

Industrial Relay



## Company Profile

Tianjin Geneuo Technology Co., Ltd. specializes in the development, production and sales of industrial automation products, system integration and engineering service.

- Communication solution
  - Industry EtherNET Switch
  - Fieldbus modules: ProfiNET, EtherNET/IP, EtherCAT, MODBUS TCP/IP I/O modules
- Inductive sensors
  - Different housing design are available:M5 to M80 and cubic
- Optimized connection technology for efficient automation
  - M5 to M40 receptacle, pre-moulding cable, field wireable connectivity
  - Passive junction box and splitters
  - Industrial network connectors for ProfiNET, EtherNET/IP, EtherCAT, MODBUS TCP/IP,Profibus,DeviceN-ET,CC-link.
- LED lighting
  - Machine station lighting
  - Factory lighting
  - Intelligent lighting solutions

Geneuo exceptionally large product portfolio does not only cover all relevant standard solutions but also the special requirements of individual industries. The products and the total solution have been widely used in automotive, iron & steel, machine tool, elevator, textile, packaging, rubber machine etc.

### **B.C.E. s.r.l.**

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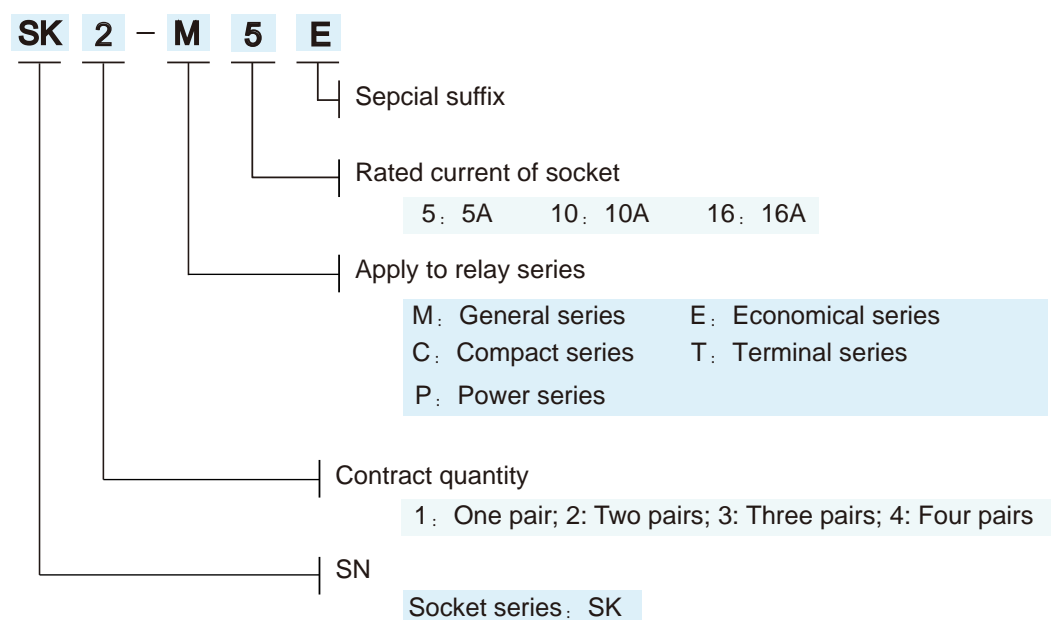
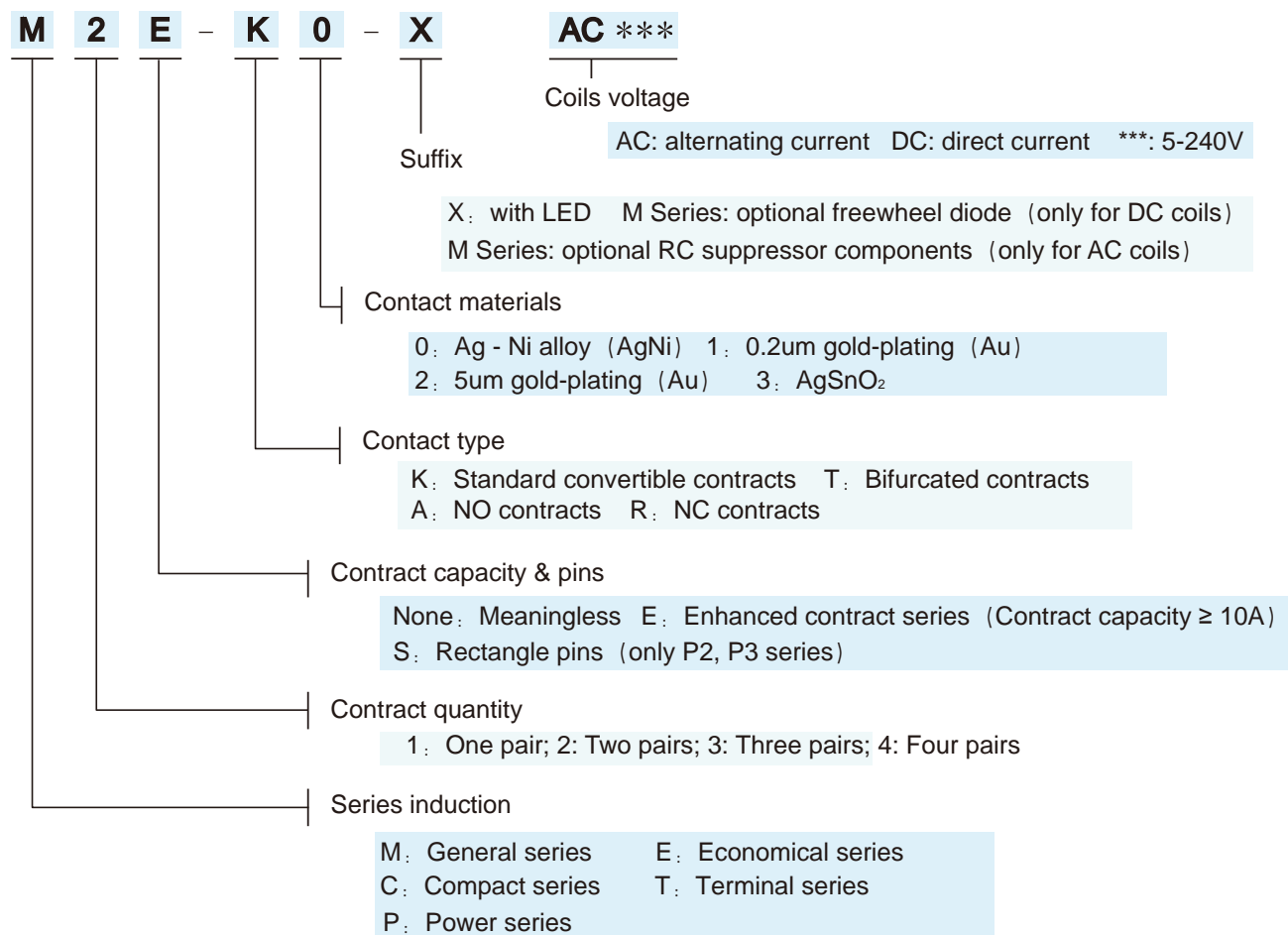
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Series		M Series	
Relay			
Type		M2-K0X	M4-K0X
No. of contact / Rated current lth		2C/O 10A	4C/O 5A
Supply voltage	A.C.	24...240V	24...240V
	D.C.	12...220V	12...220V
Pins		Flat pins	Flat pins
Contacts operating voltage		Max. 250V	Max. 250V
Life(Work circle)	Electrical ( resistive load )	10 <sup>5</sup>	10 <sup>5</sup>
	Mechanical	10 <sup>7</sup>	10 <sup>7</sup>
Functions	With built-in LED	Yes	Yes
	LED protection circuit	Optional	Optional
	Test button & indication window	Yes	Yes
	Gold plated contact	Yes	No
Page		Page 9	Page 9
Socket			
Rated current		10A	5A
Terminal arrangement		Seperated double layers	Seperated double layers
Accessories	Clips	Yes	Yes
	Jumper	-	-
	Marker	Yes	Yes
Socket type		SK2-M10	SK4-M5E
Page		Page 22	Page 23

