Electrical endurance	100,000 times		
Working temperature	-40°C ~+70°C No freezing or condensation		
Protection class	IP40		
Pull-in time	≤20ms		
Release time	≤15ms		
Rated load of contact (resistive)	1 C/O	AC 250V/12A	DC 30V/12A
	2 C/O	AC 250V/8A	DC 30V/8A

NR series

- Full-automatic production line to ensure stable quality.
- Coil AC or DC specification can be recognized effectively based on LED light color.
- Provided with mechanical indication and LED light for clearly identifying contact action status.
- Provided with lockable test button function, convenient for debugging and maintenance.
- Product logo adopts laser engraving, firm and clear.
- Products with surge suppression circuit can be produced with AC/DC power.
- UL/CQC/CE certified.
- Comply with requirements of EU RoHS environmental protection standard.



Major technical feature

Product specification	NR series					
Conventional thermal current I_{th}	2 C/O 5A	4 C/O 3A	Protection class	IP40		
Mechanical endurance	20 million times		Pull-in time	≤20ms		
Electrical endurance	120,000 times		Release time	≤20ms		
Working temperature	-25°C ~+55°C No freezing or condensation		Rated load of contact (resistive)	2 C/O	AC 250V/5A	DC 30V/5A
				4 C/O	AC 250V/3A	DC 30V/3A

ER series

- Full-automatic production line to ensure stable quality.
- Coil AC or DC specification can be recognized effectively based on LED light color.
- Product logo adopts laser engraving, firm and clear.
- Products with surge suppression circuit can be produced with DC power.
- UL/CQC/CE certified.
- Comply with requirements of EU RoHS environmental protection standard.



Major technical feature

Product specification	ER series						
Conventional thermal current I_{th}	2 C/O 5A	3 C/O 5A	4 C/O 3A	Pull-in time	≤20ms		
Mechanical endurance	20 million times			Release time	≤20ms		
Electrical endurance	120,000 times			Rated load of contact (resistive)	2 C/O	AC 250V/5A	DC 30V/5A
Working temperature	-25°C ~+55°C No freezing or condensation				3 C/O	AC 250V/5A	DC 30V/5A
Protection class	IP40				4 C/O	AC 250V/3A	DC 30V/3A

HR series

- Full-automatic production line to ensure stable quality.
- Coil AC or DC specification can be recognized effectively based on LED light color.
- Product logo adopts laser engraving, firm and clear.
- Products with surge suppression circuit can be produced with DC power.
- Structure of high protection class to effectively improve the body protection class.
- UL/CQC/CE certified.
- Comply with requirements of EU RoHS environmental protection standard.



Major technical feature

Product specification	HR series					
Conventional thermal current I_{th}	2 C/O 5A	4 C/O 3A	Protection class	IP65		
Mechanical endurance	20 million times		Pull-in time	≤20ms		
Electrical endurance	120,000 times		Release time	≤20ms		
Working temperature	-25°C ~+55°C No freezing or condensation		Rated load of contact (resistive)	2 C/O	AC 250V/5A	DC 30V/5A
				4 C/O	AC 250V/3A	DC 30V/3A

PR series

- Full-automatic production line to ensure stable quality.
- Coil AC or DC specification can be recognized effectively based on LED light color.
- Product logo adopts laser engraving, firm and clear.
- 2C/O with test button specification can produce AC/DC products with surge suppression circuit.
- 2C/O with test button function optional, convenient for debugging and maintenance.
- Products of large-power specification.
- UL/CQC/CE certified.
- Comply with requirements of EU RoHS environmental protection standard.



X.R SERIES GENERAL-PURPOSE RELAY

Major technical feature

Product specification	PR series				
Conventional thermal current I_{th}	10A	Protection class	IP40		
Mechanical endurance	20 million times	Pull-in time	≤20ms		
Electrical endurance	2 C/O 120,000 times	3 C/O 4 C/O 100,000 times	Release time	≤20ms	
Working temperature	-25°C ~+55°C No freezing or condensation		Rated load of contact (resistive)	AC 250V/10A	DC 30V/10A

ALH-0.66 series current transformer

Scope of application

ALH-0.66 series current transformer is to accurately convert the heavy current on the low-voltage circuit of the primary system to the low current (5A or 1A) on the secondary circuit, which is then supplied to the instrument and relay protection device. It is an electrical equipment to provide measurement and protection in power distribution system.



