Circuit protector CP

KCP Series

Part number description

| KCP | - 3 | ❶ | ❷ | ❸ | ❹ | ❺ |

❶	Pole	1 : 1P	2 : 2P	3 : 3P	
❷	Mounting	AN : Din rail			
❸	Tripping characteristics	M : medium speed type			
❹	Rated current	1A	2A	3A	5A
		7A	10A	15A	20A
		25A	30A		
❺	Option	none: normal		AX : Auxiliary contact	

※ Rated currents of 0.1A, 0.3A, 0.5A, 0.7A, 13A are on demand.

General Specification

	Part number		KCP-31ANM	KCP-32ANM	KCP-33ANM
	Pole		1POLE	2POLE	3POLE
Rating	Rated current In (A)		1, 2, 3, 5, 7, 10, 15, 20, 25, 30		
	Rated voltage Ue	AC(V)	250	250	250
		DC(V)	60	120	-
	Insulation Resistance		100MΩ min (500V type insulation resistance tester)[1]		
Rated breaking capacity(kA)	UL1077 CCC GB17701 PSE CE EN60934 IEC60934	250VAC	1.5kA		
		60VDC	1.5kA	-	note[1]
		120VDC	-	1.5kA	
	KC KC60934	250VAC	2.5kA		
		60VDC	2.5kA	-	note[1]
		120VDC	-	2.5kA	
	Durability	Mechanical	10,000 time		
		Electrical	6,000 time		
	Weight		58g	114g	170g
	Reference ambient temperature		+40℃		
	Ambient temperature		-10 ~ +60℃		
	Ambient Humidity		0 ~ 85%		
	Withstand voltage		AC1500V (50/60Hz) 1 minute		
	Vibration Resistant		15G(147m/S²) IEC60068-2-6		
	Shock Resistance		50G(500m/S²) IEC60068-2-27		
	Trip method		ODP		
	Mounting method		DIN - RAIL		
	Contact terminal tork		main terminal : 20A and under M4 : 1.2~1.5N.m 25A and over M5 : 1.8~2.2N.m	aux terminal : M3.0 : 0.8 ~ 1.0 N.m	
Internal circuit	Series trip	S	Overload and short circuit protection		
	Switch only	O	Open/Close		
	Aux switch	W	Identification of open/close motion status		
	Aux contact capacity		DC30V 3A / AC250V 3A		
Approval standard	KC		KC60934		
	UL		UL1077		
	CE		IEC60934		
	CCC		GB17701		
	PSE		JET6977		
	CB		IEC 60947-2		

※note[1] : The 3-pole model is for AC only.

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Product Selection

	Normal type			Auxiliary type	
Pole	Rated current In (A)	Part number	Pole	Rated current In (A)	Part number
1P	1A	KCP-31ANM1A	1P	1A	KCP-31ANM1AAX
	2A	KCP-31ANM2A		2A	KCP-31ANM2AAX
	3A	KCP-31ANM3A		3A	KCP-31ANM3AAX
	5A	KCP-31ANM5A		5A	KCP-31ANM5AAX
	7A	KCP-31ANM7A		7A	KCP-31ANM7AAX
	10A	KCP-31ANM10A		10A	KCP-31ANM10AAX
	15A	KCP-31ANM15A		15A	KCP-31ANM15AAX
	20A	KCP-31ANM20A		20A	KCP-31ANM20AAX
	25A	KCP-31ANM25A		25A	KCP-31ANM25AAX
	30A	KCP-31ANM30A		30A	KCP-31ANM30AAX
2P	1A	KCP-32ANM1A	2P	1A	KCP-32ANM1AAX
	2A	KCP-32ANM2A		2A	KCP-32ANM2AAX
	3A	KCP-32ANM3A		3A	KCP-32ANM3AAX
	5A	KCP-32ANM5A		5A	KCP-32ANM5AAX
	7A	KCP-32ANM7A		7A	KCP-32ANM7AAX
	10A	KCP-32ANM10A		10A	KCP-32ANM10AAX
	15A	KCP-32ANM15A		15A	KCP-32ANM15AAX
	20A	KCP-32ANM20A		20A	KCP-32ANM20AAX
	25A	KCP-32ANM25A		25A	KCP-32ANM25AAX
	30A	KCP-32ANM30A		30A	KCP-32ANM30AAX
3P	1A	KCP-33ANM1A	3P	1A	KCP-33ANM1AAX
	2A	KCP-33ANM2A		2A	KCP-33ANM2AAX
	3A	KCP-33ANM3A		3A	KCP-33ANM3AAX
	5A	KCP-33ANM5A		5A	KCP-33ANM5AAX
	7A	KCP-33ANM7A		7A	KCP-33ANM7AAX
	10A	KCP-33ANM10A		10A	KCP-33ANM10AAX
	15A	KCP-33ANM15A		15A	KCP-33ANM15AAX
	20A	KCP-33ANM20A		20A	KCP-33ANM20AAX
	25A	KCP-33ANM25A		25A	KCP-33ANM25AAX
	30A	KCP-33ANM30A		30A	KCP-33ANM30AAX

