

# People Electric

## Automation Control Device Selection Guide





# Providing Safer electrical products globally





# COMPANY PROFILE

## 公司简介

People Ele. Appliance Group was wholly owned company of People Holding Group, one of Chinese Top 500 Enterprise, and founded in the year 1996.

Industrial electrical products as the core business of People Ele. Appliance Group, People Electric owns Zhejiang, Shanghai, Nanchang and Fuzhou four manufacturing bases, 12 wholly owned subsidiaries, 85 holding member enterprises, over 800 cooperated processing enterprises and over 3000 sales companies

The products are popularly sold to over 70 countries and regions, which are widely used in Pudong Airport, Beijing-Shanghai high-speed railway, Three Gorges Hydropower, Beijing Subway, Olympic venues, South North Water Transfer, Qinghai-Tibet Railway, Chang'e Lunar Exploration Project and Vietnam Taian hydropower project etc. major projects at home and abroad, which ranked among the World's Top 500 Machinery Enterprises.

Assess by the World's Brand Laboratory, the brand value reaches to RMB 30.512 billion Yuan.

## Perfect industry chain and personalize solutions, Satisfying the different requirements of global customers



### Power and energy

- Power
- Petroleum and petrochemical
- Transportation



### Industry and machinery

- Mining / building materials
- Water / water treatment
- Car



### Date center

- IT
- High technology
- Internet



### Commercial network

- Bank insurance
- Public construction
- Community facility



### Building

- Official building
- Industrial building
- Basic facility



### Residence

- Residential construction
- Public construction
- Community facility

### More safety

Ensure the safety of life and property

### More reliable

Supply the power uninterruptedly

### More efficient

Reducing the consumption of energy and the cost, shorten the time of supply

### More economic

Optimize the process of the machinery and factory, improving the comfortability of use.

### More eco-friendly

Supply the energy through the renewable energy, reducing the carbon emissions



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# AC CONTACTOR

## CJX2-09~95

### Series AC Contactor



### Application

CJX2 series AC Contactor is mainly used in the circuit of AC 50Hz or 60Hz, rated voltage up to 690V, rated current up to 95A, for the use of remotely connecting and breaking the circuit, it also can be directly combined with thermal relay into electromagnetic starter to protect the circuit that may have overloaded operations. Contactor can also be equipped with accessories such as the block type auxiliary contacts group, air delay contact, mechanical interlock mechanism, etc. to combine into delay contactor, directional contactor, and star-delta starter. It conforms to the standard IEC/EN60947-4-1.

### Model No.

CJX 2 - □□ / □□

- 10: 32A and below, 3 poles+1NO auxiliary contact
- 01: 32A and below, 3 poles+1NC auxiliary contact
- 11: 40A and above, 3 poles+1NO+1NC auxiliary contacts
- 004: 4NO main contacts
- 008: 2NO+2NC main contacts
- Rated operating current
- Design No.
- AC Contactor

### Normal operating condition and installation condition

- 3.1 Ambient temperature: +5℃~+40℃, average temperature within 24h does not exceed +35℃.
- 3.2 Altitude: does not exceed 2000m.
- 3.3 Atmospheric condition: when the highest temperature is +40℃, the relative humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at +20℃, it should take measurement when there have condensation occurred due to the temperature variation.
- 3.4 Pollution grade: 3.
- 3.5 Installation category: III.
- 3.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed ±5°
- 3.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

## Main technical parameter

Main technique parameter of contactor to see table 1

table 1

Model		CJX2-09	CJX2-12	CJX2-18	CJX2-25	CJX2-32	CJX2-40	CJX2-50	CJX2-65	CJX2-80	CJX2-95						
Rated insulation voltage V		690															
Main contacts	Conventional heating current( $\leq 40^{\circ}\text{C}$ ) A	20	20	32	40	50	60	80	80	125	125						
	Rated current (A) when at 380V	AC-3	9	12	18	25	32	40	50	65	80	95					
		AC-4	4	5	7	10	13	16	20	25	32	45					
	Power of controllable single phase motor kW	110V	0.4	0.5	0.75	1.1	1.5	1.5	2.2	3.7	-	-					
		220V	0.75	1.1	1.5	2.2	3	3.7	5.5	-	-	-					
	Power of controllable three-phase squirrel cage type motor kW (when AC-3)	220V	2.2	3	4	5.5	7.5	11	15	18.5	22	25					
		380V	4	5.5	7.5	11	15	18.5	22	30	37	45					
		440V	4	5.5	7.5	11	15	22	30	37	45	45					
		660V	5.5	7.5	9	15	18.5	30	33	37	45	45					
	AC-1 ( $\leq 40^{\circ}\text{C}$ ) A	20	20	32	40	50	60	80	80	125	125						
	Connecting max. current A	250	250	300	450	550	800	900	1000	1000	1100	1200					
	Breaking max. current A	440V	250	250	300	450	550	800	900	1000	1100	1200					
		500V	175	175	250	400	480	800	900	1000	1100	1200					
		660V	85	85	120	180	200	400	500	630	640	700					
Operation frequency	Electrical life	AC-4	300	300	300	150	150	150	150	150	150						
		AC-3	2400	2400	1200	1200	1200	1200	1200	1200	1200	600					
	Mechanical life (times/h)	3600															
Electrical life (10000 times/h)	AC-4	20	20~15	20~7	15~7	15~7	10~7	7	7~6	7~5	7~5						
	AC-3	200							160								
Mechanical life (10000 times/h)	2000								1000								
Rated control power voltage $U_s$ (V)		AC 36, 48, 110, 220, 380, 415, 440, 660															
Pull-in voltage 50/60Hz V		(0.85~1.1) $U_s$															
Release voltage 50/60Hz V		(0.2~0.7) $U_s$															
Coil power	50Hz	Pull-in VA	70	70	70	110	110	200	200	200	200	200					
		Hold VA	8	8	8	11	11	20	20	20	20	20					
	60Hz	Pull-in VA	80	80	80	115	115	200	200	200	200	200					
		Hold VA	8	8	8	11	11	20	20	20	20	20					
	Power W	1.8~2.7	1.8~2.7	1.8~2.7	3~4	3~4	6~10	6~10	6~10	6~10	6~10						
Power factor	Connecting	0.8					0.6										
	Breaking	0.3					0.3										
Pull-in time m s		12~22			15~24			20~26			20~35						
Release time m s		4~12			5~19			8~12			6~20						
Max. operating frequency		3500 times/h															
Terminal	Pieces	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
	Flexible wire with cold-press terminal (mm <sup>2</sup> )	2.5	2.5	4	4	6	10	16	16	16	16	50	25	50	25	50	25
	Flexible wire without cold-press terminal (mm <sup>2</sup> )	4	4	6	10	6	10	6	16	25	16	25	16	50	35	50	35
	Single hard wire	4	4	6	6	-	10	10	25	-	25	-	50	-	50	-	-
	Weight (kg)	0.32	0.32	0.35	0.49	0.55	1.07	1.07	1.07	1.10	1.44	1.44					
Suited fuse type	Model	RDT16(NT)-00															
	Rated current (A)	20	20	32	40	50	63	80	80	100	125						
Auxiliary contacts		Can be added with F4, LA2-D/LA3-D type air delay contacts															

# AC CONTACTOR

## Dimensions

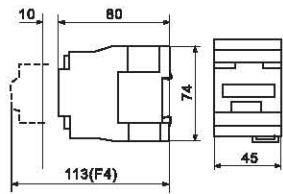


fig1 CJKX2-09,12

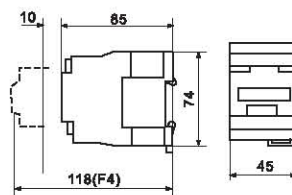


fig2 CJKX2-18

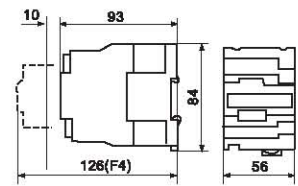


fig3 CJKX2-25

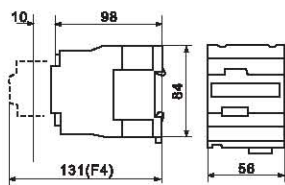


fig4 CJKX2-32

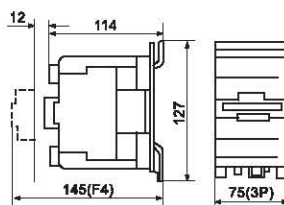


fig5 CJKX2-40, 50, 65

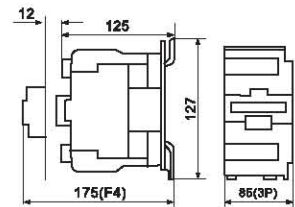
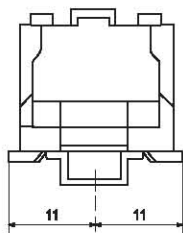
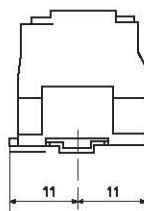


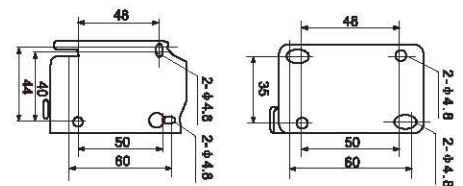
fig6 CJKX2-80, 95



CJKX2-40~95  
installed by 35mm or  
75mm DIN Rail

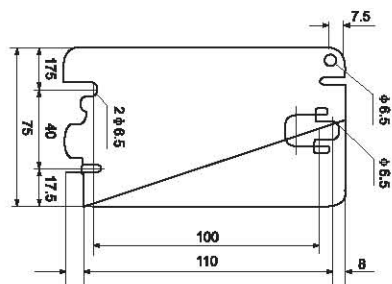


CJKX2-09~32  
installed by 35mm  
DIN Rail



CJKX2-25, 32

CJKX2-09~18



CJKX2-40, 50, 65, 80, 95



## CJX2-115~780

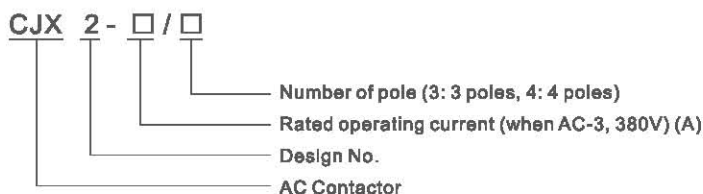
### Series AC Contactor



### Application

CJX2 series AC Contactor is mainly used in the circuit of AC 50Hz or 60Hz, rated operating voltage up to 690V, rated operating current up to 780A, for the use of remotely connecting and breaking the circuit, it also can be combined with thermal relay into electromagnetic starter to protect the circuit's overloaded operations. It conforms to the standard IEC/EN60947-4-1

### Model No.



### Normal operating condition and installation condition

- 3.1 Ambient temperature: +5℃~+40℃, average temperature within 24h does not exceed +35℃
- 3.2 Altitude: does not exceed 2000m
- 3.3 Atmospheric condition: when the highest temperature is +40℃, the relatively humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at +20℃, it should take measurement when there have condensation occurred due to the temperature variation.
- 3.4 Pollution grade: 3
- 3.5 Installation category: III
- 3.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed  $\pm 5^\circ$
- 3.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

### Main technical parameter

- 4.1 Main specification
  - 4.1.1 Rated current: 115, 150, 185, 225, 265, 330, 400, 500, 630, 780A
  - 4.1.2 Rated control power voltage of coil Us: AC 50Hz, 36, 48, 110, 220, 380, 415, 440, 660V (special voltage can be customized).
- 4.2 Main parameter and technical performance index of contactor to see table 1

# AC CONTACTOR

table 1

Model			CJX2-115	CJX2-150	CJX2-185	CJX2-225	CJX2-265	CJX2-330	CJX2-400	CJX2-500	CJX2-630	CJX2-780		
Main contacts	Conventional heating current( $\leq 40^{\circ}\text{C}$ ) Ith A		200	200	275	275	315	380	450	630	800	1500		
	Rated current (A)	AC-3	380V	115	150	185	225	265	330	400	500	630	780	
		Max. power of controllable three-phase squirrel cage type motor kW	AC-3	380V	63	80	100	110	140	180	200	250	335	400
				660V	80	100	110	129	160	220	280	335	450	470
			1000V	63	75	100	132	160	200	250	300	450	450	
	Operation frequency times/h (AC-3)			1200				600						
	Electrical life (100000 times/h) (AC-3)			120				100						
Mechanical life (10000 times/h)			1000				600							
Coil	Control voltage Us		AC 36, 48, 110, 220, 380, 415, 440, 660V											
	Pull-in voltage 50/60Hz V		(0.85~1.1)Us											
	Release voltage 50/60Hz V		(0.2~0.7)Us											
	Coil power	50Hz	Pull-in VA	660	660	966	966	840	840	1380	1380	2076	2100	
Hold VA			54	54	66	66	12	12	22	24	30	50		
Sulsted fuse (SCPD)	Model		RDT16 (NT)-1	RDT16 (NT)-1	RDT16 (NT)-2	RDT16 (NT)-2	RDT16 (NT)-2	RDT16 (NT)-2	RDT16 (NT)-3	RDT16 (NT)-3	RDT16 (NT)-3	RDT16 (NT)-3	RDT16 (NT)-4	
	Rated current		200	250	315	315	400	500	500	500	500	630	1000	
Auxiliary contacts			Can be added with F4, LA2-D/LA3-D type air delay contacts											

## Dimensions

Overall dimension and installation dimension to see table 2 and fig 1~4

table 2

mm	CJX2-115		CJX2-150		CJX2-185		CJX2-225		CJX2-265		CJX2-330		CJX2-400		CJX2-500		CJX2-630	
	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
A max	187	204	167	204	170	211	170	211	202	247	218	261	215	261	235	288	310	389
B max	163	163	171	171	175	175	175	175	203	203	210	210	210	210	240	240	304	304
C max	172	172	172	172	183	183	183	183	215	215	223	223	223	223	235	235	257	257
P	37	37	40	40	40	40	48	48	48	48	48	48	48	48	55	55	80	80
S	20	20	20	20	20	20	25	25	25	25	25	25	25	25	30	30	40	40
∅	M6	M6	M8	M8	M8	M8	M10	M10	M10	M10	M10	M10	M10	M10	M10	M10	M12	M12
f	131	131	131	131	131	131	131	131	147	147	147	147	147	147	150	150	181	181
M	147	147	150	150	154	154	172	172	178	178	181	181	181	181	208	208	264	264
H	124	124	124	124	127	127	127	127	147	147	158	158	158	158	172	172	202	202
L	107	107	107	107	113.5	113.5	113.5	113.5	141	141	145	145	145	145	148	148	155	155
X1 200~500V	10	10	10	10	10	10	10	10	10	10	10	10	15	15	15	15	20	20
X1 660~1000V	15	15	15	15	15	15	15	15	15	15	15	15	20	20	20	20	30	30
Ga	80	80	80	80	80	80	80	80	96	96	96	96	80	80	80	80	180	180
Ha	106~119		106~119		106~119		106~119		106~119		106~119		170~180		170~180		180~190	

Note: 1. f: Min. distance required by each coil.

2. X1: the arcing distance which is determined by the rated voltage and breaking capacity.

Dimensions

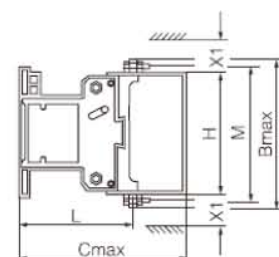
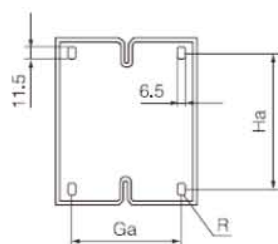
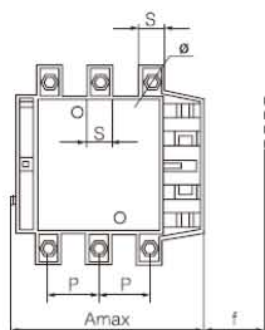


Fig1 C.JX2-115-330

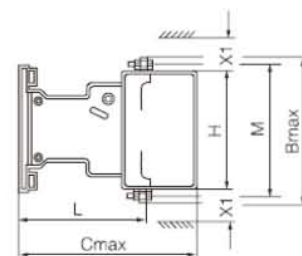
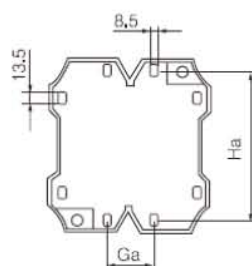
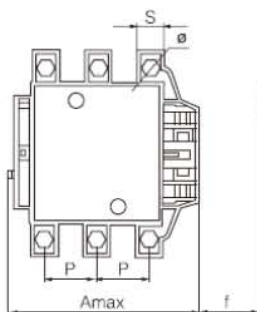


Fig2 C.JX2-400-500

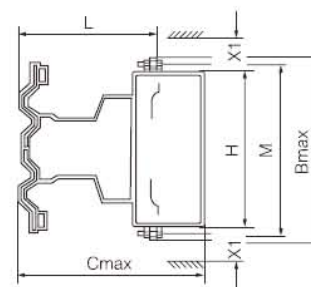
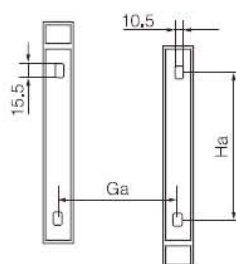
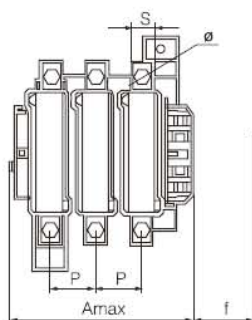


Fig 3 C.JX2-630

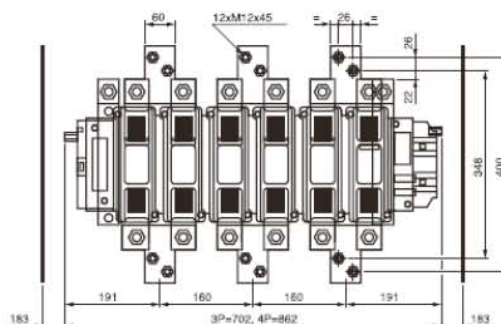
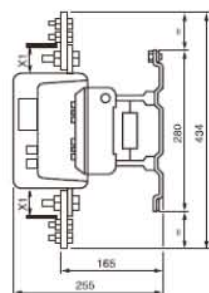


Fig 4 C.JX2-780



# AC CONTACTOR

## CJX2-Z

### Series DC operated AC Contactor



### Application

CJX2-Z series DC operated AC contactor is mainly used in the circuit of AC 50Hz or 60Hz, rated voltage up to 690V, rated current up to 95A, for the use of remote frequently connecting and breaking the circuit, it can control the motor, also can control the electric welder, capacitor group, electric heating device, lighting equipment and other loads. It conforms to the standard IEC/EN60947-4-1

### Model No.

CJX 2 - □□ / □□ Z TH

Code for Humid tropics products

DC operated

10: 32A and below, 3 poles+1NO auxiliary contact

01: 32A and below, 3 poles+1NC auxiliary contact

11: 40A and above, 3 poles+1NO+1NC auxiliary contacts

004: 4NO main contacts

008: 2NO+2NC main contacts

Rated current (under usage category of AC-3, and rated voltage 380V) (A)

Design No.

AC contactor

### Normal operating condition and installation condition

3.1 Ambient temperature: +5°C~+40°C, average temperature within 24h does not exceed +35°C

3.2 Altitude: does not exceed 2000m

3.3 Atmospheric condition: when the highest temperature is +40°C, the relative humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at +20°C, it should take measurement when there have condensation occurred due to the temperature variation.

3.4 Pollution grade: 3

3.5 Installation category: III

3.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed ±5°

3.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

## Main technical parameter

Main technique parameter of contactor to see table 1

table 1

Model			CJX2-09Z	CJX2-12Z	CJX2-18Z	CJX2-25Z	CJX2-32Z	CJX2-40Z	CJX2-50Z	CJX2-65Z	CJX2-80Z	CJX2-95Z										
Main contacts	Rated current Ie A	AC-3	380V	9	12	18	25	32	40	50	65	80	95									
		660V	6.6	8.9	12	18	21	34	39	42	49	49										
	Rated control power (kW)	AC-3	380V	4	5.5	7.5	11	15	18.5	22	30	37	45									
		660V	5.5	7.5	10	15	18.5	30	37	37	45	45										
	Conventional heating current Ith (A)			25	25	32	40	50	60	80	80	125	125									
	Rated voltage Ue (V)			660																		
	Rated insulation voltage Ui (V)			690																		
	Electrical life (10 <sup>4</sup> times)	AC-3		100	100	100	100	80	80	60	60	60	60									
			Operation frequency h <sup>-1</sup>	1200	1200	1200	1200	600	600	600	600	600	600									
	Electrical life (10 <sup>4</sup> times)	AC-4		20	20	20	20	20	20	15	15	10	10									
Operation frequency h <sup>-1</sup>			300	300	300	300	300	300	300	300	300	300										
Mechanical life (10 <sup>4</sup> times)			1000	1000	1000	800	800	800	800	800	800	600										
Coil	Rated control voltage Us		DC: 24V, 48V, 110V, 220V																			
	Pull-in voltage		85%~110% Us																			
	Release voltage		0.1~0.70 Us																			
	Coil power (W) less than			11	11	11	13	13	22	22	22	22	22									
Terminals	Places of wire		1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2				
	Flexible wire		2.5	2.5	2.5	2.5	4	4	4	4	6	6	10	10	16	16	16	16	50	25	50	25
	Hard wire		4	4	4	4	6	6	6	-	10	10	10	10	25	-	25	-	50	-	50	-
Auxiliary contacts			Can be added with F4, LA2-D/LA3-D type air delay contacts																			

## Dimensions

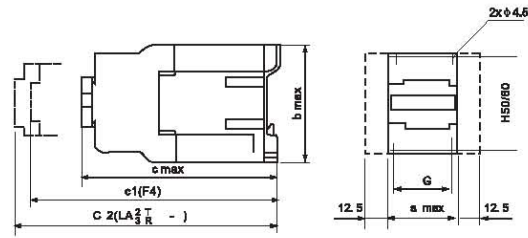


Note: C: CJX2-Z; C1: CJX2-Z+F4; C2: CJX2-Z+LA2-D/LA3-D -CJX2-09Z/12Z/18Z

table2

	a max	b max	c max	G	C1	C2	H
CJX2-09-12Z	45	75	115	35	145	172	50~60
CJX2-18Z	45	75	120	35	150	177	50~60

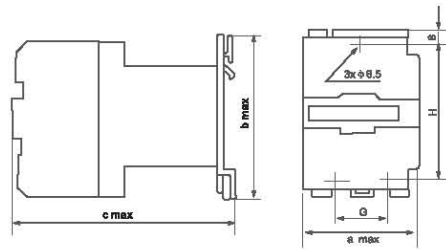
# AC CONTACTOR



Note: C: CJX2-Z; C1: CJX2-Z+F4; C2: CJX2-Z+LA2-D/LA3-D -CJX2-25Z/32Z

table3

	a max	b max	c max	G	C1	C2	H
CJX2-25Z	58	80	130	40~50	160	187	50~60
CJX2-32Z	58	80	136	40~50	166	193	50~60

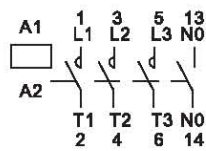


Note: C: CJX2-Z; C1: CJX2-Z+F4; C2: CJX2-Z+LA2-D/LA3-D -CJX2-40Z/50Z/65Z/80Z/95Z

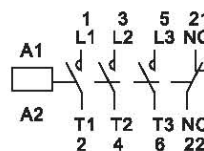
table4

	a max	b max	c max	G	H
CJX2-40/50/65Z	79	128	172	40	50~60
CJX2-80/95Z	86	128	182	40	50~60

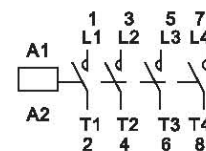
## Wiring diagram



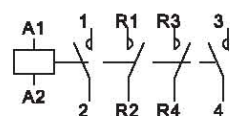
CJX2-0910Z~3210Z



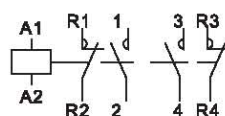
CJX2-0901Z~3201Z



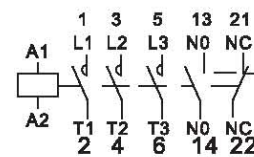
CJX2-09004Z~32004Z



CJX2-09008Z~25008Z



CJX2-40008Z~95008Z



CJX2-4011Z~9511Z



## CJX2-D

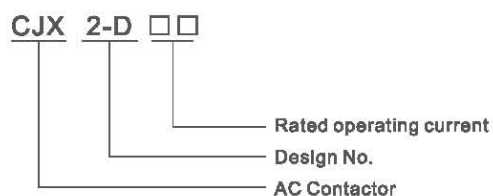
### Series AC Contactor



### Application

CJX2-D series AC Contactor is mainly used in the circuit of AC 50Hz or 60Hz, rated voltage up to 690V, rated current up to 620A, for the use of remotely connecting and breaking the circuit, it also can be directly combined with thermal relay into electromagnetic starter to protect the circuit that may have overloaded operations. Contactor can also be equipped with accessories such as the block type auxiliary contacts group, air delay contact, mechanical interlock mechanism, etc. to combine into delay contactor, directional contactor, and star-delta starter. It conforms to the standard IEC/EN60947-4-1.

### Model No.



### Normal operating condition and installation condition

- 3.1 Ambient temperature: +5°C~+40°C, average temperature within 24h does not exceed +35°C
- 3.2 Altitude: does not exceed 2000m
- 3.3 Atmospheric condition: when the highest temperature is +40°C, the relative humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at +20°C, it should take measurement when there have condensation occurred due to the temperature variation.
- 3.4 Pollution grade: 3
- 3.5 Installation category: III
- 3.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed ± 5°
- 3.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

# AC CONTACTOR

## Main technical parameter

table 1

Model	CJX2-D09	CJX2-D12	CJX2-D18	CJX2-D25	CJX2-D32	CJX2-D38	CJX2-D40	CJX2-D50	CJX2-D65	CJX2-D80	CJX2-D95	
Rated Insulation voltage V	690											
Conventional heating current $I_{th}(\leq 40^{\circ}\text{C})$ A	20	32	40	50	50	60	80	80	80	125	125	
Rated current $I_e$ (A)	AC-3	9	12	18	25	32	38	40	50	65	80	95
Power of controllable three-phase squirrel cage type motor (kW) (AC-3)	220V	2.2	3	4	5.5	7.5	9	11	15	18.5	22	25
	380V	4	5.5	7.5	11	15	18.5	18.8	22	30	45	45
	660V	5.5	7.5	10	15	18.8	18.5	30	33	37	45	45
Control voltage of coil $U_s$ (V)	AC 36, 48, 110, 220, 380, 415, 440, 660V											
Pull-in voltage 50/60Hz V	(0.85~1.1) $U_s$											
Release voltage 50/60Hz V	(0.2~0.7) $U_s$											
Suited fuse (SCPD)	Model	RDT16(NT)-00										
	Rated current (A)	20	20	32	40	50	63	63	80	80	100	125
Auxiliary contacts	3P+1NO+1NC, Can be added with F4, LA2-D/LA3-D type air delay contacts											

table 2

Model	CJX2-D115	CJX2-D150	CJX2-D170	CJX2-D205	CJX2-D245	CJX2-D300	CJX2-D410	CJX2-D475	CJX2-D620		
Rated Insulation voltage V	1000										
Conventional heating current $I_{th}(\leq 40^{\circ}\text{C})$ A	200	200	200	275	275	380	450	580	800		
Rated current $I_e$ (A)	380V	AC-3	115	150	170	205	245	300	410	475	620
		AC-4	50	65	70	80	100	124	150	185	225
	660V	AC-3	86	107	118	130	170	225	235	190	360
		AC-4	25	32	35	40	47	60	72	85	100
Power of controllable three-phase squirrel cage type motor (kW) (AC-3)	380V	55	75	85	90	110	160	200	250	335	
	660V	80	90	100	110	129	220	280	330	450	
Operation frequency (times/h)	Electrical life	AC-3	600	300	300	600	600	600	300	300	300
		AC-4	300	300	300	150	150	150	150	150	150
	Mechanical life	2400	2400	2400	2400	2400	2400	1200	1200	1200	
Electrical life (10000 times/h)	AC-3	40	40	40	50	50	50	30	30	20	
	AC-4	2	2	2	10	10	10	8	8	5	
Mechanical life (10000 times/h)	300	300	300	300	300	300	100	100	100		
Control voltage of coil $U_s$ (V)	AC 36, 48, 110, 220, 380, 415, 440, 660										
Pull-in voltage 50/60Hz V	(0.85~1.1) $U_s$										
Release voltage 50/60Hz V	(0.2~0.7) $U_s$										
Average power consumption (VA)	50Hz	Pull-in	300	300	300	800	800	1200	1200	1250	1250
		Hold	22	22	22	55	55	13	20	24	22
Suited fuse type	Model	RDT16(NT)-1	RDT16(NT)-1	RDT16(NT)-2	RDT16(NT)-2	RDT16(NT)-2	RDT16(NT)-3	RDT16(NT)-3	RDT16(NT)-3	RDT16(NT)-3	
	Rated current (A)	160	200	250	315	315	400	500	630	630	
Auxiliary contacts	Can be added with F4, LA2-D/LA3-D type air delay contacts										

## Dimensions

6.1 Overall dimensions and installation dimensions to see fig 1~6 and table 3~6

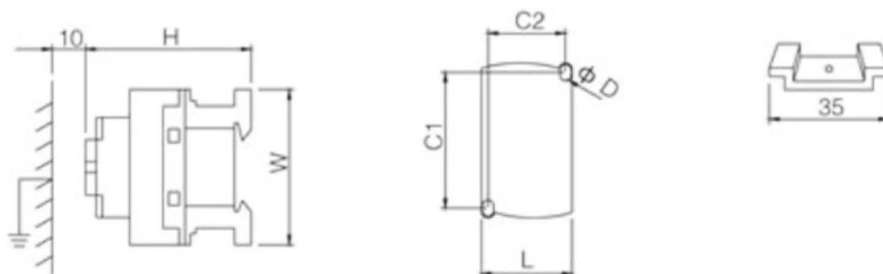


Fig 1 CJX2-D09~38

table3

	L	W	H	C1	C2	ØD
CJX2-D09~18	45	77	86	50~60	35	4.5
CJX2-D25~38	45	88	92	50~60	35	4.5

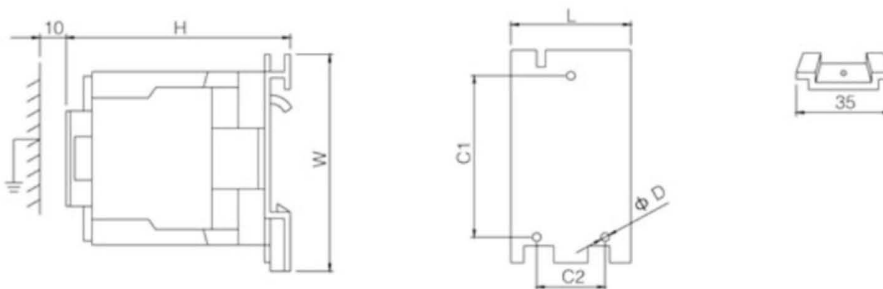


Fig 2 CJX2-D40~95

table4

	L	W	H	C1	C2	ØD
CJX2-D40~65	75	127	119	100~110	40	6.5
CJX2-D80~95	85	127	130	100~110	40	6.5

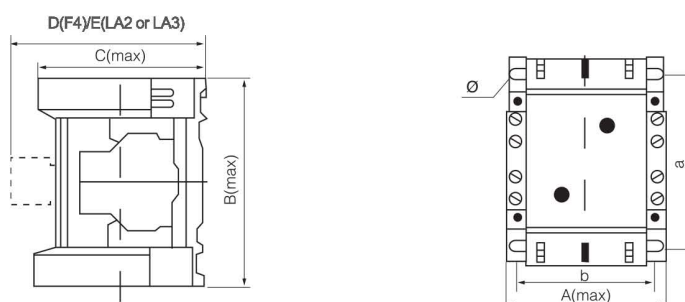


Fig 3 CJX2-D115~170

table5

	a max	b max	cmax	dmax	e max	f max	a	b	ø
CJX2-D115~170	120	162	133	155	173	-	130	95~110	6.5

# AC CONTACTOR

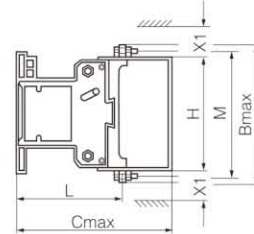
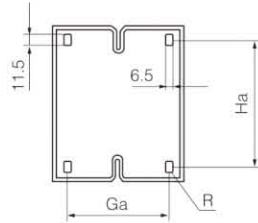
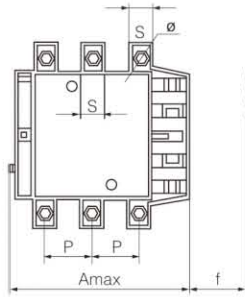


Fig 4 CJX2-D205~300

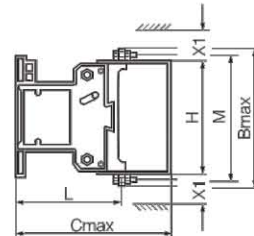
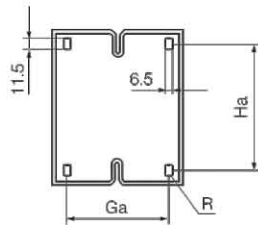
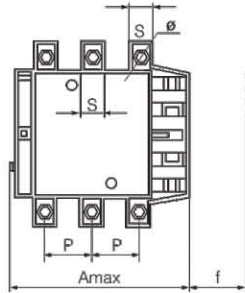


Fig 5 CJX2-D410~475

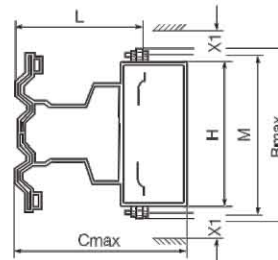
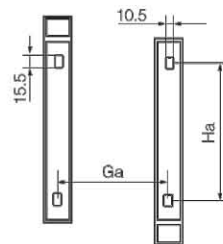
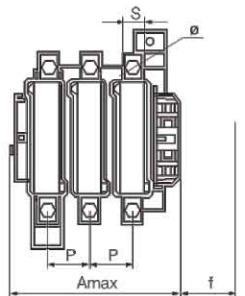


Fig 6 CJX2-D620

table6

Model	Amax	Bmax	Cmax	P	S	Ø	f	M	H	L	X1 ≤ 500V	X1 > 500V	Ga	Ha
CJX2-D205	170	175	183	40	20	M8	131	154	127	113.5	10	15	80	106~119
CJX2-D245	170	175	183	48	25	M10	131	172	127	113.5	10	15	80	106~119
CJX2-D300	218	210	223	48	25	M10	147	181	158	145	10	15	98	106~119
CJX2-D410	218	210	223	48	25	M10	147	181	158	145	15	20	80	170~180
CJX2-D475	235	240	235	55	30	M10	150	208	172	146	15	20	80	170~180
CJX2-D620	310	304	257	80	40	M12	181	264	202	155	20	30	180	180~190

Note: 1. f: Min. distance required by each coil.

2. X1: the arcing distance which is determined by the rated voltage and breaking capacity.



## CJX2-K(PLC1-K)

### Series AC Contactor



### Application

CJX2-K series AC contactor is mainly used for AC 50Hz or 60Hz, rated working voltage to 690V, rated current circuit to 9A, for the use of remotely connecting and breaking the circuit. It also can be combined with suitable thermal relay into electromagnetic starter to protect the circuit that may have overloaded operations. It conforms to the standard IEC/EN60947-4-1.