E Series		C Series		T Series
				
E2-K0X	E4-K0X	C2-K0X	T1-K3	
2C/O 10A	4C/O 5A	2C/O 10A	1C/O 6A 1NC 6A	
24...240V 12...220V	24...240V 12...220V	24...240V 12...220V	- 3...60V	
Flat pins	Flat pins	Flat pins	Flat pins	
Max. 250V	Max. 250V	Max. 250V	Max. 250V	
10 <sup>5</sup> 10 <sup>7</sup>	10 <sup>5</sup> 10 <sup>7</sup>	10 <sup>5</sup> 10 <sup>7</sup>	10 <sup>5</sup> 10 <sup>7</sup>	
Yes Optional -	Yes Optional -	Yes - Yes	Yes - -	
Yes	Yes	Optional	Optional	
Page 12	Page 12	Page 15	Page 18	
				
10A	5A	12A	6A	
Seperated double layers	Seperated double layers	Seperated three layers	Seperated three layers	
Yes -	Yes -	Yes Yes	Yes -	
Yes	Yes	Yes	Yes	
SK2-M10	SK4-M5E	SK2-C12	SK1-T6	
Page 22	Page 23	Page 25	Page 26	

## Induction of types



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## Reference standards

All products in this catalogue are designed and manufactured according to European standards and another international standards, unless special declarations:

- EN 61810-1, EN 61810-2, EN 61810-7 applies to Electromagnetic mechanical relay

- EN 50205 applies to forced contact relay

- EN 50178 applies to industrial electric devices

Based on EN 61810-1, standard conditions of all parameters are:

23°C - ambient temperature, 96kPa - atmosphere, 50% - relative humidity & pure air, and 50Hz frequency

Coil resistance and rated error of power absorbed is  $\pm 10\%$

Dimension error is  $\pm 0.1\text{mm}$ , unless any notice.

## Operation & Installation conditions

Coil operation conditions - temperature range:

- Degree 1 : From 80% to 110% is rated coil voltage

- Degree 2 : From 85% to 110% is rated coil voltage

Unless any notice, all relays could be on conducting state, and 50Hz & 60Hz is the practicable frequency for all AC coils.

## Ambient temperature

23°C

## Condensation

Not allowed in the environmental conditions cause the relay water droplets and ice.

## Mounting direction

The properties of components couldn't be influenced by mounting directions (unless special regulations), please fix in an appropriate way, e.x. using clips on sockets to fix relays.

## Relay pins identification

According to European standard EN 50005, these pins identification should be used as follows:

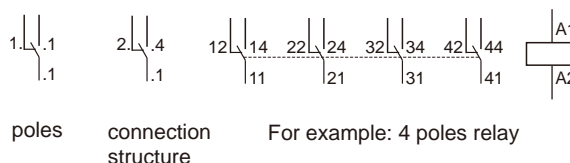
- 1 is for common contact (COM) : such as 11, 21, 31...

- 2 is for normally closed contact (NC) : such as 12, 22, 32...

- 4 is for normally open contact (NO) : such as 14, 24, 34...

- A1 & A2 is for coils parts

## Connection structures



## International Electrotechnical Commission (IEC) and American standard :

Pins number of relay labels in the numerical order (as 1, 2, 3, ..., 13, 14, ...) , and coils using A & B sometimes.

## Contact specifications

Symbol	Structure	EU	D	GB	USA
	NO	NO	S	A	SPST-NO DPST-NO nPST-NO
	NC	NC	ö	B	SPST-NO DPST-NO nPST-NO
	alternative conduction	CO	W	C	SPDT DPDT nPDT

n = poles ( 3,4,... ) , S = 1 & D = 2

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### Electrical and machinery life circle

Relay could operate 100,000 times with rated load.

Machinery operating times could reach above  $1 \times 10^7$  times (measured value is 6,000 times/hr).

Max. operating frequency is 600 times/hr with max. load; 18,000 times/hr without load; and 6,000 times/hr with 50% max. load.

### Materials and temperature

All the parts of relay are made of flame-retardant materials, which could prevent deformation under high temperature up to 130°C (that is B degree).

Operation temperature is from -20°C to +60°C; storage temperature is from -20°C to +80°C.

### IP degree

Relay : IP40 socket connection

### Load types

According to relay regulations such as DIN, VDE 0660C, IEC 60947, loads could be classified into different applications:

AC1 & DC1 : resistive load

AC15 & DC13: inductive load

### Regarding coils

Temperature of coils will rise after long-term power supply, which would reach at 45°C under rated AC voltage and 35°C rated DC voltage. Under 55°C ambient temperature and 110% rated voltage, coils could be used in long-term conduction.

### Coils materials

Spool of coils is made of polybutene added with glass fiber (B degree, 130°C), and using enamel wires of F degree (150°C).

### Coil resistance tolerances

Coils resistance value is measured at 20°C, and the adjustment range of actual value could be from -10% to +10% of description value.

### Coil pilot voltage

AC 24/110/230V

DC 24/110/220V

Please contact our sales department to look for more informations.