Product structure
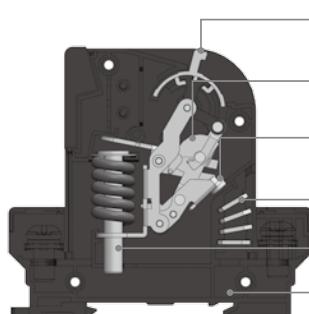
❶ Handle
A mechanical device used to open and close the contact artificially, moves to the OFF position when overcurrent is cut off.

❷ Opening/closing mechanism
It is composed of an optimally designed link part, latch part, blocking spring, etc. Smooth opening and closing operation.

❸ Contact
Application of silver alloy with excellent conductivity, oxidation resistance and arc resistance.

❹ Arc-suppressing part
The arc generated between the contacts inductively dispersed and cooled to block the short-circuit current.

❺ Electronic tripping device
A device that detects overload current and short circuit current. The starting point of the all blocking action process.

❻ Case
Curable resin with excellent insulation resistance, arc resistance and abrasion resistance is used.

Principle of operation
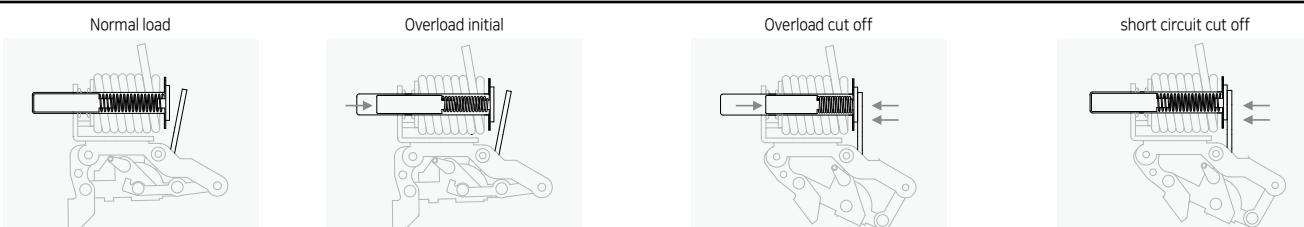
Normal load
Plunger and armature are in their default normal position.

Overload initial
The plunger overcomes the resistance of the plunger spring and silicone oil and starts moving towards the pole.
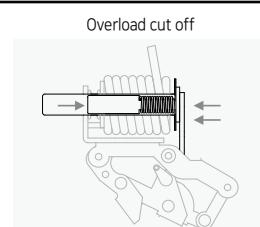
Overload cut off
When the plunger reaches the pole, the magnetic force increases rapidly, attracting the armature and pulling the latch to break the circuit.
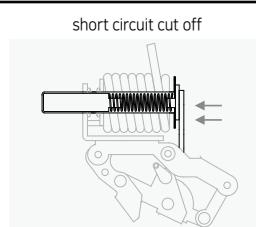
short circuit cut off
When a short-circuit current flows through the coil, a strong magnetic force is generated and the armature is instantaneously absorbed regardless of the movement of the plunger to cut off the short circuit.

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Working characteristic curve

AC

time (sec)

current multiple (rated current * value)

DC

time (sec)