Table 1

		CJX2-K-06	CJX2-K-08	
Rated working current(A)	380V	6	9	
AC-3/AC-4	660/690V	3.8	5	
Rated insulation voltage(V)		690	690	
Conventional heating current Ith (A)		20	20	
Controllable three-phase cage	220V	1.5	2.2	
Motor power(kW)	380V	2.2	4	
AC-3	660V/690V	3	4	
Operating frequency(h <sup>-1</sup> )	Electrical life	AC-3	12000	12000
		AC-4	300	300
	Mechanical life		3600	3600
Electrical life (10000times)		AC-3	120	120
		AC-4	2.5	2.5
Mechanical life (10000times)			1000	1000
Fuse Specification		RDT16-16	RDT16-20	
Coil power(VA)	Pull in		30	30
	Hold		4.5	4.5

### Structure characteristics

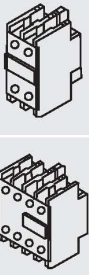
- 1.The utility model has the advantages of advanced structure, small size, light weight, low power consumption, long operation life, safety and reliability, high technical performance etc..
- 2.It can be assembled by block type, equipped with auxiliary contact group, thermal relay and other accessories, combined into a variety of derivative products.
- 3.The contactor not only can be installed by screw, but also can be installed with 35mm standard rail.
- 4.The contact direction of the iron core and the contact of the contactor is parallel to the mounting surface.

# AC CONTACTOR

## Auxiliary contact blocks

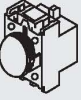
Main technical parameter of F4 (LA1-D) type auxiliary contacts to see table 1

table 1

Model	Group of contact	Rated insulation voltage V	Conventional heating current A	Electrical life (10 <sup>6</sup> times)	Mechanical life (10 <sup>4</sup> times)	Max. operating frequency (t/s)	Connectable min. load	Sketch picture
F4-11	1NO+1NC	690	10	0.5~5	1000	3	6V 10mA	
F4-20	2NO							
F4-02	2NC							
F4-22	2NO+2NC							
F4-40	4NO							
F4-04	4NC							
F4-31	3NO+1NC							
F4-13	1NO+3NC							

Main technical parameter of LA2-D/LA3-D type air delay contacts to see table 3

table 2

Model	Rated insulation voltage V	Conventional heating current A	Characteristics of delay	Scope of delay (s)	Delay repeated error	Delay stability error	Temperature error (%°C)	Group of contacts	Electrical life (times)	Mechanical life	Max. operation frequency (times/s)	Connectable min. load	Sketch picture
LA2-D20	690	10	Delay when power on	0.1~3	±5	±30*	±25	NO+NC	0.5~5×10 <sup>6</sup>	2.5×10 <sup>6</sup>	3	6V 10mA	
LA2-D22				0.1~30									
LA2-D24				10~180									
LA3-D20			Delay when power off	0.1~3									
LA3-D22				0.1~30									
LA3-D24				10~180									

Main technical parameter of LA8 type auxiliary contacts to see table 2

table 3

Model	Group of contact	Rated insulation voltage V	Conventional heating current A	Electrical life (10 <sup>6</sup> times)	Mechanical life (10 <sup>4</sup> times)	Max. operating frequency (t/s)	Connectable min. load
LA8-11	1NO+1NC	690	10	0.5~5	1000	3	6V 10mA
LA8-20	2NO						
LA8-02	2NC						

# CJX1

## Series AC Contactor



### Application

CJX1 Series AC contactor is suitable for the circuit of AC 50Hz or 60Hz, rated operating voltage up to 690V. The rated current up to 400A when the usage category of AC-3, and rated operating voltage is 380V, for remotely connecting and breaking the circuit, and it can be combined with JRS2 (3UA) into electromagnet starter to protect the circuit over load produced by operation. This product conforms to:IEC/EN60947-4-1 standards.

### Model No.

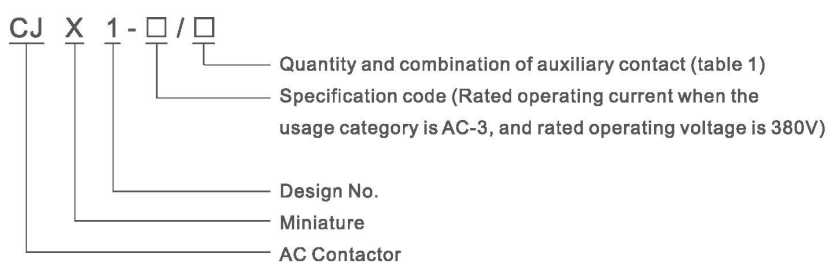


table 1

Code for auxiliary contact		22	33	44
Quantity of contact	NO	2	3	4
	NC	2	3	4

Note: 1. The default combination of auxiliary contact is "2NO 2NC"  
 2.Auxiliary contact for above 32A can be: "3 NO 3NC" or "4NO 4NC"

### Normal operating condition and installation condition

- 3.1 Ambient temperature: +5℃~+40℃, average temperature within 24h does not exceed +35℃
- 3.2 Altitude: does not exceed 2000m
- 3.3 Atmospheric condition: when the highest temperature is +40℃, the relatively humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at +20℃ , it should take measurement when there have condensation occurred due to the temperature variation.
- 3.4 Pollution grade: 3
- 3.5 Installation category: III
- 3.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed ± 5°
- 3.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

# AC CONTACTOR

## Main technical parameter

Main technique parameter of contactor to see table 1

table 2

Model		CJX1-9	CJX1-12	CJX1-16	CJX1-22	CJX1-32	CJX1-45	CJX1-63	CJX1-75	CJX1-85	CJX1-110	CJX1-140	CJX1-170	CJX1-205	CJX1-250	CJX1-300	CJX1-400							
Rated insulation voltage Ui V		690																						
Rated operating current Ie (A)	AC-3	380V	9	12	16	22	32	45	63	75	85	110	140	170	205	250	300	400						
		660V	7.2	9.5	13.5	13.5	18	45	63	75	75	110	110	170	170	200	250	320						
	AC-4	380V	3.3	4.3	7.7	8.5	12	24	28	34	42	54	68	75	96	110	125	150						
		660V	1.4	1.9	3.5	4	7.5	12	14	17	21	27	35	42	67	95	110	115						
Control power Pe (kW)	AC-3	380V	4	5.5	7.5	11	15	22	30	37	45	55	75	90	110	132	160	200						
		660V	5.5	7.5	11	11	15	37	55	55	55	90	90	160	160	185	220	315						
	AC-4	380V	1.5	2.5	4	4	5.5	11	15	18.5	22	30	37	37	45	55	55	75						
		660V	1.1	1.5	3	4	7.5	11	11	15	18.5	22	30	37	55	75	90	110						
Conventional thermal current $\geq I_{th}$		A	20		30		45		70		90		150		170		205		250		300		400	
Rated operation frequency times/h	AC-3	1200					600					300												
	AC-4	300										150												
Mechanical life (10000 times)		1000					800					600												
Electrical life (10000 times)	AC-3	100					80					60												
	AC-4	20					15					10												
Suited fuse specification (RDT16) A		16	20	25	32	50	80	100	125	160	200	200	250	250	300	400	500							

4.2. Rated control power voltage  $U_s$  of contactor when AC 50/60Hz: 36/42, 48/58, 110/132, 127/152, 220/264, 380/456

4.3. The coil of contactor can reliably pull-in when it is at 85%~110% of rated control power voltage, and reliably release at 20%~75% of rated control power voltage.

4.4. Rated insulation voltage of auxiliary circuit ( $U_i$ ) is 380V, conventional thermal current ( $I_{th}$ ) is 10A,

table 3

Usage category	Rated operating voltage $U_e$ V	Rated operating current $I_e$ A	Rated control power	
			AC VA	DC W
AC-15	36	10	360	—
	110	3.2		
	220	1.64		
	380	0.95		
DC-13	48	0.69	—	33
	110	0.3		
	220	0.15		



## Dimensions

Overall and installation dimension for CJX1-9~32 to see fig 1 and table 4

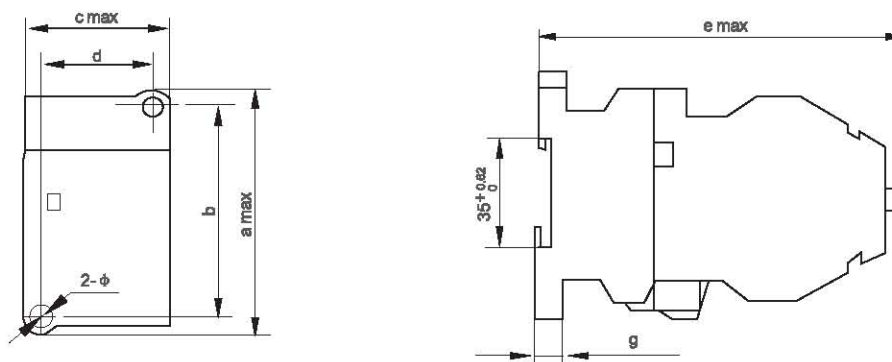


fig 1 Overall and installation dimension for CJX1-9~32

table 4

Model	a max	b	c max	d	e max	g	$\phi$
CJX1-9/12	79	$60 \pm 0.60$	46	$35 \pm 0.50$	106	8	$4.8^{+0.48}_0$
CJX1-16/22	89	$75 \pm 0.60$	46	$35 \pm 0.50$	116	8	
CJX1-32	90	$75 \pm 0.60$	74	$35 \pm 0.50$	109	8	$5^{+0.48}_0$

Overall and Installation dimension for CJX1-45~140 to see fig 2 and table 5

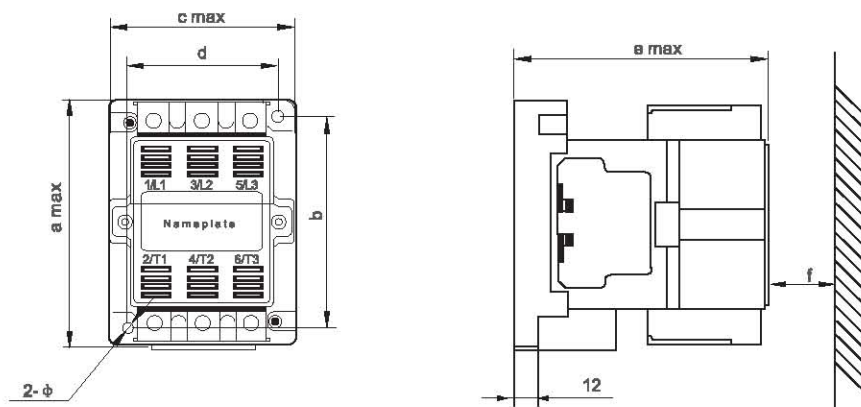


fig 2 Overall and Installation dimension for CJX1-45~140

table 5

Model	a max	b	c max	d	e max	f	$\phi$
CJX1-45/63	120	$100 \pm 0.70$	92	$70 \pm 0.60$	125	20	$5^{+0.48}_0$
CJX1-75/85	135	$110 \pm 0.70$	105	$80 \pm 0.60$	145	20	$5.5^{+0.48}_0$
CJX1-110/140	158	$130 \pm 0.80$	125	$100 \pm 0.70$	155	20	$6.5^{+0.48}_0$

# AC CONTACTOR

Overall and installation dimension for CJX1-170~475

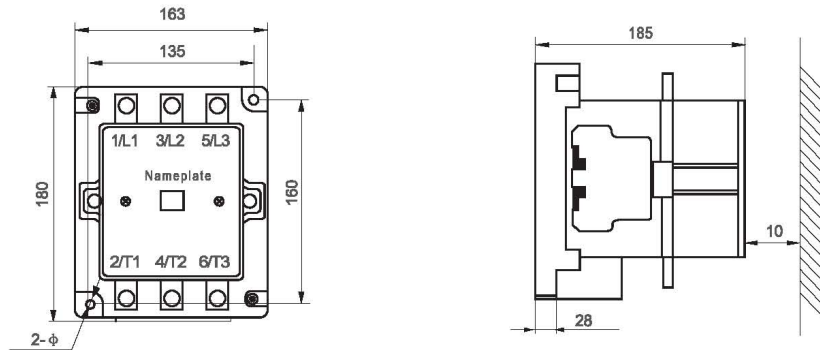


fig 3 Overall and installation dimension for CJX1-170~205

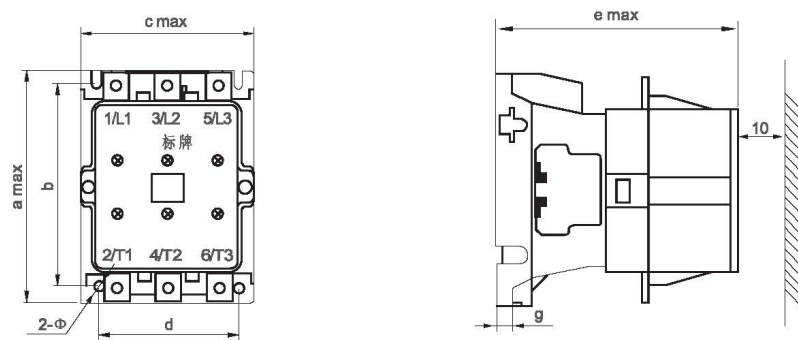


fig 4 Overall and installation dimension for CJX1-250~475

table 6

Model	a max	b	c max	d	e max	g	φ
CJX1-170/205	180	160	163	135	185	28	8
CJX1-250/300	200	145	172	120	198	30.5	10.5
CJX1-400/475	200	160	187	130	222	39	10.5

## RDC6

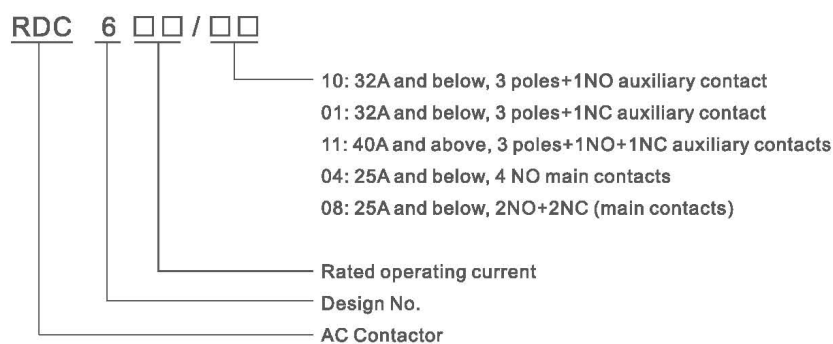
### Series AC Contactor



### Application

RDC6 series AC contactor is mainly used for AC 50Hz or 60Hz, rated voltage to 660V, rated current up to 95A, for the use of remotely connecting and breaking the circuit, it also can be directly combined with thermal relay into electromagnetic starter to protect the circuit that may have overloaded operations. Contactor can also be equipped with accessories such as the block type auxiliary contacts group, air delay contact, mechanical interlock mechanism, etc. to be combined into delay contactor, reversing contactor, and star-delta starter. It conforms to the standard IEC/EN60947-4-1.

### Model No.



### Normal operating condition and installation condition

- 3.1 Ambient temperature: +5℃~+40℃, average temperature within 24h does not exceed +35℃
- 3.2 Altitude: does not exceed 2000m
- 3.3 Atmospheric condition: when the highest temperature is +40℃, the relatively humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at +20℃, it should take measurement when there is condensation due to the temperature variation.
- 3.4 Pollution grade: 3
- 3.5 Installation category: III
- 3.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed ± 5°
- 3.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

# AC CONTACTOR

## Main technical parameter

table 1

Model		RDC6-09	RDC6-12	RDC6-18	RDC6-25	RDC6-32	RDC6-40	RDC6-50	RDC6-65	RDC6-80	RDC6-95						
main contact	Rated Insulation voltage V	690															
	Conventional heating current I <sub>th</sub> (≤40℃) A	20	20	32	40	50	60	80	80	110	110						
	Rated current at 380A	AC-3	9	12	18	25	32	40	50	65	80	95					
		AC-4	4	5	7	10	13	16	20	25	32	45					
	Capacity of control single phase motor	110V	0.4	0.5	0.75	1.1	1.5	1.5	2.2	3.7	-	-					
		220V	0.75	1.1	1.5	2.2	3	3.7	5.5	-	-	-					
	Capacity of control three-phase squirrel cage type motor kW when AC-3	220V	2.2	3	4	5.5	7.5	11	15	18.5	22	25					
		380V	4	5.5	7.5	11	15	18.5	22	30	37	45					
		440V	4	5.5	9	11	15	22	30	37	45	45					
		660V	4.5	7.5	7.5	15	18.5	30	33	37	45	45					
	AC-1(When it is ≤40℃)	20	20	32	40	50	60	80	80	110	110						
	Connecting max. current A	250	250	300	450	550	800	900	1 000	1100	1200						
	Breaking max. current	440V	250	250	300	450	550	800	900	1 000	1100	1200					
		500V	175	175	250	400	480	800	900	1 000	1100	1200					
660V		85	85	120	180	200	400	500	630	640	700						
Operation frequency	Electrical Endurance	AC-4 time/n	300														
		AC-3 time/n	1200					600									
	Mechanical life time/n	3600															
Electrical life	AC-4 ((10000 times/h)	20	20~15	20~7	15~7	15~7	10~7	7	7~6	7~5	7~5						
	AC-3 (10000 times/h)	100					80				60						
mechanical life (10000 times/h)	1000					800				1000							
Wire terminal	Pieces	1	2	1	2	1	2	1	2	1	2	1	2	1	2		
	Flexible wire with cold-press terminal (mm <sup>2</sup> )	2.5	2.5	2.5	4	4	6	10	6	16	6	50	25	50	25		
	Flexible wire without cold-press terminal (mm <sup>2</sup> )	4	4	4	6	10	6	10	6	16	10	25	16	50	35	50	35
	Single hard wire	4	4	4	6	6	10	10		25		50		50			
	Weight(kg)	0.32	0.32	0.32	0.35	0.49	0.55	1.07	1.07	1.44	1.44						

## F4(LA1-D) series of auxiliary contacts

table 2

Model	Contact combinations	Rated insulation voltage(V)	Conventional thermal current	Electrical life (1000000 times)	Mechanical life (100000 times)	The maximum operating/S	Connectable min load	Terminals can be connected to the wire
F4-11	NO+NC	690	10	0.5~5	10	3600	6V×10mA	1 to 2 flexible or hard wires, the cross section is 1.5mm <sup>2</sup> ~2.5mm <sup>2</sup>
F4-20	2NO							
F4-02	2NC							
F4-22	2NO+2NC							
F4-40	4NO							
F4-04	4NC							
F4-31	3NO+1NC							
F4-13	1NO+3NC							



Technical parameter of LA2-D, LA3-D series air delay contacts

table 3

Model	Rated insulation voltage(V)	Conventional thermal current	Delay Features	Delay range (S)	Delay repetitive	Delay stability error	temperature	Delay combinations	Electrical life	Mechanical life	The maximum operating Frequencytimes/s	minimum loadbe switched	Terminals can be connected to the wire
LA2-D20	690	10	on-delay	0.1~3	±5	±30℃	±25	NO+NC	0.5~5×10 <sup>6</sup>	25×10 <sup>6</sup>	3	6V×10mA	1-2 the cord or hard line, the cross section be 1.5mm <sup>2</sup> -2.5mm <sup>2</sup>
LA2-D22				0.1~30									
LA2-D24				10~180									
LA3-D20			off-delay	0.1~3									
LA3-D22				0.1~30									
LA3-D24				10~180									

Wiring Diagram

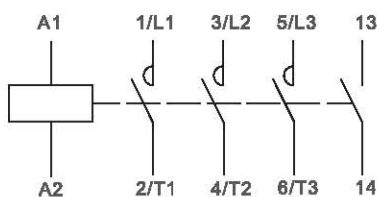


fig1 RDC6-0910~3210

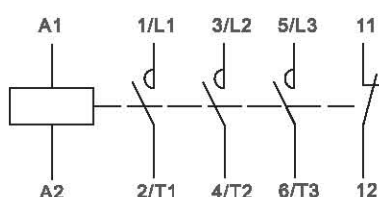


fig2 RDC6-0901~3201

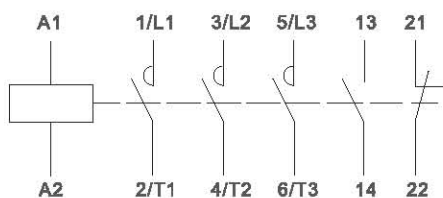


fig3 RDC6-4011~9511

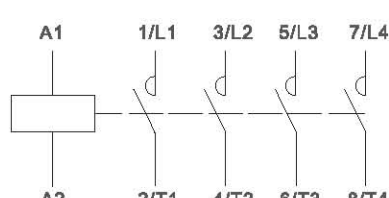


fig4 RDC6-0904~3204

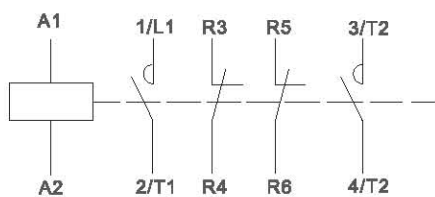


fig5 RDC6-0908~3208

# AC CONTACTOR

## Dimensions

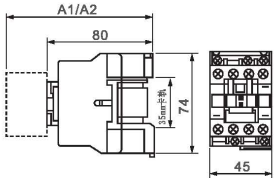


fig6 Overall dimension for RDC6-09,12

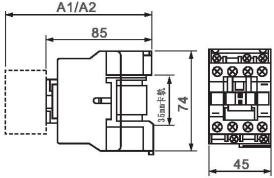


fig7 Overall dimension for RDC6-18

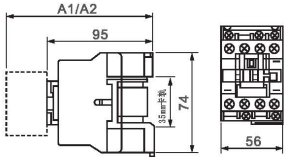


fig8 Overall dimension for RDC6-32

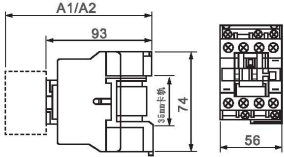


fig9 Overall dimension for RDC6-25

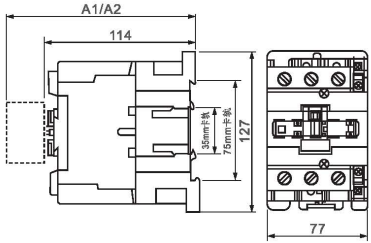


fig10 Overall dimension for RDC6-40, 50, 65

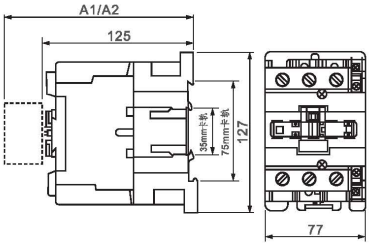


fig11 Overall dimension for RDC6-80, 95

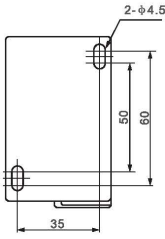


fig12 Installation dimension for RDC6-09, 12, 18

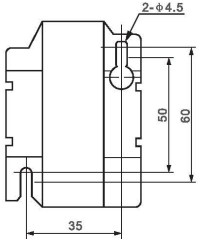


fig13 installation dimension for RDC6-25, 32

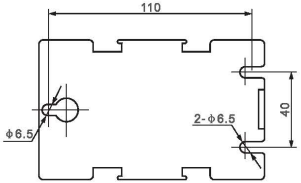


fig14 installation dimension for RDC6-40~95

## RDC5

### Series AC Contactor



### Application

RDC5 series AC Contactor is mainly used in the circuit of AC 50Hz or 60Hz, rated voltage up to 690V, rated current up to 95A, for the use of remotely connecting and breaking the circuit, it also can be directly combined with thermal relay into electromagnetic starter to protect the circuit that may have overloaded operations. Contactor can also be equipped with accessories such as the block type auxiliary contacts group, air delay contact, mechanical interlock mechanism, etc. to combine into delay contactor, directional contactor, and star-delta starter. It conforms to the standard IEC/EN60947-4-1.

### Model No.

RDC5 □□ / □□

- 10: 32A and below, 3 poles+1NO auxiliary contact
- 01: 32A and below, 3 poles+1NC auxiliary contact
- 11: 40A and above, 3 poles+1NO+1NC auxiliary contacts
- 004: 25A and below, 4NO main contacts
- 008: 25A and below, 2NO+2NC main contacts

Rated operating current  
AC Contactor

### Normal operating condition and installation condition

- 3.1 Ambient temperature: +5°C~+40°C, average temperature within 24h does not exceed +35°C
- 3.2 Altitude: does not exceed 2000m
- 3.3 Atmospheric condition: when the highest temperature is +40°C, the relatively humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at +20°C, it should take measurement when there have condensation occurred due to the temperature variation.
- 3.4 Pollution grade: 3
- 3.5 Installation category: III
- 3.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed ±5°
- 3.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

# AC CONTACTOR

## Main technical parameter

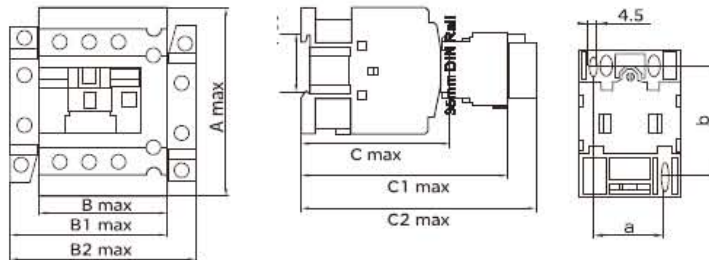
Main technique parameter of contactor to see table 1

table 1

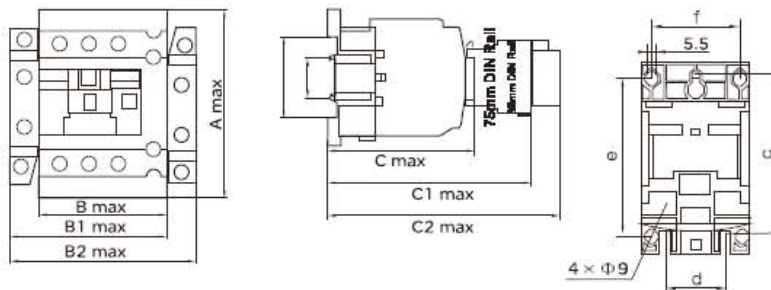
Model		RDC5-06	RDC5-09	RDC5-12	RDC5-18	RDC5-25	RDC5-32	RDC5-38	RDC5-40	RDC5-50	RDC5-65	RDC5-80	RDC5-95													
Number of pole		3 poles																								
Rated insulation Voltage (UI)V		690																								
Rated operating voltage (Ue) V		380/400, 660/690																								
Conventional heating current (Ith)A		16	20	20	25	32	40	40	50	60	80	110	110													
Rated current (Ie)A	AC-3	380/400V	6	9	12	18	25	32	38	40	50	65	80	95												
		660/690V	3.8	6.6	8.8	12	18	22	22	34	39	42	49	49												
	AC-4	380/400V	2.6	3.5	5	7.7	8.5	12	14	18.5	24	28	37	44												
		660/690V	1	1.5	2	3.8	4.4	7.5	8.9	9	12	14	17.3	21.3												
Rated Power (Pe) kW	AC-3	380/400V	2.2	4	5.5	7.5	11	15	18.5	18.5	22	30	37	45												
		660/690V	3	5.5	7.5	10	15	18.8	18.5	30	33	37	45	45												
	AC-4	380/400V	1.1	1.6	2.2	3.3	4	5.4	5.5	7.5	11	15	18.5	22												
		660/690V	0.75	1.1	1.5	3	3.7	5.5	6	7.5	10	11	15	18.5												
Mechanical life (10000 times/h)		1200				1000				900				650												
Electrical life	AC-3 (10000 times/h)	110				90				85																
	AC-4 (10000 times/h)	22				22				17				11												
Operation frequency	AC-3 (times/h)	1200				600				300																
	AC-4 (times/h)	300																								
Coil	Rated control voltage Ue (V)		AC 24, 36, 48, 110, 127, 220/230, 240, 380/400, 415, 440																							
	Pull-in voltage 50/60Hz V		(0.85~1.1)Ue																							
	Release voltage 50/60Hz V		(0.2~0.7)Us																							
	Coil power consumption	Pull-in VA	50	60				70				200				200										
		Hold VA	6~9	6~9.5				6~9.5				15~20				15~20										
Power W		1~3	1~3				1~3				6~10				6~10											
Terminals	Pieces mm <sup>2</sup>		1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2				
	Flexible wire with terminal mm <sup>2</sup>		4	2.5	4	2.5	4	2.5	4	2.5	6	4	6	4	6	4	25	10	25	10	25	10	50	16	50	16
	Flexible wire without terminal mm <sup>2</sup>		4	4	4	4	4	4	4	4	6	6	6	6	6	6	25	16	25	16	25	16	50	25	50	25
	Hard wire mm <sup>2</sup>		4	4	4	4	4	4	6	6	6	6	10	8	10	8	25	10	25	10	25	10	50	25	50	25
Tightening torque	(N·m)	1.2				1.8				5				9												
Sulsted fuse type	Model	RDT16 (NT)-00																								
	Rated current (A)	16	20	20	32	40	50	63	63	80	80	100	125													
Sulsted thermal relay		RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	RDR5-25	
Auxiliary contacts		Can be added with F4, LA8 auxiliary contacts, LA2-D/LA3-D type air delay contacts																								



Dimensions



RDC5-08~38



RDC5-40~95

table2

Model	Amax	Bmax	B1max	B2max	Cmax	C1max	C2max
RDC5-06, 09, 12, 18	74.5	45.5	58	71	82.5	114.5	139.5
RDC5-25, 32, 38	83	56.5	69	82	97	129	164
RDC5-40, 50, 65	127.5	74.5	88	101	117	148.5	173.5
RDC5-80, 95	127.5	85.5	99	112	126.5	167	182
Note:	B1max=contactor+LA8; B2max=contactor+2× LA8; C1max=contactor+F4; C2max=contactor+LA2(3)D						

table3

Model	a	b	c	d	e	f
RDC5-06, 09, 12, 18	36	60/60	-	-	-	-
RDC5-25, 32, 38	40	50/60	-	-	-	-
RDC5-40, 50, 65	-	-	106	40	100/110	59
RDC5-80, 95	-	-	105	40	100/110	67

# AC CONTACTOR

## RDC67

### Series AC Contactor



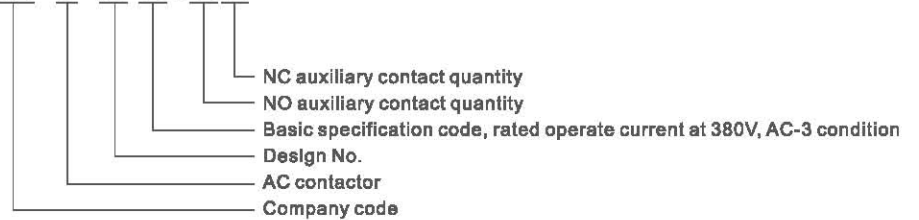
#### Application

RDC67 series AC contactor, is mainly applied to making and breaking the circuit in power system of AC50Hz or 60Hz, rated operate voltage up to 690V, rated operate current up to 800A, and It can combined with RDR67, or other suitable thermal relays, or electronic type protect device to protect the circuit against the overload fault.

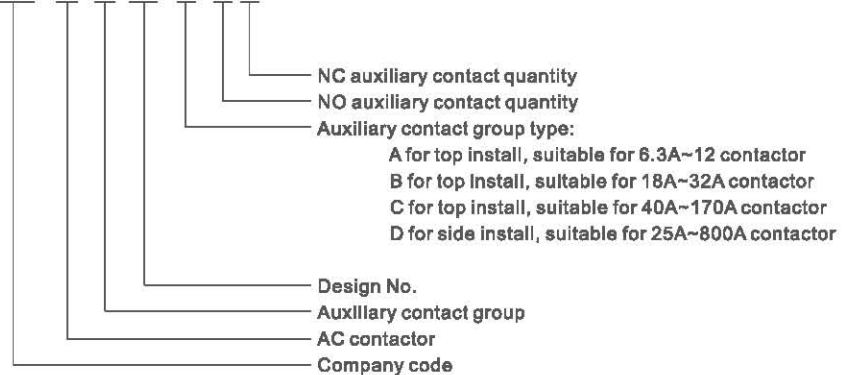
This product conforms to IEC/EN60947-4-1 standard.

#### Model No.

RD C 67 □ / □ □



RD C F 67 □ - □ □



#### Normal operating condition and installation condition

- 4.1 Temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , average temperature within 24h does not exceed  $+35^{\circ}\text{C}$ .
- 4.2 Altitude: does not exceed 2000m
- 4.3 Atmospheric condition: when the highest temperature is  $+40^{\circ}\text{C}$ , the relatively humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at  $+20^{\circ}\text{C}$ , It should take measurement when there is condensation due to the temperature variation.
- 4.4 Pollution grade: 3
- 4.5 Installation category: III
- 4.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed  $\pm 22.5^{\circ}$
- 4.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

Main technical parameter

Table 1

Model No			RDC67-6.3, 9, 12			RDC67-18		RDC67-25, 32			RDC67-40, 50		RDC67-65, 75		
Rated insulation voltage Ui (V)			690												
Rated impulse withstand voltage Uimp (V)			8												
Rated operate voltage Ue (V)			220/230			380/400			660/690						
Conventional heating current Ith (A)			20			30		45			65		100		
Rated operate current Ie (A)	220V	AC-3	6.3	9	12	18	25	32	40	50	65	75			
		AC-4	5	6.3	9	12	18	25	32	40	45	50			
	380V	AC-3	6.3	9	12	18	25	32	40	50	65	75			
		AC-4	5	6.3	9	12	18	25	32	40	45	50			
	660V	AC-3	5.2	7	7	10.4	14.5	14.5	23	29	36	43			
		AC-4	2.9	3.6	5.2	7	10.4	10.4	18.5	23	26	29			
Control motor power Pe (kW) AC-3			220V	2.2	3	3	4	6.1	8.5	11	15	18.5	22		
			380V	3	4	5.5	7.5	11	15	18.5	22	30	37		
			660V	4	5.5	5.5	7.5	11	11	18.5	22	30	37		
Fuse Specification			RDT16-00/16	RDT16-00/25			RDT16-00/50	RDT16-00/50	RDT16-00/63	RDT16-00/63	RDT16-00/125	RDT16-00/125	RDT16-00/160		
Coil power	Hold power (VA)		9.0			9.5		14.0			34.2		36.6		
	Energy efficiency		Level 3			Level 3		Level 3			Level 2		Level 2		
Mechanical life (10000 times)			1000												
Electrical life (10000 times)	AC-3		100												
	AC-4		5												
Operational frequency (times/h)	AC-3		800												
	AC-4		200												
Model No			RDC67-95, 110			RDC67-140, 170		RDC67-205, 250			RDC67-400, 500		RDC67-630, 800		
Rated insulation voltage Ui(V)			690												
Rated impulse withstand voltage Uimp(V)			8												
Rated operate voltage Ue(V)			220/230			380/400			660/690						
Conventional heating current Ith(A)			120			180		300			500		630	800	
Rated operate current Ie(A)	220V	AC-3	95	110	140	170	205	250	300	400	500	630	800		
		AC-4	58	65	70	85	178	216	250	300	300	570	570		
	380V	AC-3	95	110	140	170	205	250	300	400	500	630	800		
		AC-4	58	65	70	85	103	125	150	200	250	315	400		
	660V	AC-3	64	64	110	140	170	250	250	400	400	500	500		
		AC-4	33	38	40.5	49	60	72	87	116	145	182	231		
Control motor power Pe (kW) AC-3			220V	22	37	43	55	64	78	93	125	145	191	250	
			380V	45	55	75	90	110	132	160	200	250	335	450	
			660V	55	55	100	132	156	235	235	375	375	450	450	
Fuse Specification			RDT16-00/160	RDT16-1/250	RDT16-1/250	RDT16-2/315	RDT16-2/315	RDT16-2/400	RDT16-3/630			RDT16-4/1000			
Coil power	Hold power (VA)		51.3			—		—			—		—		
	Energy efficiency		Level 2			—		—			—		—		
Mechanical life (10000 times)			1000					600							
Electrical life (10000 times)	AC-3		100					60							
	AC-4		5												
Operational frequency (times/h)	AC-3		800	750	700	750	700	50	500	400	300				
	AC-4		200	150	120	120	120	12	120	120	100				

# AC CONTACTOR

1. Contactor can install the functional modular like auxiliary contact, mechanical electric interlock, Switch capacitor pre-charging contact on the top or side as needs.
2. Tilt between vertical install plate can reach 22.5°, it can install at 360° of install plate, and the low input and transverse install is satisfied in the cabinet.
3. Medium, large current contact coil adopts energy saving low noise coil with electronic control and feedback system, has the advantages of low vibration and noise, reduce the temperature rise, low circuit consumption and long life.
4. Connection terminal protect shell and coil power connect screw are designed to avoid screw exposed, has the anti-shock and safety advantages.