### Min. operating voltage ( Operating voltage )

Min. operating voltage is provided on two ends of coils to make coils operate, and contacts could change and keep in proper positions without any jitter. Relay coils must operate when the relevant voltage reach the values as follow:

· DC coils  $\geq 80\%U_n$

· AC coils  $\geq 80\%U_n$

### Max. releasing voltage ( Breaking voltage )

This factor means contacts could alternate and keep in proper positions without any jitter, when the supply voltage on two ends of coils is removed. Relay coils must release when the relevant voltage reach the values as follow:

· DC coils  $\leq 10\%U_n$

· AC coils  $\leq 15\%U_n$



### ■ Additional protection circuits

#### Transient protection

When the current disconnected from the coil, on both ends of the coil voltage will generate (self induction electromotive force).

Pluse energy could transfer through coils connecting wires, sometimes the energy would breakdown the other components. Adding another components, such as diodes, varistors, to ends of relay coils could provide transient protection effectively.

#### X - with LED display

The maximal withstand voltage of AC & DC relay could be 250V.

#### with diod & LED display

It's used for transient energy generated when damping coils is in power-off situation (self-induced electromotive force).

#### with RC Suppressor ( or varistor ) & LED display

Only for AC coils

### ■ Contacts

#### Contact protection

AgNi and AgSnO<sub>2</sub> as the standard materials are made for relay contact, but not limited. Contact could be made of other materials based on requirements, such as gold plating.

#### Thin gold coating

Thin gold plate of 0.2um could prevent contact from oxidation, when relay is in a long-term non-working state.

#### Gold plate contact

Contact of 5um or 10um thickness gold plating could improve stability in operating state, so that would be used for singals in low level.

### ■ Contact types

#### Bifurcated contact ( T type contact )

Contact pieces are divided into two parts, and each one has its own contact.

Each of bifurcated contact pieces could operate with corresponding static contact respectively, the structure is particularly suitable for steady singal in low level, could work reliably.

Insulation between NC / NO of bifurcated contacts: 1000V rms

Contact gap: 0.5mm

Contact with 0.2um thin gold coating or 10um gold coating could be optional

Min. load 6A@230V AC1

Min. load 5mA@5V DC1

#### Convertible contact ( K type contact )

Insulation between NC / NO of convertible contact: 1000V rms

Contact gap: 0.5mm

Load rated up to 6A@250V AC1、16A@30V DC1

### NO contact ( A type contact )

Only NO contact structure

Single NO contact structure could increase the contact gap, insulation : >2000V rms

Contact gap: 1.5mm, 1.7mm

Max. load: 16A@250V AC1, 16A@30V DC1

### Double disconnected contact

Two contacts could cascade each other , which is very efficient for turn-on / turn-off DC load. Two contact cascaded by wires could achieve the same effect.

### Contact resistance

Resistance value depends on the materials, voltage and impurities of contact.

The higher resistance value would increase contact temperature, so that will shorten working life of contact.

### Contact gap

Contact gap and opening speed of contacts would affect arc length and duration.

For AC load circuit, contact gap of 0.5mm is enough to extinguish arc generated at "zero point" of cycle.  
For DC load circuit, only voltage and current between contacts are enough high could extinguish arc.

Please refer to the relevant data sheet "Max. DC current".

### RC Suppressor

If suppressor device of resistance and capacitor (RC) could be used to inhibit arc, residual current through RC device won't make that voltage left on the ends of load (specially another relay or magnet valve ) won't reach up to above 10% of rated voltage when relay contact disconnects. Otherwise, this sort of load could be destroyed or jitter, and reliability can't be guaranteed.

### Max. switching current

Max. switching current means max. stable current flowing contacts at anytime.

In DC load circuit, "max. switching current" relay could suffers is the same as the voltage grade (but must be lower than "max. voltage capacity") suffered by ends of contact. Current and voltage added on relay couldn't be higher than "max. AC load".

In AC load circuit, "max. switching current" must be lower than the current could generate sustainable arc. "Max. DC current" figure indicates current intensity curve corresponding to voltage added to.

### Over-voltage limits

Over-voltage protections (AC: varistor, DC: diode) parallel in the ends of coils, and used for relays at rated voltage  $\geq$  110V.

### Max. voltage

Max. voltage of contact ends depends on insulation between adjacent contacts and between contacts with coils.

EN60947 and VDC 0110 standards define max. voltage, also consider insulation quality and pollution degree, in addition to the shape of contact insulating cover and size.





### Contact protection

By increasing components could eliminate or reduce self-induced emf, electrical life of contact could be lengthened. Self-induced emf in general is generated by the reaction of inductive load, that would prolong the duration of segmentation arc and increase the temperature.

In AC load circuit, RC suppressor or varistor could parallel the load ends or contact ends.

In DC load circuit, the best way to protect contact is to reverse parallel a diode at the load end.

**M2 ( 4 ) -K0X**

- Contact material without Cd
- Mininature relay
- AC/DC coil
- Manual test button, Mechanical position indicator, LED
- Accessories: Socket
- Conformities :    



The type of relay		M2-K0X	M4-K0X
Contacts			
Type & No. of contact		2C/O	4C/O
Material		AgNi	AgNi
Rated load	AC1 DC1	10A/250 VAC 10A/30 VDC	5A/250 VAC 5A/30 VDC
Max.breaking capacity		2500VA	1250VA
Contact resistance		≤50mΩ	≤50mΩ
Max. operating frequency	No-load Rated load AC1	18000 operations/h 1800 operations/h	18000 operations/h 1800 operations/h
Switching Voltage	Rated voltage	250V	250V
	Max. switching voltage	250V	250V
	Min. switching voltage	-	-
Switching Current	Rated current	10A	5A
	Max. switching current	20A	15A
	Min. switching current	5mA	5mA
Coils			
Rated voltage	50/60 Hz AC DC	24...240V 12...220V	
Release voltage		AC : ≥0.3Un; DC : ≥0.1Un	
Operating voltage		AC : ≥0.8Un; DC : ≥0.75Un	
Voltage range		0.8...1.1Un	
Rated consumed power	AC	<1.2VA	
	DC	<0.9W	
Insulation according to PN-EN 60664-1 Astandard			
Rated insulation voltage		250VAC	
Rated impulse withstand voltage		4000V 1.2/50US	
Overvoltage category		III	
Pollution degree		Lv3	

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Dielectric strength	between Coil and contact	2000 V AC
	between contacts	1000 V AC
	between poles	1000 V AC
Contact-coil distance	Gap	≥10mm
	Creepage Distance	≥10mm
General data		
Operating / Release time ( characteristic value )		20ms/20ms
Electrical life	AC1 Resistive load 10A , 250VAC	≥1×10 <sup>5</sup>
Mechanical Life ( cycle )	≥1×10 <sup>7</sup>	
Weight	35g	
Ambient temperature	Storage	-55...+70°C
	Operation	-25...+55°C
Protection degree	IP40 according to PN-EN 60259	
Shock resistance	30g	
Standard Type		
With built-in LED	M*-K0X DC...V	
With Freewheel diode & LED	optional freewheel diode	
With built-in LED	M*-K0X AC...V	
With RC Suppressor & LED	optional RC suppressor components	