current multiple (rated current * value)
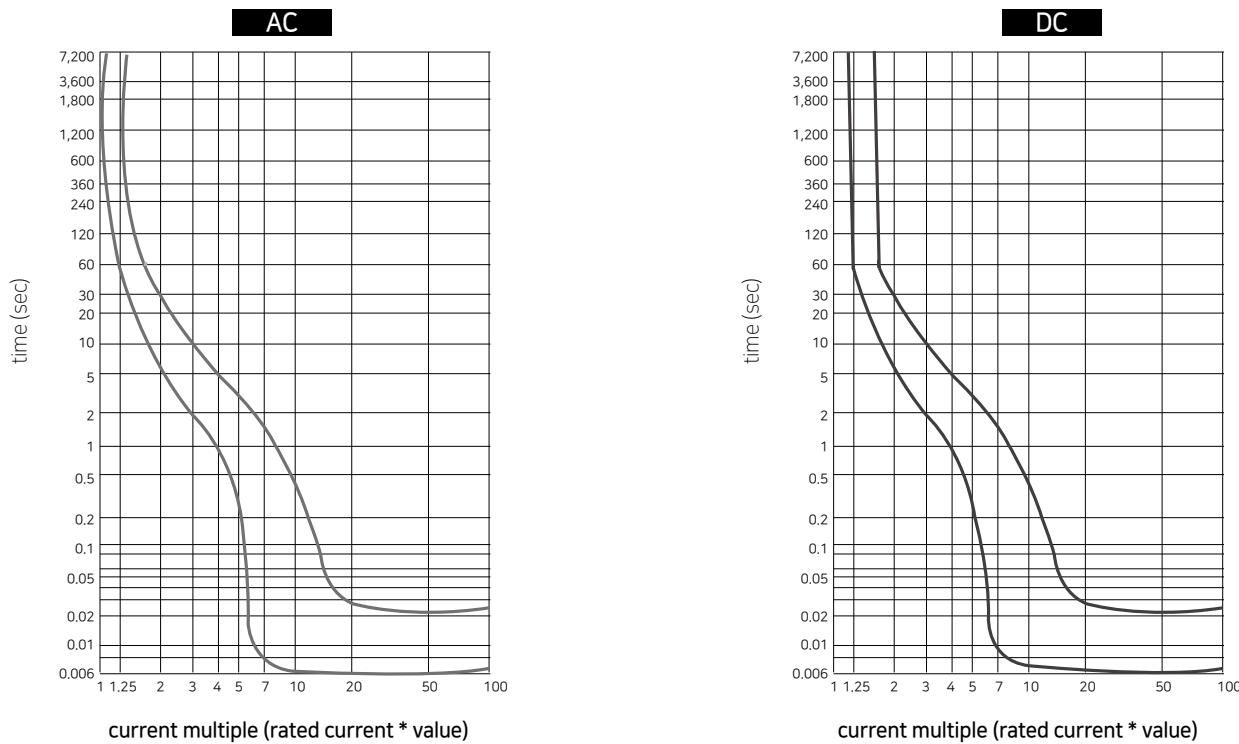
Compensation of operating time according to ambient temperature

Rated current rate of change (%)

ambient temperature(℃)
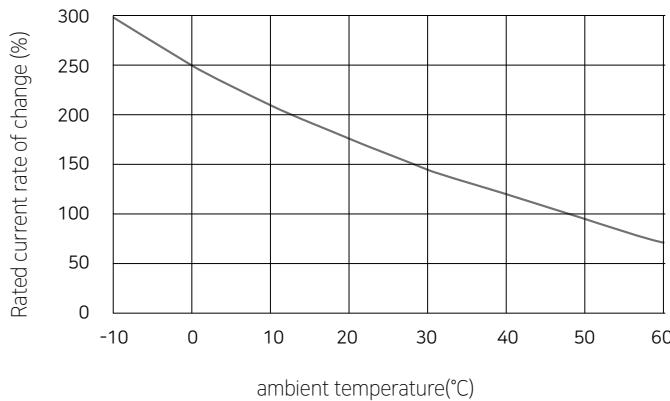
※ The operating time of KCP is based on 40℃ and its characteristics change depending on the ambient temperature.
It is recommended to use the calibration by referring to the ambient temperature calibration curve.

Current ratio according to installation angle


gravity

on

110%

on   100%   100%   on

90%

on
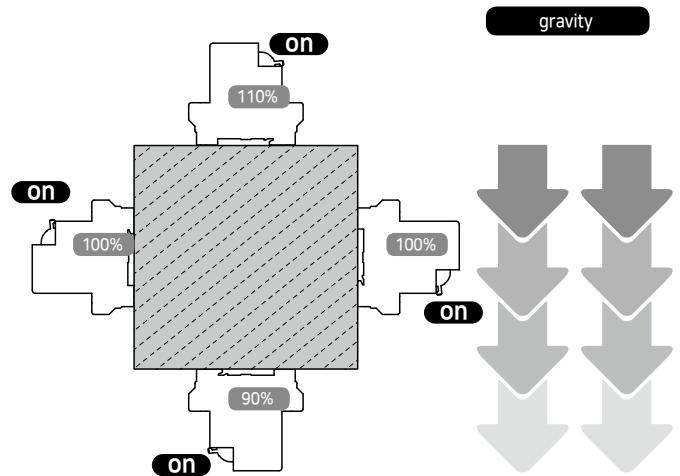
※ Depending on the angle of installation, the rate of current will be different under the influence of gravity.
It is recommended to apply in consideration of this ratio.