## Dimensions

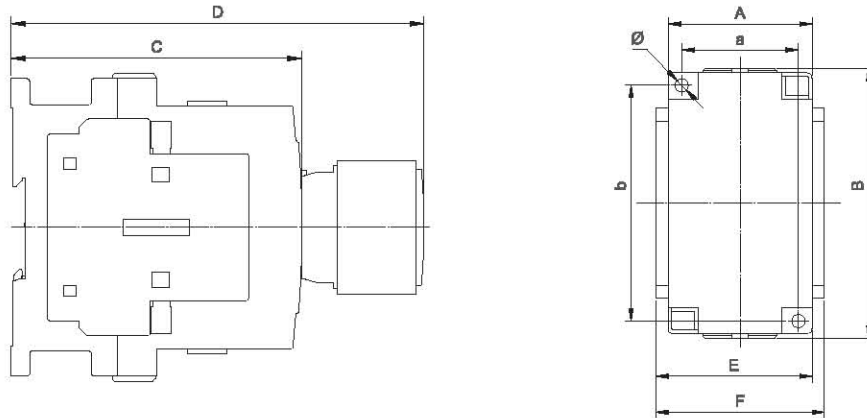


Fig1 RDC67-6.3~110A

Table 2

Model	Amax	Bmax	Cmax	Dmax	Emax	Fmax	a	∅	b
RDC67-6.3, 9, 12	46	58	71	108	—	—	35±0.15	4.8	50±0.17
RDC67-18	46	80	88	127	—	—	35±0.15	4.8	68±0.23
RDC67-25, 32	46	88	99	138	56	—	35±0.15	4.8	74±0.23
RDC67-40, 50	59	109	108	148	69	—	47±0.17	5.2	95±0.26
RDC67-65, 75	69	120	125	164	79	—	56±0.20	5.2	105±0.29
RDC67-95, 110	82	147	149	188	—	103	70±0.23	5.4	132±0.32



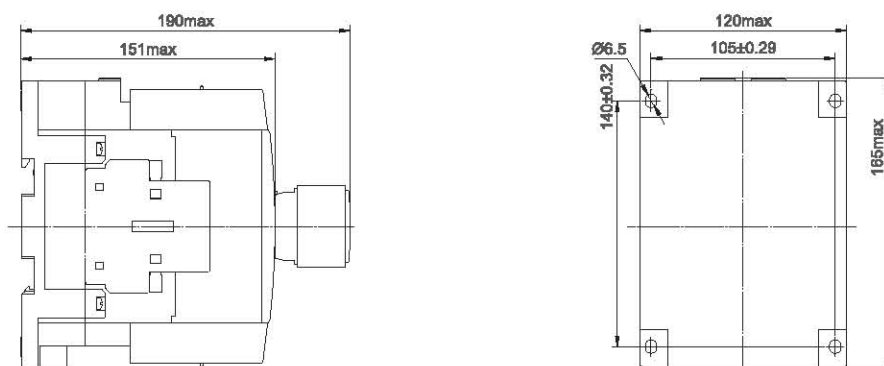


Fig2 RDC67-140~170

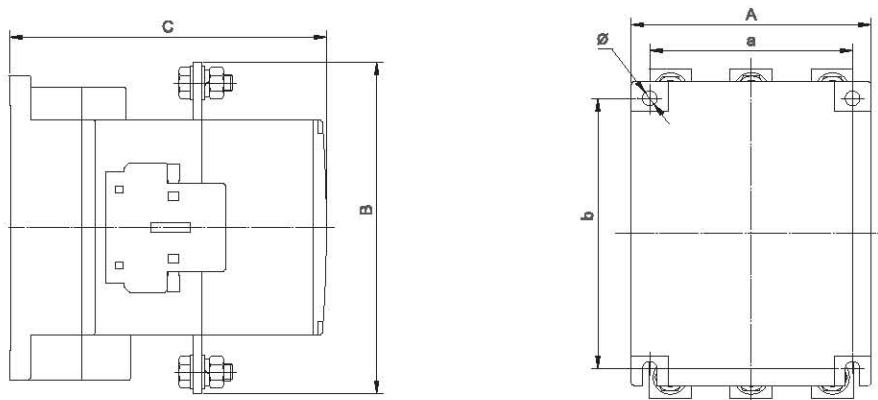


Fig3 RDC67-205A ~800A

Table 3

Model	Amax	Bmax	Cmax	a	b	Ø
RDC67-205, 250, 300	143	196	188	120±0.29	160±0.35	8.5
RDC67-400, 500	164	212	218	130±0.32	170±0.39	8.6
RDC67-630, 800	240	300	252	200±0.43	234±0.50	13

# AC CONTACTOR

## RDC19B(CJ19)

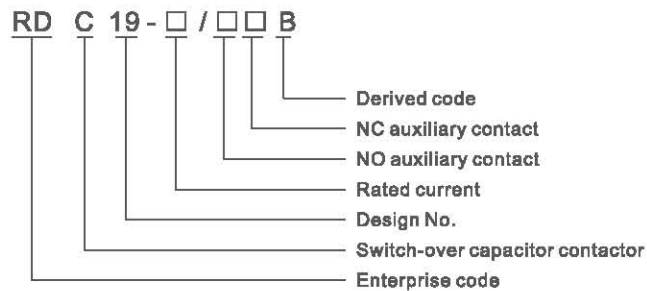
### Series Switch-over Capacitor Contactor



### Application

RDC19B (CJ19) series switch-over capacitor contactor is suitable for the power circuit of AC50/60Hz, rated power voltage up to 660V and below, for the use of low voltage reactive power compensation equipment added-in or remove the low voltage shunt capacitor. This contactor is equipped with a surge suppression device, and it can effectively restrain the impact of closing inrush current on capacitor and reduce the breaking instantaneous overload voltage without adding the current limiting reactor. It conforms to the standard IEC/EN60947-4-1

### Model No.



### Normal operating condition and installation condition

- 3.1 Ambient temperature: +5℃~+40℃, average temperature within 24h does not exceed +35℃
- 3.2 Altitude: does not exceed 2000m
- 3.3 Atmospheric condition: when the highest temperature is +40℃, the relative humidity does not exceed 50%; it can allow relatively high humidity when it is at relatively low temperature, for instance, it reaches 90% when it is at +20℃, it should take measurement when there have condensation occurred due to the temperature variation.
- 3.4 Pollution grade: 3
- 3.5 Installation category: III
- 3.6 Installation position: the gradient of the mounting surface to the vertical surface does not exceed ± 5°
- 3.7 Impact and vibration: product should be installed and used at the places without obvious shake, impact and vibration.

### Wiring principle

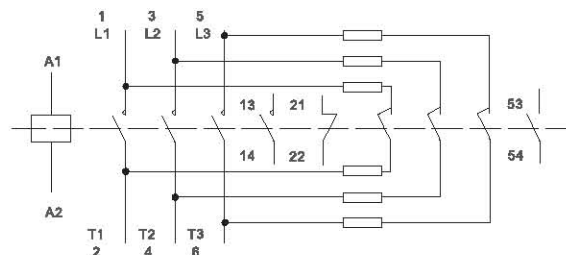


Fig 1 L1~L3 to be connected with the power end, T1~T3 to be connected with the load end.

## Main technical parameter

table 1

Model	RDC19-25/□□B	RDC19-32/□□B	RDC19-43/□□B	RDC19-63/□□B	RDC19-80/□□B	RDC19-95/□□B
Controllable capacitor capacity Kvar	220V	6	9	10	15	22
	380V	12	18	20	30	50
Rated insulation voltage V	660					
Rated voltage V	220/380					
Conventional heating current A	25	32	43	63	87	108
AC-6b Rated current A	17	23	29	43	58	72
Auxi. Wire/Rated current of capacitor A	20Ie					
Control voltage V	48, 110, 127, 220, 380					
Conventional heating current of auxiliary contact A	6					
Operation frequency (times/h)	120					
Electrical life (10000 times)	1					
Mechanical life (10000 times)	10					
Tightening torque of terminal (N·m)	0.8	1.2	1.2	6.0	10.0	10.0

Note: the terminal should be tightened every 1~3 months.

## Dimensions

Contactor can be installed by screw, and it also can be installed by DIN rail. Overall and installation dimension of RDC19B to see fig 2 and table 2

table 2

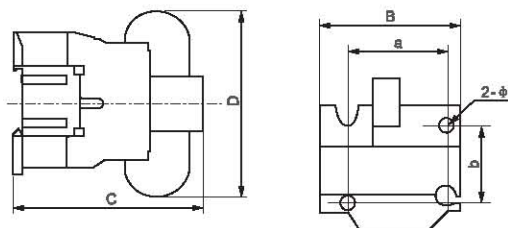


Fig 2 Overall and installation dimension of RDC19B-25/32/43

Model	Overall dimension				Installation dimension			
	A	B	C	D	a	b	Ø	Din rail
RDC19-25/□□B	84	56	130	140	40	50/60	4.5	35
RDC19-32/□□B	87	58	136	140	40	50/60	4.5	35
RDC19-43/□□B	87	58	136	140	40	50/60	4.5	35
RDC19-63/□□B	127	79	150	180	40	100/110	6.5	35 or 75
RDC19-80/□□B	127	85	160	200	40	100/110	6.5	
RDC19-95/□□B	127	85	160	200	40	100/110	6.5	

## Auxiliary contacts

Code for the auxiliary contacts to see table 3

Specification	Code for auxiliary contact	Number of auxiliary contacts		Marking	
		NO	NC		
25A, 32A, 43A	20	2	0	20E	13,14;23,24
	02	0	2	02E	11,12;21,22
	11	1	1	11E	13,14;21,22
63A, 80A, 95A	21	2	1	21E	13,14;21,22;33,34
	12	1	2	12E	13,14;21,22;31,32

The coil of RDC19B can be reliably pull-in when it is at 80%~110% of control power voltage ( $U_s$ ), and can be reliably released when it is at 20%~70% of control power voltage ( $U_s$ )

# AC CONTACTOR

## PGMC

### Series AC Contactor

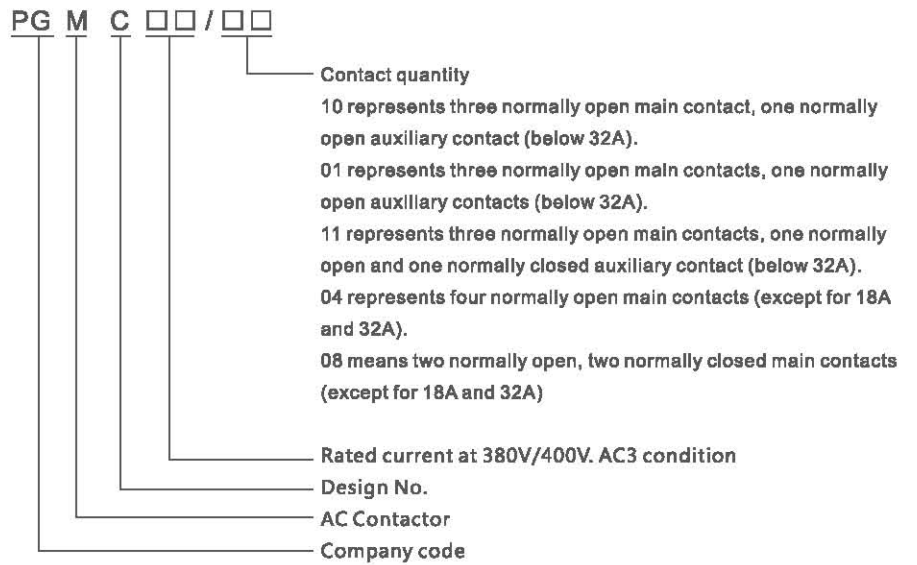


### Application

PGMC series AC contactor, is mainly applied to making and breaking the circuit in Power system of AC 50Hz or 60Hz, rated operate voltage up to 660V, rated current 9-150A circuit, for remotely connecting and breaking the circuit. It can be combined with appropriate thermal relay into electromagnetic starter to protect the circuit that may have overload operations. It conforms to: IEC/EN60947-4-1 standard.

### Model No.

PG M C □□ / □□



### Normal operating condition and installation condition

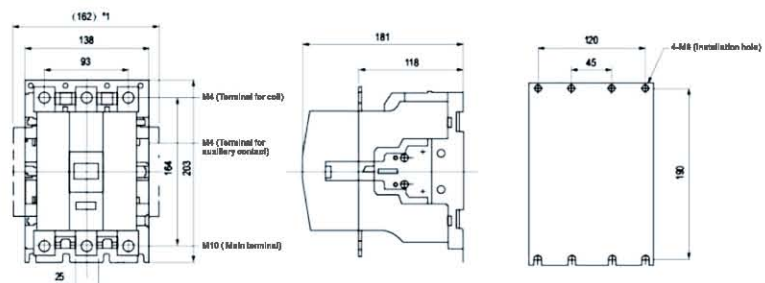
Altitude: no more than 2000 meters.

Ambient air temperature: -5°C-40°C.

Installation category: Class .II

Installation condition: The inclination angle between the installation surface and the vertical surface is no more than  $\pm 5^\circ$ .

### Installation dimension drawing



Main technical parameter

Table 1

Type		PGMC-9	PGMC-12	PGMC-18	PGMC-25	PGMC-32	PGMC-40	PGMC-50		
IEC60947	AC1	20A	20A	25A	32A	50A	60A	80A		
	AC3	220-240V	2.5kW/11A	3.5kW/13A	4.5kW/18A	5.5kW/22A	7.5kW/32A	11kW/40A	15kW/55A	
		380-440V	4kW/9A	5.5kW/12A	7.5kW/18A	11kW/22A	15kW/32A	18.5kW/40A	22kW/50A	
		500-550V	4kW/7A	7.5kW/12A	7.5kW/13A	15kW/22A	18.5kW/28A	22kW/32A	30kW/43A	
		690V	4kW/5A	7.5kW/9A	7.5kW/9A	15kW/18A	18.5kW/21A	22kW/25A	30kW/33A	
AC performance(Ith)		20A	25A	30A	32A	45A	50A	70A		
UL	AC engine	Single-phase	115V	0.5HP	0.5HP	1HP	2HP	2HP	3HP	3HP
			230V	1HP	2HP	3HP	3HP	5HP	5HP	7.5HP
			200V	2HP	3HP	5HP	7HP	7.5HP	10HP	10HP
		Three-phase	230V	3HP	3HP	5HP	7.5HP	10HP	10HP	15HP
			460V	4HP	7.5HP	10HP	10HP	20HP	25HP	30HP
			575V	5HP	10HP	15HP	15HP	20HP	25HP	30HP
Life time	electrical		250	250	250	250	200	200	200	
	Mechanical		2500	2500	2500	2500	1500	1500	1000	
Auxiliary contactor		standard	1NO+1NC	1NO+1NC	1NO+1NC	1NO+1NC	2NO+2NC	1NO+1NC	2NO+2NC	

Table 2

Type		PGMC-65	PGMC-75	PGMC-85	PGMC-100	PGMC-125	PGMC-150		
IEC60947	AC1	100A	110A	135A	150A	150A	200A		
	AC3	220-240V	18.5kW/65A	22kW/75A	25kW/85A	30kW/105A	37kW/125A	45kW/150A	
		380-440V	30kW/65A	37kW/75A	45kW/85A	55kW/105A	60kW/125A	75kW/150A	
		500-550V	37kW/60A	45kW/64A	45kW/75A	55kW/85A	60kW/90A	90kW/140A	
		690V	37kW/47A	45kW/47A	45kW/52A	55kW/65A	60kW/70A	90kW/100A	
AC performance(Ith)		80A	90A	100A	160A	160A	200A		
UL	AC engine	Single-phase	115V	5HP	5HP	7.5HP	7.5HP	10HP	-
			230V	10HP	15HP	15HP	15HP	20HP	-
			200V	15HP	7HP	25HP	30HP	40HP	-
		Three-phase	230V	20HP	20HP	30HP	30HP	40HP	-
			460V	40HP	25HP	50HP	60HP	75HP	-
			575V	40HP	50HP	50HP	60HP	75HP	-
Life time	electrical		200	200	200	200	200	200	
	Mechanical		1000	1000	1000	1000	1000	1000	
Auxiliary contactor		standard	2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC	



# AC CONTACTOR

## CJX2-N

### Mechanical Interlocking Contactor



### Application

CJX2-N mechanical interlocking contactor is suitable for using in the circuits up to the rated voltage 660V, for controlling the motor. This mechanical interlocking device ensures contact changeover of the two convertible contactors. It conforms to IEC60947-4-1.

### Main technical parameters

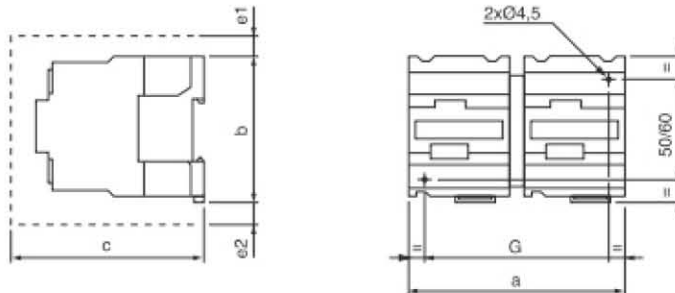
Table 1

Type	Rated current AC-3(A)	controlled power(KW)				
		220V	380V	415V	440V	660V
CJX2-09N	9	2.2	4	4	4	5.5
CJX2-12N	12	5.5	5.5	5.5	5.5	7.5
CJX2-18N	18	7.5	7.5	9	9	10
CJX2-25N	25	5.5	11	11	11	15
CJX2-32N	32	7.5	15	15	15	18.5
CJX2-40N	40	18.5	18.5	22	22	30
CJX2-50N	50	15	22	25	25	33
CJX2-65N	63	18.5	30	37	37	37
CJX2-80N	80	22	37	45	45	45
CJX2-95N	95	22	45	45	45	41
CJX2-115N	115	30	55	59	59	80
CJX2-150N	150	40	75	80	80	100
CJX2-170N	170	55	90	100	100	110
CJX2-205N	205	63	110	110	110	129
CJX2-245N	245	75	132	132	132	160
CJX2-300N	300	100	160	200	200	220
CJX2-410N	410	110	220	250	250	280
CJX2-475N	475	147	265	280	280	355
CJX2-620N	620	200	335	400	400	450

Table 2

Type	Number of poles	Rated current AC-3(A)	Rated current In/A	controlled power(KW)	
				220V	380V
CJX2-F115N	3P	115	250	200	55
CJX2-F1154N	4P	115	250	200	55
CJX2-F150N	3P	150	355	250	75
CJX2-F1504N	4P	150	355	250	75
CJX2-F185N	3P	185	425	275	90
CJX2-F1854N	4P	185	425	275	90
CJX2-F225N	3P	225	500	315	110
CJX2-F2254N	4P	225	500	315	110
CJX2-F265N	3P	265	630	350	132
CJX2-F2654N	4P	265	630	350	132
CJX2-F330N	3P	330	800	400	160
CJX2-F3304N	4P	330	800	400	160
CJX2-F400N	3P	400	800	500	200
CJX2-F4004N	4P	400	800	500	200
CJX2-F500N	3P	500	1000	700	250
CJX2-F5004N	4P	500	1000	700	250
CJX2-F630N	3P	630	1250	1000	335
CJX2-F6304N	4P	630	1250	1000	335
CJX2-F800N	3P	800	1250	1000	400

Dimensions

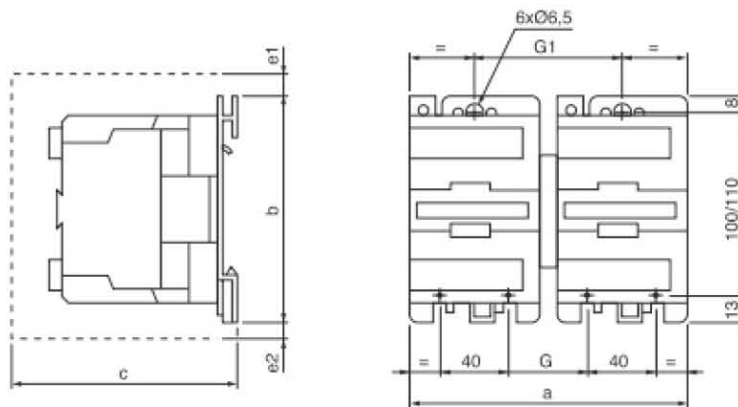


CJB2-09N~38N

Table 3

CJB2-N	a	b	c	e1(3P)	e2(4P)	G
09N,12N	105	74	84	7	6	95
18N	106	74	92	8	-	95
25N	127	84	99	8	7	111
32N, 38N	127	84	117	10	-	111

c.e1 and e2 including cabling

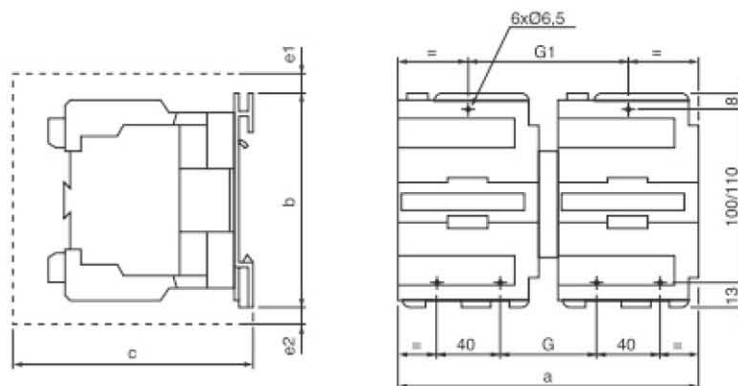


CJB2-40N~65N

Table 4

CJB2-N(3-pole)	a	b	c	e1	GG	1
40N,50N,55N	165	127	142	5	50	90
CJB2-N(4-pole)	a	b	c	e1	GG	1
40N,65N	182	127	133	11	57	97

c.e1 and e2 including cabling



CJB2-80N~95N

# AC CONTACTOR

Table 5

CJX2-N(3-pole)	a	b	c	e1	GG	1
80N,95N	182	127	158	13	57	90
CJX2-N(4-pole)	a	b	c	e1	GG	1
80N	207	127	158	20	71	11

c.e1 and e2 including cabling

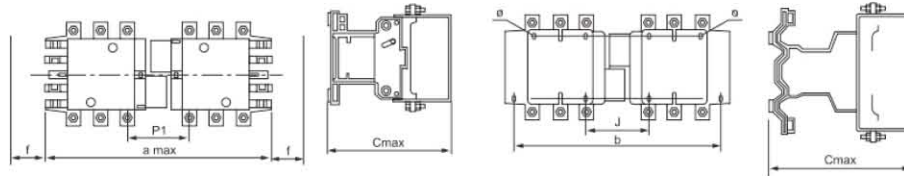
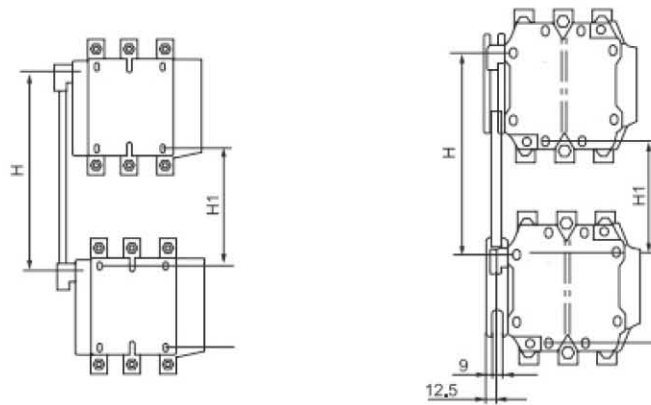


Table 6

CJX2-N(3-pole)	Amax	J	P1	f	b	φ	Cmax
CJX2-F115N	350	71	77	131	330	6.5	182
CJX2-F1154N	425	105	77	131	370	6.5	182
CJX2-F150N	350	71	71	131	330	6.5	182
CJX2-F1504N	425	105	71	131	370	6.5	182
CJX2-F185N	350	78	71	130	330	6.5	193
CJX2-F1854N	430	114	70	130	370	6.5	193
CJX2-F1225N	350	78	55	130	330	6.5	193
CJX2-F2254N	430	118	54	130	370	6.5	193
CJX2-F265N	450	109	96	147	428	6.5	225
CJX2-F2654N	546	157	100	147	485	6.5	225
CJX2-F330N	450	124	112	147	428	6.5	232.5
CJX2-F3304N	546	186	107	147	485	6.5	232.5
CJX2-F400N	485	157	110	146	460	8.5	232.5
CJX2-F4004N	485	157	107	146	485	8.5	232.5
CJX2-F500N	485	156	115	150	460	8.5	245.5
CJX2-F630N	650	139	140	181	625	10.5	268.5
CJX2-F6304N	810	139	137	181	785	10.5	268.5



a.NC2-115Nc~225Nc

b.NC2-265Nc~630Nc

Table 7

Model	H	H	H1	H1
	Min	Max	Min	Max
CJX2-F115N, CJX2-F150N	200	310	80	190
CJX2-F185N, CJX2-F225N	220	310	100	190
CJX2-F265N	250	380	130	260
CJX2-F330N	260	380	60	200
CJX2-F400N	280	380	100	200
CJX2-F500N	300	380	120	200
CJX2-F630N	380	380	200	200

## CJX1-N(P3TD)

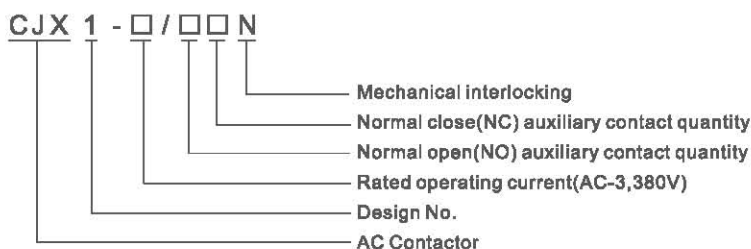
### Mechanical Interlocking Contactor



### Application

CJX1-N Series mechanical interlocking contactor is suitable for the circuit of AC 50Hz or 60Hz, rated operating voltage to 690V-1000V. Under the AC-3 class, the rated operating voltage is 9A-475V when the rated working voltage is 380V, which is mainly used to control the positive and negative rotation of AC motors.

### Model No.



### Main technical parameter

table 1

Type	Auxiliary contact		Rated working current (380V)	Controllable motor power AC-3					Relay type	Fuse type	
	NO	NC		230/200V KW	400/380V KW	500V KW	690/660V KW	1000V KW		Type 1 (A)	Type 2 (A)
CJX1-9/22N	2	2	9	2.4	4	5.5	5.5	-	3UA50	35	25
CJX1-12/22N	2	2	12	3.3	5.5	7.5	7.5	-	3UA50	35	25
CJX1-16/22N	2	2	16	4	7.5	9	11	-	3UA52	35	25
CJX1-22/22N	2	2	22	5.5	11	11	11	-	3UA52	35	25
CJX1-32/22N	2	2	32	8.5	15	21	23	-	3UA55	35	25
CJX1-38/22N	2	2	38	11	18.5	25	23	-	3UA55	35	25
CJX1-45/22N	2	2	45	15	22	30	39	-	3UA58	160	100
CJX1-63/22N	2	2	63	18.5	30	41	55	-	3UA58	160	125
CJX1-75/22N	2	2	75	22	37	50	67	39	3UA58	250	160
CJX1-110/22N	2	2	110	37	55	76	100	65	3UA60	315	250
CJX1-170/22N	2	2	170	55	90	118	156	90	3UA62	355	250
CJX1-250/22N	2	2	250	78	132	178	235	132	3UA66	500	315
CJX1-400/22N	2	2	400	125	200	284	375	250	3UA66	800	500
CJX1-745/22N	2	2	745	148	252	342	432	250	3UA66	800	500



# STARTER

## PLE1-D

### Series Magnetic Starter



### Application

PLE1-D magnetic starter is applied to circuit of AC 50/60Hz, voltage up to 660V, current up to 95A, used for directly starting or stopping the motor. The starter (assembled with thermal overload relay) could protect motor against overload or phase loss.

### Structure characteristic

1. The starter is protected by enclosure (plastic enclosure for PLE1-D09~PLE1-D32; metal enclosure for PLE1-D40~PLE1-D95). The best protective grade of enclosure could be IP65.
2. Operating mechanism is the manual pushbutton: START (green) and STOP (red). PLE1-D is non-reversing starter, equipped with thermal overload relay.

### Main technical parameter

1. Main technical parameter and component parts please see Table 1.
2. Rated control circuit voltage ( $U_s$ ) of the starter is: AC50/60Hz, 24V, 42V, 110V, 220/230V, 240V, 380V/400V, 415V, 440V, 480V, and 600V.
3. Operation range:  
Pull-in voltage: (50/60Hz) 80% $U_s$ -110% $U_s$ ; (50/60Hz) 85% $U_s$ -110% $U_s$ ;  
Release voltage: (50/60Hz) 20% $U_s$ -75% $U_s$ .
4. The actuation range of starter (assembled with thermal overload relay), has the action characteristics of thermal relay.
5. The operation frequency of starter (assembled with thermal overload relay) is 30 times/hour.

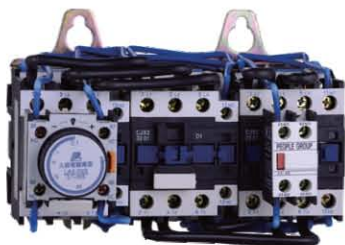
Table 1

Item No.	Rated thermal current I <sub>th</sub>	Rated insulation voltage U <sub>i</sub>	Rated working current (A)				Rated power in category AC-3 (kW)						Assembled relay model No.	Current setting rate (A)	Assembled AC contactor model No.
			AC-3		AC-4		220V	380V	415V	440V	500V	660V 690V			
			380V	660V	380V	660V	230V	400V							
PLE1-D09	20A	600V							0.37	0.37	0.37	0.37	RDJ2-25	0.63-1	CJX2-09
									0.37	0.55	0.55	0.55	RDJ2-25	1-1.6	
							0.75	0.75	1.1	1.1	1.1	1.1	RDJ2-25	1.6-2.5	
			9	6.6	3.5	1.5	1.1	1.5	1.5	1.5	2.2	2.2	RDJ2-25	2.5-4	
							1.5	2.2	2.2	2.2	3.7	3.7	RDJ2-25	4-6	
							2.2	3	3.7	3.7	4	4	RDJ2-25	5.5-8	
				2.2	4	4	4	5.5	5.5	RDJ2-25	7-10				
PLE1-D12	20A	600V	12	8.9	5	2	3	5.5	5.5	5.5	7.5	7.5	RDJ2-25	9-13	CJX2-12
PLE1-D18	32A		18	10.6	7.7	3.8	4	7.5	9	9	10	10	RDJ2-25	12-18	CJX2-18
PLE1-D25	40A		25	18	8.5	4.4	5.5	11	11	11	15	15	RDJ2-25	17-25	CJX2-25
PLE1-D32	50A		32	21	12	7.5	7.5	15	15	15	18.5	18.5	RDJ2-25	23-32	CJX2-32
PLE1-D40	60A		40	34	18.5	9	11	18.5	22	22	22	30	RDJ2-93	30-40	CJX2-40
PLE1-D50	80A		50	39	24	12	15	22	25	30	30	33	RDJ2-93	37-50	CJX2-50
PLE1-D65	80A		65	42	28	14	18.5	30	37	37	37	37	RDJ2-93	55-70	CJX2-65
PLE1-D80	100A		80	49	37	17.3	22	37	45	45	55	45	RDJ2-93	63-80	CJX2-80
PLE1-D95	100A		95	49	44	21.3	25	45	45	55	55	45	RDJ2-93	80-93	CJX2-95



## QJX2

### Series Star-delta Starter



#### Application

QJX2 series star-delta starter is applied for circuit of AC50/60Hz, voltage up to 660V, current up to 95A, used for motor starting in category AC-3. The starter (assembled with timer) could transfer “Star-Delta” automatically, to reduce the motor starting voltage and current.

#### Model No.

QJX 2 - □ □

Rated operational current

Design code

Star-Delta starter

#### Normal operating condition and installation condition

1. Altitude:  $\leq 2000\text{m}$ ;
2. Ambient temperature:  $-5^{\circ}\text{C}$ – $+40^{\circ}\text{C}$ , average value  $\leq +35^{\circ}\text{C}$  (in 24 hours);
3. Humidity: air relative humidity is lower than 50% at  $+40^{\circ}\text{C}$ , higher relative humidity is permitted at lower temperature. Take special measures to condensation, which is caused by temperature change.
4. The Installation and operation location has no obvious shake, Impact or vibration.
5. Mounting condition: the gradient between mounting surface and vertical plane is not bigger than  $\pm 5^{\circ}$

#### Main technical parameter

1. QJX2 Series AC Star–Delta starter is suitable to control delta connection motor. When the motor is transforming Star–Delta, star starting current is 1.8–2.6 times of motor rated current, however, while running delta connection, the current is 0.58 time of motor rated current.
2. QJX2 series Star–Delta starter technical data please see Table 1

Table 1

Model No.	Star-Delta starter			380V squirrel cage motor			Matched thermal relay model	Current adjust range (A)	Matched fuse rated current (A)
	Product composition	Rated current $I_n$ (A)	0.58 $I_n$ (A)	Control power (kW)					
	KM2	KM3	KM1						
QJX2-12	CJX2-12	CJX2-12	CJX2-09	18.5	9	10.7	JRS1-12	10-13	20
				20	10	11.6	JRS1-12	10-13	20
				22	11	12.8	JRS1-12	10-13	25
QJX2-18	CJX2-18	CJX2-18	CJX2-09	30	15	17.4	JRS1-25	13-18	32
				37	18.5	21.5	JRS1-25	18-25	40
QJX2-25	CJX2-25	CJX2-25	CJX2-09	37	21.5	18.5	JRS1-25	18-25	40
QJX2-32	CJX2-32	CJX2-32	CJX2-25	44	25.5	22	JRS1-32	23-32	50
				52	30.2	25	JRS1-32	23-32	63
QJX2-40	CJX2-40	CJX2-40	CJX2-25	44	25.5	22	JRS1-40	23-32	50
				52	30.2	25	JRS1-40	23-32	63
				60	34.8	30	JRS1-40	30-40	63
				68	39.5	33	JRS1-63	38-50	80
				72	41.8	37	JRS1-63	38-50	80
QJX2-50	CJX2-50	CJX2-50	CJX2-40	79	45.8	40	JRS1-63	38-50	80
				85	49.3	45	JRS1-63	48-57	100
				98	56.8	51	JRS1-63	48-57	100
				105	60.9	55	JRS1-63	57-66	125
QJX2-80	CJX2-80	CJX2-80	CJX2-50	112	65	59	JRS1-63	57-66	125
				117	67.9	63	JRS1-80	63-80	160
QJX2-95	CJX2-95	CJX2-95	CJX2-50	138	80	75	JRS1-80	63-80	160
				147	85.3	80	JRS1-F105	75-105	160

# STARTER

The control motor power (under different voltage) of QJX2 Series (Star-Delta Starter), and other technical data, please see Table 2.