Structural feature

- The enclosure is made of high-strength flame retardant PC material designed with a totally-enclosed high-strength structure.
- Internal iron core adopts high-quality silicon steel sheet.
- The wire diameter is selected in strict accordance with economic current density to ensure less temperature rise.
- The measurement class and protection class adopt the same type and shape.
- There are complete installation accessories.



Major technical feature

Product specification	ALH-0.66 series current transformer		
Use frequency	AC50~60Hz		
Rated voltage	AC 660V		
Working temperature	-25°C ~ +40°C	Storage temperature -40°C ~+70°C	Max. temperature resistance 120°C
Insulation class	E		
Primary current	1~8000A (Protection class Max 6,300A)		Current 5A, 1A
Accuracy class	0.2S, 0.5S, 0.2, 0.5, 1 / 5P5, 5P10, 5P15, 5P20, 10P5, 10P10, 10P20		

ALH-0.66 series current transformer (opening type)

◎ Scope of application

ALH-0.66 series current transformer is to accurately convert the heavy current on the low-voltage circuit of the primary system to the low current (5A or 1A) on the secondary circuit, which is then supplied to the instrument and relay protection device. It is an electrical equipment to provide measurement and protection in power distribution system



◎ Structural feature

- High-quality silicon steel sheet is adopted.
- High performance varnished wire for uniform and smooth wire winding process.
- The opening-type transformer is more applicable to refitting project.
- Low-current transformer adopts ferrite with a high accuracy class.
- HK type transformer can be installed more effectively and conveniently.
- SK series is made of nylon material with an insulation class of B.
- The whole SK series has complete dimensions, with a hole diameter of 6-46mm, and built-in TVS transient suppression diode for open-circuit prevention and safer use.



◎ Major technical feature

Product specification	ALH-0.66 series current transformer (opening type)
Use frequency	AC50~60Hz
Rated voltage	AC 660V
Working temperature	-25°C ~+40°C Max. temperature resistance 120°C Storage temperature -40°C ~+70°C
Insulation class	E (B for SK series)
Primary current	5A~4000A Secondary current 2.5mA~5A
Accuracy class	0.5、 1

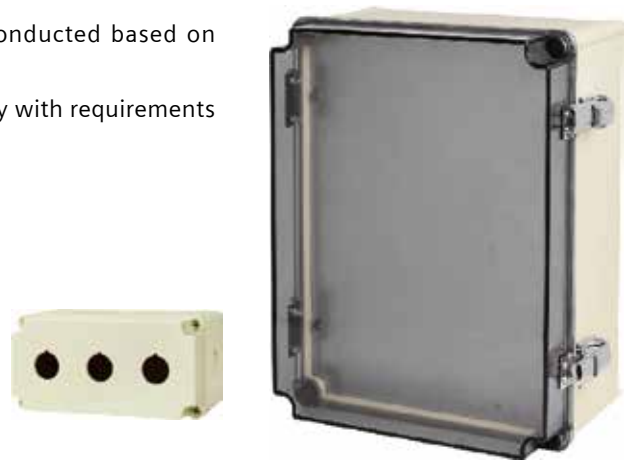
XK series control cabinet

Scope of application

XK series control cabinets are used as enclosures to protect electronic and electrical components and accessories, and mainly made of PC and ABS plastic materials, characterized by water proof and dust proof, excellent anti-impact performance, good anti-corrosion performance, anti-ultraviolet & anti-aging performance, fire retarding, low smoke, absolute insulation, light weight etc. They are usually used in the places with electrical control, and water proof, dust proof, anti-corrosion and anti-explosion requirements.

Structural feature

- There are complete specifications and novel types.
- The products are made of high-strength raw materials, which are wear resistant with long endurance.
- They can be directly used with APT pushbutton, cam switch, indicator etc.
- The products adopt laser engraving, firm and clear.
- They are provided with lock hasp for customers hanging locks directly.
- The products have an extended frame structure to increase the installation height.
- The hole can be made and customization can be conducted based on customers' drawings.
- The products have passed CCC certification and Comply with requirements of EU RoHS environmental protection standard.



Major technical feature

Product specification	XK series control cabinet
Protection class	IP65
Temperature range	-40°C ~+70°C
Flame retardant level	V ₀
Impact resistance	5J

TL series tower light

☉ Scope of application

TL series tower lights are usually used on police car, engineering vehicle, fire vehicle, ambulance, prevention management vehicle, road service car, tractor etc. and used as interlocks of control signals in the electrical control circuits in the fields of machinery, power, machine tool, chemistry, telecommunication, ship, metallurgy etc., and used for remote monitoring on various signals of mechanical faults, material supply or interruption, operation indication etc.