"\*"means number of contacts      "...means voltage

Note : Socket is SK2-M5E, SK2-M10, SK4-M5E, SK4-M10

Standard Type :

M2-K0X DC24V, M2-K0X AC230V

M4-K0X DC24V, M4-K0X AC230V

Coil features -- Volt. D.C. Table 1			
Rated voltage VDC	Coil resistance ±10 23°C	Coil Operating voltage range 23°C VDC	
		Min.	Max.
12	160	9	13.2
<b>24</b>	<b>630</b>	<b>18</b>	<b>26.4</b>
36	1500	27	39.6
48	2600	36	52.8
110	11000	82.5	121
220	42000	165	242

( Bold letters mean standards )

Coil features -- Volt. A.C. Table 2			
Rated voltage VAC	Coil resistance ±10 23°C	Coil Operating voltage range 23°C VAC	
		Min.	Max.
12	40	9.6	13.2
24	160	19.2	26.4
36	370	28.8	39.6
48	1025	38.4	52.8
110	3750	88	121
120	3900	96	132
<b>230</b>	<b>15000</b>	<b>184</b>	<b>253</b>
240	18790	192	264

( Bold letters mean standards )

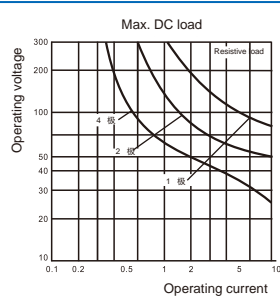
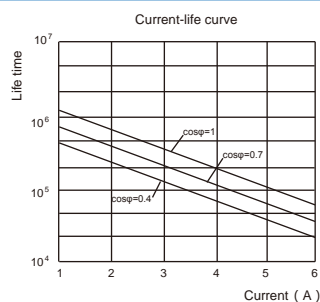
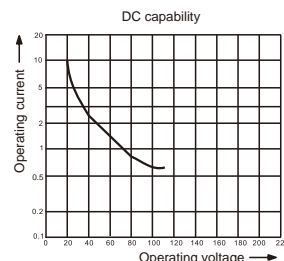
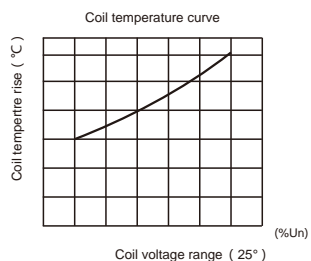
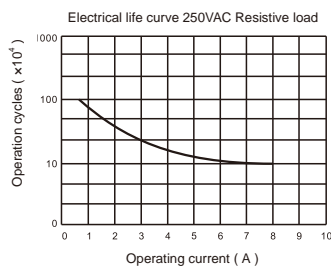
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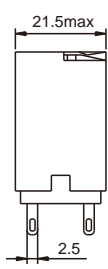
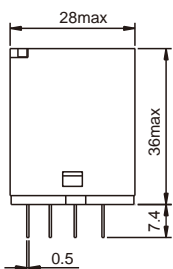
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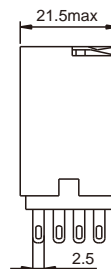
## Technical parameters



## Dimensions[mm]



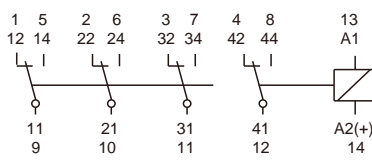
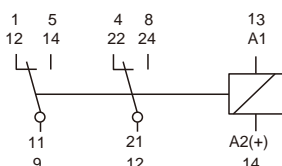
M2-K0X



M4-K0X



## Wiring Diagram





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## E2 ( 4 ) -K0X

- Contact material without Cd
- Mininature relay
- AC/DC coil
- Mechanical position indicator、LED
- Accessories : Socket
- Conformities: **CE RoHS**  



Relay Type		E2-K0X	E4-K0X
Contacts			
Type & No. of contact		2C/O	4C/O
Material		Standard : AgNi Optional : AgNi + Au	Standard : AgNi Optional : AgNi + Au
Rated load	AC1 DC1	10A/250 VAC 10A/30 VDC	5A/250 VAC 5A/30 VDC
Max.breaking capacity		2500VA	1250VA
Contact resistance		≤50mΩ	≤50mΩ
Max. operating frequency	No-load Rated load AC1	18000 operations/h 1800 operations/h	18000 operations/h 1800 operations/h
Switching Voltage	Rated voltage Max. switching voltage Min. switching voltage	250V 250V -	250V 250V -
Switching Current	Rated current Max. switching current Min. switching current	10A 20A 5mA	5A 15A 5mA
Coils			
Rated voltage	50/60 Hz AC DC	24...240V 12...220V	
Release voltage		AC : ≥0.3Un; DC : ≥0.1Un	
Operating voltage		AC : ≥0.8Un; DC : ≥0.75Un	
Voltage range		0.8...1.1Un	
Rated consumed power	AC DC	<1.2VA <0.9W	
Insulation according to PN-EN 60664-1 A standard			
Rated insulation voltage		250VAC	
Rated impulse withstand voltage		4000V 1.2/50US	
Overvoltage category		III	
Pollution degree		Lv3	

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Dielectric strength	between Coil and contact	2000 V AC
	between contacts	1000 V AC
	between poles	1000 V AC
Contact-coil distance	Gap	≥10mm
	Creepage Distance	≥10mm
General data		
Operating/ Release time		20ms/20ms
Electrical life	AC1 Resistive load 10A , 250VAC	≥1×10 <sup>5</sup>
Mechanical Life ( cycle )	≥1×10 <sup>7</sup>	
Weight	35g	
Ambient temperature	Storage	-55...+70°C
	Operation	-25...+55°C
Protection degree	IP40 according to PN-EN 60259	
Shock resistance	30g	
Standard Type		
With built-in LED	E*-K0X DC...V	
With built-in LED	E*-K0X AC...V	

"\*" means number of contacts      "... "means voltage

Note : Socket is SK2-M5E、SK2-M10、SK4-M5E、SK4-M10

Standard Type :

E2-K0X DC24V、E2-K0X AC230V

E4-K0X DC24V、E4-K0X AC230V

Coil features -- Volt. D.C. Table 1			
Rated voltage VDC	Coil resistance ±10 23°C	Coil Operating voltage range 23°C VDC	
		Min.	Max.
12	160	9	13.2
<b>24</b>	<b>630</b>	<b>18</b>	<b>26.4</b>
36	1500	27	39.6
48	2600	36	52.8
110	11000	82.5	121
220	42000	165	242