Table 2

Model No.	Rated work voltage	Rated work current (AC-3)	3-phase motor power				Electrical life (10 <sup>4</sup> times)	Operation frequency (times/h)	Mechanical life (10 <sup>4</sup> times)	Time delay electrical life (10 <sup>4</sup> times)	Maximum starting time (s)
			Category AC-3 (kW)								
			220V	380V	415V	440V					
QJX2-12	660V	12A	5.5	11	11	11	20 (AC-3)	30	100~200	500	30
QJX2-18		18A	11	18.5	22	22					
QJX2-25		25A	11	18.5	22	22					
QJX2-32		32A	15	25	25	25	1 (AC-4)				
QJX2-40		40A	18.5	37	37	37					
QJX2-50		50A	25	55	59	59					
QJX2-80		80A	37	75	75	75					
QJX2-95		95A	45	80	80	80					

## Dimensions

The outline and installation dimension of QJX2 Series (Star-Delta Starter) please see fig. 1~3 and Table 3

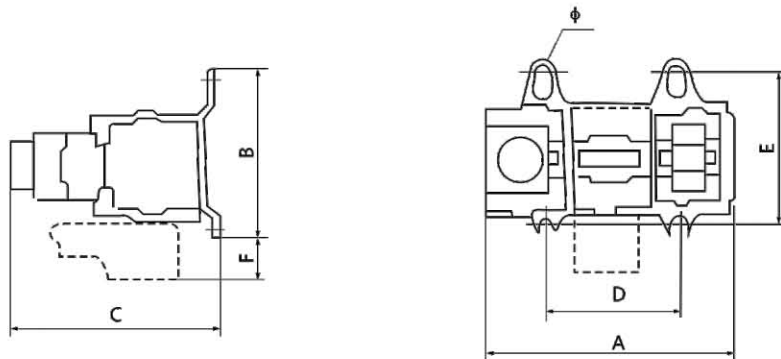


Fig. 1 QJX2-12~QJX2-32

Table 3

Model No.	Overall and installation dimensions (mm)						
	A	B	C	D	E	F	φ
QJX2-12	140	124	140	90	110	10	4-φ6.3
QJX2-18	140	124	140	90	110	10	4-φ6.3
QJX2-25	170	124	149	90	110	10	4-φ6.3
QJX2-32	170	124	149	90	110	10	4-φ6.3

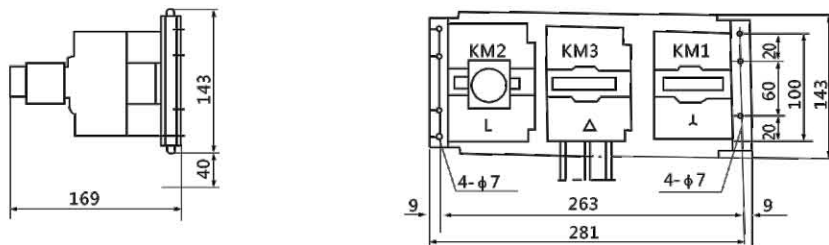


Fig. 2 QJX2-40, QJX2-50

KM1-Y: Y running contactor    KM2: isolated contactor    KM3: Δ running contactor

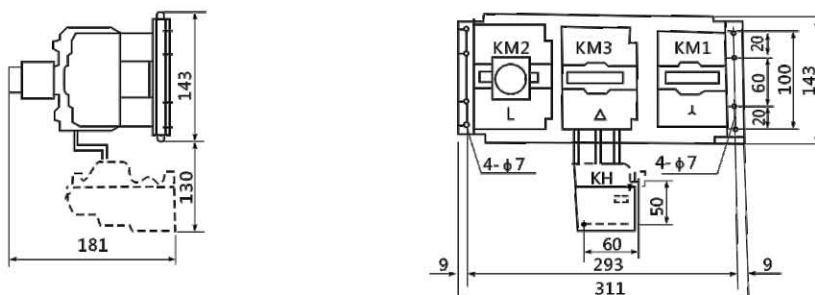
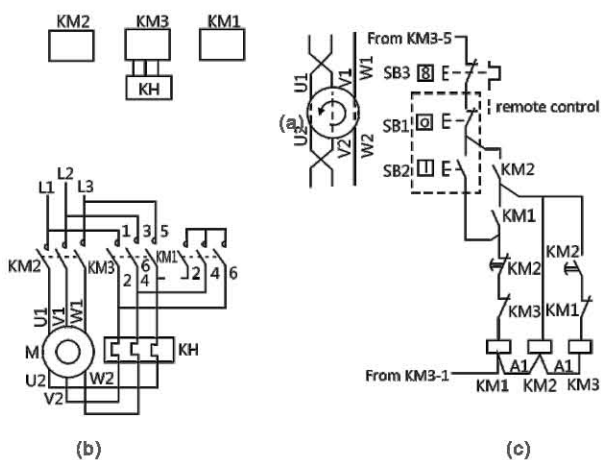


Fig. 3 QJX2-80, QJX2-95

### Wiring diagram



- (a) The layout of three contactors;
- (b) The wiring of main circuit;
- (c) The wiring of control circuit;
- KM1-Y: Y running contactor,
- KM2: isolated contactor,
- KM3:  $\Delta$  running contactor;
- KH: thermal relay,
- SB1, SB2: remote control button;
- SB3: stop button,
- M: motor.

# STARTER

## PGV2 & PGV3

### Manual Motor Starter



### Application

- 1.1 Standard: IEC / EN 60947-4-1, IEC 60947-2
- 1.2 Protection class: IP20
- 1.3 Electric rating: AC 50/60Hz, AC 690V

### Normal operating condition and installation condition

- 2.1 Ambient air temperature:  $-5...+40^{\circ}\text{C}$
- 2.2 Relative humidity:  $\leq 90\%$
- 2.3 Pollution degree: III
- 2.4 Product should be installed and operated at a place without obvious shake, impact or vibration.

### Main technical parameter

- 3.1 Rated insulation voltage  $U_i$ : 690V
- 3.2 Rated operating voltage  $U_e$ : 230/240V, 400/415V, 440V, 500V, 690V
- 3.3 Rated impulse withstand voltage  $U_{imp}$ : 8000V
- 3.4 Rated current: up to 32A for PGV2; up to 80A for PGV3
- 3.5 Protection reference to see below:

### Overload protection reference

Table 1

No.	Applied current	Initial status	Time	Expected results	Ambient temperature
1	1.05 $I_n$	cold status	$t \geq 2$ hours	no tripping	$+20^{\circ}\text{C} \pm 2^{\circ}\text{C}$
2	1.20 $I_n$	heat status (right after test No.1)	$t < 2$ hours	tripping	
3	1.50 $I_n$	heat status (right after test No.1)	tripping class (10A) $t < 2$ min (10A) $t < 4$ min		
4	7.20 $I_n$	cold status	tripping class (10A) $2\text{ s} < t \leq 10\text{ s}$ (10A) $4\text{ s} < t \leq 10\text{ s}$		

### Phase failure protection reference

Table 2

No.	Applied current		Initial status	Time	Expected results	Ambient temperature
	any 2 phase	Other phases				
1	1.0	0.9	cold status	$t \geq 2$ hours	no tripping	$+20^{\circ}\text{C} \pm 2^{\circ}\text{C}$
2	1.15	0	heat status (right after test No.1)	$t < 2$ hours	tripping	

Table 3

No.	Applied current	Initial status	Time	Expected results	Ambient temperature
1	1.0 I <sub>n</sub>	cold status	t ≥ 2 hours	no tripping	+40℃ ± 2℃
2	1.20 I <sub>n</sub>	heat status (right after test No.1)	t < 2 hours	tripping	
3	1.05 I <sub>n</sub>	cold status	t ≥ 2 hours	no tripping	-5℃ ± 2℃
4	1.30 I <sub>n</sub>	heat status (right after test No.1)	t < 2 hours	tripping	

The technical data of PGV2 please see below Table 4 and Table 5

Table 4

Model	Range of setting current (A)	Rated current (A)	Electromagnetic tripping current (A)	Matched three phase motor				
				220V	400V	440V	500V	690V
PGV2-M01	0.10~0.16	0.16	1.50	--	--	--	--	--
PGV2-M02	0.16~0.25	0.25	2.40	--	--	--	--	--
PGV2-M03	0.25~0.40	0.40	5.00	--	--	--	--	--
PGV2-M04	0.40~0.63	0.63	8.00	--	--	--	--	0.37
PGV2-M05	0.63~1.00	1.00	13.0	--	--	0.37	0.37	0.55
PGV2-M06	1.00~1.60	1.60	22.5	--	0.37	0.55	0.75	1.10
PGV2-M07	1.60~2.50	2.50	33.5	0.37	0.75	1.10	1.10	1.50
PGV2-M08	2.50~4.00	4.00	51	0.75	1.50	1.50	2.20	3.00
PGV2-M10	4.00~6.30	6.30	78	1.10	2.20	3.00	3.70	4.00
PGV2-M14	6.00~10.00	9.00	138	2.20	4.00	4.00	5.50	7.50
PGV2-M16	9.00~14.00	13.00	170	3.00	5.50	7.50	7.50	9.00
PGV2-M20	13.00~18.00	17.00	223	4.00	7.50	9.00	9.00	11.00
PGV2-M21	17.00~23.00	21.00	327	5.50	11.00	11.00	11.00	15.00
PGV2-M22	20.00~25.00	23.00	327	5.50	11.00	11.00	15.00	18.50
PGV2-M32	24.00~32.00	24.00	416	7.50	15.00	15.00	18.50	26.00

Table 5

Model	Rated ultimate short-circuit breaking capacity I <sub>cu</sub> (kA)					Rated service short-circuit breaking capacity I <sub>cs</sub> (kA)					Fuse				
	220V	400V	440V	500V	690V	220V	400V	440V	500V	690V	220V	400V	440V	500V	690V
PGV2-M01	100	100	100	100	100	100	100	100	100	100	*	*	*	*	*
PGV2-M02	100	100	100	100	100	100	100	100	100	100	*	*	*	*	*
PGV2-M03	100	100	100	100	100	100	100	100	100	100	*	*	*	*	*
PGV2-M04	100	100	100	100	100	100	100	100	100	100	*	*	*	*	*
PGV2-M05	100	100	100	100	100	100	100	100	100	100	*	*	*	*	*
PGV2-M06	100	100	100	100	100	100	100	100	100	100	*	*	*	*	*
PGV2-M07	100	100	100	100	3	100	100	100	100	2.25	*	*	*	*	20
PGV2-M08	100	100	100	100	3	100	100	100	100	2.25	*	*	*	*	32
PGV2-M10	100	100	100	100	3	100	100	50	50	2.25	*	*	63	63	40
PGV2-M14	100	100	100	100	3	100	100	15	10	2.25	*	*	63	63	40
PGV2-M16	100	15	8	6	3	100	7.50	4	4.50	2.25	*	80	63	63	50
PGV2-M20	100	15	8	6	3	100	7.50	4	4.50	2.25	*	80	63	63	50
PGV2-M21	50	15	6	4	3	50	6	3	3	2.25	100	100	80	63	50
PGV2-M22	50	15	6	4	3	50	6	3	3	2.25	100	100	80	63	50
PGV2-M32	30	10	6	4	3	30	10	4.50	3	2.25	100	100	80	63	50

Remarks: \* means fuse is not required.



# STARTER

The technical data of PGV3 please see below Table 6 and Table 7:

Table 6

Model	Range of setting current (A)	Rated current (A)	Electromagnetic tripping current (A)	Matched three phase motor				
				220V	400V	440V	500V	690V
PGV3-M06	1.00~1.60	1.6	19.2	--	0.37	0.55	0.75	1.10
PGV3-M07	1.60~2.50	2.5	30	0.37	0.75	1.10	1.10	1.50
PGV3-M08	2.50~4.00	4	48	0.75	1.50	1.50	2.20	3.00
PGV3-M10	4.00~6.00	6	72	1.10	2.20	3.00	3.70	4.00
PGV3-M14	6.00~10.00	10	120	2.20	4.00	4.00	5.50	7.50
PGV3-M20	10.00~16.00	16	192	4.00	7.50	7.50	10.00	11.00
PGV3-M25	16.00~25.00	25	300	5.50	11.00	11.00	15.00	18.50
PGV3-M40	25.00~40.00	40	480	11.00	22.00	22.00	25.00	33.00
PGV3-M63	40.00~63.00	63	756	15.00	33.00	33.00	40.00	55.00
PGV3-M80	56.00~80.00	80	960	22.00	45.00	45.00	55.00	63.00

Table 7

Model	Rated ultimate short-circuit breaking capacity I <sub>cu</sub> (kA)					Rated service short-circuit breaking capacity I <sub>cs</sub> (kA)					Fuse				
	220V	400V	440V	500V	690V	220V	400V	440V	500V	690V	220V	400V	440V	500V	690V
PGV3-M06	100	60	60	20	3	75	30	30	10	1.5	*	*	*	*	*
PGV3-M07	100	60	60	20	3	75	30	30	10	1.5	*	*	*	*	10
PGV3-M08	100	60	60	20	3	75	30	30	10	1.5	*	*	*	*	32
PGV3-M10	100	60	60	20	3	75	30	30	10	1.5	*	*	63	63	40
PGV3-M14	100	60	60	20	3	75	30	30	10	1.5	*	*	63	63	40
PGV3-M20	100	35	25	10	4	75	17.5	12.5	5	2	*	80	63	63	63
PGV3-M25	100	35	25	8	4	75	17.5	12.5	4	2	*	80	63	63	50
PGV3-M40	100	35	25	8	4	75	17.5	12.5	4	2	*	315	315	200	200
PGV3-M63	100	35	25	8	4	75	17.5	12.5	4	2	*	400	400	250	250
PGV3-M80	100	35	25	8	4	75	17.5	12.5	4	2	*	400	400	250	250

Remarks: \* means fuse is not required.

## Accessories

### Auxiliary contact

Model	Rated insulation voltage U <sub>i</sub> (V)	Conventional thermal current I <sub>th</sub> (A)	Configuration
PGV2-AE11	250	2.50	1 NO + 1 NC
PGV2-AE20	250	2.50	2 NO
PGV2-AN11	690	6.0	1 NO + 1 NC
PGV2-AN20	690	6.0	2 NO
PGV3-A01	690	6.0	1 NO + 1 NC
PGV3-A02	690	6.0	2 NO

### Under-voltage release

Model	Rated insulation voltage U <sub>i</sub> (V)	Voltage range of operation	Specification
PGV2-AU115	690	0.35-0.7U <sub>e</sub>	110-115V/50Hz
PGV2-AU115	690	0.35-0.7U <sub>e</sub>	127V/60Hz
PGV2-AU225	690	0.35-0.7U <sub>e</sub>	220-240V/50Hz
PGV2-AU225	690	0.35-0.7U <sub>e</sub>	380-440V/50Hz
PGV2-AU385	690	0.35-0.7U <sub>e</sub>	440V/60Hz

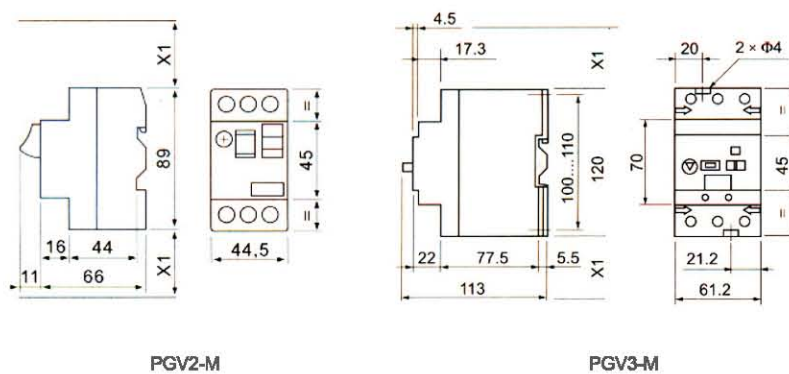
Shunt release

Model	Rated insulation voltage $U_i$ (V)	Voltage range of operation	Specification
PGV2-AS115	690	0.70-1.1U <sub>e</sub>	110-115V/50Hz
PGV2-AS115	690	0.70-1.1U <sub>e</sub>	127V/60Hz
PGV2-AS225	690	0.70-1.1U <sub>e</sub>	220-240V/50Hz
PGV2-AS225	690	0.70-1.1U <sub>e</sub>	380-440V/50Hz
PGV2-AS385	690	0.70-1.1U <sub>e</sub>	440V/60Hz

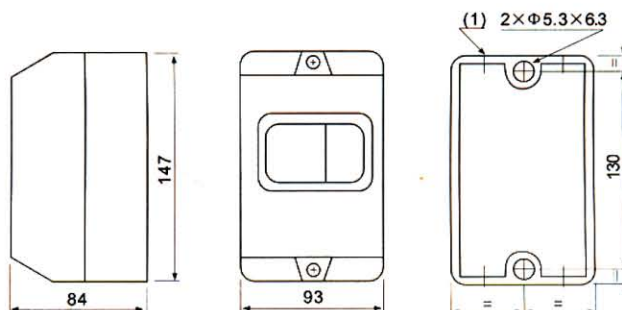
Fault signal contact and instantaneous auxiliary contact

Model	Rated insulation voltage $U_i$ (V)	Conventional thermal current $I_{th}$ (A)		Configuration
		Auxiliary contact	Fault signal contact	
PGV2-AD0110	690	6.0	2.5	1 NC + 1 NO
PGV2-AD0101	690	6.0	2.5	1 NC + 1 NC
PGV2-AD1010	690	6.0	2.5	1 NO + 1 NO
PGV2-AD1001	690	6.0	2.5	1 NO + 1 NC

Dimensions



Drawing for enclosure



# RELAY

## RDJ2

### Series Thermal Over-load Relay



### Usage and its scope of appliance

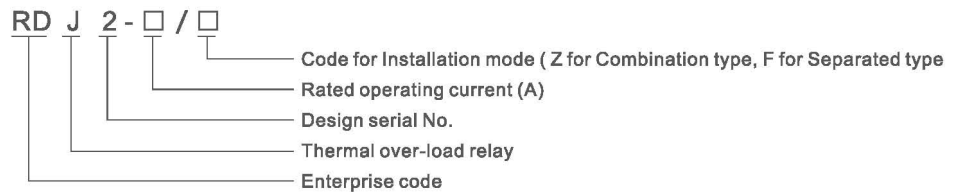
RDJ2 (LR2) series bimetal type thermal over-load relay is suitable for the circuit of AC50Hz/60Hz, rated operating voltage  $U_e$ :660V, rated current 0.10~630 (A), as the use of over-load, break phase and protection of motor and circuit.

The structure and main technique performance index of this thermal relay is the same with LR2 series thermal relay, therefore, LR2 series thermal relay can be entirely replaced by RDJ2 series thermal relay.

Thermal relay with the functions and characteristics of break phase protection temperature compensation, setting current adjusting, optional selection of auto-reset and manual reset, action indication signal, insulation separation of NO, NC auxiliary contacts, small installation section, and various installation mode. Moreover, it has the testing and stop push-buttons, and it can be inspected the action flexibility, has the protective cover that prevent the hand get shocked, safe to use, with the locking device to prevent misoperation etc.

This product conforms to : GB14048.4, IEC60947-4-1 etc. standards.

### Model No.



### Usage and its scope of appliance

3.1 Ambient temperature:  $-5^{\circ}\text{C}\sim+40^{\circ}\text{C}$ , and the average value within 24h does not exceed  $+35^{\circ}\text{C}$

3.2 Altitude of the installation place does not exceed 2000m;

3.3 Atmosphere condition: The relative humidity does not exceed 50% when it is at  $+40^{\circ}\text{C}$ , it allowed relatively high humidity at the relatively low temperature, for example, the relative humidity reaches 90% when  $+20^{\circ}\text{C}$ , and it should take special measurements when there produced the condensation on the product due to the temperature variation.

3.4 It should be at the no explosion danger medium, and the medium without the gas that cannot corrode the metal and damage the insulation as well as the places that without conductive dust.

3.5 Grade of pollution: 3

3.6 Installation category: III

3.7 Installation position: installed at the normal position, the gradient between the installation side and the vertical side does not exceed  $\pm 5^{\circ}\text{C}$ , and without obvious vibration and impact.

3.8 Protection grade: IP 20.

## Main technical parameter

Rated operating current, setting current adjusting scope, suited AC contactor model and recommended fuse model for thermal relay to see table 1

table 1

No	Model	Rated current A	Setting current adjusting scope A	Suited AC contactor model	Suited fuse model	Cross section of conductor mm <sup>2</sup>
1	RDJ2-25	25	0.1-0.16	CJX2-09-32	RDT16-00-2	1
2			0.16-0.25			
3			0.25-0.4			
4			0.4-0.63			
5			0.63-1			
6			1-1.6			
7			1.25-2			
8			1.6-2.5			
9			2.5-4			
10			4--6			
11			5.5-8			
12			7--10			
13	RDJ2-25	25	9--13	CJX2-12-32	RDT16-00-25	2.5
14			12--18		RTD16-00-40	
15			17-25		RDT16-00-50	
16	RDJ2-36	36	23-32	CJX2-25,CJX2-32	RDT16-00-63	6
17			28-36	CJX2-32	RDT16-00-80	10
18	RDJ2-93	93	23-32	CJX2-40-95	RDT16-00-63	6
19			30-40		RDT16-00-80	
20			37-50	CJX2-50-95	RDT16-00-100	10
21			48-65		RDT16-00-125	
22			55-70	CJX2-63-95	RDT16-00-160	25
23			63-80	CJX2-80,CJX2-95		
24			80-93	CJX2-95	RDT16-1-200	35
25			RDJ2-200	200	80-125	CJX2-115,150,185,225
26	100-160	RDT16-1-315			70	
27	125-200	RDT16-2-400			95	
28	RDJ2-630	630	160-250	CJX2-185,225,265,330,400	RDT16-3-500	120
29			200-320		RDT16-3-630	185
30			250-400		RDT16-4-800	240
31			315-500	CJX2-500,630	RDT16-4-1000	2X150
32			400-630		RDT16-4-1000	2X185

Rated insulation voltage of auxiliary circuit Ui 380V; Rated frequency 50, 60Hz; Usage category, rated operating voltage, rated operating current and rated thermal current to see table 2

table 2

Usage category	AC-15		DC-13
Rated operating voltage V	220	380	220
Rated operating current A	1.64	0.95	0.15
Setting thermal current A	6		

# RELAY

Action characteristics of thermal relay when it is at load balance of each phase confirms to table 3

table 3

No.	Multiple of setting current	Action time		Initial status	Ambient temperature°C
1	1.05	> 2h		Cool status	20±5°C
2	1.20	< 2h		Thermal status (after serial No.1)	
3	1.50	10A	< 2min		
		10	< 4min		
4	7.20	10A	2s < top ≤ 10s	Cool status	
		10	4s < top ≤ 10s		

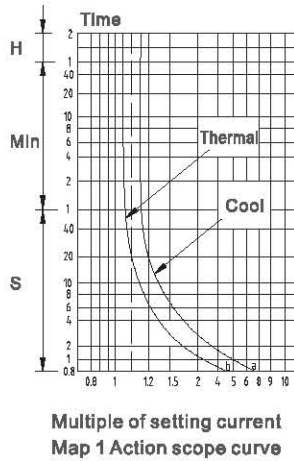
Releasing grade: RDJ2-25, RDJ2-36 is 10A grade, RDJ2-93, 200, 630 is 10 grade.

Action characteristics of thermal relay when it is at load unbalance of each phase confirms to table 4

table 4

No.	Multiple of setting current		Action time	Initial status	Ambient temperature°C
	Any two phases	Another phase			
1	1.00	0.90	> 2h	Cool status	20±5°C
2	1.15	0	≠ 2h	Thermal status (after serial No.1)	

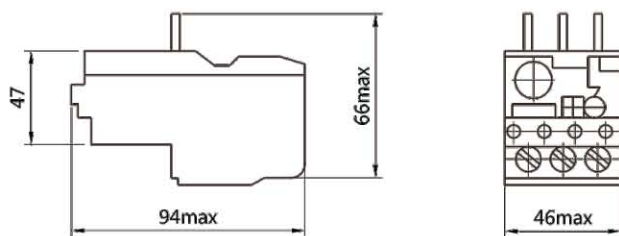
Time-current characteristics curve of thermal relay to see map 1



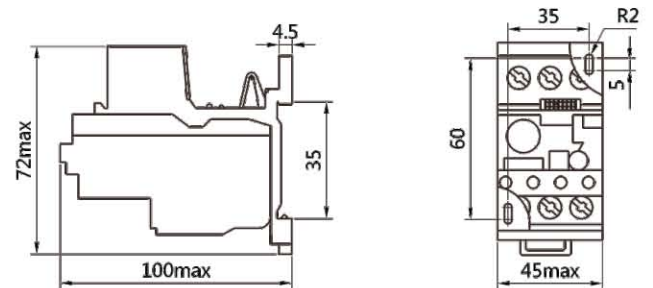
- A. Three phase balance, unbalance, starting by cool status;
- B. Three phase balance, break phase, starting by thermal status

## External and installation dimension

External and installation dimension of thermal relay to see map 2~9



Map 2 External and installation dimension for RDJ2-25/Z

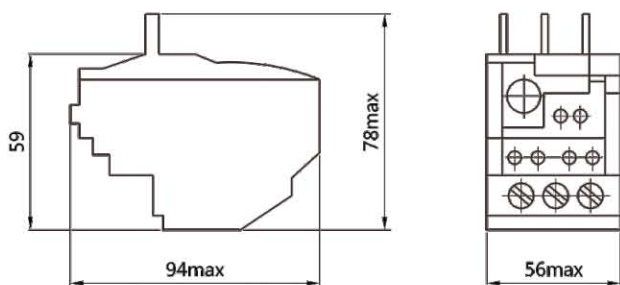


Map 3 External and installation dimension for RDJ2-25/F

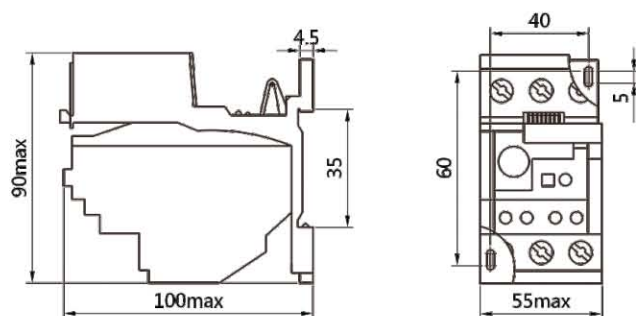


## RDJ2

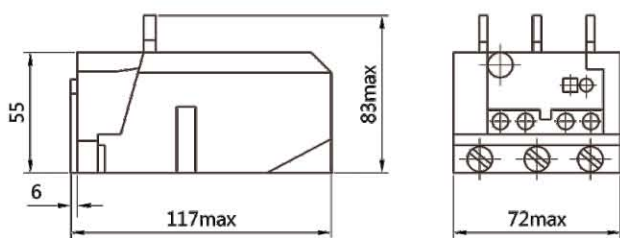
### Series Thermal Over-load Relay



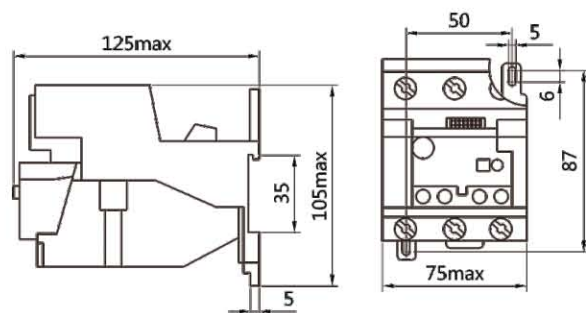
Map 4 External and installation dimension for RDJ2-36/Z



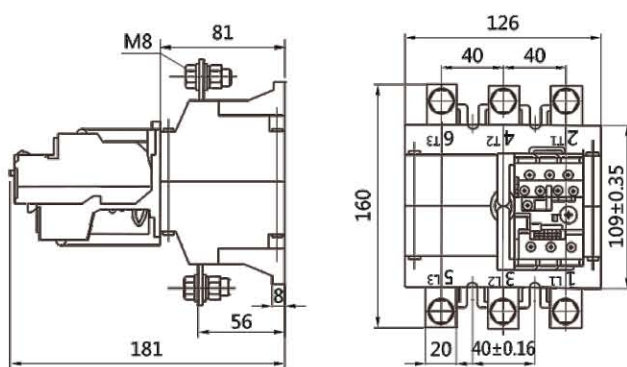
Map 5 External and installation dimension for RDJ2-36/F



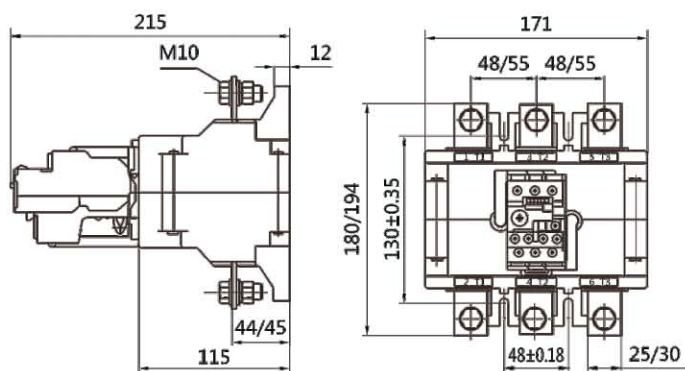
Map 6 External and installation dimension for RDJ2-93/Z



Map 7 External and installation dimension for RDJ2-93/F



Map 8 External and installation dimension for RDJ2-200/Z



Map 9 External and installation dimension for RDJ2-200/F

# RELAY

## RDR6

### Series Thermal Over-load Relay



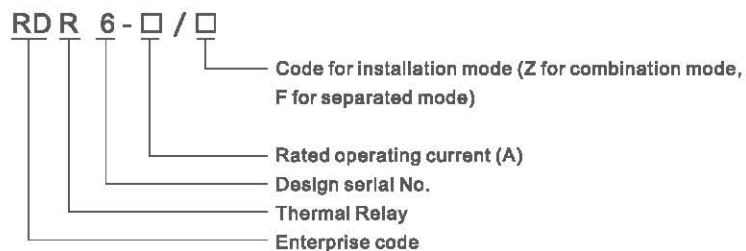
### Usage and its scope of application

RDR6 series bimetal type thermal over-load relay is suitable for the circuit of AC50Hz/60Hz, rated operating voltage  $U_e$ : 380V, rated impact voltage  $U_{imp}(kV)$ : 8, rated current 0.10~93A, as the use of over-load, break phase and protection for the circuit and motor.

Thermal relay with the functions and characteristics of break phase protection temperature compensation, setting current adjusting, optional selection of auto-reset and manual reset, action indication signal, insulation separation of NO, NC auxiliary contacts, small installation section, and various installation mode.

Thermal relay is designed, manufactured and inspected according to GB14048.4

### Model No.



### Normal operating condition and installation condition

3.1 Ambient temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , and the average value within 24h does not exceed  $+35^{\circ}\text{C}$ ;

3.2 Altitude of the installation place does not exceed 2000m;

3.3 Atmosphere condition

3.3.1 Humidity

The relative humidity does not exceed 50% when it is at  $+40^{\circ}\text{C}$ , it allowed relatively high humidity at the relatively low temperature, for example, the relative humidity reaches 90% when  $+20^{\circ}\text{C}$ , and it should take special measurements when there produced the condensation on the product due to the temperature variation.

3.3.2 Grade of pollution: 3

3.4 Installation condition

3.4.1 Installation category: III

3.4.2 Installation position: installed at the normal position, the gradient between the installation side and the vertical side does not exceed  $5^{\circ}\text{C}$  and without obvious vibration and impact.

3.5 Protection grade: IP 20.

## Main technical parameter

Rated operating current, setting current adjusting scope, suited AC contact model and recommended fuse mode for the thermal relay to see table 1 table 1

No	Model	Rated current A.	Setting current adjusting scope A.	Suited contactor model	Recommended fuse model	Cross section of conductor mm <sup>2</sup>		
1	RDR6-25	25	0.1-0.16	RDC6-09-32	RDT16-00-2	1		
2			0.16-0.25					
3			0.25-0.4					
4			0.4-0.63					
5			0.63-1		RDT16-00-4			
6			1-1.6					
7			1.25-2					
8			1.6-2.5					
9	RDR6-25	25	2.5-4	RDC6-09-32	RDT16-00-6	1		
10			4--6		RDT16-00-10			
11			5.5-8		RDT16-00-16			
12			7--10		RDT16-00-20		1.5	
13			9--13		RDC6-12-32		RDT16-00-25	2.5
14			12--18				RDT16-00-40	
15			17-25		RDC6-25,RDC6-32		RDT16-00-50	4
16	RDR6-36	36	23-32	RDC6-32	RDT16-00-63	6		
17			28-36		RDT16-00-80	10		
18	RDR6-93	93	23-32	RDC6-40-95	RDT16-00-83	6		
19			30-40		RDT16-00-80	10		
20			37-50	RDC6-50-95	RDT16-00-100			
21			48-65	RDC6-65-95	RDT16-00-125	16		
22			55-70		RDT16-1-160	25		
23			63-80	RDC6-80,RDC6-95	RDT16-1-200	35		
24			80-93	RDC6-95				

Auxiliary circuit's rated insulation voltage Ui 380V, rated frequency 50, 60Hz; Usage category, rated operating voltage, rated operating current and rated thermal current to see table 2 table 2

Usage category	AC-15		DC-13
Rated operating voltage V	220	380	220
Rated operating current A	1.64	0.95	0.15
Setting thermal current A	6		

Action characteristics of thermal relay when it is at load balance of each phase confirms to table 3 table 3

No.	Multiple of setting current	Action time		Initial status	Ambient temperature °C
1	1.05	>2h		Cool status	20±5°C
2	1.20	<2h			
3	1.50	Grade of releasing	10A <2min	Thermal status (after serial No.1)	
			10 <4min		
4	7.20	Grade of releasing	10A 2s < top ≤ 10s	Cool status	
			10 4s < top ≤ 10s		

Releasing grade: RDR6-25, RDR6-36 is 10A grade, RDR6-93 is 10 grade.