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Dimension

Normal type

	1P	2P	3P
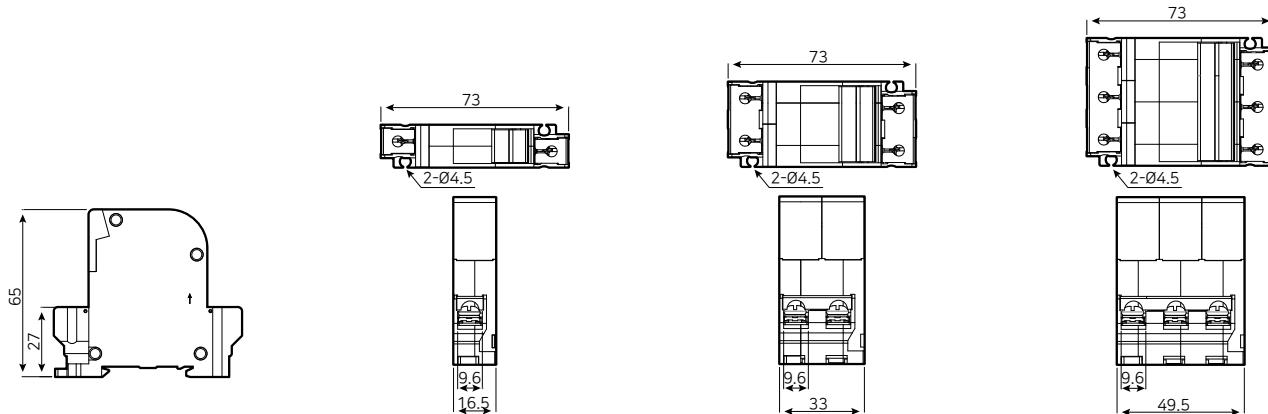
Auxiliary type

	1P	2P	3P
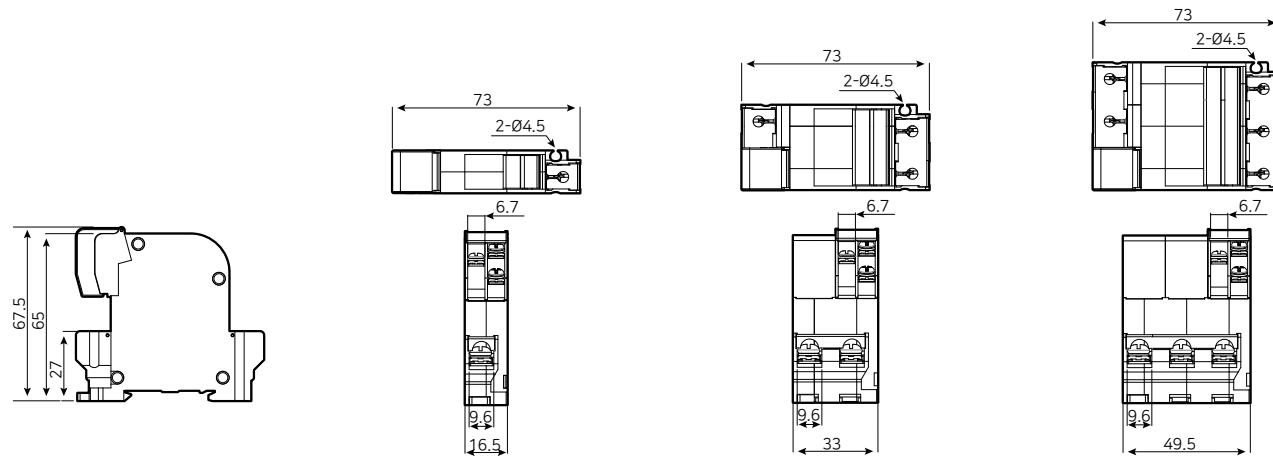
Panel Cut-Out

unit : mm

1P	2P	3P
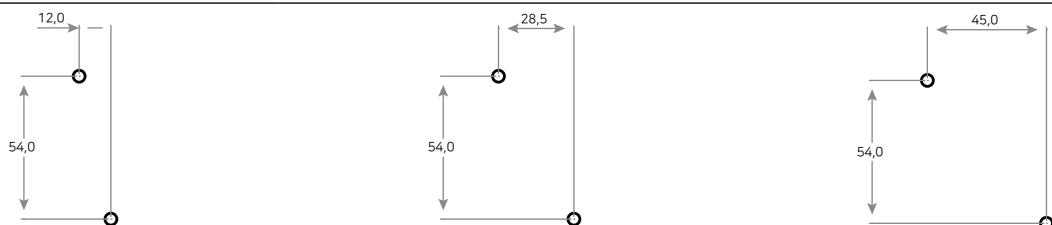
Precautions for use

Precautions for handling circuit protector
1. Select a model with the correct capacity considering the rated voltage and current of the model.
   Incorrect model selection may cause malfunction or damage.
2. It must be installed in the normal installation direction, and it must be securely fixed to the installation surface. If the installation direction is changed, the blocking characteristics change.
3. Use it in a location where there is no dust or foreign matter as possible, with good ventilation, and connect a wire with sufficient current capacity to the terminal securely.
4. To prevent malfunction and maintain blocking performance, avoid direct sunlight and install in a place with ventilation holes.
5. When storing, avoid a humid place, and keep the handle in the OFF state.
6. Be careful not to drop during transportation. Impact may cause malfunction or damage.