( Bold letters mean standards )

Coil features -- Volt. A.C. Table 2			
Rated voltage VAC	Coil resistance ±10 23°C	Coil Operating voltage range 23°C VAC	
		Min.	Max.
12	40	9.6	13.2
24	160	19.2	26.4
36	370	28.8	39.6
48	1025	38.4	52.8
110	3750	88	121
120	3900	96	132
<b>230</b>	<b>15000</b>	<b>184</b>	<b>253</b>
240	18790	192	264

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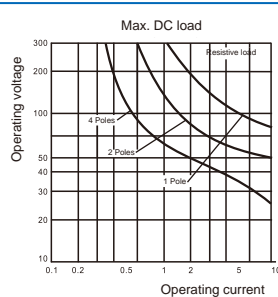
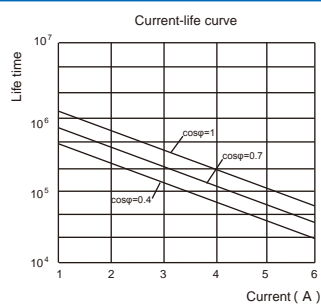
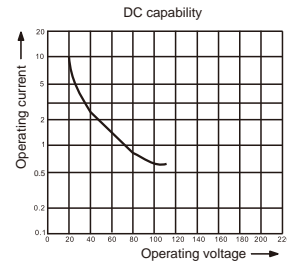
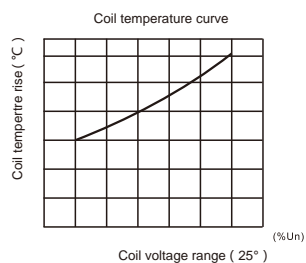
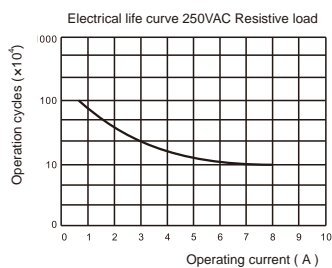
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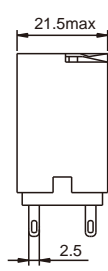
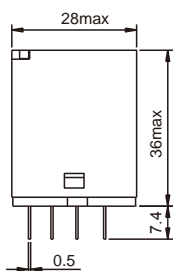
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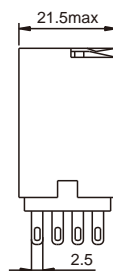
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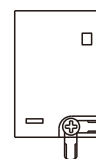
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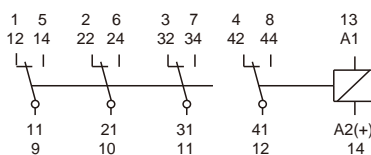
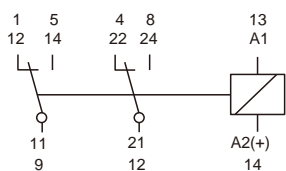
E2-K0X





E4-K0X



## Wiring Diagram



**C2-K0X**

- Contact material without Cd
- Compact Relay
- AC/DC coil
- Manual test button, Mechanical position indicator, LED
- Freewheel diode/RC Suppressor
- Accessories: Socket
- Conformities : **CE RoHS**  



The type of relay		C2-K0X
Contacts		
Type & No. of contact		2C/O
Material		Standard : AgNi      Optional : AgNi+Au
Rated load	AC1	12A/250 VAC
	DC1	12A/30 VDC
Breaking capacity	Max.breaking capacity	AC1 : 3000VA
	Min.breaking capacity	0.3W
Contact resistance		≤100mΩ
Max. operating frequency	No-load	18000 operations/h
	Rated load AC1	900 operations/h
Switching Voltage	Rated voltage	250V
	Max. switching voltage	250V
	Min. switching voltage	5V
Switching Current	Rated current	12A
	Max. switching current	20A
	Min. switching current	10mA
Coils		
Rated voltage	50/60 Hz    AC	24...240V
	DC	12...220V
Release voltage		AC : ≥0.15Un; DC : ≥0.05Un
Operating voltage		As shown
Voltage range		0.8...1.1Un
Rated consumed power	AC	<1.9VA
	DC	<0.53W
Insulation according to PN-EN 60664-1 Astandard		
Rated insulation voltage		400VAC
Rated impulse withstand voltage		4000V 1.2/50US
Overvoltage category		III

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## C Series Relay

Pollution degree		Lv3
Dielectric strength	between Coil and contact	5000 V AC
	between contacts	1000 V AC
	between poles	3000 V AC
Contact-coil distance	Gap	≥10mm
	Creepage Distance	≥10mm
General data		
Operating / Release time ( characteristic value )		15ms/10ms      With Freewheel diode or RC Suppressor , ≤20ms
Electrical life	AC1 Resistive load 10A , 250VAC	≥1×10 <sup>5</sup>
Mechanical Life ( cycle )	≥2×10 <sup>7</sup>	
Weight	21g	
Ambient temperature	Storage	-40...+85°C
	Operation	-40...+70°C
Protection degree	IP40 according to PN-EN 60259	
Shock resistance	30g	
Standard Type		
With built-in LED	C2-K0X   DC...V	
With built-in LED	C2-K0X   AC...V	

"..."means voltage

Note : Socket is SK2-C12

Standard Type :

C2-K0X DC24V

C2-K0X AC230V

Coil features -- Volt. D.C. Table 1			
Rated voltage VDC	Coil resistance ±10 23°C	Coil Operating voltage range 23°C VDC	
		Min.	Max.
12	272	8.8	13.2
<b>24</b>	<b>1087</b>	<b>17.5</b>	<b>26.4</b>
48	4347	35	52.8
110	22830	80	121
125	29481	90.2	138

( Bold letters mean standards )

Coil features -- Volt. A.C. Table 2			
Rated voltage VAC	Coil resistance ±10 23°C	Coil Operating voltage range 23°C VAC	
		Min.	Max.
12	65	9.6	13.2
24	251	19.2	26.4
48	1025	38.4	52.8
110	5050	88	121
120	6970	96	132
<b>230</b>	<b>26120</b>	<b>184</b>	<b>253</b>
240	27760	192	264

( Bold letters mean standards )