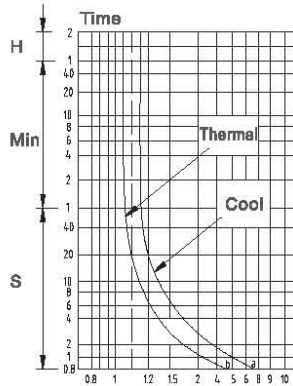
# RELAY

Action characteristics of thermal relay when it is at load unbalance of each phase confirms to table 4

table 4

No.	Multiple of setting current		Action time	Initial status	Ambient temperatureC
	Any two phases	Another phase			
1	1.00	0.90	> 2h	Cool status	20±5℃
2	1.15	0	≦ 2h	Thermal status (after serial No.1)	

Releasing grade of thermal relay is 10 grade, its action scope curve to see map 1

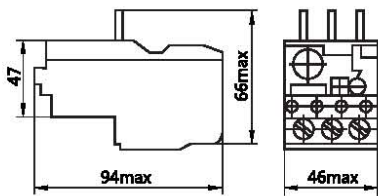


Multiple of setting current  
Map 1 Action scope curve

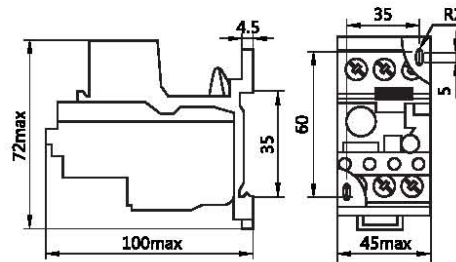
- A. Three phase balance, unbalance, starting by cool status;
- B. Three phase balance, break phase, starting by thermal status

## External and installation dimension

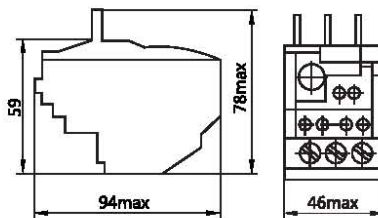
External and installation dimension of thermal relay to see map 3~8



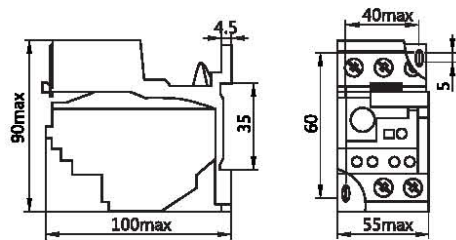
Map 3 External and installation dimension for RDR6-25/Z



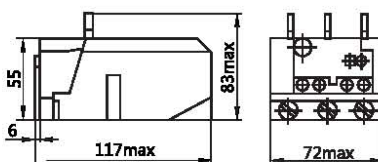
Map 4 External and installation dimension for RDR6-25/F



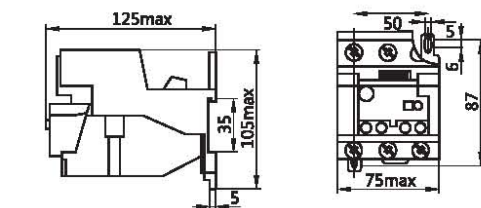
Map 5 External and installation dimension for RDR6-36/Z



Map 6 External and installation dimension for RDR6-36/F



Map 7 External and installation dimension for RDR6-93/Z



Map 8 External and installation dimension for RDR6-93/F

## JR20

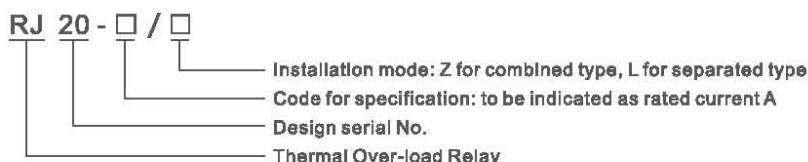
### Series Thermal Over-load Relay



### Usage and Its scope of application

JR20 series thermal over-load relay is suitable for the power system of AC 50Hz/60Hz, rated operating voltage  $U_e$ : 660V, current 0.1~630A, as the use of over-load and break phase protection for AC motor.

### Model No.



### Normal operating condition and installation condition

- 3.1 Ambient temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , and the average value within 24h does not exceed  $+35^{\circ}\text{C}$ ;
- 3.2 Altitude of the installation place does not exceed 2000m;
- 3.3 Atmosphere condition: The relative humidity does not exceed 50% when it is at  $+40^{\circ}\text{C}$ , it allowed relatively high humidity at the relatively low temperature, for example, the relative humidity reaches 90% when  $+20^{\circ}\text{C}$ , and it should take special measurements when there produced the condensation on the product due to the temperature variation.
- 3.4 It should be at the no explosion danger medium, and the medium without the gas that cannot corrode the metal and damage the insulation as well as the places that without conductive dust.
- 3.5 Grade of pollution: 3
- 3.6 Installation category: III
- 3.7 Installation position: installed at the normal position, the gradient between the installation side and the vertical side does not exceed  $\pm 5^{\circ}$ , and without obvious vibration and impact.
- 3.8 Protection grade: IP 00
- 3.9 Installation mode:  
JR20-25 has two kinds of installation modes: combined type, screw installation;  
JR20-63 has four kinds of installation modes: combined type, screw installation, 35mm standard rail combined installation and separated installation.  
JR20-160 has screw installation mode.



# RELAY

## Main technical parameter

Setting current adjusting scope of thermal relay to see table 1

table 1

Model	Code for thermal part	Setting current adjusting scope A	Suited contactor	Model	Code for thermal part	Setting current adjusting scope A	Suited contactor
JR20-10	1R	0.1-0.16-0.15	CJ20-10	JR20-63	1U	16-20-24	CJ20-40 CJ20-63
	2R	0.16-0.19-0.23			2U	24-30-36	
	3R	0.23-0.29-0.35			3U	32-40-47	
	4R	0.35-0.44-0.53			4U	40-47-55	
	5R	0.53-0.67-0.8			5U	47-55-62	
	6R	0.8-1-1.2			6U	55-63-71	
	7R	1.2-1.5-1.8		JR20-160	1W	33-40-47	CJ20-100 CJ20-160
	8R	1.8-2.2-2.6			2W	47-55-63	
	9R	2.6-3.2-3.8			3W	63-74-84	
	10R	3.2-4-4.8			4W	74-86-98	
	11R	4--5--6			5W	85-100-115	
	12R	5--6--7			6W	100-115-130	
	13R	6-7.2-8.4			7W	115-132-150	
	14R	7-8.6-10			8W	130-150-170	
	15R	8.6-10-11.6			9W	144-160-176	
JR20-16	1S	3.6-4.5-5.4	CJ20-16	JR20-250	1X	130-160-195	CJ20-250
	2S	5.4-6.7-8		2X	167-200-250		
	3S	8--10--12		JR20-400	1Y	200-250-300	CJ20-400
	4S	10--12-14		2Y	267-335-400		
	5S	12--14-16		JR20-630	1Z	320-400-480	CJ20-630
	6S	14--16--18			2Z	420-525-630	
JR20-25	1T	7.8-9.7-11.6	CJ20-25				
	2T	11.6-14.3-17					
	3T	17-21-25					
	4T	21-25-29					

Action scope of thermal relay when each pole is electrified to see table 2

table 2

Model	Multiple of setting current	Action time		Predict results	Initial status	Ambient temperature℃	
1	1.05	>2h		No action	Cool status	20±5℃	
2	1.20	<2h		Action	Thermal status (after serial No.1)		
3	1.50	Grade of releasing	10A	<2min			Action
			10	<4min	Action		
4	7.20		10A	2s < t <sub>op</sub> ≤ 10s	Action		Cool status
			10	4s < t <sub>op</sub> ≤ 10s	Action		

Releasing grade: JR20-10, JR20-16, JR20-25, JR20-63 is 10A grade, JR20-160, JR20-250, JR20-400, JR20-630 is 10 grade.

Action scope of thermal relay when two poles are electrified to see table 3

table 3

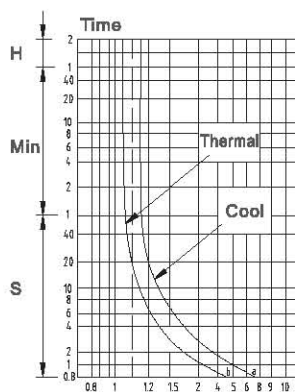
No.	Multiple of setting current		Action time	Initial status	Ambient temperature℃
	Any two phases	Another phase			
1	1.00	0.90	> 2h	Cool status	20±5℃
2	1.15	0	≤2h	Thermal status (after serial No.1)	

Basic parameter of auxiliary circuit to see table 4

table 4

Rated insulation voltage $U_i$ (V)	660		
Setting thermal current $I_{th}$ (A)			
Usage category	AC-15		AC-13
Rated operating voltage $U_e$ (V)	220	380	220
Rated operating current $I_e$ (A)	1.9	1.1	0.2
Fuse (RDT 16 type) specification A			

Releasing grade of thermal relay is 10 grade, Its action scope curve to see map 1

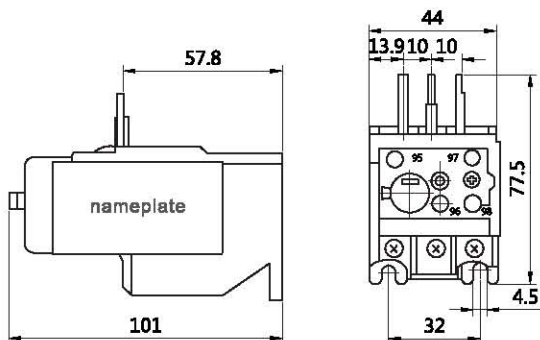


- A. Three phase balance, unbalance, starting by cool status;
- B. Three phase balance, break phase, starting by thermal status

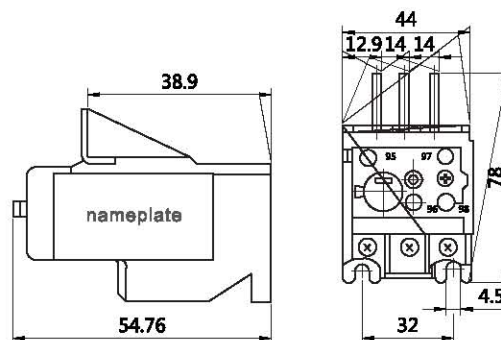
Multiple of setting current  
Map 1 Action scope curve

## External and installation dimension

External and installation dimension of thermal relay to see map 2~9



Map 2 External and installation dimension for JR20-10Z

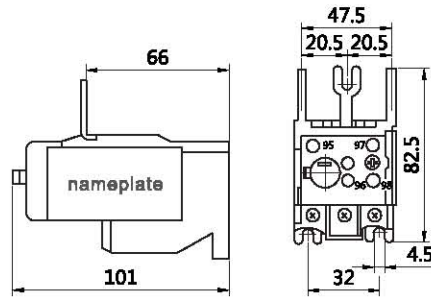


Map 3 External and installation dimension for JR20-16/Z

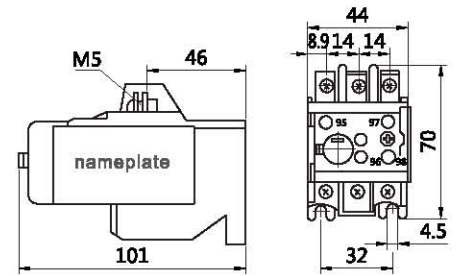
# RELAY

## JR20

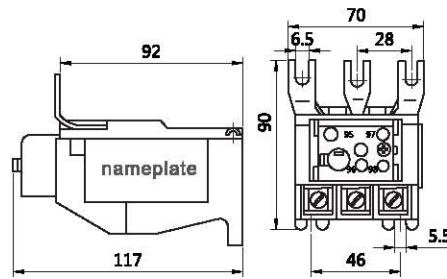
### Series Thermal Over-load Relay



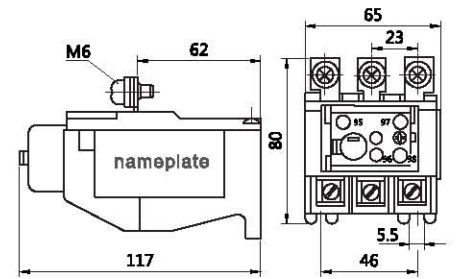
Map 4 External and installation dimension for JR20-25/Z



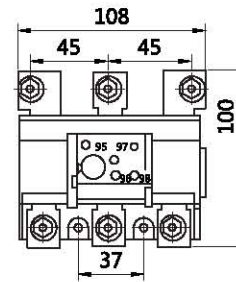
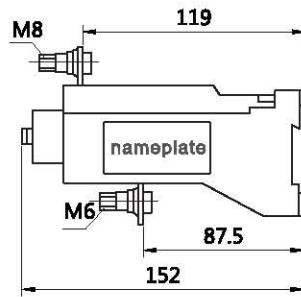
Map 5 External and installation dimension for JR20-10/L, 16/L, 25/L



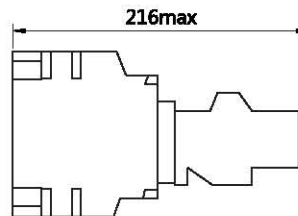
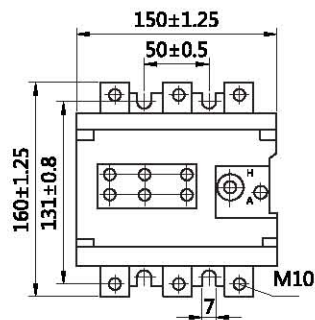
Map 6 External and installation dimension for JR20-63/Z



Map 7 External and installation dimension for JR20-63/L



Map 8 External and installation dimension for JR20-160/L



Map 9 External and installation dimension for JR20-250/L, 400/L, 6

## JR36

### Series Thermal Over-load Relay



### Usage and its scope of application

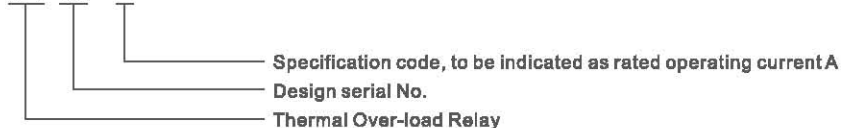
JRS36 series bimetal type thermal over-load relay is suitable for the circuit of AC 50Hz, rated operating voltage  $U_e$ : AC 690V, current of 0.25~160A, as the use of over-load and break phase protection for the AC motor.

Thermal relay has the functions of the setting current is adjustable, temperature compensation, break phase protection, optional selection of auto-reset and manual reset, it can check the circuit's action flexibility, and can manually break the NC contact (NO contact close), its external dimension and installation dimension is the same with JR16B, which is a new generation of ideal product.

This product conforms to: GB14048.4, IEC60947-4-1 etc. standards.

### Model No.

JR 36 - □



### Normal operating condition and installation condition

3.1 Ambient temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , and the average value within 24h does not exceed  $+35^{\circ}\text{C}$

3.2 Altitude of the installation place does not exceed 2000m;

3.3 Atmosphere condition: The relative humidity does not exceed 50% when it is at  $+40^{\circ}\text{C}$ , it allowed relatively high humidity at the relatively low temperature, for example, the relative humidity reaches 90% when  $+20^{\circ}\text{C}$ , and it should take special measurements when there produced the condensation on the product due to the temperature variation.

3.4 It should be at the no explosion danger medium, and the medium without the gas that cannot corrode the metal and damage the Insulation as well as the places that without conductive dust.

3.5 Grade of pollution: 3

3.6 Installation category: III

3.7 Installation position: installed at the normal position, the gradient between the installation side and the vertical side does not exceed  $\pm 5^{\circ}$ , and without obvious vibration and impact.

3.8 Protection grade: IP20

# RELAY

## Main technical parameter

Rated current of thermal relay, rated current, current setting scope of thermal parts and recommended fuse model to see table 1

table 1

Model	Rated current of thermal relay (A)	Thermal parts		Recommended fuse model
		Rated current of thermal parts A	Current adjusting scope	
JR36-20	20	0.35	0.25-0.35	RDT16-00-2
		0.5	0.32-0.5	
		0.72	0.45-0.72	
		1.1	0.68-1.1	
		1.6	1.0-1.6	RDT16-00-4
		2.4	1.5-2.4	RDT16-00-6
		3.5	2.2-3.5	RDT16-00-10
		5	3.2-5	
		7.2	4.5-7.2	RDT16-00-16
		11	6.8-11	RDT16-00-25
		16	10-16	RDT16-00-32
JR36-32	32	22	14-22	RDT16-00-50
		16	10-16	RDT16-00-32
		22	14-22	RDT16-00-50
JR36-63	63	32	20-32	RDT16-00-63
		45	28-45	RDT16-00-100
		63	40-63	RDT16-00-125
JR36-160	160	63	40-63	RDT16-00-125
		85	53-85	RDT16-1-160
		120	75-120	RDT16-1-250
		160	100-160	RDT16-2-315

Action characteristics when thermal relay three phase balance to see table 2

table 2

Model	Multiple of setting current	Action time		Predict results	Initial status	Ambient temperature℃	
1	1.05	> 2h		No action	Cool status	20±5℃	
2	1.20	< 2h		Action	Thermal status (after serial No.1)		
3	1.50	Grade of releasing	10A	< 2min			Action
			10	< 4min	Action		
4	7.20		10A	2s < top ≤ 10s	Action		Cool status
			10	4s < top ≤ 10s	Action		

Releasing grade: JR36-20, JR36-32 is 10A grade, JR36-63, JR36-160 is 10 grade.

Action characteristics when thermal relay three phase unbalance to see table 3

table 3

No.	Multiple of setting current		Action time	Initial status	Ambient temperature ℃
	Any two phases	Another phase			
1	1.00	0.90	> 2h	Cool status	20±5℃
2	1.15	0	≤ 2h	Thermal status (after serial No.1)	

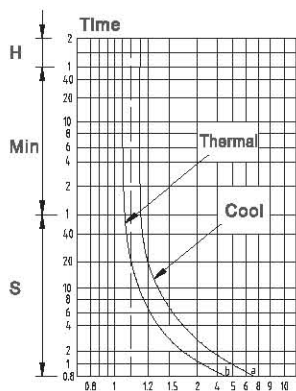


Basic parameter of auxiliary circuit to see table 4

table 4

Rated insulation voltage $U_i$ (V)	380
Setting thermal current $I_{th}$ (A)	10
Rated operating current $I_e$ (A)	0.47

Action characteristics curve of thermal relay to see map 1

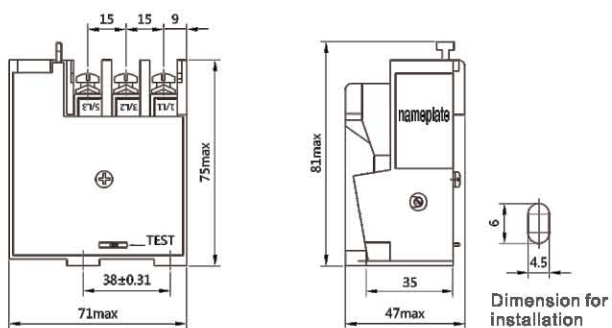


- A. Three phase balance, unbalance, starting by cool status;
- B. Three phase balance, break phase, starting by thermal status

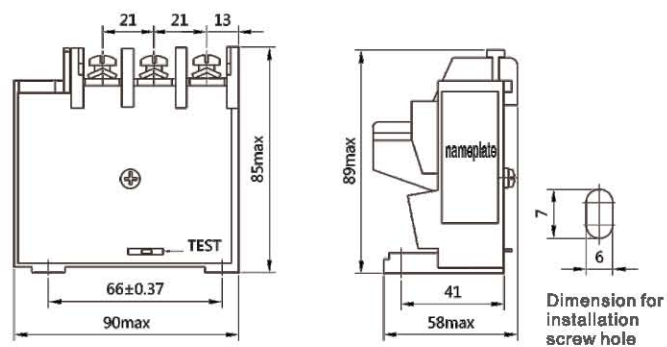
Multiple of setting current  
Map 1 Action scope curve

## External and installation dimension

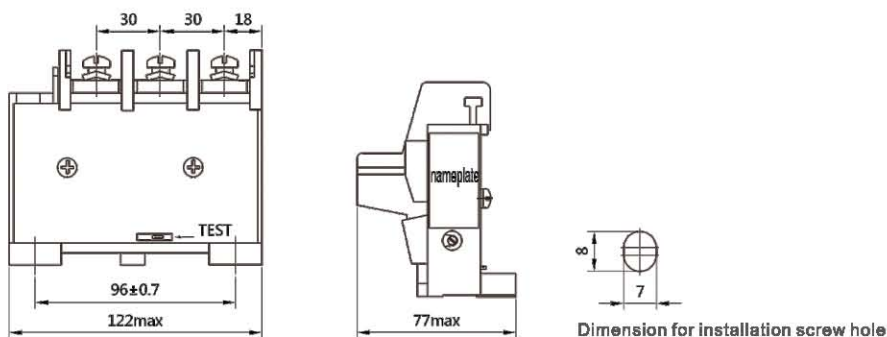
External and installation dimension of thermal relay to see map 2~4



Map 2 External and installation dimension for JR36-20, JR36-32



Map 3 External and installation dimension for JR36-63



Map 4 External and installation dimension for JR36-160

# RELAY

## JRS1

### Series Thermal Over-load Relay



### Usage and its scope of application

JRS1 series thermal over-load relay is suitable for the circuit of AC50~60Hz, rated operating voltage  $U_e$ : 380V, rated current 0.1~80A, as the use of over-load and break phase protection for AC motor. Thermal relay is with reasonable structure, has setting current adjusting device, manual reset device, stop device, temperature compensation device, as well as protective structure that protect the hands from electric shock.

This product confirms to: GB14048.4, IEC60947-4-1 etc. standards

### Model No.

JR S 1 - □ / □

- Installation mode (Z for combined type, F for separated type)
- Code for basic specification (to be indicated as rated current A)
- Design serial No.
- Three phase type
- Thermal Over-load Relay

### Normal operating condition and installation condition

- 3.1 Ambient temperature:  $-5^{\circ}\text{C}$ ~ $+40^{\circ}\text{C}$ , and the average value within 24h does not exceed  $+35^{\circ}\text{C}$
- 3.2 Altitude of the installation place does not exceed 2000m;
- 3.3 Atmosphere condition: The relative humidity does not exceed 50% when it is at  $+40^{\circ}\text{C}$ , it allowed relatively high humidity at the relatively low temperature, for example, the relative humidity reaches 90% when  $+20^{\circ}\text{C}$ , and it should take special measurements when there produced the condensation on the product due to the temperature variation.
- 3.4 It should be at the no explosion danger medium, and the medium without the gas that cannot corrode the metal and damage the insulation as well as the places that without conductive dust.
- 3.5 Grade of pollution: 3
- 3.6 Installation category: III
- 3.7 Installation position: Installed at the normal position, the gradient between the installation side and the vertical side does not exceed  $\pm 5^{\circ}\text{C}$ , and without obvious vibration and impact.
- 3.8 Protection grade: IP 00

## Main technical parameter

Setting current adjusting scope for thermal parts of thermal relay, suited AC contactor and the suited fuse type to see table 1

table 1

No	Model	Rated current of thermal relay (A)	Thermal part		Sulted AC contactor model (for combined type)	Fuse model
			Rated setting current (A)	Setting current adjusting scope (A)		
1	JR1-25	25	0.16	0.1-0.12-0.14-0.16	CJX2-09-25 CJX2-12-25-32	RDT1600-2
2			0.25	0.16-0.19-0.22-0.25		RDT1600-2
3			0.4	0.25-0.3-0.35-0.4		RDT1600-2
4			0.63	0.4-0.5-0.63		RDT1600-2
5			1	0.63-0.75-0.9-1		RDT1600-2
6			1.6	1-1.2-1.4-1.6		RDT1600-4
7			2.5	1.6-1.9-2.2-2.5		RDT1600-6
8			4	2.5-3-3.5-4		RDT1600-10
9			6	4-5-6		RDT1600-16
10			8	5.5-8.5-8		RDT1600-16
11			10	7-8.5-10		RDT1600-20
12			13	10-11.5-13		RDT1600-25
13			18	13-15.5-18		RDT1600-40
14			25	18-21.5-25		RDT1600-50
15	JR1-80	80	32	23-27.5-32	CJX2-40-50-63	RDT1600-63
16			40	30-35-40		RDT1600-80
17			50	38-44-50		RDT1600-100
18			57	48-52-57		RDT1600-125
19			66	57-62-66		RDT16-1-160
20			80	63-72-80		RDT16-1-160

Action characteristics when thermal relay three phase balance to see table 2

table 2

Model	Multiple of setting current	Action time		Predict results	Initial status	Ambient temperature℃
1	1.05	> 2h		No action	Cool status	20±5℃
2	1.20	< 2h		Action	Thermal status (after serial No.1)	
3	1.50	10A	< 2min	Action		
4	7.20	10A	2s < top ≤ 10s	Action	Cool status	

Releasing grade: JRS1-25, 80 is 10A grade

Action characteristics when thermal relay three phase unbalance to see table 3

table 3

No.	Multiple of setting current		Action time	Initial status	Ambient temperature ℃
	Any two phases	Another phase			
1	1.00	0.90	> 2h	Cool status	20±5℃
2	1.15	0	≤ 2h	Thermal status (after serial No.1)	

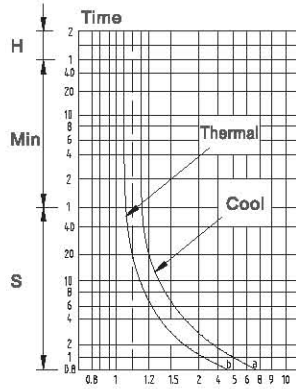
Usage category, rated operating voltage, setting thermal current and rated operating current of auxiliary circuit to see table 4

table 4

Usage category	AC-15	
Rated operating voltage V	220	380
Rated operating current A	1.64	0.95
Setting thermal current A	6	

# RELAY

Action characteristics curve of thermal relay to see map 1

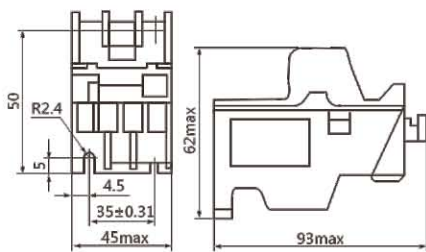


Multiple of setting current  
Map 1 Action scope curve

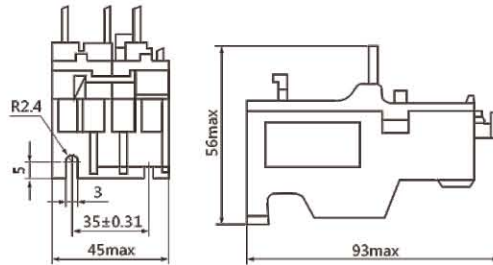
- A. Three phase balance, unbalance, starting by cool status;
- B. Three phase balance, break phase, starting by thermal status

## External and installation dimension

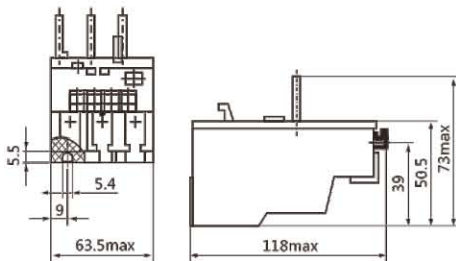
External and installation dimension of thermal relay to see map 3~6



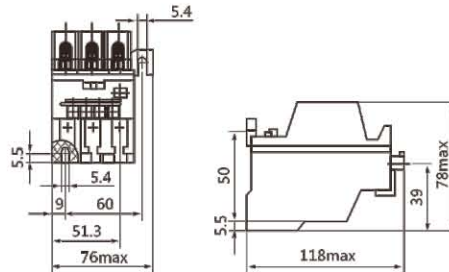
Map 3 External and installation dimension for JRS1-25/F



Map 4 External and installation dimension for JRS1-25/Z



Map 5 External and installation dimension for JRS1-80/Z



Map 5 External and installation dimension for JRS1-80/F

## JRS2

### Series Thermal Over-load Relay

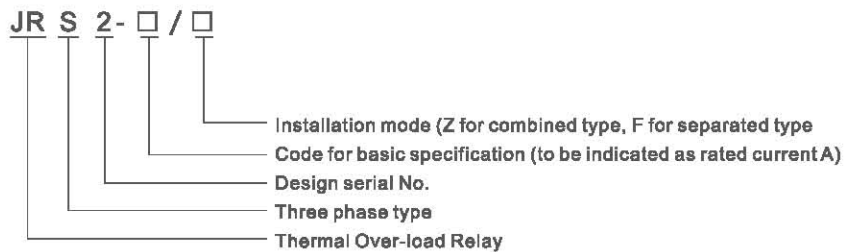


### Usage and its scope of application

JRS2 Series Thermal Relay is suitable for the power system of AC50Hz/60Hz, rated voltage  $U_e$ : 690V, current 0.1~630 (A) as the use of over-load and break-phase protection of AC motor or circuit. Thermal relay has the functions of break phase protection, temperature compensation, optional selection of manual reset and auto-reset, inspection of action flexibility, and manually break the NC contacts and NO contacts.

This product conforms to: GB14048.4, IEC60947-4-1 etc. standards.

### Model No.



### Normal operating condition and installation condition

3.1 Ambient temperature:  $-5^{\circ}\text{C}\sim+40^{\circ}\text{C}$ , average value within 24h does not exceed  $+35^{\circ}\text{C}$ ;

3.2 Height of altitude: does not exceed 2000m,

3.3 Atmosphere: when highest temperature is  $+40^{\circ}\text{C}$ , the relative humidity does not exceed 50%; it allowed the relatively high humidity when it is under the relatively low temperature, for example, it reaches 90% when  $+20^{\circ}\text{C}$ ; it should take special measurements if there produced condensation that is due to the temperature variation.

3.4 Grade of pollution: 3

3.5 Installation category: III

3.6 Position of installation: the gradient between the installation side of relay and the vertical side is not more than  $\pm 5^{\circ}$

3.7 Impact and vibration: product should be installed and used at the places of no obvious shake, impact and vibration.

3.8 Installation mode:

JRS2-12.5, 25, 32, 45, 80 has three kinds of installation mode: combination installation, screw installation, 35mm standard rail installation.

JRS2-63, 135, 150, 180, 400, 630 has two kinds of installation mode: screw installation, 35mm standard rail installation.

3.9 Protection grade: IP00



# RELAY

## Main technical parameter

Rated insulation voltage of thermal relay as well as suited AC contactor to see table 1

table 1

Model	Suited contactor model for combination installation	Rated insulation voltage	Electrical life	Frequency of over-load protection
JRS2-12.5	CJX1-0.9,CJX1-12	660V	10000	10000
JRS2-25	CJX1-16,CJX1-22, CJX1-32			
JRS2-32	CJX1-32,CJX1-22			
JRS2-45	CJX1-32,CJX1-38			
JRS2-63	CJX1-0.9,12,16,22,32,38,48,63,75			
JRS2-80	CJX1-45,63,75			
JRS2-125	CJX1-85,110,140			
JRS2-150	CJX1-85,110,140,170			
JRS2-180	CJX1-85,110,140,170,205			
JRS2-400	CJX1-250,300,400			
JRS2-630	CJX1-500,630			

Setting current adjusting scope of thermal relay as well as the recommended SCPD model and specification to see table 2

table 2

Model	Setting current adjustable scope A	Recommended SCPD model, specification	Conductor's cross section for main circuit (mm <sup>2</sup> )
JRS2-12.5,25,45,63	0.1-0.16	RDT16-00-2	1
	0.16-0.25		
	0.25-0.4		
JRS2-12.5	0.32-0.5	RDT16-00-4	1
JRS2-12.5,25,45,63	0.5-0.63		
	0.63-1		
	0.8-1.25		
JRS2-12.5,25,45,63	1-1.6	RDT16-00-6	1
	1.25-2		
	1.8-2.5		
	2-3.2		
JRS2-12.5,25,45,63	2.5-4	RDT16-00-10	1
	3.2-5		
JRS2-12.5,25,32,50,63,80	4-6.3	RDT16-00-16	1.5
JRS2-12.5,25,45,63	5--8		
JRS2-12.5,25,32,45,63	6.3-10	RDT16-00-20	2.5
JRS2-12.5,25,45,63	8-12.5		
JRS2-12.5	10-14.5	RDT16-00-32	2.5
JRS2-25,32,45,63	10--16		
JRS2-80	11--17	RDT16-00-40	4
JRS2-25,32,45,63,80	12.5-20		
JRS2-25,32,45,63,80	16-25	RDT16-00-50	6
JRS2-32,45,63,80	20-32		
JRS2-32,45	25-36	RDT16-00-80	6
JRS2-63,80	25-40		
JRS2-45	32-40	RDT16-00-100	10
	36-45		
JRS2-63	32-45	RDT16-00-100	10
JRS2-80	32-40		

Continued table 2

Model	Setting current adjustable scope A	Recommended SCPD model, specification	Conductor's cross section for main circuit mm
JRS2-63、 80	40-57	RDT16-00-125	16
	50-63		
JRS2-135、 150、 180	55-80	RDT16-1-160	25
JRS2-80	57-70		
JRS2-80	63-80	RDT16-1-160	35
	77-88		
JRS2-135、 150、 180	63-90	RDT16-1-200	50
	80-110	RDT16-1-250	
JRS2-400	80-125		RDT16-2-315
JRS2-135、 150、 180	90-120		
	JRS2-150、 180	110-135	RDT16-2-400
120-150			
JRS2-400	125-200	RDT16-2-315	95
JRS2-180	135-160	RDT16-2-400	70
	150-180	RDT16-2-400	95
JRS2-400	160-250	RDT16-3-500	120
	200-320	RDT16-3-630	185
	250-400	RDT16-4-800	240
JRS2-630	320-500	RDT16-4-1000	2×150
	400-630		2×185

Action scope of the thermal relay when its each pole electrified to see table 3

table 3

Model	Multiple of setting current	Action time	Predict results	Initial status	Ambient temperature℃
1	1.05	> 2h	No action	Cool status	20±5℃
2	1.20	< 2h	Action	Thermal status (after serial No.1)	
3	1.50	10A < 2min	Action		
		10 < 4min	Action		
4	7.50	10A 2s < top ≤ 10s	Action	Cool status	
		10 4s < top ≤ 10s	Action		

Releasing grade: JRS2-12.5, JRS2-25, JRS2-32, JRS2-45, JRS2-63 is 10A grade, JRS2-80, JRS2-135, JRS2-150, JRS2-180, JRS2-400, JRS2-630 is 10 grade.

Action scope of thermal relay when two poles electrified to see table 4

table 4

No.	Multiple of setting current		Action time	Initial status	Ambient temperature ℃
	Any two phases	Another phase			
1	1.00	0.90	> 2h	Cool status	20±5℃
2	1.15	0	≤ 2h	Thermal status (after serial No.1)	

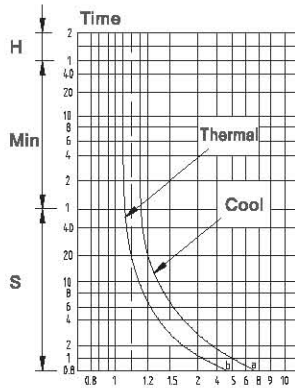
Basic parameter of auxiliary circuit to see table 5

table 5

Rated insulation voltage Ui (V)	380		
Setting thermal current Ith (A)	6		
Usage category	AC-15		AC-13
Rated operating voltage Ue (V)	220	380	220
Rated operating current Ie (A)	1.9	1.1	0.2
Suited fuse (RDT16 type) specification A	6		

# RELAY

Releasing grade of thermal relay: JRS2-12.5, 25, 32, 45, 63, 80, 135, 150, 180, 400, 630 is 10A grade  
 Its action scope classic curve to see map 2

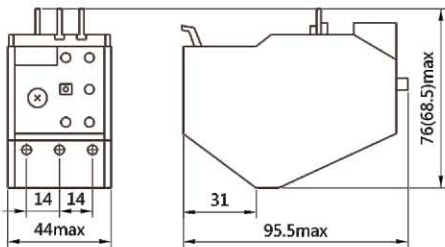


Multiple of setting current  
 Map 1 Action scope curve

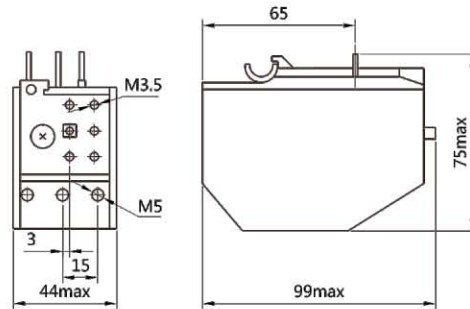
- A. Three phase balance, unbalance, starting by cool status;
- B. Three phase balance, break phase, starting by thermal status

## External and installation dimension

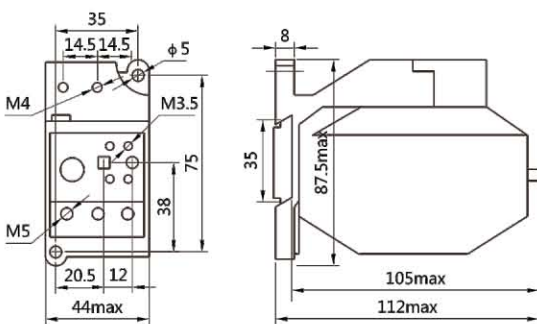
External and installation dimension of thermal to see map 3~10



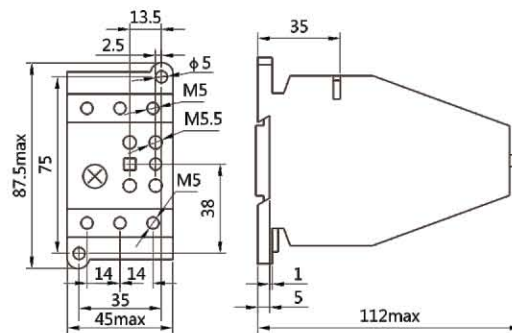
Map 3 External and installation dimension of JRS2-12.5/Z, JRS2-25/Z



Map 4 External and installation dimension of JRS2-32/Z



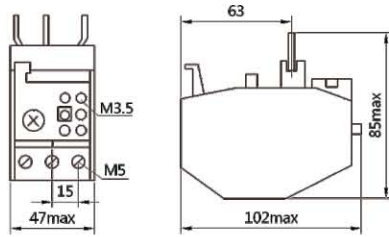
Map 5 External and installation dimension of JRS2-12.5/F, JRS2-25/F, JRS2-32/F



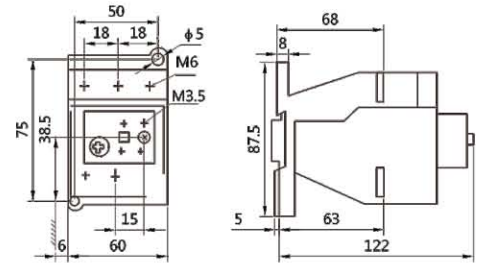
Map 6 External and installation dimension of JRS2-63

# JRS2

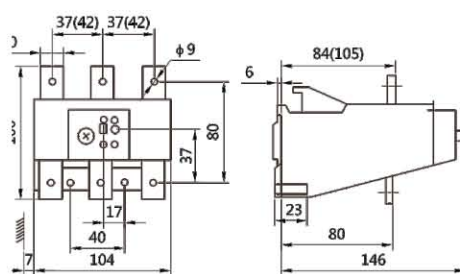
## Series Thermal Over-load Relay



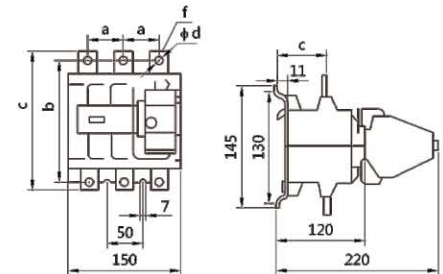
Map 7 External and installation dimension of JRS2-45/Z



Map 8 External and installation dimension of JRS2-80/Z



Map 9 External and installation dimension of JRS2-135, 150 180/F



Map 10 External and installation dimension of JRS2-400, 630

Installation dimension of JRS2-400, 630 to see table 6

table 6

Model	a	b	c	d	f
Setting current of 80~200A for JRS2-400	46	140	69	9	20×3
Setting current of 160~400A for JRS2-400	50	146	70	11	25×4
Setting current of 320~630A for JRS2-600	52	156	71	11	30×3

# RELAY

## JRS8

### Series Thermal Over-load Relay



### Usage and its scope of application

JRS8 series (T series thermal relay) bimetal type thermal over-load relay is suitable for the power system of AC50Hz or 60Hz, rated operating voltage  $U_e$ : 660V, current 0.1~500A, as the use of over-load and break phase protection for AC motor.