☉ Structural feature

- There are complete specifications and novel types.
- The products are made of imported raw materials, which are wear resistant with high strength.
- They adopt high-brightness LED in pure color with high brightness.
- The products comply with RoHS standard and have passed CCC and CE certification.

TL-70 series

- Protection class IP65.
- The illumination type includes normally on, flashing or explosion-flashing, fade up.
- The combination of at most 5 or 4 optical elements plus 1 acoustic element can be realized based on customer requirements.
- Buzzer volume > 100dB (at 10cm in horizontal direction from the sound source)
- There are intermittent and continuous sounding types.
- Multiple standard bases and magnetic bases are optional.



TL-703 series

- Protection class IP65.
- The illumination type includes normally on, flashing or explosion-flashing, fade up.
- The combination of at most 5 or 4 optical elements plus 1 acoustic element can be realized based on customer requirements.
- Buzzer volume > 90dB (at 10cm in horizontal direction from the sound source)
- There are intermittent, continuous and music sounding types.
- Multiple standard bases and magnetic bases are optional.



TL-701 series

- Protection class IP65.
- The illumination type includes normally on, flashing or explosion-flashing, fade up.
- Multiple standard bases and magnetic bases are optional.



TL-702 series

- Protection class IP20.
- The illumination type includes normally on, flashing or explosion-flashing, fade up.
- Buzzer volume > 85dB (at 10cm in horizontal direction from the sound source)
- There are intermittent and continuous sounding types.
- Standard vertical bases and magnetic bases are optional.



TL-90 series

- Protection class IP65 (single light or whistle acoustic-optical combination), IP40 (continuous or intermittent acousto-optical combination).
- The illumination type normally includes on, flashing or explosion-flashing, fade up.
- Whistle buzzer volume > 110dB, intermittent / continuous buzzer volume > 90dB (at 10cm in horizontal direction from the sound source)
- There are intermittent, continuous and whistle sounding types.
- Multiple standard bases and magnetic bases are optional.



TL-50/501 series

- Protection class IP20.
- The illumination type includes normally on and flashing.
- There are two types of light beads, i.e. LED and incandescent light.
- Buzzer volume > 90dB (at 10cm in horizontal direction from the sound source)
- There are intermittent and continuous sounding types.
- Integrated compact structure, 7 kinds of bases are optional.



Standard type / L type / C type / C1 type / C2 type / Z type / ZC type



Standard type / L type / C type / C1 type / C2 type / Z type / ZC type



© Major technical feature

Product specification	TL series tower light						
Color category	Red, green, yellow, blue, white						
Voltage specification	AC/DC12	AC/DC24	AC/DC36	AC/DC48	AC/DC75	AC/DC110	AC220

ALS series limit switch

Scope of application

ALS series limit switch is a kind of common low-current master switch, widely used to connect or disconnect control circuits with its contact action by using the collision of moving parts of production machinery so as to realize automatic stop, backward movement, movement with variable speed or automatic back and forth movement of the moving machinery.

Structural feature

ALS1-M series

- The products have a metal enclosure and compact structure to save installation space.
- They can meet the requirements of high operation frequency.
- There is a wide range of working temperature.
- 8 actuator types are optional.
- The products comply with RoHS standard and have passed CCC and CE certification.



ALS1-P series

- The products have a plastic enclosure and high-strength structure with modular design.
- The contact module can realize quick wiring.
- The products are designed as per EN50047 standard.
- 18 actuator types are optional.
- The contact module is provided with a forced disconnection function.
- The head can be rotated by 90° along the central axis of the enclosure.
- The products comply with RoHS standard and have passed CCC and CE certification.



Major technical feature

Product specification		ALS1-M			ALS1-P		
Conventional thermal current I_{th}		10A					
Mechanical endurance		About 10 million times					
Electrical endurance		300,000 times			500,000 times		
Working temperature		-20°C ~ +70°C			-25°C ~ +70°C		
Protection class		IP65			IP67		
Rated capacity	AC-15	24V/6A	110V/6A	220V/3A	24V/6A	120V/6A	240V/3A
	DC-13	24V/3A	110V/0.5A	220V/0.27A	24V/3A	125V/0.55A	250V/0.27A