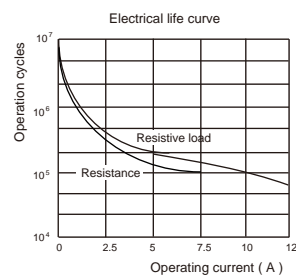
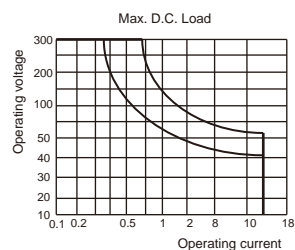
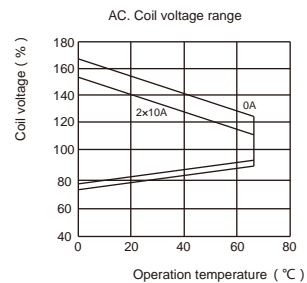
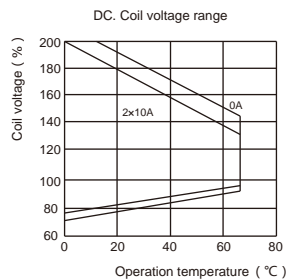
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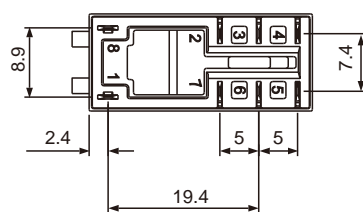
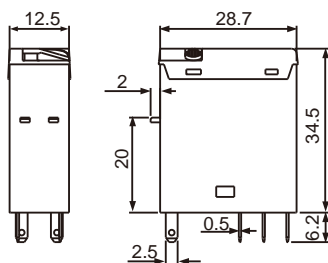
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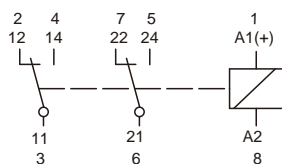
## Technical parameters



## Dimensions[mm]



## Wiring Diagram






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## T1-K3

- Contact material without Cd
- Width only 5 mm
- DC coil
- Rated current up to 6A 277VAC
- Dielectric strength up to 4000V
- Conformities :   



The type of relay		T1-K3
Contacts		
Type & No. of contact		1C/O
Material		Standard : AgSnO <sub>2</sub> Optional : AgSnO <sub>2</sub> + Au
Rated load	AC1	6A/250 VAC
	DC1	6A/30 VDC
Breaking capacity	Max.breaking capacity	1200VA
	Min.breaking capacity	0.3W
Contact resistance		≤100mΩ
Max. operating frequency	No-load	18000 operations/h
	Rated load AC1	360 operations/h
Switching Voltage	Rated voltage	250V
	Max. switching voltage	250V
	Min. switching voltage	5V
Switching Current	Rated current	6A
	Max. switching current	-
	Min. switching current	10mA
Coils		
Rated voltage	DC	3...60V
Release voltage		DC : ≥0.05Un
Operating voltage		As shown
Rated consumed power	DC	<0.21W
Insulation according to PN-EN 60664-1 Astandard		
Rated insulation voltage		400VAC
Rated impulse withstand voltage		4000V 1.2/50US
Overvoltage category		III
Pollution degree		Lv3

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Dielectric strength	between Coil and contact between contacts	4000 V AC 1000 V AC
Contact-coil distance	Gap Creepage Distance	≥10mm ≥10mm
General data		
Operating / Release time ( characteristic value )		15ms/10ms
Electrical life	AC1 Resistive load 6A , 250VAC	≥1×10 <sup>5</sup>
Mechanical Life ( cycle )	≥1×10 <sup>7</sup>	
Weight	6g	
Ambient temperature	Storage Operation	-40...+85°C -40...+70°C
Protection degree	IP40 according to PN-EN 60259	
Shock resistance	10g	

Standard Type : T1-K3 DC24V

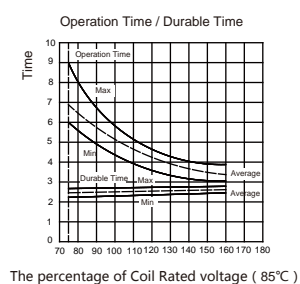
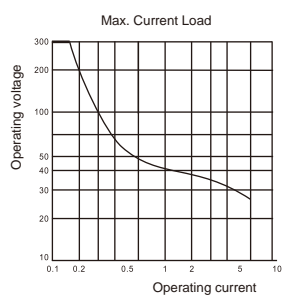
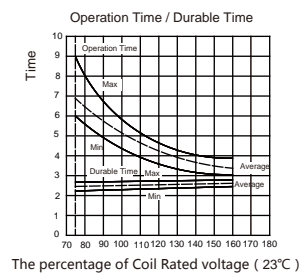
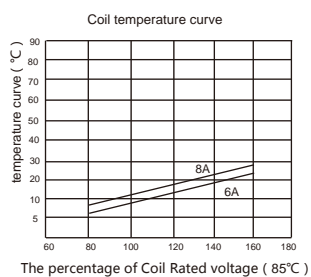
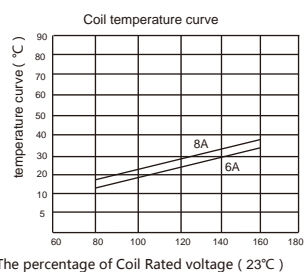
Note : Socket is SK1-T6

Coil features -- Volt. D.C.			
Rated voltage VDC	Coil resistance ± 10 23°C	Coil Operating voltage range 23°C VDC	
		Min.	Max.
3	43	2.3	4.8
4.5	96	3.4	7.2
5	119	3.8	8
9	386	6.8	14.4
12	686	9	19.2
18	1543	20.3	28.8
<b>24</b>	<b>2743</b>	<b>18</b>	<b>38.4</b>
48	10971	36	76.8
60	17143	45	96

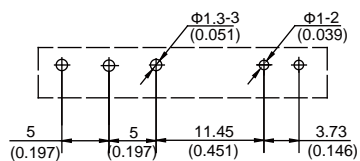
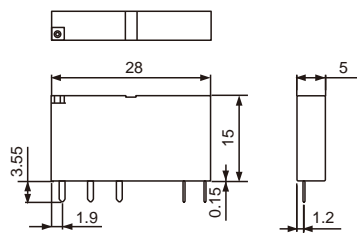
( Bold letters mean standards )

## T Series Terminal Relay

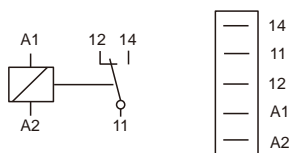
### Technical parameters



### Dimensions[mm]



### Wiring Diagram



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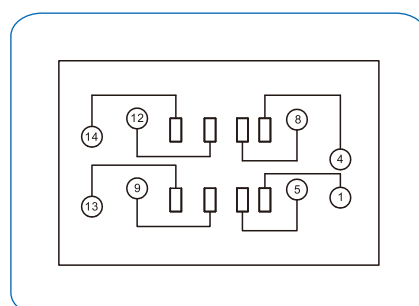
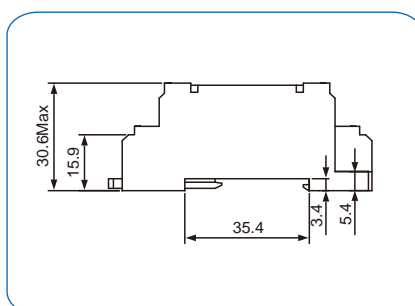
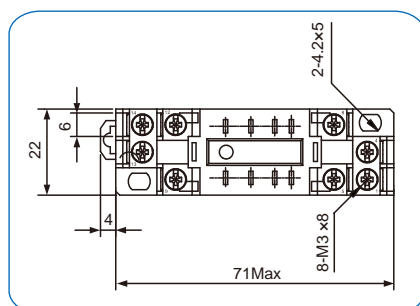
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## SK2-M5E