Thermal relay with the functions of break phase, temperature compensation, action indication, auto and manual reset, and stop, etc.

This product conforms to: GB14048.4, IEC60947-4-1 etc. standards.

### Model No.

JR S 8 - □ / □

- Installation mode (Z for combined type, F for separated type)
- Code for basic specification (to be indicated as rated current A)
- Design serial No.
- Three phase type
- Thermal Over-load Relay

### Normal operating condition and installation condition

3.1 Ambient temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , average value within 24h does not exceed  $+35^{\circ}\text{C}$

3.2 Altitude: does not exceed 2000m

3.3 Atmosphere condition: relatively humidity does not exceed 50% when at the highest temperature of  $+40^{\circ}\text{C}$ ; It allowed relatively high humidity when it is at relatively low temperature, average lowest temperature of the most wet month does not exceed  $+25^{\circ}\text{C}$ , and the average maximum humidity of this month does not exceed 90%, and should be considered the condensation produced on the product due to the temperature variation.

3.4 It should be at the no explosion danger medium, and the medium without the gas that cannot corrode the metal and damage the insulation as well as the places that without conductive dust.

3.5 Grade of pollution: 3

3.6 Installation category: III

3.7 Installation position: Installed at the normal position, the gradient between the installation side and the vertical side does not exceed  $\pm 5^{\circ}\text{C}$ , and without obvious vibration and impact.

3.8 Protection grade: IP 00

3.9 Installation mode

a) Combination mode

Put the conduct rod directly plug-in install at the terminal of relevant AC contactor, the combination mode is the basic type of installation for this series thermal relay.

b) Separated mode

To make the thermal relay be installed at relevant installation board first, and then to install the installation board by screw or make the installation board directly insert on the installation rail.



## Main technical parameter

Rated current of thermal relay, setting current scope of thermal parts and suited AC contactor model to see table 1

table 1

Model	JRS8-16	JRS8-25	JRS8-45	JRS8-85	JRS8-105	JRS8-170	JRS8-250	JRS8-370	
	16	25	45	85	105	170	250	370	
Setting current scope of thermal parts (A)	0.11-0.16 0.14-0.21	0.10-0.16 0.16-0.25	0.28-0.40 0.35-0.52	6-10	27-42	90-130	100-160	100-160	
	0.19-0.29 0.27-0.40	0.25-0.40 0.40-0.63	0.45-0.63 0.55-0.83	8-14	36-52	110-160	160-250	160-250	
	0.35-0.52 0.42-0.63	0.63-1 1-1.40	0.7-1 0.86-1.3	12-20	45-63	140-200	250-400	250-400	
	0.55-0.83 0.7-1.0	1.3-1.8 1.7-2.4	1.1-1.6 1.4-2.1	17-29	57-82			310-500	
	0.9-1.30 1.1-1.5	2.2-3.1 2.8-4	1.8-2.5 2.2-3.3	25-40	70-105				
	1.3-1.80 1.5-2.1	3.5-5 4.5-6.5	2.8-4 3.5-5.2	35-55	80-115				
	1.7-2.4 2.1-3.0	6-8.5 7.5-11	4.5-6.3 5.5-8.3	45-70					
	2.7-4 3.4-4.5	10-14 13-19	7-10 8.6-13	60-110					
	4-6 5.2-7.5	18-25 24-32	11-16 14-21						
	6.3-9 7.5-11		18-27 25-35						
	9-3 12-17.6		30-45						
	Combined type suited AC contactor model	CJX8-9		CJX8-25	CJX8-65	CJX8-37	CJX8-65	CJX8-250	CJX8-370
		CJX8-12	CJX8-25	CJX8-30	CJX8-85	CJX8-45	CJX8-85		CJX8-460
		CJX8-16	CJX8-30	CJX8-37		CJX8-65	CJX8-105		
			CJX8-37	CJX8-45		CJX8-85	CJX8-170		
							CJX8-105		
						CJX8-170			

Action scope when the two poles of thermal relay electrified to see table 2

table 2

No.	Multiple of setting current		Action time	Initial status	Ambient temperature °C
	Any two phases	Another phase			
1	1.00	0.90	> 2h	Cool status	20±5°C
2	1.15	0	≤2h	Thermal status (after serial No.1)	

Action scope when three poles of thermal relay electrified to see table 3

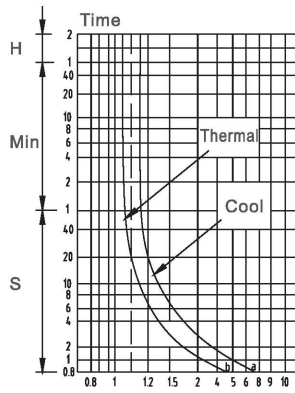
table 3

Model	Multiple of setting current	Action time		Predict results	Initial status	Ambient temperature °C
1	1.05	> 2h		No action	Cool status	20±5°C
2	1.20	< 2h		Action	Thermal status (after serial No.1)	
3	1.50	Releasing grade	10A	< 2min		
			10	< 4min	Action	
4	7.50	10A	2s < top ≤ 10s	Action	Cool status	
			10	4s < top ≤ 10s		

Product releasing grade: JRS8-16, 25, 45 is 10A grade; JRS8-85, 105, 170, 250, 370 is 10 grade.

# RELAY

Action scope curve to see map 1



Multiple of setting current  
Map 1 Action scope curve

- A. Three phase balance, unbalance, starting by cool status;
- B. Three phase balance, break phase, starting by thermal status

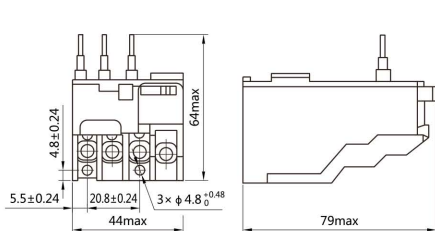
Types and basic parameter for the auxiliary contacts of thermal relay to see table 4

table 4

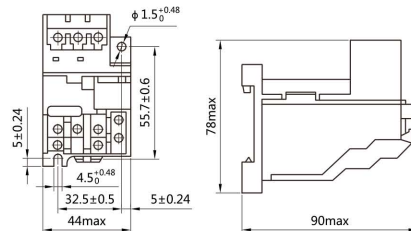
Model	JS8-16	JS8-25	JS8-45		JS8-85	JS8-105, 170 JS8-205, 370	
Code for auxiliary contacts	95-96 97-98	95-96 97-98	95-96	97-98	95-96	95-96	97-98
Rated insulation voltage	380V						
Setting thermal current I <sub>th</sub>	10A	10A	10A	6A	10A	10A	6A
AC-15: 220V	3A	3A	3A	1.7A	3A	3A	1.7A
AC-15: 380V	2A	2A	2A	1.3A	2A	2A	1.3A
DC-13: 220V	0.15A	0.15A	0.15A	0.15A	0.15A	0.15A	0.15A
Type of auxiliary contacts	1NO+1NC	1NO+1NC	1NO+1NC		1NC	1NO+1NC	

## External and installation dimension

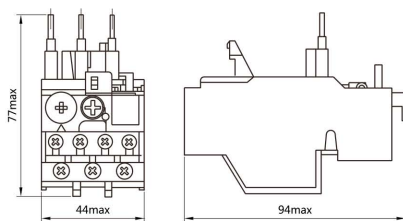
External and installation dimension of thermal relay to see map 2~12



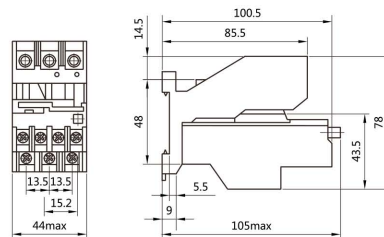
Map 2 External and installation dimension for JRS8-16/Z



Map 3 External and installation dimension for JRS8-16/F



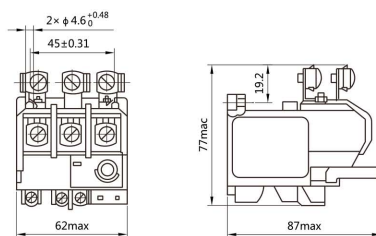
Map 4 External and installation dimension for JRS8-25/Z



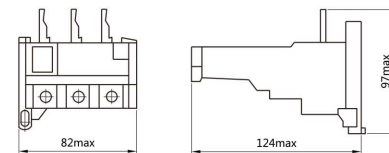
Map 5 External and installation dimension for JRS8-25/F

# JRS8

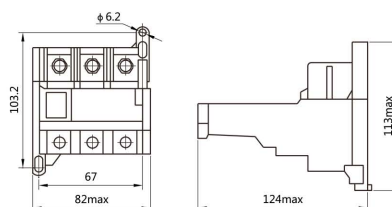
## Series Thermal Over-load Relay



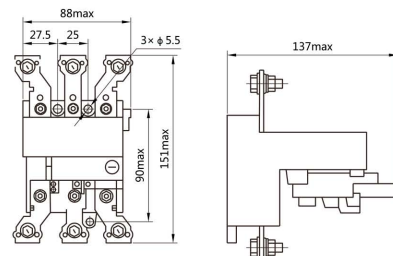
Map 6 External and installation dimension for JRS8-45/Z



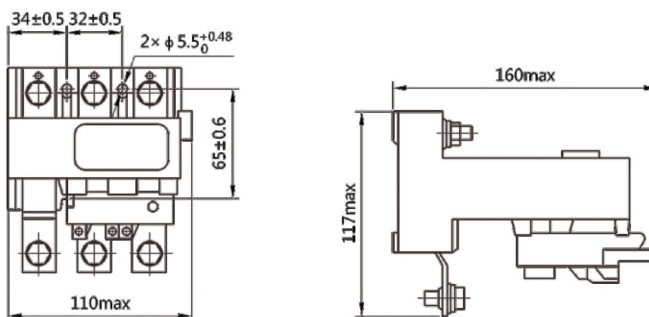
Map 7 External and installation dimension for JRS8-45/F



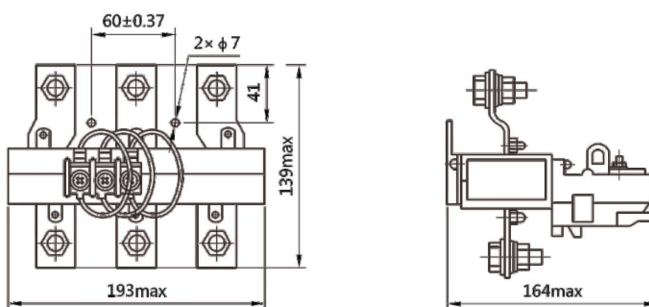
Map 8 External and installation dimension for JRS8-85/Z



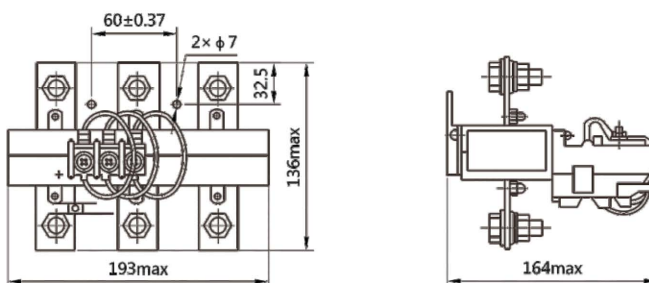
Map 9 External and installation dimension for JRS8-85/F



Map 10 External and installation dimension for JRS8-170



Map 11 External and installation dimension for JRS8-250



Map 12 External and installation dimension for JRS8-370

# RELAY

## JZ7

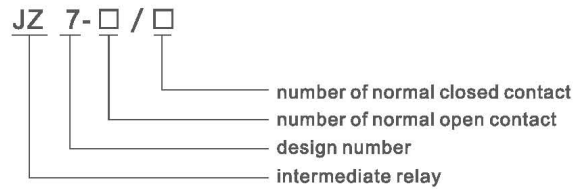
### Series Contactor Type relay



### Application

JZ7 series contactor type relay is an intermediate relay, which applied to the circuit of AC 50Hz, rated working voltage up to 380V and DC rated voltage up to 220V, to control kinds of electromagnetic coil, signal amplification or transmission of signal to the relevant control elements. It conforms with the standard of GB14048.5, IEC60947-5-1.

### Model No.



### Normal operating condition and installation condition

- 3.1 Ambient air temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , within 24h average value not exceed  $+35^{\circ}\text{C}$
- 3.2 Altitude: not exceed 2000m
- 3.3 atmospheric conditions when the highest temperature is  $+40^{\circ}\text{C}$ , air relative humidity is not exceed 50%; when in lower temperature, it allow higher humidity, for example,  $+20^{\circ}\text{C}$  up to 90%
- 3.4 Pollution level: 3 level
- 3.5 Mounting type: III type
- 3.6 Mounting position: the mounting face of contactor with the vertical plane is not greater than  $\pm 5^{\circ}$
- 3.7 Shock and vibration: The product should be installed and used where there is no significant shaking, shock and vibration.

### Main technical parameter

#### 4.1 Relay contact combination form (see table 1)

Model	JZ7-44	JZ7-53	JZ7-62	JZ7-71	JZ7-80
NO Contact	4	5	6	7	8
NC Contact	4	3	2	1	0

#### 4.2 Relay main technique parameter

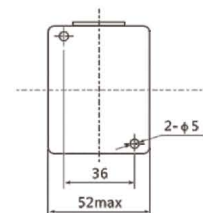
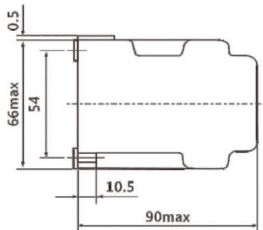
Use category	Conventional heating current	Rated working voltage (V)	Rated working current (A)	Control capacity	Operating frequency (times/h)	Electrical life (million times)	Mechanical life (million times)	Grip coil voltage AC (V)	Coil consumption power (VA)
AC-15	5A	380	0.47	180VA	1200	50	300	12,24,36,48,110,127,220,380	Start:75 Hold:13
DC-30		220	0.15	33W					

#### 4.3 Relay operation characteristic

Relay can be reliable pull within any value of rated control power voltage ( $U_s$ ) 85%~110% range, be reliable release within 20%~70% range.

### Appearance and dimension

Relay is mounted by screws (see left picture).



## JZC1

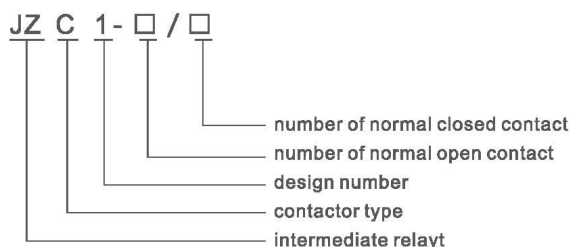
### Series Contactor Type relay



### Application

JZC1 series contactor type relay is an intermediate relay ,which applied to the circuit of control Ac 50Hz or 60Hz, rated working voltage up to 660V and DC rated voltage to 220V,as control kinds of coil, and signal amplification or transmission of signal to the relevant control elements. It conforms with the standard of GB14048.5,IEC60947-5-1.

### Model No.



### Normal operating condition and installation condition

- 3.1 Ambient air temperature:-5℃~+40℃,within 24h average value not exceed +35℃
- 3.2 Altitude: not exceed 2000m
- 3.3 atmospheric conditions when the highest temperature is +40℃,air relative humidity is not exceed 50%;when in lower temperature, it allow higher humidity, for example,+20℃ up to 90%
- 3.4 Pollution level: 3 level
- 3.5 Mounting type: III type
- 3.6 Mounting position: the mounting face of contactor with the vertical plane is not greater than ±5°
- 3.7 Shock and vibration: The product should be installed and used where there is no significant shaking, shock and vibration.

### Structural Features

Relay is used in E-shape core, double breakpoint bridge contact system and direct acting motion structure, action is light and flexible. The housing consists of a base and an upper base, the upper layer is divided into single layer or double layer, which can easily form 4 pairs or 8 pairs of contacts. The clear position of housing can indicate the operating status of the relay . The enclosure protection class is IP20,with anti-touch function, effectively prevent the person directly touch the electricity part of the relay .



# RELAY

## Main technical parameter

Relay main technique parameter ,see table 1

table 1

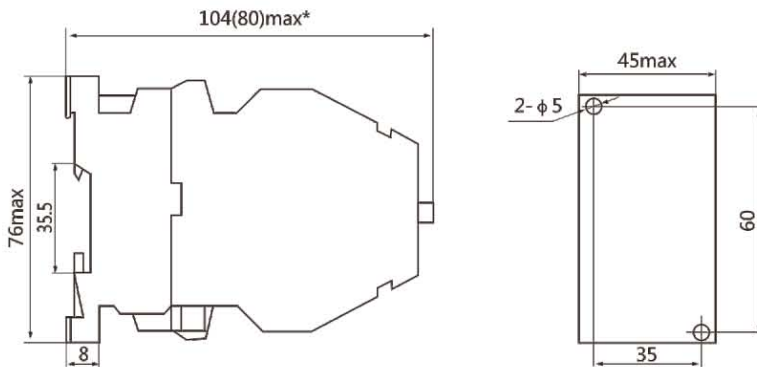
Model	Structure	NO contact	NC contact	Rated insulated voltage (Ui/V)	Conventional heating current (Ith/A)	Rated control current(Ie/A)			Coil power consumption		Operating frequency times/h	Electrical life AC-15 (Million times)	Rated control power voltage UsV(50Hz)		
						Ue/V	220	380	660	AC (VA)				DC(W)	
JZC1-13	single layer	1	3	660	16	Ie	Ac-15	10	8	2	Start 68 hold 10	1200	120	36,48,110, 220,380	
JZC1-22		2	2												
JZC1-31		3	1												
JZC1-40		4	0												
JZC1-44	double layer	4	4												
JZC1-53		5	3												
JZC1-62		6	2												
JZC1-71		7	1												
JZC1-80		8	0												
							DC-15	0.45							

### 5.2 Relay action characteristic

The relay in the rated control power supply voltage range of 85% to 110% of any value can be reliable pull ,in the range of 20 to 75% reliable release

## Overall and installation dimension

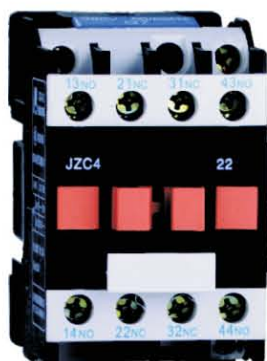
Overall and Installation dimension as below picture (unit mm)  
Relay use 35mm rail mounting or screw mounting



\* single layer height is 80mm, double layer height is 104mm

## JZC4

### Series Contactor Type relay

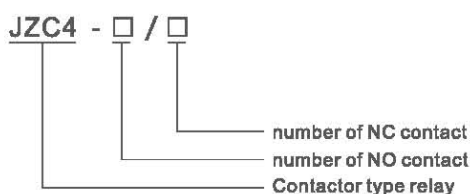


### Application

JZC4 series contactor type relay is mainly applied to the circuit of control Ac 50Hz or 60Hz, rated working voltage up to 380V and DC rated voltage to 220V, as relay control, signal amplification or transmission of signal. Relay is according to GB14048.5 and JB/T8978 standards to design, manufacture and test.

It conforms with the standard of GB14048.5, IEC60947-5-1.

### Model No.



### Normal operating condition and installation condition

3.1 Ambient air temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , within 24h average value not exceed  $+35^{\circ}\text{C}$

3.2 Altitude: not exceed 2000m

3.3 atmospheric conditions when the highest temperature is  $+40^{\circ}\text{C}$ , air relative humidity is not exceed 50%; when in lower temperature, it allow higher humidity, for example,  $+20^{\circ}\text{C}$  up to 90%

3.4 Pollution level: 3 level

3.5 Mounting type: III type

3.6 Mounting position: the mounting face of contactor with the vertical plane is not greater than  $\pm 5^{\circ}$

3.7 Shock and vibration: The product should be installed and used where there is no significant shaking, shock and vibration.

### Structural Features

Contact with friction contact. Modular structure, can be easily installed a variety of accessories: auxiliary contact group, air delay, locking device etc. increase different function. Relay terminals is with protective structure, up to IP20 class, more safe and reliable. The connecting screw adopts a self elevating tile washer combination screw. Relay can be mounted by screws, also 35mm standards card-track. Replaced the coil, Just loosen the screws of the two insulating seat on the connecting relay, Separate the upper and lower parts of the casing to two parts. The relay is derived from CJX2-09, which appearance and dimension are same as CJX2-09, also can assemble F4 auxiliary contact group, increase contact numbers, the most is 8 pairs.

# RELAY

## JZC4

### Series Contactor Type relay

Model	Contact pairs	
	NO	NC
JZC4-40	4	0
JZC4-31	3	1
JZC4-22	2	2
F4-11	1	1
F4-20	2	0
F4-02	0	2
F4-13	1	3
F4-31	3	1
F4-22	2	2
F4-40	4	0
F4-04	0	4

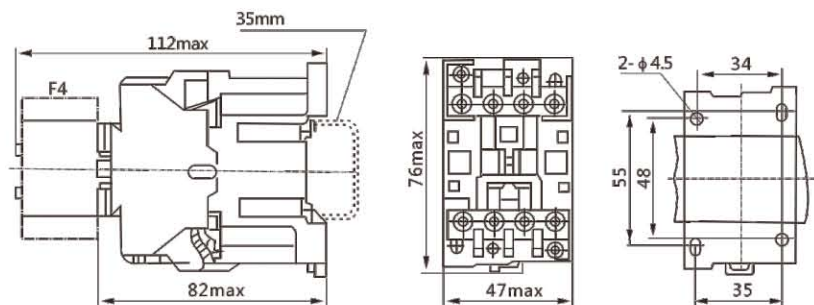
### Main technical parameter

Action characteristic: Pull in voltage is (85%~110%)Us, release voltage is(20%~75%) Us  
Coil voltage is Ac 50/60Hz, 24,48,110,220,380V

table 1

Rated insulated voltage(V)	Conventional thermal current(A)	Mini load (available work)	Rated control power		Electricity life(X10000 times)	Mechanical life(X10000 times)	Operation frequency/h
			DC-13	AC-15			
660	10	6VX10mA	220V 36W	380V 360VA	120	1000	1200

### Appearance and installation dimension



## JZC4-Z

### Series DC Contactor Type relay

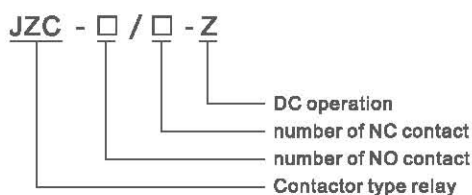


### Application

JZC4-Z series DC contactor type relay is mainly applied to the circuit of control Ac 50Hz or 60Hz, rated working voltage up to 380V and DC rated voltage to 220V, as relay control, signal amplification or transmission of signal. Relay is according to GB14048.5 and JB/T8978 standards to design, manufacture and test.

It conforms with the standard of GB14048.5, IEC60947-5-1.

### Model No.



### Normal operating condition and installation condition

3.1 Ambient air temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , within 24h average value not exceed  $+35^{\circ}\text{C}$

3.2 Altitude: not exceed 2000m

3.3 atmospheric conditions when the highest temperature is  $+40^{\circ}\text{C}$ , air relative humidity is not exceed 50%; when in lower temperature, it allow higher humidity, for example,  $+20^{\circ}\text{C}$  up to 90%

3.4 Pollution level: 3 level

3.5 Mounting type: III type

3.6 Mounting position: the mounting face of contactor with the vertical plane is not greater than  $\pm 5^{\circ}$

3.7 Shock and vibration: The product should be installed and used where there is no significant shaking, shock and vibration.

### Structural Features

4.1. The movement mechanism is straight type, and the contact is double break point

4.2. Both sides can be provided with auxiliary contact group, and auxiliary contact group or air delay head can be arranged at the upper part

4.3 Coil terminal can add delay or overvoltage absorption etc kinds of function module.

4.4 Protect type, protect class IP10

4.5 Contact with a mandatory friction structure dynamic and static contact constitute a mesh contact, improve contact reliability.

Model	Contact pairs	
	NO	NC
JZC4-40Z	4	0
JZC4-31Z	3	1
JZC4-22Z	2	2

# RELAY

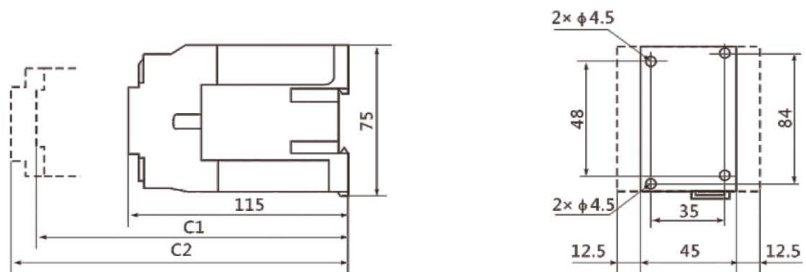
## JZC4-Z

Series Contactor  
Type relay

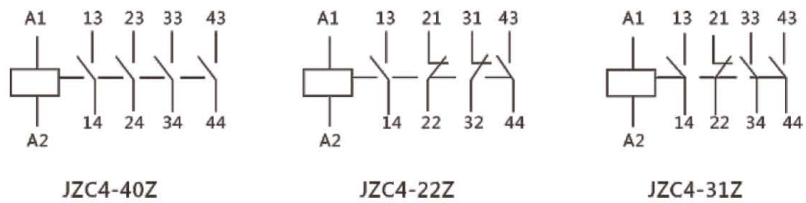
### Main technical parameter

Parameter	Model	JZC4-Z	
	Rated working current (Ie)A	AC-15(380V)	1.9
	DC-13(220V)	0.15	
Electrical life (10000times)		1.2	
Mechanical life (100000times)		10	
Minimum load can be turned on		6V10mA	
Pull in voltage		0.85~1.1US	
Release voltage		0.10~0.75US	
Coil consumption (less )		11W	
Rated operation frequency		2400/hours	
Rated insulation voltage Ui(V)		AC:660 DC:440	
Rated working voltage Ue		AC:380 DC:220	
Control power voltage Us		DC:24,48,110,220	
Conventional thermal current Ich		10	
Terminal	pcs	1	2
	Flexible wire(mm) <sup>2</sup>	2.5	
	Hard wire (mm) <sup>2</sup>	4	

### Appearance and installation dimension



### Wiring diagram





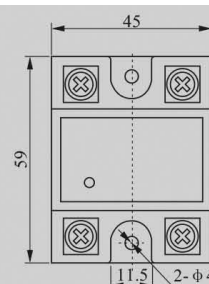
# SSR/JGX

## Solid State Relay

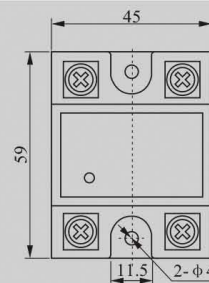


### Main technical parameter

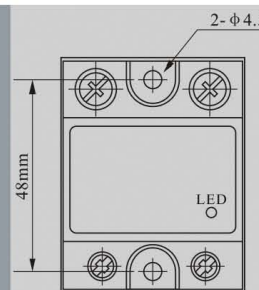
Size(mm):59×45×25  
 On-off time:Below 0.5 period of 1ms+load current  
 Load Voltage:25V-250VAC, H:150V-450VAC  
 Output Voltage Drop:1.8Vmax  
 Off Leakage Current:  
 Type zero-crossing:10mA max.(at 220VAC)15mA max.(at 380VAC)  
 Type random 5mA max(at 220VAC) 10mA max.(at 380VAC)  
 Insulation Resistance: 100M min. (at 500VDC)  
 Dielectric Strength: 2000VAC 50Hz/1min  
 Operating Temperature: -20 ~80℃



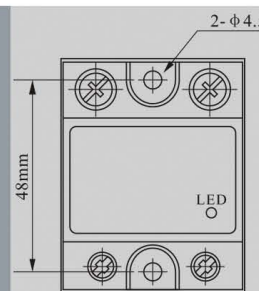
Size(mm):59×45×25  
 On-off time:Below 0.5 period of 1ms+load current  
 Load Voltage:25V-250VAC, H:150V-450VAC  
 Output Voltage Drop:1.8Vmax  
 Off Leakage Current:  
 Type zero-crossing:10mA max.(at 220VAC)15mA max.(at 380VAC)  
 Type random 5mA max(at 220VAC) 10mA max.(at 380VAC)  
 Insulation Resistance: 100M min. (at 500VDC)  
 Dielectric Strength: 2000VAC 50Hz/1min  
 Operating Temperature: -20 ~80℃



Size(mm) 62.5×45×23.5  
 Control method:DA:DC control of AC AA:AC control of AC  
 Control Voltage:3-32VDC 80-250VAC  
 Load Voltage:24V-380VAC,H:90V-480VAC  
 Output Voltage Drop:1.5Vmax.  
 Off Leakage Current: 5mA No build-in RC absorption ring  
 Insulation Resistance: 1000M 500VDC Voltage testing  
 Dielectric Strength: 4000Vrms Input terminal output terminal  
 2500Vrms Input terminal, output terminal radiator  
 Operating Temperature: -20 ~80℃



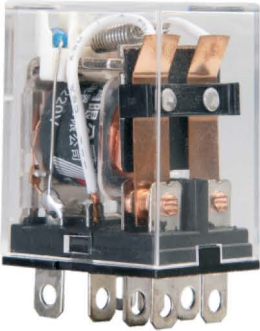
Size(mm): 62.5×45×23.5  
 Control method:VA:Solid voltage regulator  
 Control Voltage:Outside-controlled adjustable potentiometer  
 470K -560K /2W  
 Load Voltage:24V-380VAC,H:90V-480VAC  
 Output Voltage Drop:1.5Vmax.  
 Off Leakage Current: 5mA No build-in RC absorption ring  
 Insulation Resistance: 1000M 500VDC Voltage testing  
 Dielectric Strength: 4000Vrms Input terminal output terminal  
 2500Vrms Input terminal, output terminal radiator  
 Operating Temperature: -20 ~80℃



# RELAY

## JQX-13F

Series General Purpose Relay



### Main technical parameter

JQX-13F		
Contact Ratings	1Z,1H,1D	2Z
Contact Resistance	50MΩ(1A 6VDC)	
Contact Material	Silver Alloy	
Contact Capacity	15A/250VAC 28VDC	10A/250VAC 28VDC

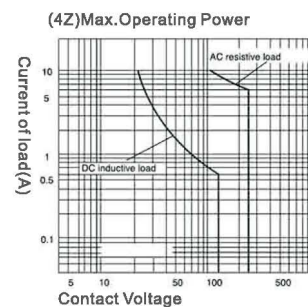
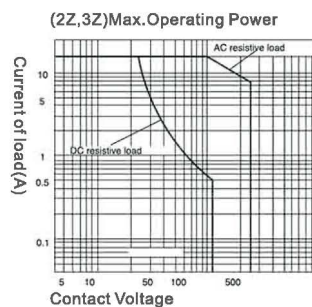
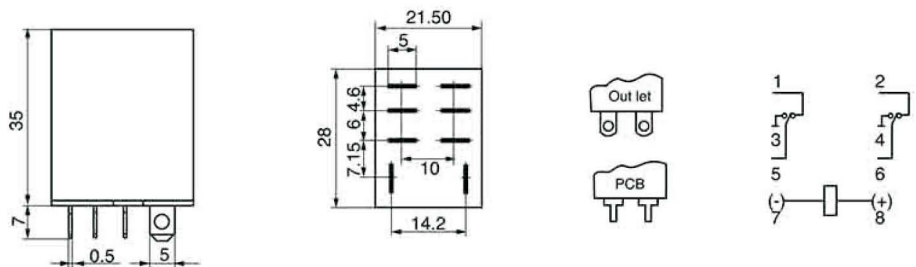
### Specification

Insulation Resistance	500MΩ,500VDC
Dielectric Strength	BCC 1500V 1 min
	BOC 1000V 1 min
	COC 1500V 1 min
Operate Time	25ms/25ms
Terminal Type	PCB,Socket

### Coil Versions

Nominal Voltage VDC	Pull-in Voltage VDC	Release Voltage VDC	Coil Resistance Ω:±10%	Nominal Voltage VAC	Pull-in Voltage VAC	Release Voltage VAC	Coil Resistance Ω:±10%
5	4.8	0.50	30	6	4.8	1.80	12
6	4.8	0.60	40	12	9.6	3.60	42
12	9.6	1.20	160	24	19.2	7.20	168
24	19.2	2.40	640	48	38.4	14.4	675
48	38.4	4.80	2560	110	96.0	36.0	3500
110	88.0	11.0	12100	220/240	176.0	66.0	14000/16500

### Dimension.Bottom View



# JQX-10F(JTX)

Series General Purpose Relay



## Main technical parameter

JQX-10F(JTX)		
Contact Ratings	2Z 3Z(2C 3C)	3C
Contact Resistance	50MΩ(1A 6VDC)	
Contact Material	AgCdO	
Contact Capacity	5A/10A	7A/10A
	28VDC/250VAC	
		28VDC/250VAC

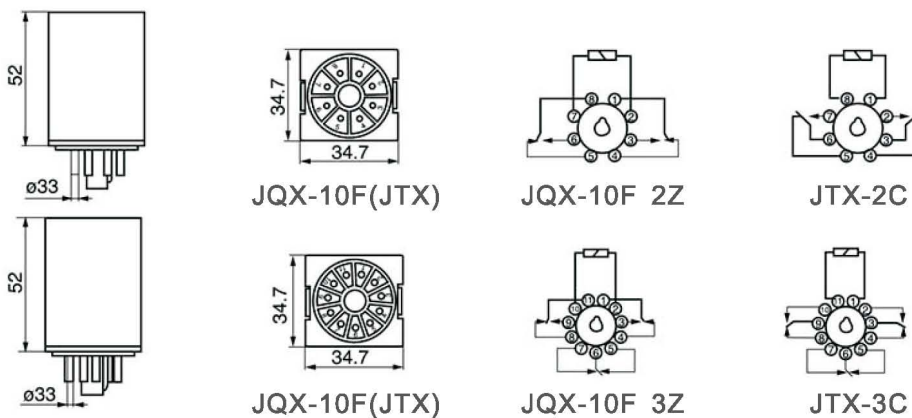
## Specification

Insulation Resistance	500MΩ,500VDC
Dielectric Strength	BCC 1500V 1 min
	BOC 1000V 1 min
Operate Time	20ms/15ms
Terminal Type	PCB,Socket
Normal Coil Power	1.5W/2.5VA

## Coil Versions

Nominal Voltage VDC	Pull-in Voltage VDC	Release Voltage VDC	Coil Resistance Ω:±10%	Nominal Voltage VAC	Pull-in Voltage VAC	Release Voltage VAC	Coil Resistance Ω:±10%
6	4.8	0.60	22.5	6	4.80	1.80	4.5
12	9.6	1.20	50.6	12	9.60	3.60	18
24	19.2	2.40	90	24	19.2	7.20	72
48	38.4	4.80	810	48	38.4	14.4	288
100	80.0	10.0	7550	110/120	88.0	36.0	1512
110	88.0	11.0	9000	220/240	176	72.0	6050/7200

## Dimension.Bottom View

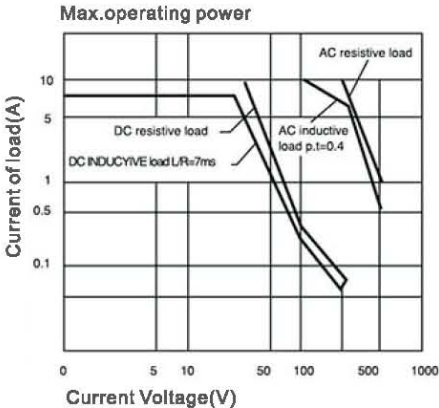
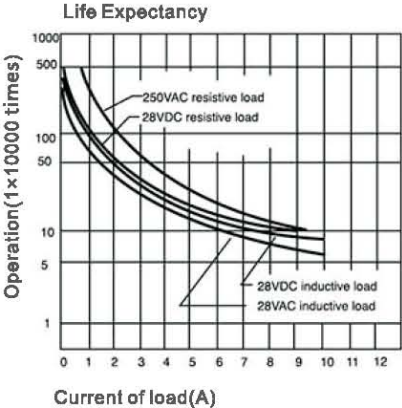


# RELAY

## JQX-10F(JTX)

Series General Purpose Relay

### Reference Data



# HH5-P

## Series General Purpose Relay



HH5 2P



HH5 3P



HH5 4P

### Main technical parameter

Contact Ratings		
Contact Ratings	2Z,2D;3Z,3H,3D	4Z,4H,4D
Contact Resistance	50MΩ(1A 6VDC)	
Contact Material	Silver Alloy	
Contact Capacity	5A/250VAC 28VDC	3A,5A/250VAC 28VDC

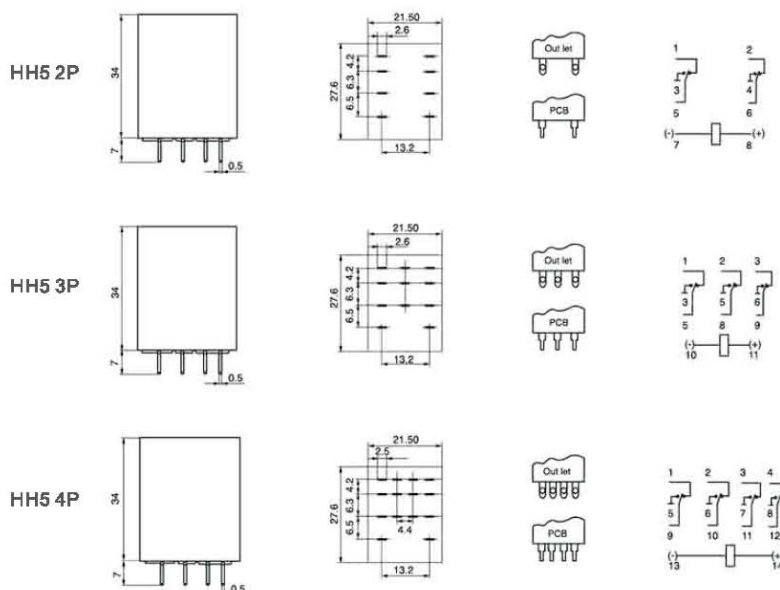
### Specification

Insulation Resistance	500MΩ,500VDC
Dielectric Strength	BCC 1500V 1 min
	BOC 1000V 1 min
	COC 1500V 1 min
Operate Time	20ms/15ms
Terminal Type	Socket
Normal Coil Power	0.9W/1.2VA

### Coil Versions

Nominal Voltage VDC	Pull-in Voltage VDC	Release Voltage VDC	Coil Resistance Ω:±10%	Nominal Voltage VAC	Pull-in Voltage VAC	Release Voltage VAC	Coil Resistance Ω:±10%
5	4.8	0.50	30	6	4.80	1.80	12
6	4.8	0.60	40	12	9.60	3.60	42
12	9.6	1.20	160	24	19.2	7.20	168
24	19.2	2.40	640	48	38.4	14.4	675
48	38.4	4.80	2560	110	96.0	36.0	3500
110	88.0	11.0	12100	220/240	176.0	66.0	14000

### Dimension.Bottom View



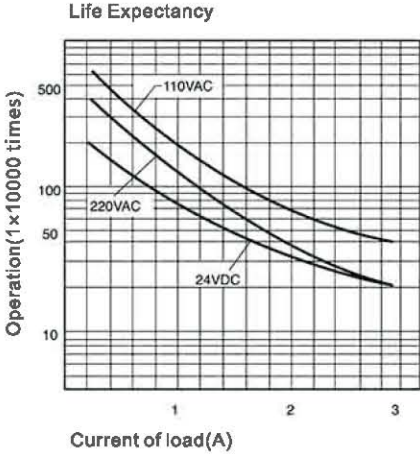
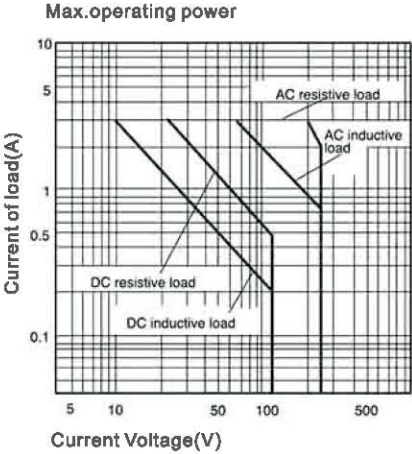


# RELAY

## HH5-P

### Series General Purpose Relay

#### Reference Data



## DH48S

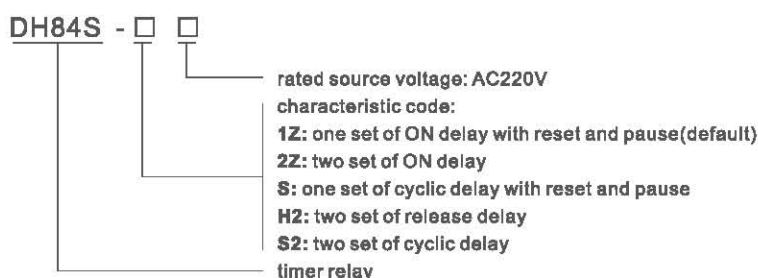
### Series Timer Relay



### Application

DH48S series timer relay mainly applied as time-delay components in the control circuits with AC50/60Hz, rated voltage up to 380V or DC 24V, which makes or breaks the circuit according to the scheduled time. It conforms to IEC60947-5-1 standard.

### Model No.



### Normal operating condition and installation condition

- 3.1 Altitude: less than 2000 meter/
- 3.2 Ambient temperature: -5℃ ~ +40℃ , 24H average temperature less than +35℃.
- 3.3 Relative humidity: less than 50% at +40℃ , higher relative humidity can not be obtained under lower temperature.
- 3.4 Pollution degree: class III.
- 3.5 Enclosure protection degree: Ip40.
- 3.6 Fuse matched for rated limit short circuit current test: RL1-15.
- 3.7 The breaker should be installed at the place without explosive risk and conductive dust, where metal not corroded and insulation not destroyed, and no rain or snow invasion
- 3.8 Installation category: II.
- 3.9 Storage and transportation: -25℃ ~ +55℃.

### Main technical parameter

Model	DH48S	DH48S-11	DH48S-2Z	DH48S-2H	DH48S-S	DH48S-2Z
Working source	DC24V AC24V 36V 110V 220V 380V 50/60Hz allowed voltage range 85%~110%Ue					
Timing range	0.01s-99.99s 1s-99m99s 1m-99h99m				0.1s-99s 1s-99s 0.1m-99m 1m-99m 0.1h-99h 10s-990s	
Repetitive error	≤1%					
Working mode	ON delay				Cyclic delay	
Contact quantity	one set of time delay contact with reset and pause	two set of time delay contact with reset and pause	two set of time delay contact	one set of time delay contact one set of instantaneous contact	one set of time delay contact with reset and pause	two set of time delay contact
Contact capacity	Ue/Ie:AC-15 220V/0.75A,380V/0.47A;DC-13 220V/0.27A;Ith:5A					
Mechanical life	1000000 times					
Electrical life	100000 times					
Mounting	flush or 35mm din-rail					
Replacement	JSS48A	JSS48A-11	JSS48A-2Z	JSS48A-2H	JSS48S-S	

# RELAY

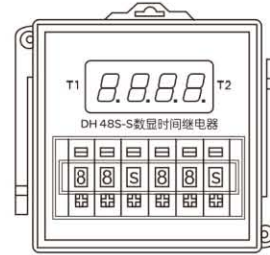
## DH48S

### Series Timer Relay

#### Outline and dimension

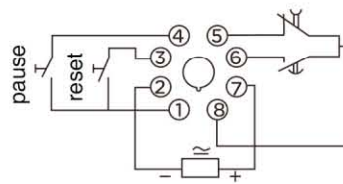


DH48S DH48S-2Z  
DH48S-2H DH48S-11

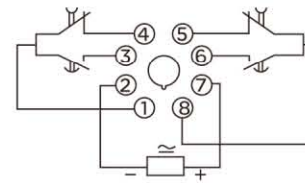


DH48S-S/-S2

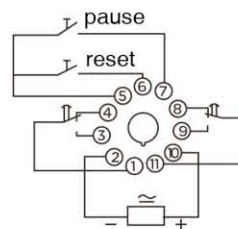
#### Wiring diagram



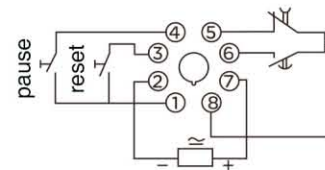
DH48S



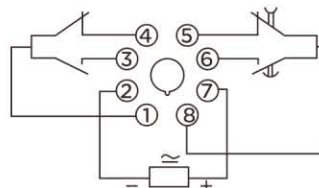
DH48S-2Z  
DH48S-3S/-2S



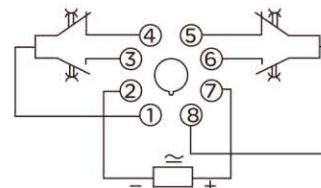
DH48S-11



DH48S-S



DH48S-2H



DH48S-S2

# ST3P

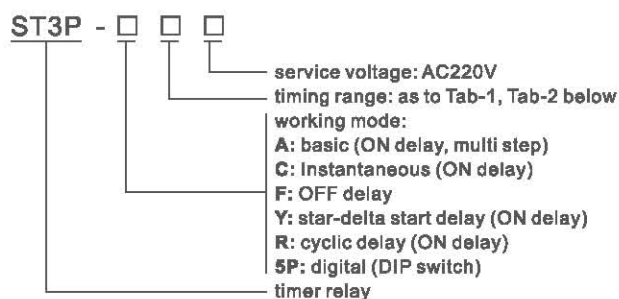
## Series Timer Relay



### Application

ST3P series timer relay mainly applied as time-delay components in the control circuits with AC50/60Hz, rated voltage up to 380V or DC 24V, which makes or breaks the circuit according to the setting time, and features compact design, high accuracy and wide time-delay range. It can be interchanged with JSZ3 series relay equivalently.

### Model No.



### Normal operating condition and installation condition

- 3.1 Altitude: less than 2000 meter
- 3.2 Ambient temperature: -5°C ~ +40°C , 24H average temperature less than +35°C.
- 3.3 Relative humidity: less than 50% at +40°C , higher relative humidity can not be obtained under lower temperature.
- 3.4 Pollution degree: class III.
- 3.5 The breaker should be installed at the place without explosive risk and conductive dust, where metal not corroded and insulation not destroyed, and no rain or snow invasion
- 3.6 Installation category: II.
- 3.7 Range of source voltage: -25% ~ +55% Ue

### Main technical parameter

Tab-1

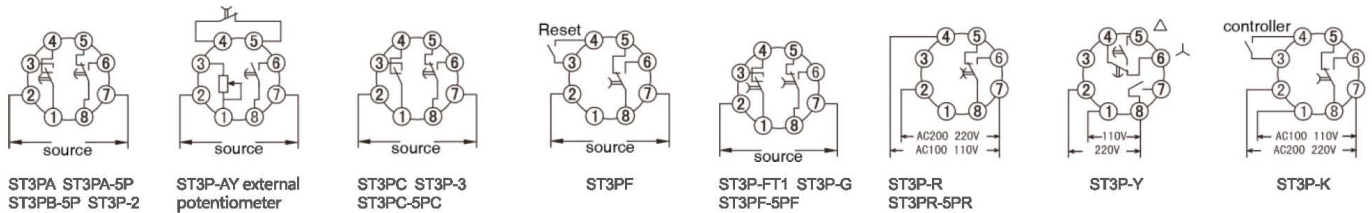
Model	ST3P-A□	ST3P-G□	ST3P-C□	ST3P-F	ST3P-FT1	ST3P-K	ST3P-Y	ST3P-R
Working source	DC24V AC24V 36V 110V 220V 380V 50/60Hz allowed voltage range 85%~110%Ue							
Timing range	A:0.05-0.5s/5s/30s/3min B:0.1-1s/10s/10s/6min C:0.5-5s/50s/5min/30min D:1-10s/100s/10min/60min E:5-60s/10min/60min/6h F:0.25-2min/20min/2h/12h G:0.5-4min/40min/4h/24h			0.1-1s 0.2-2s 0.5-5s 1-10s 2.5-30s 5-60s		0.1-1s 0.25-2s 0.5-5s 1-10s 2.5-30s 5-60s	1-10s 2.5-30s 5-60s	0.1-6s/60s 1-10s/10min 2.5-30s/30min 5-60s/60min
Working mode	ON delay			OFF delay			Star-delta delay	Cyclic delay
Contact quantity	delay 2 transfer		delay 1 transfer Instantaneous 1 transfer	delay 1 transfer	delay 2 transfer	delay 1 transfer	Star-delta transfer Instantaneous 1 NO	delay 1 transfer
Contact capacity	Ue/Ie:AC-15 220V/0.75A,380V/0.47A;DC-13 220V/0.27A;Ith:5A							
Repetitive error	≤1%			≤5%		≤1%		
Mechanical life	1000000 times							
Electrical life	100000 times							
Mounting	surface or flush with different socket; 35mm din-rail							

# RELAY

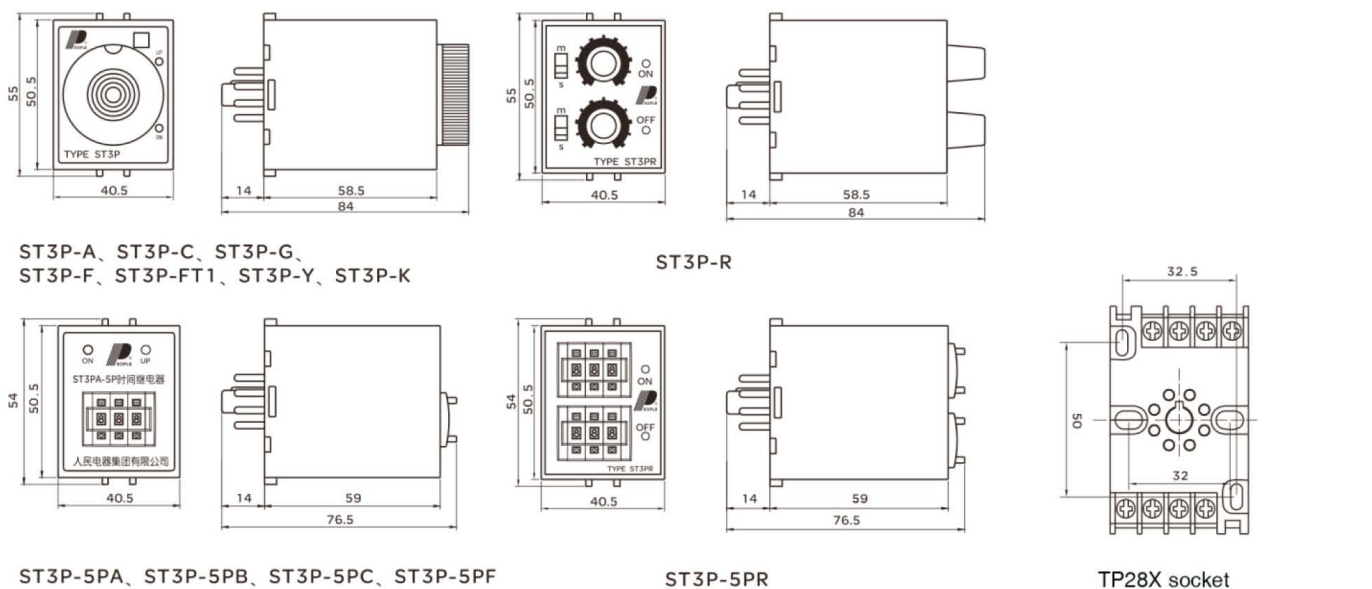
Tab-2

Model	ST3P-5PA	ST3P-5PB	ST3P-5PC	ST3P-5PF	ST3P-5PR
Working source	DC24V AC24V 36V 110V 220V 380V 50/60Hz allowed voltage range 85%~110%Ue				
Timing range	0.1s-99.9s 1s-999s 0.1min-99.9min 1min-999min 0.1h-99.9h 1h-999h 10s-9990s			0.1s-99.9s 1s-999s 0.1min-99.9min 1min-999min 0.1h-99.9h 1h-999h 10s-9990s	
Working mode	ON delay			OFF delay	
Contact quantity	delay 2 transfer		delay 1 transfer Instantaneous 1 transfer		delay 1 transfer
Contact capacity	Ue/Ie:AC-15 220V/0.75A,380V/0.47A;DC-13 220V/0.27A;Ith:5A				
Repetitive error	≤1%				
Mechanical life	1000000 times				
Electrical life	100000 times				
Mounting	surface or flush with different socket; 35mm din-rail				

## Wiring diagram



## Outline and dimension





## KG316T/KG316TX

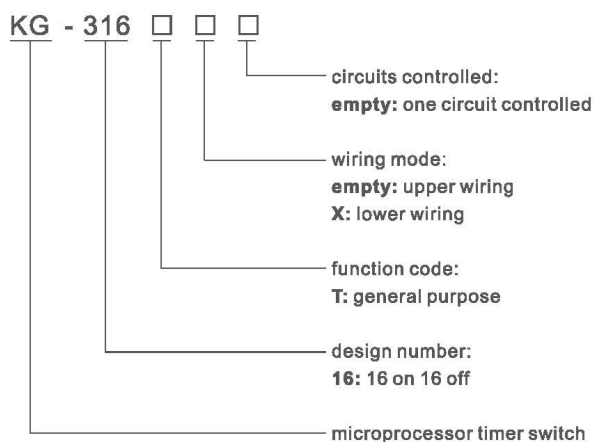
### Series Timer Switch



### Application

KG316T series microprocessor timer switch mainly applied in the auto control circuits with AC50/60Hz, rated control voltage up to 220V, to switch on or off the circuits according to the scheduled time, which confirms to IEC60947-5-1 standard.

### Model No.



### Normal operating condition and installation condition

- 3.1 Altitude: less than 2000 meter/
- 3.2 Ambient temperature: -5℃ ~ +40℃ , 24H average temperature less than +35℃.
- 3.3 Relative humidity: less than 50% at +40℃ , higher relative humidity can not be obtained under lower temperature.
- 3.4 Pollution degree: class III.
- 3.5 Enclosure protection degree: Ip20.
- 3.6 The breaker should be installed at the place without explosive risk and conductive dust, where metal not corroded and insulation not destroyed, and no rain or snow invasion
- 3.7 Installation category: II.
- 3.8 Range of source voltage: 85% ~ 110% Ue

### Main technical parameter

Rated control voltage: AC220V 50Hz  
 Conventional thermal current: 20A  
 Rated service current: AC-15/220V 3A  
 Timing range: 1min ~ 168h  
 Accuracy (Timing Error): ≤2 sec everyday  
 Mechanical life: more than thirty thousand times  
 Electrical life: more than ten thousand times  
 Mounting: surface or 35mm din-rail

# RELAY

## KG316T/KG316TX

### Series Timer Switch



### Wiring mode and diagram

#### direct control mode

controlled circuit powered by single phase source, service current less than rated value of the switch, can be directly controlled, wiring as to Fig-1.

#### single phase dilatation mode

controlled circuit powered by single phase source, service current more than rated value of the switch, AC contactor dilatation mode suggested, wiring as to Fig-2.

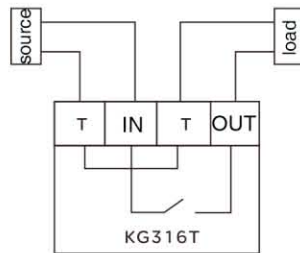


Fig-1 KG316T terminal

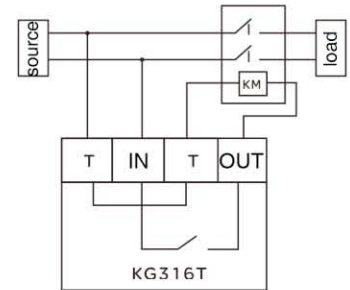


Fig-2 single phase direct control wiring

#### Three phase control wiring(as to Fig-3, 4)

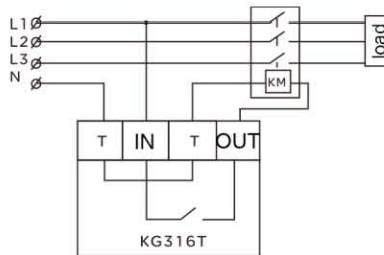


Fig-3 three phase control wiring (220V contactor coil)

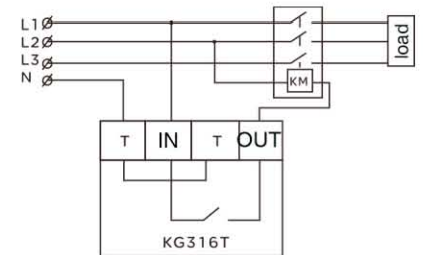
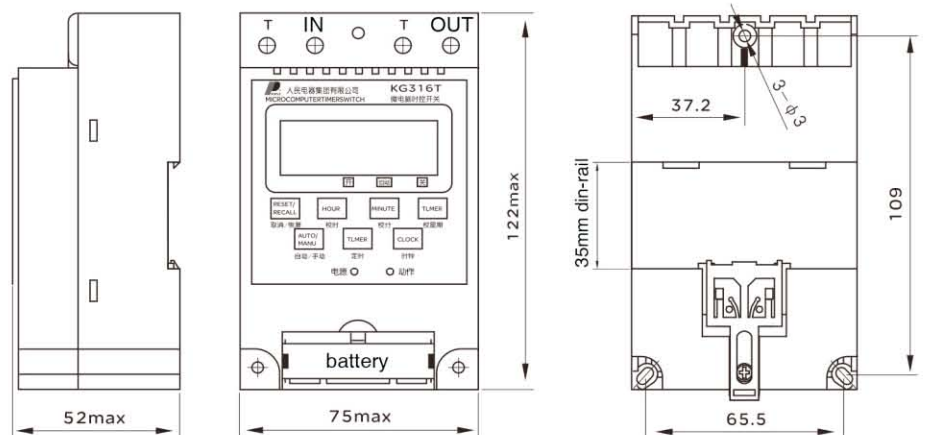


Fig-4 three phase control wiring (380V contactor coil)

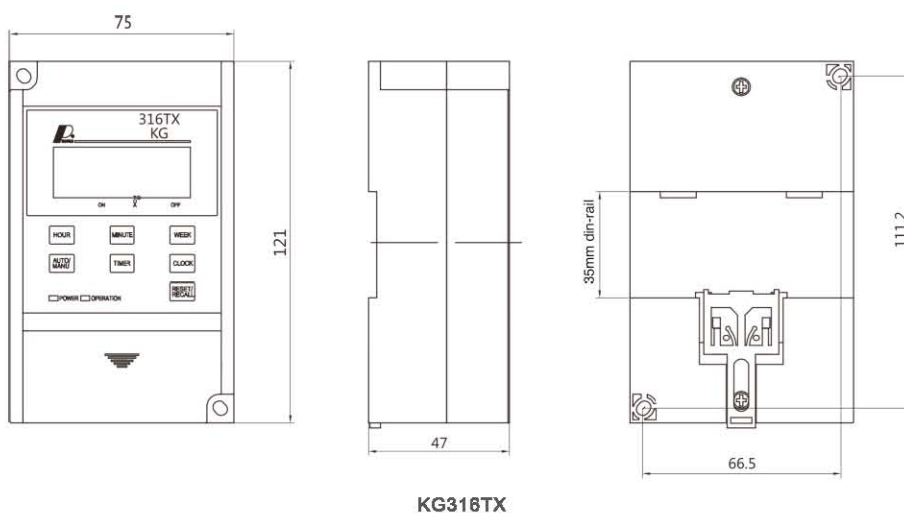
### Outline and dimension



KG316T

## KG316T/KG316TX

### Series Timer Switch



KG316TX

### ALST 8 Series Timer Switch



Model		Alst 8
Contact capacity		AC220V 16A
Full timing range		7m
Contact resistance		≤ 50mΩ
Insulation resistance		≥ 100mΩ
Coil voltage		110, 230V AC
Life	electrical	100000 times
	mechanical	10000000 times
Operating temperature		-40℃+55℃
Storage battery(working reserve)		---
Min. setting unit		0.5 minutes
Setup times		1M, 1.5M, 2M, 2.5M, 3M, 3.5M, 4M, 4.5M, 5M, 5.5M, 6M, 6.5M, 7M

### THC15A Series Timer Switch



Model		THC15A
Contact capacity		AC250V 16A
Contact form		1Z
Full timing range		Per week or per day cycle
Rated voltage		AC220V 50/60Hz 85%~110%
Accuracy		≤ 2s/day
Display		LCD
Mounting		Din-rail
Life	electrical	100000 times
	mechanical	10000000 times
Operating temperature		-20℃+55℃
Programmable		16 times/ week or day
Work mode		15 days
Classification		Weekly programmable electronic timer
Dimensions(mm)		81x36x66

# RELAY

## TB35 Series Timer Switch



Model	TB35	
Contact capacity	AC220V 10A	
Full timing range	24h	
Contact resistance	≤50mΩ	
Insulation resistance	≥100mΩ	
Coil voltage	100~240V AC	
Life	electrical	100000 times
	mechanical	10000000 times
Operating temperature	-40℃ ~ +55℃	
Storage battery(working reserve)	100h	
Min. setting unit	15 minutes	
Setup times	15m/per times 96times	

## TB353 Series Timer Switch



Model	TB353	
Contact capacity	AC220V 10A	
Full timing range	24h	
Contact resistance	≤50mΩ	
Insulation resistance	≥100mΩ	
Coil voltage	100~240V AC	
Life	electrical	100000 times
	mechanical	10000000 times
Operating temperature	-40℃ ~ +55℃	
Storage battery(working reserve)	100h	
Min. setting unit	15 minutes	
Setup times	15m/per times 96times	

## ALC18 Series Timer Switch



Model	ALC18	
Contact capacity	AC220V 16A	
Full timing range	20m	
Contact resistance	≤50mΩ	
Insulation resistance	≥100mΩ	
Coil voltage	110, 230V AC	
Life	electrical	100000 times
	mechanical	10000000 times
Operating temperature	-40℃ ~ +55℃	
Storage battery(working reserve)	--	
Min. setting unit	0.5 minutes	
Setup times	0.5M, 5M, 10M, 15M, 20M	

### SUL180a/SUL160a Series Timer Switch



Model		SUL180a	SUL160a
Contact capacity		AC220V 16A	
Full timing range		24h	
Contact resistance		≤ 50mΩ	
Insulation resistance		≥ 100mΩ	
Coil voltage		110, 230V AC	
Life	electrical	100000 times	
	mechanical	10000000 times	
Operating temperature		-10℃ ~ +55℃	
Storage battery(working reserve)		100h	without battery
Min. setting unit		15 minutes	
Setup times		15m/per times 96 times	

### SUL181h/SUL161h Series Timer Switch



Model		SUL181h	SUL161h
Contact capacity		AC220V 16A	
Full timing range		24h	
Contact resistance		≤ 50mΩ	
Insulation resistance		≥ 100mΩ	
Coil voltage		110, 230V AC	
Life	electrical	100000 times	
	mechanical	10000000 times	
Operating temperature		-40℃ ~ +55℃	
Storage battery(working reserve)		100h	without battery
Min. setting unit		30 minutes	
Setup times		30m/per times 48 times	

### SUL181d/SUL161d Series Timer Switch



Model		SUL181d	SUL161d
Contact capacity		AC220V 16A	
Full timing range		24h	
Contact resistance		≤ 50mΩ	
Insulation resistance		≥ 100mΩ	
Coil voltage		110, 230V AC	
Life	electrical	100000 times	
	mechanical	10000000 times	
Operating temperature		-40℃ ~ +55℃	
Storage battery(working reserve)		100h	without battery
Min. setting unit		30 minutes	
Setup times		30m/per times 48 times	

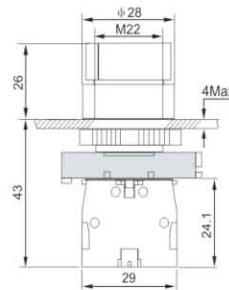


# PUSH BUTTON

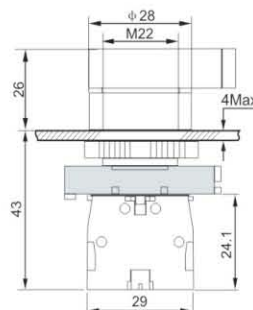
## PXB2

### Push Button Series

90° Two-position			45° Three-position				
		Contact					Contact
PXB2-ED21	PXB2-ED41	1NO	PXB2-ED33	PXB2-ED53	PXB2-ED63	PXB2-ED73	1NO
PXB2-ED22	PXB2-ED42	1NC					1NO + 1NO
PXB2-ED25	PXB2-ED45	1NO + 1NC	PXB2-ED35	PXB2-ED55	PXB2-ED65	PXB2-ED75	1NO + 1NC



90° Two-position			45° Three-position				
		Contact					Contact
PXB2-EJ21	PXB2-EJ41	1NO	PXB2-EJ33	PXB2-EJ53	PXB2-EJ63	PXB2-EJ73	1NO
PXB2-EJ22	PXB2-EJ42	1NC					1NO + 1NO
PXB2-EJ25	PXB2-EJ45	1NO + 1NC	PXB2-EJ35	PXB2-EJ55	PXB2-EJ65	PXB2-EJ75	1NO + 1NC



# PXB2

## Push Button Series

90° Two-position			45° Three-position				
		Contact					Contact
PXB2-EG21	PXB2-EG41	1NO 13 — 14	PXB2-EG33	PXB2-EG53	PXB2-EG63	PXB2-EG73	1NO 13 — 14
PXB2-EG22	PXB2-EG42	1NC 21 — 22					1NO + 1NC 13 — 14
PXB2-EG25	PXB2-EG45	1NO + 1NC 13 — 14 21 — 22	PXB2-EG35	PXB2-EG55	PXB2-EG65	PXB2-EG75	1NO + 1NC 13 — 14 21 — 22

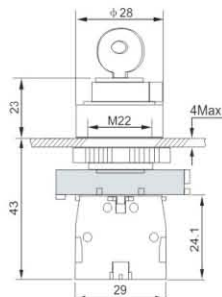



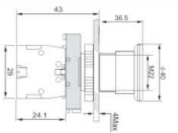













Photo	Description	Contact	Type	Color	Contour
	Twist Release $\phi$ 30	1NC 21 — 22	PXB2-ES442		
		1NO 13 — 14 + 1NC 21 — 22	PXB2-ES445		
	Twist Release $\phi$ 40	1NC 21 — 22	PXB2-ES542		
		1NO 13 — 14 + 1NC 21 — 22	PXB2-ES545		
	Twist Release $\phi$ 60	1NC 21 — 22	PXB2-ES642		
		1NO 13 — 14 + 1NC 21 — 22	PXB2-ES645		
	Pull Release $\phi$ 40	1NC 21 — 22	PXB2-ET42		
		1NO 13 — 14 + 1NC 21 — 22	PXB2-ET45		
	Key Release $\phi$ 40	1NC 21 — 22	PXB2-ES142		
		1NO 13 — 14 + 1NC 21 — 22	PXB2-ES145		

# PUSH BUTTON

## PXB2

### Push Button Series

Photo	Description	Contact	Type	Color	Contour
 PXB2-EC42	Mushroom button Momentary $\phi$ 40	1NO 	PXB2-EC21		
		1NO 	PXB2-EC31		
		1NC 	PXB2-EC42		
 PXB2-ER42	Mushroom button Momentary $\phi$ 60	1NO 	PXB2-ER21		
		1NO 	PXB2-ER31		
		1NC 	PXB2-ER42		