Type	SK2-M5E
Contacts quality	2 pairs
Layer	Double-deck
Rated current	5A
Details	
Rated load	5A 250V
Insulation test voltage	rms/1min
All terminal to DIN	3KV
Terminal to terminal	3KV
Size of wires	
Single-wire	2.5mm <sup>2</sup>
Multi-wire	22-14 AWG
Max. screw torque	1.2 NM
Size of screw	M3
Installation	35mm DIN or pannel
Operation /Storage ambient temperature	-40 ( No ice ) ...+60°C/-40...+80°C
Apply to	M2 Series
MPQ	10 pcs
Dimension	72*23*31



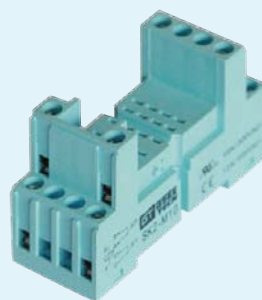
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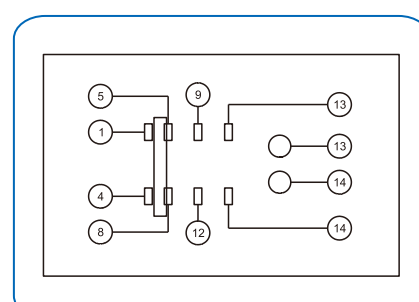
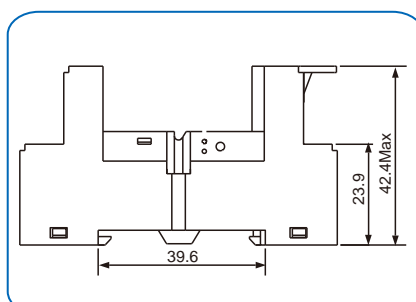
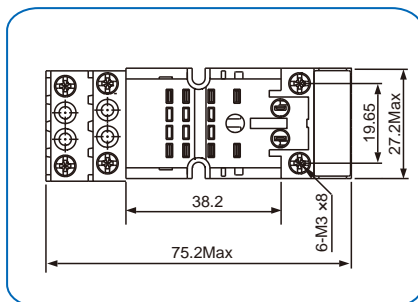
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## SK2-M10



Type	SK2-M10
Contacts quality	2 pairs
Layer	Double-deck
Rated current	10A
Details	
Rated load	10A 250V
Insulation test voltage	rms/1min
All terminal to DIN	3KV
Terminal to terminal	3KV
Size of wires	
Single-wire	2.5mm <sup>2</sup>
Multi-wire	22-14 AWG
Max. screw torque	1.2 NM
Size of screw	M3
Installation	35mm DIN or pannel
Operation /Storage ambient temperature	-40 ( No ice ) ...+60°C/-40...+80°C
Apply to	M2 Series
MPQ	10 pcs
Dimension	75.2*27.2*42.4



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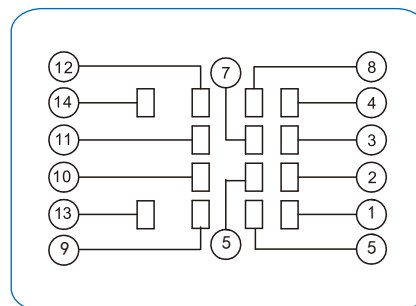
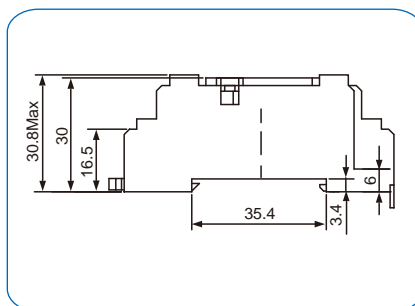
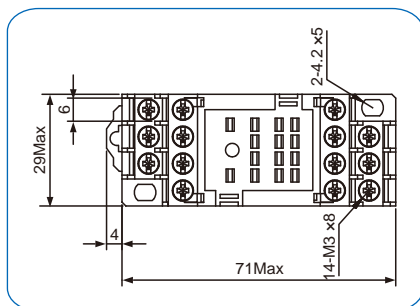
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## SK4-M5E

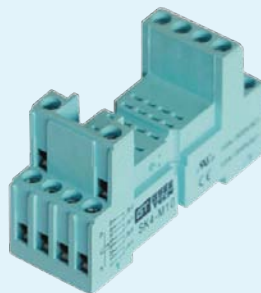


Type	SK4-M5E
Contacts quality	4 pairs
Layer	Double-deck
Rated current	5A
Details	
Rated load	5A 400V
Insulation test voltage	rms/1min
All terminal to DIN	3KV
Terminal to terminal	3KV
Size of wires	
Single-wire	2.5mm <sup>2</sup>
Multi-wire	22-14 AWG
Max. screw torque	1.2 NM
Size of screw	M3
Installation	35mm DIN or pannel
Operation /Storage ambient temperature	-40 ( No ice ) ...+60°C/-40...+80°C
Apply to	M4 Series
MPQ	10 pcs
Dimension	76*29.5*31

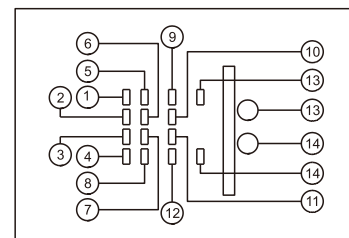
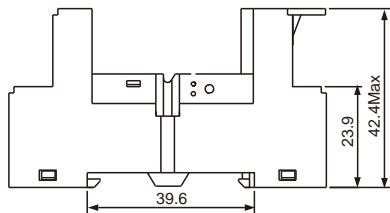
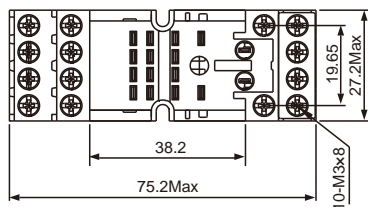


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## SK4-M10



Type	SK4-M10
Contacts quality	4 pairs
Layer	Double-deck
Rated current	10A
Details	
Rated load	10A 250V
Insulation test voltage	rms/1min
All terminal to DIN	3KV
Terminal to terminal	3KV
Size of wires	
Single-wire	2.5mm <sup>2</sup>
Multi-wire	22-14 AWG
Max. screw torque	1.2 NM
Size of screw	M3
Installation	35mm DIN or pannel
Operation /Storage ambient temperature	-40 ( No ice ) ...+60°C/-40...+80°C
Apply to	M4 Series
MPQ	10 pcs
Dimension	75.2*27.2*42.4



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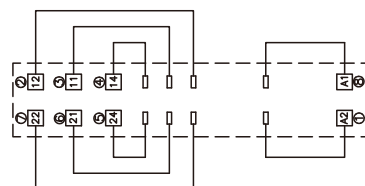
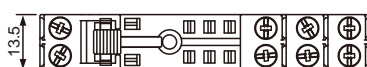
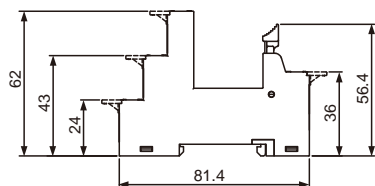
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## SK2-C12



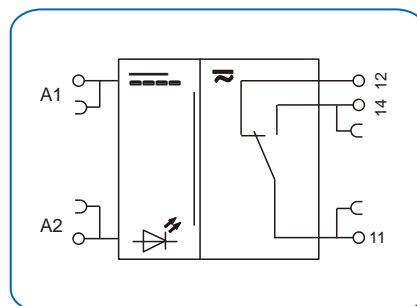
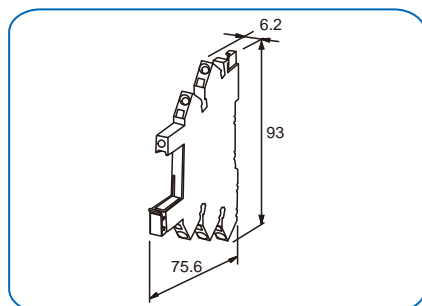
Type	SK2-C12
Contacts quality	2 pairs
Layer	3 layers
Rated current	12A
Details	
Rated load	12A 300V
Insulation test voltage	rms/1min
All terminal to DIN	5KV
Terminal to terminal	3KV
Size of wires	
Single-wire	2*2.5mm <sup>2</sup>
Multi-wire	22-14 AWG
Max. screw torque	1.2 NM
Size of screw	M3
Installation	35mm DIN or pannel
Operation /Storage ambient temperature	-40 ( No ice ) ...+60°C/-40...+80°C
Apply to	C2 Series
MPQ	10 pcs
Dimension	81.4*13.5*62



## SK1-T6



Type	SK1-T6
Contacts quality	1 pair
Layer	3 layers
Rated current	6A
Details	
Rated load	6A 250V
Insulation test voltage	rms/1min
All terminal to DIN	2.5KV
Terminal to terminal	2.5KV
Size of wires	
Single-wire	2.5mm <sup>2</sup>
Multi-wire	14 AWG
Max. screw torque	1.2 NM
Size of screw	M3
Installation	35mm DIN or pannel
Operation /Storage ambient temperature	-20...+70°C
Apply to	T1 Series
MPQ	10 pcs
Dimension	98*6.2*75.6

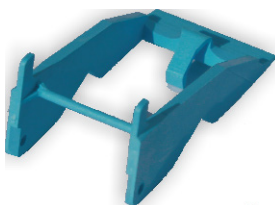


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Type : C-M10

Description : clip for SK2-M10 , SK4-M10 series socket

Material : nylon+glass fiber

MPQ : 10pcs Purchased separately



Type : SB-M10

Description : marker for SK2-M10, SK4-M10 series socket

MPQ : 10pcs with Socket



Type : SB-C12

Description : marker for SK2-C12 series socket

MPQ : 10pcs Purchased separately

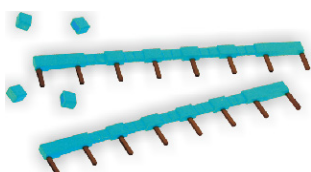


Type : C-M5E

Description : clip for SK2-M5E, SK4-M5E series socket

Material : Stainless steel

MPQ : 10pcs with Socket



Type : BB-C12

Description : jumper for SK2-C12 series relay socket

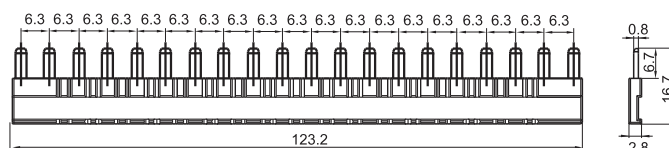
MPQ : 1pcs Purchased separately



Type : BB-T1

Description : jumper for SK1-T6 series relay socket

MPQ : 1pcs Purchased separately



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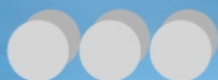


## Protection module

No.	connection diagram	Type	Order No.	Voltage	Specification			Other
					Rectifier diode (1N4007)	Resistance	LED (Φ3)	
1		M-M1A	60010101	6/230VDC	•			
2		M-M1D	60010104	6/230VDC	•			
3		M-M2B	60010202	6/24VDC	•	3.3K(1/4W)	•	
4		M-M3B	60010302	24/60VDC	•	6.8K(1/4W)	•	
5		M-M4B	60010402	110/230VDC	•	100K(1/4W)	•	
6		M-M2D	60010204	6/24VDC	•	3.3K(1/4W)	•	
7		M-M3D	60010304	24/60VDC	•	6.8K(1/4W)	•	
8		M-M4D	60010404	110/230VDC	•	100K(1/4W)	•	
9		M-M2C	60010203	6/24VDC		56K(1/4W)		Capacitor 103/50V
10		M-M3C	60010303	24/60VD		100K(1/4W)		Capacitor 103/150V
11		M-M4C	60010403	110/230VDC		330K(1/4W)		Capacitor 103/500V
12		M-M5B	60010502	6/24VAC/DC	•	3.3K(1/4W)	•	
13		M-M6B	60010602	24/60VAC/DC	•	6.8K(1/4W)	•	
14		M-M7B	60010702	110/230VAC/DC	•	100K(1/4W)	•	
15		M-M5D	60010504	6/24VAC/DC	•	3.3K(1/4W)	•	
16		M-M6D	60010604	24/60VAC/DC	•	6.8K(1/4W)	•	Varistor 05D101K
17		M-M7D	60010704	110/230VAC/DC	•	100K(1/4W)	•	Varistor 05D361K
18		M-M8D	60010802	12/48VAC/DC	•	6.2K(1/4W)	•	Varistor 05D101K

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