### Explanation of type designation

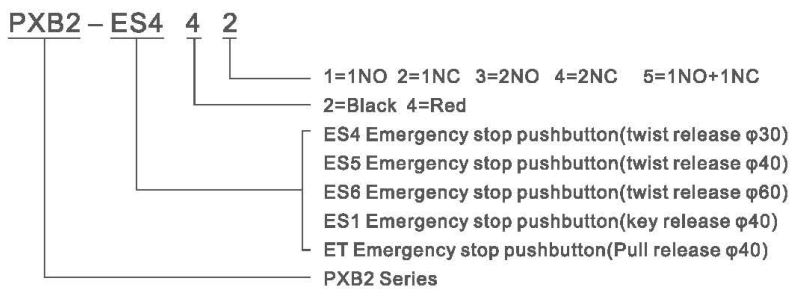




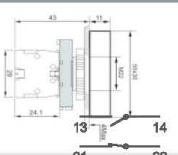




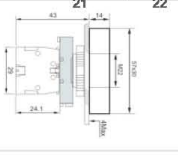




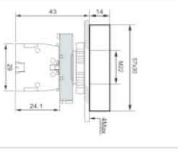




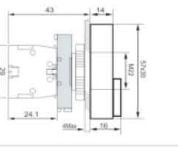


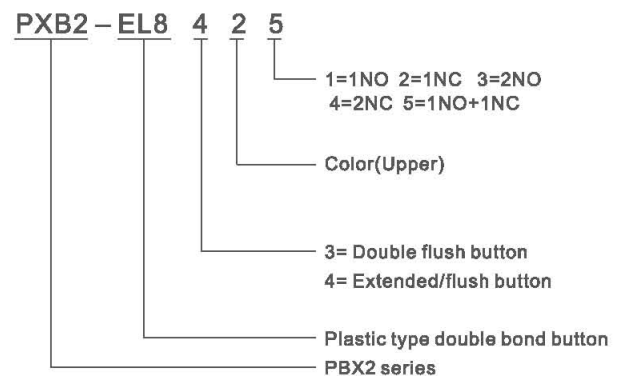
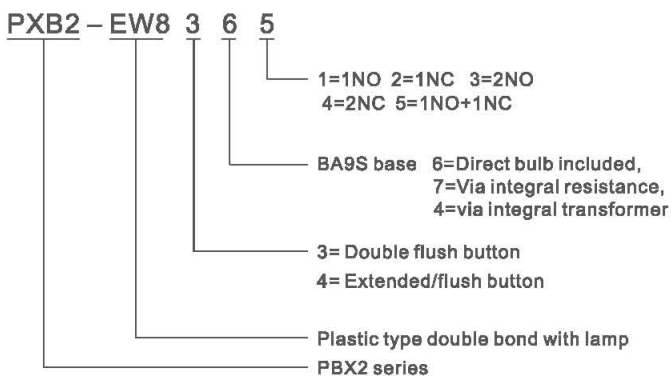
Photo	Description	Contact	Type	Color	Contour
 PXB2-EL8325	Double flush Button IP40	1NO  1NC 	PXB2-EL8325		
 PXB2-EL8425	Double extended/flush Button IP40	1NO  + 1NC 	PXB2-EL8425		
 PXB2-EL9325	Double flush button With waterproof cover Unmarked IP65	1NO  + 1NC 	PXB2-EL9325		
 PXB2-EL9425	Double extended/flush button With waterproof cover Unmarked IP65	1NO  + 1NC 	PXB2-EL9425		

## PXB2

### Push Button Series

Photo	Description	Contact	Type	Color	Contour
	Double flush button Unmarked IP40  Lens color: yellow Direct supply 12~240V Ba9s bulb (LED/neon)	1NO 13 14 + 1NC 21 22	PXB2-EW8365		
	Extended/flush button Marked IP40	1NO 13 14 + 1NC 21 22	PXB2-EW8465		
	Double flush button Unmarked IP40  Lens color: yellow Direct supply 12V Ba9s bulb	1NO 13 14 + 1NC 21 22	PXB2-EW8375		
	With resistance (LED/neon)  Extended/flush button Marked IP40	1NO 13 14 + 1NC 21 22	PXB2-EW8475		
	Double flush button Unmarked IP40  Lens color: yellow Direct supply 12V Ba9s bulb	1NO 13 14 + 1NC 21 22	PXB2-EW8345		
	With resistance (LED/neon)  Extended/flush button Marked IP40	1NO 13 14 + 1NC 21 22	PXB2-EW8445		


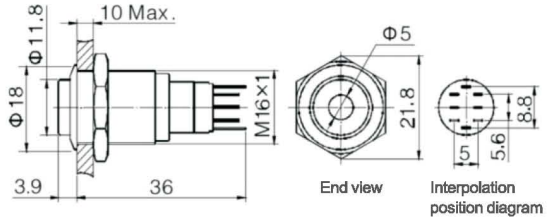

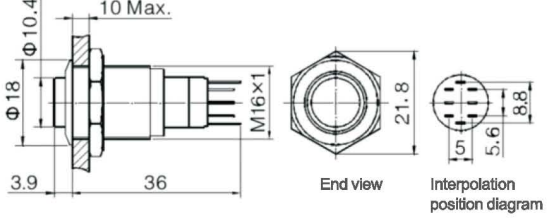

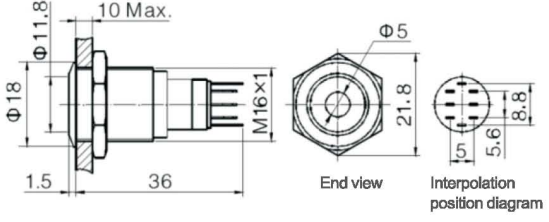

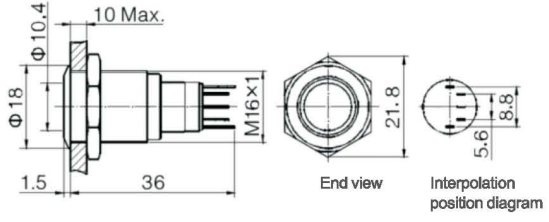
### Explanation of type designation



# PUSH BUTTON

## MP016S

### Metal Push Button Series

Photo	Parameter	Contour
 <p>MP016S/H11-ΔΔD</p>	<p>Metal point light button switch            Mounting hole dimension: <math>\phi 16\text{mm}</math>            Switch rating: 3A/250VAC            Switch combination: 1NO1NC/2NO2NC            Operation types: nonstick / Self-lock            Head shape: high discoid            Shell material: stainless steel/ nickel-plated brass            Lamp mode: single point            IP grade: IP40/IP67</p>	 <p>Technical drawing showing side, end, and interpolation views with dimensions: <math>\phi 18</math>, <math>\phi 11.8</math>, 10 Max., 3.9, 36, M16x1, <math>\phi 5</math>, 21.8, 5, 5.6, 8.8.</p>
 <p>MP016S/H11-ΔΔE</p>	<p>Metal point light button switch            Mounting hole dimension: <math>\phi 16\text{mm}</math>            Switch rating: 3A/250VAC            Switch combination: 1NO1NC/2NO2NC            Operation types: nonstick / Self-lock            Head shape: high discoid            Shell material: stainless steel/ nickel-plated brass            Lamp mode: Ring            IP grade: IP40/IP67</p>	 <p>Technical drawing showing side, end, and interpolation views with dimensions: <math>\phi 18</math>, <math>\phi 10.4</math>, 10 Max., 3.9, 36, M16x1, <math>\phi 5</math>, 21.8, 5, 5.6, 8.8.</p>
 <p>MP016S/F11-ΔΔD</p>	<p>Metal point light button switch            Mounting hole dimension: <math>\phi 16\text{mm}</math>            Switch rating: 3A/250VAC            Switch combination: 1NO1NC/2NO2NC            Operation types: nonstick / Self-lock            Head shape: discoid            Shell material: stainless steel/ nickel-plated brass            Lamp mode: single point            IP grade: IP40/IP67</p>	 <p>Technical drawing showing side, end, and interpolation views with dimensions: <math>\phi 18</math>, <math>\phi 11.8</math>, 10 Max., 1.5, 36, M16x1, <math>\phi 5</math>, 21.8, 5, 5.6, 8.8.</p>
 <p>MP016S/F11-ΔΔE</p>	<p>16mm Ring button switch with lamp            Mounting hole dimension: <math>\phi 16\text{mm}</math>            Switch rating: 3A/250VAC            Switch combination: 1NO1NC/2NO2NC            Operation types: nonstick / Self-lock            Head shape: high discoid            Shell material: stainless steel/ nickel-plated brass            Lamp mode: Ring            IP grade: IP40/IP67</p>	 <p>Technical drawing showing side, end, and interpolation views with dimensions: <math>\phi 18</math>, <math>\phi 10.4</math>, 10 Max., 1.5, 36, M16x1, <math>\phi 5</math>, 21.8, 5, 5.6, 8.8.</p>



## MP016S

### Mental Push Button Series


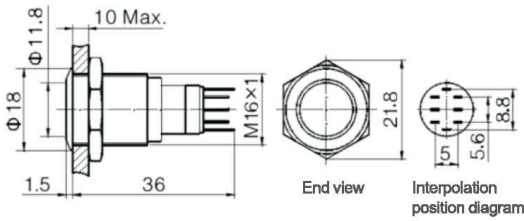

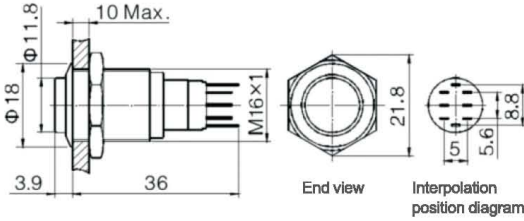

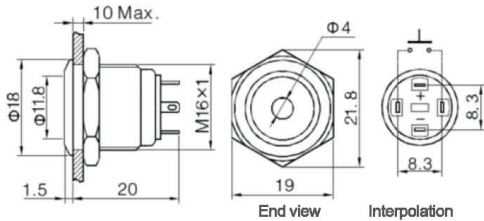

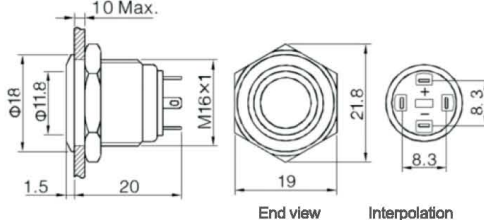
Specification	MP016S/H11-△▲D	MP016S/H11-△▲E	MP016S/F11-△▲D	MP016S/F11-△▲E
The front shape	High discoid	High discoid	Discoid	High discoid
Terminal type	Connection insert(1.8×0.4mm)	Connection insert(1.8×0.4mm)	Connection insert(1.8×0.4mm)	Connection insert(1.8×0.4mm)
Switching	No.3	No.3	No.3	No.3
Max. switch rating	3A/250VAC	3A/250VAC	3A/250VAC	3A/250VAC
Contact resistance	≤50mΩ	≤50mΩ	≤50mΩ	≤50mΩ
Insulation resistance	≥1000mΩ	≥1000mΩ	≥1000mΩ	≥1000mΩ
Dielectric intensity	2000VAC	2000VAC	2000VAC	2000VAC
Operating temp	- 20℃~ + 55℃	- 20℃~ + 55℃	- 20℃~ + 55℃	- 20℃~ + 55℃
Mechanical life	More than one million times	More than one million times	More than one million times	More than one million times
Electrical life	More than 200thousand times	More than 200thousand times	More than 200thousand times	More than 200thousand times
Panel thickness	1-10mm	1-10mm	1-10mm	1-10mm
Torque	5-14Nm	5-14Nm	5-14Nm	5-14Nm
Operation pressure	2.5-4Nm	2.5-4Nm	2.5-4Nm	2.5-4Nm
Operation travel	About 2.8mm	About 2.8mm	About 2.8mm	About 2.8mm
IP degree	IP40/IP67	IP40/IP67	IP40/IP67	IP40/IP67
Materia	Contact	Silver alloy	Silver alloy	Silver alloy
	Button	Stainless steel/ nickel-plated brass	Stainless steel/ nickel-plated brass	Stainless steel/ nickel-plated brass
	Body	Stainless steel/ nickel-plated brass	Stainless steel/ nickel-plated brass	Stainless steel/ nickel-plated brass
	Base	PBT	PBT	PBT
	RoHs	Customizable	Customizable	Customizable
LED spec.	Lamp type	Single point (LED)	Ring (LED)	Single point (LED)
	Rated voltage(Ue)		6V/12V/24V/110V/220V	6V/12V/24V/110V/220V
	Color		<b>R G Y O B W</b>	<b>R G Y O B W</b>
	Life		4000hours	4000hours

Note:△for voltage, ▲ for color,® for terminal.

# PUSH BUTTON



## MP016S

### Mental Push Button Series

Photo	Parameter	Contour
 <p>MP016S/F11Z</p>	<p>Metal button switch            Mounting hole dimension: <math>\phi 16\text{mm}</math>            Switch rating: 3A/250VAC            Switch combination: 1NO1NC/2NO2NC            Operation types: nonstick / self-lock            Head shape: discoid            Shell material: stainless steel/ brass chrome plating            IP grade: IP40/IP67</p>	
 <p>MP016S/H11Z</p>	<p>Metal button switch            Mounting hole dimension: <math>\phi 16\text{mm}</math>            Switch rating: 3A/250VAC            Switch combination: 1NO1NC/2NO2NC            Operation types: nonstick / self-lock            Head shape: high discoid            Shell material: stainless steel/ brass chrome plating            IP grade: IP40/IP67</p>	
 <p>MP016S/F2J-△△D</p>	<p><math>\phi 16</math> Angle metal button switch with lamp            Mounting hole dimension: <math>\phi 16\text{mm}</math>            Switch rating: 3A/250VAC            Switch combination: 1NO            Operation types: nonstick            Head shape: discoid            Shell material: stainless steel/ brass chrome plating            Lamp mode: single point            IP grade: IP65</p>	
 <p>MP016S/F2J-△△E</p>	<p><math>\phi 16</math> Angle metal button switch with lamp            Mounting hole dimension: <math>\phi 16\text{mm}</math>            Switch rating: 3A/250VAC            Switch combination: 1NO            Operation types: nonstick            Head shape: discoid            Shell material: stainless steel/ brass chrome plating            Lamp mode: ring            IP grade: IP65</p>	

## MP016S

### Mental Push Button Series


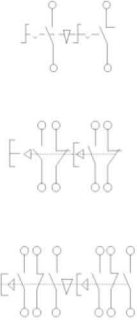
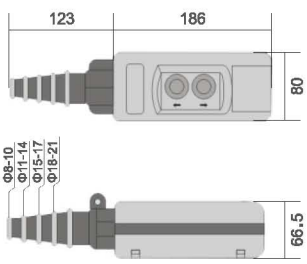

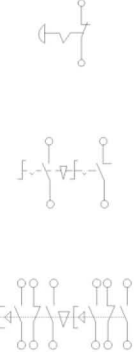
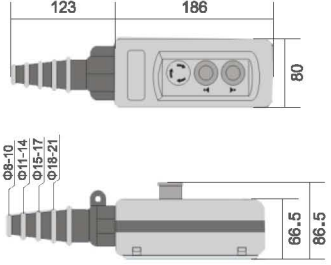

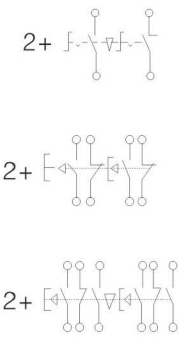
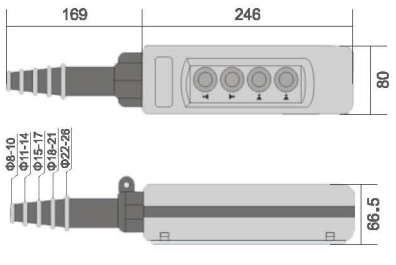

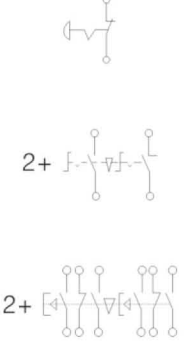
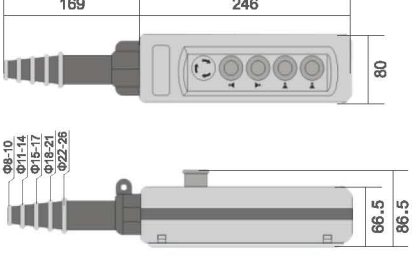
Specification		MP016S/F11Z	MP016S/H11Z	MP016S/F2J-△▲D	MP016S/F2J-△▲E
The front shape		High discoid	High discoid	Discoid	Discoid
Terminal type		Connection insert(1.8×0.4mm)	Connection insert(1.8×0.4mm)	Connection insert(1.8×0.4mm)	Connection insert(1.8×0.4mm)
Switching		No.3	No.3	No.3	No.1
Max. switch rating		3A/250VAC	3A/250VAC	3A/250VAC	3A/250VAC
Contact resistance		≤50mΩ	≤50mΩ	≤50mΩ	≤50mΩ
Insulation resistance		≥1000mΩ	≥1000mΩ	≥1000mΩ	≥1000mΩ
Dielectric intensity		2000VAC	2000VAC	2000VAC	2000VAC
Operating temp		- 20℃~ + 55℃	- 20℃~ + 55℃	- 20℃~ + 55℃	- 20℃~ + 55℃
Mechanical life		More than one million times	More than one million times	More than one million times	More than one million times
Electrical life		More than 200thousand times	More than 200thousand times	More than 200thousand times	More than 200thousand times
Panel thickness		1-10mm	1-10mm	1-10mm	1-10mm
Torque		5-14Nm	5-14Nm	5-14Nm	5-14Nm
Operation pressure		2.5-4Nm	2.5-4Nm	2.5-4Nm	2.5-4Nm
Operation travel		About 2.8mm	About 2.8mm	About 2.8mm	About 2.8mm
IP degree		IP40/IP67	IP40/IP67	IP65	IP65
Materia	Contact	Silver alloy	Silver alloy	Silver alloy	Silver alloy
	Button	Stainless steel/ nickel-plated brass	Stainless steel/ nickel-plated brass	Stainless steel/ nickel-plated brass	Stainless steel/ nickel-plated brass
	Body				
	Base	PBT	PBT	PBT	PBT
	RoHs	Customizable	Customizable	customizable	Customizable
LED spec.	Lamp type	Without lights	Without lights	Single point (LED)	Ring (LED)
	Rated voltage(Ue)			6V/12V/24V/110V/220V	6V/12V/24V/110V/220V
	Color				
	Life			4000hours	4000hours

Note: △for voltage, ▲ for color, ®for terminal.

# PUSH BUTTON


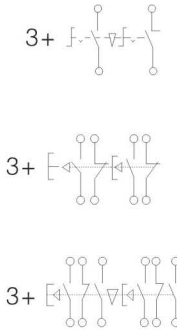
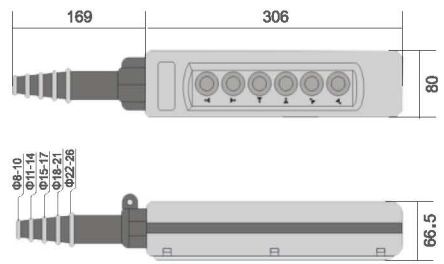

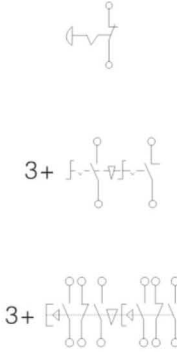
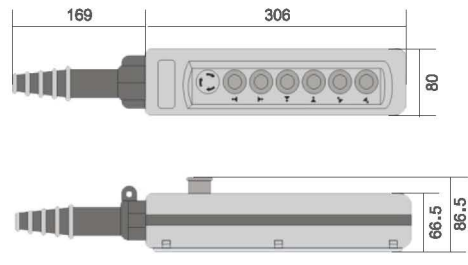

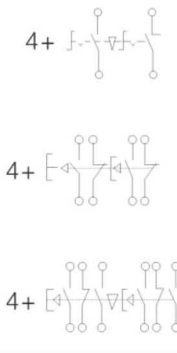
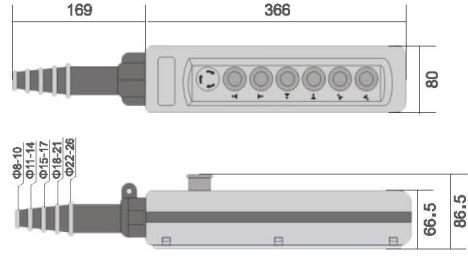

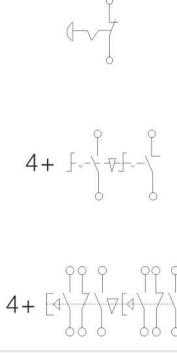
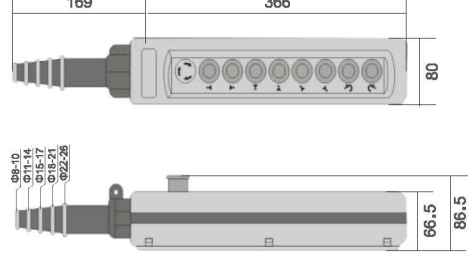
## COB

### Travel Switch Series

Photo	Technical parameters	Electrical schematic	Dimension
 <p>COB-A271 COB-A281 COB-A291</p>	<p>Two-button interlock, automatic reset, (two on)</p> <p>Ui:500V Ith:10A AC-15 500V~2A 250V~5A</p>		
 <p>COB-A2713 COB-A2813 COB-A2913</p>	<p>Push lock revolve urgent stop button; one off (One off two on)</p> <p>Ui:500V Ith:10A AC-15 500V~2A 250V~5A</p>		
 <p>COB-A471 COB-A481 COB-A491</p>	<p>Two-button interlock, automatic reset, (four on)</p> <p>Ui:500V Ith:10A AC-15 500V~2A 250V~5A</p>		
 <p>COB-A4713 COB-A4813 COB-A4913</p>	<p>Push lock revolve urgent stop button; one off (One off four on)</p> <p>Ui:500V Ith:10A AC-15 500V~2A 250V~5A</p>		

# COB

## Travel Switch Series

Photo	Technical parameters	Electrical schematic	Dimension
 <p>COB-A671 COB-A681 COB-A691</p>	<p>Two-button interlock, automatic reset,(six on)</p> <p>Ui:500V Ith:10A AC-15 500V~2A 250V~5A</p>	<p>3+</p> 	 <p>169 306 80 66.5</p>
 <p>COB-A6713 COB-A6813 COB-A6913</p>	<p>Push lock revolve urgent stop button; one off (One off six on)</p> <p>Ui:500V Ith:10A AC-15 500V~2A 250V~5A</p>		 <p>169 306 80 66.5 86.5</p>
 <p>COB-A871 COB-A881 COB-A891</p>	<p>Two-button interlock, automatic reset, (eight on)</p> <p>Ui:500V Ith:10A AC-15 500V~2A 250V~5A</p>	<p>4+</p> 	 <p>169 366 80 66.5 86.5</p>
 <p>COB-A8713 COB-A8813 COB-A8913</p>	<p>Push lock revolve urgent stop button; one off (One off eight on)</p> <p>Ui:500V Ith:10A AC-15 500V~2A 250V~5A</p>		 <p>169 366 80 66.5 86.5</p>



# SWITCH

**TME**

## Limit Switch

### Features

- Double circuit type of limit switch
- Highly rigid construction, consists of intensive plastic and aluminum cast (head and cover snugly fit in box)
- Small volume, water-proof and oil-proof construction
- Built-in basic switch with double spring mechanism, longer mechanical life
- Smooth operation with greater OT
- Easy-to-wire circuit opening design
- Wide variety of actuators, easily use

### Ratings

Rated voltage	Noninductive load (A)				Inductive Load (A)			
	Resistance Load		LoadLamp Load		Nductive Load		Motor Load	
	NC	NO	NC	NO	NC	NO	NC	NO
125VAC 250VAC 500VAC	5	5	1.5	0.7	3	3	2.0	1.0
	5	5	1.0	0.5	3	3	1.5	0.8
8VDC 14VDC 30 VDC	5	5	3	3	5	4	3	3
	5	5	3	3	4	4	3	3
	5	5	3	3	4	4	3	3
125 VDC	0.4	0.4						
250 VDC	0.2	0.2						
Inrush Current	N.C: below 24A, N.O: below 12A							

#### NOTES:

1. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 msec. (DC).
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current

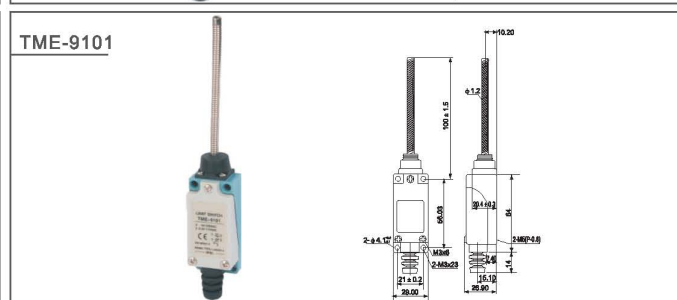
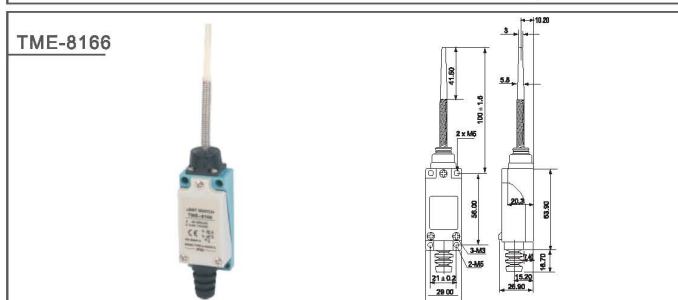
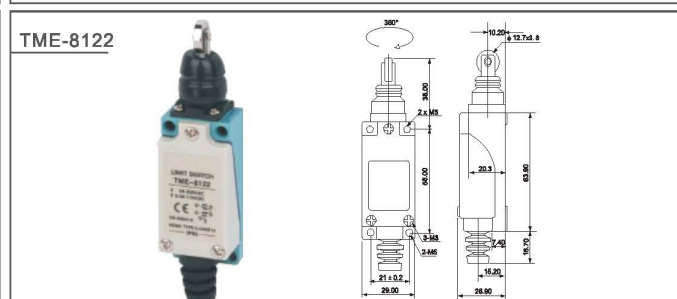
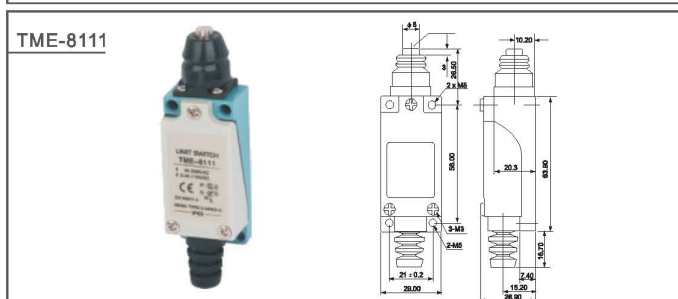
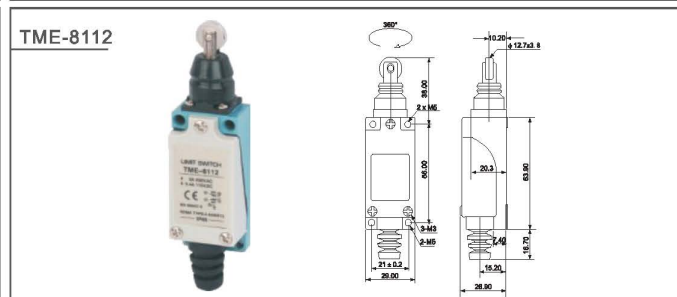
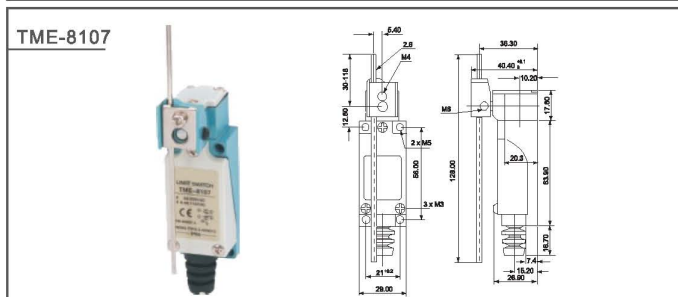
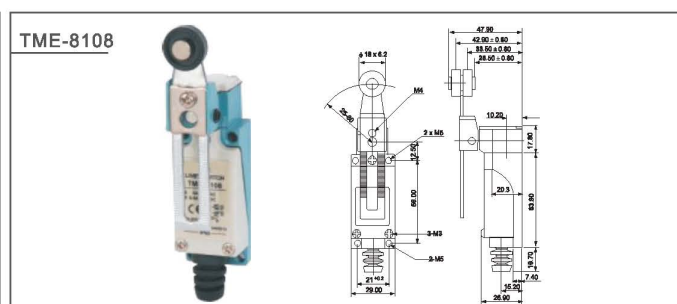
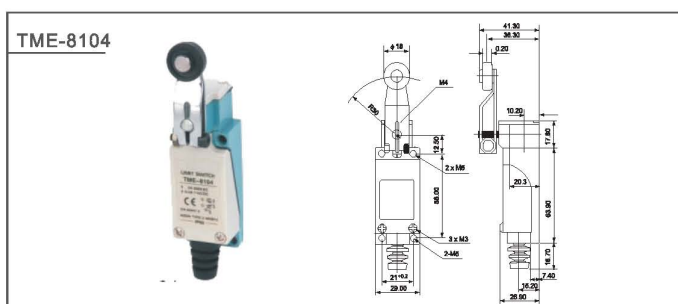
### Characteristics

Operation speed	0.5mm~50cm/sec
Operation frequency	Mechanical: 120 operations/minute Electrical: 30 operations/minute
Contact resistance	25mΩmax. (initial value)
Insulation resistance	100mΩmax. (at 500VDC)
Dielectric strength	1000VAC, 50/60Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60Hz for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60Hz for 1 minute between each terminal and ground
Vibration	10~55Hz, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G'S)
	Malfunction: 300m/Sec <sup>2</sup> (about 30G'S)
Ambient temperature	-5℃ to +65℃
Humidity	< 95% RH
Life	Mechanical: 10,000,000 operations above
	Electrical: 500,000 operations above
Weigh	About 130 to 190g
Degree of protection	IP65

Operating characteristics

Model	TME-8104	TME-8108	TME-8107	TME-8111	TME-8112/8122	TME-8166/8167/8168/8169
OF Max.	750g	750g	750g	900g	900g	150g
RF Min.	100g	100g	100g	150g	150g	-
PT Max.	20°	20°	20°	1.5mm	1.5mm	30mm
OT Min.	50°	50°	50°	4mm	4mm	-
MD Max.	12°	12°	12°	1mm	1mm	-
OP	-	-	-	26±0.8mm	37±0.8mm	-

Appearance and dimension



# SWITCH

## TXCK-M

### Limit Switch

#### Features

- Strong metal outer shell, swing arm max.  $\pm 95^\circ$
- Long life (20,000,000 mechanical operations)
- Stainless steel idler wheel, punch and spring
- Selective PG11 cable gland

#### Specifications

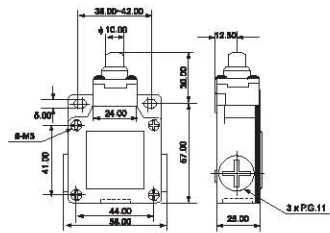
Model	TXCK-M	110	102	121	115	141	106	139	108
Operating force	OF Max.	800g	800g	800g	400g-cm	400g-cm	150g	150g	150g
Release force	RF Min.	400g	400g	400g	100g-cm	100g-cm	50g	50g	50g
Pre-travel	PT Max.	1.8mm	1.8mm	1.8mm	20°	20°	30mm	30mm	30mm
Tripping position	TP $\pm 10\%$	2.0mm	2.0mm	2.0mm	22.5°	22.5°	22.5°	22.5°	22.5°
Movement differential	MD Max.	1.2mm	1.2mm	1.2mm	10°	10°	14°	14°	14°
Over travel	OT Min.	4.0mm	4.0mm	4.0mm	75°	75°	20mm	20mm	20mm
Total travel	TT Min.	5.8mm	5.8mm	5.8mm	95°	95°	50mm	50mm	50mm
Rotary indexing					22.5°	22.5°			

#### Characteristics

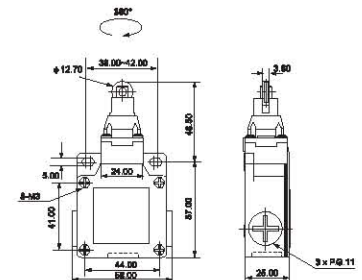
Double Break Mechanism	INO+INC Force Break snap action
Rated Voltage / Current	10(4)A, 125, 250VAC/6(2)A, 380VAC For inductance Load, Cos $\phi=0.4$
Contact Resistance	25m $\Omega$ max. (initial value)
Insulation Resistance	100m $\Omega$ max. (at 500VDC)
Dielectric Strength	1000VAC, 50/60Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60Hz for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60Hz for 1 minute between each terminal and ground
Electrical life	500,000 at 10A 250VAC Resistive
Mechanical Life	10,000,000 operations min. (under rated conditions)
Operating Speed	5mm/s to 0.5m/s
Degree of Protection	IP66
Ambient Temperature Rised	Max 30°C over ambient temperature at rated voltage/current
Conformed Standards	CENELEC EN 50041, EN 50047, IEC 337-1, VDE 0660
Operating Temperature	-5°C~+65°C(with no icing)
Storage Temperature	-5°C~+65°C(with no icing)
Ambient Operating Humidity	95% RH Max.
Shock Resistance	Mechanical durable: 1000m/s <sup>2</sup> min
	Malfunction: 300 m/s <sup>2</sup> min
Vibration Frequency	Malfunction: 10 to 55 Hz, 1.5mm double amplitude
Terminal Screw Torsional Force	6-8 kgf-cm
Other Screw Torsional force	Cover 12-14 kgf-cm/Head 8-9 kgf-cm/Mounting 50-60 kgf-cm
Bare Wire Diameter	$\phi 2$ max
Cable Diameter	$\phi 12$ max (IP 65 IF use cable $\phi 8-9$ )

Appearance and dimension

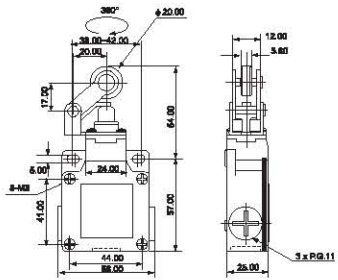
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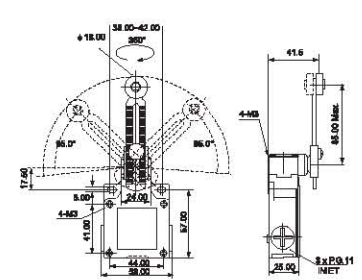
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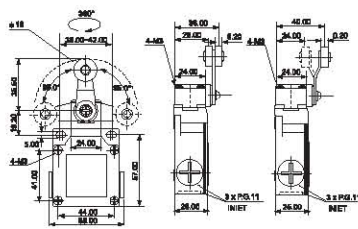
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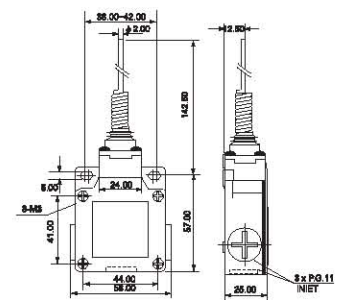
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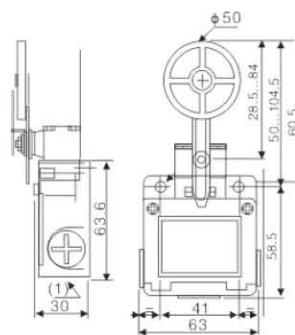
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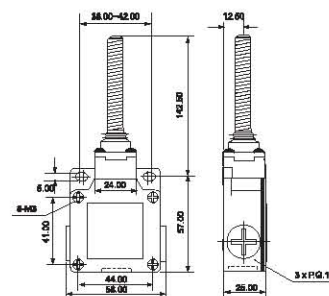
TXCK-M106



TXCK-M139



TXCK-M108





# SWITCH

## TXCK-P/TXCK-T

### Limit Switch

### Features

- Economical & plastic type
- Stainless steel roller, punch and spring
- Swing amplitude, extra large  $\pm 95^\circ$
- PG13.5 cable gland that can be equipped

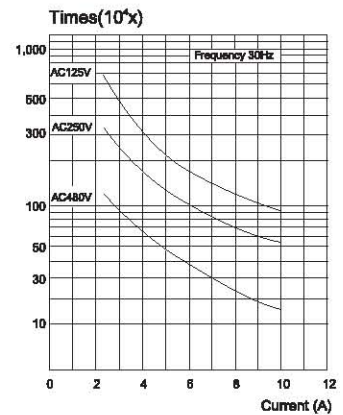
### Specifications

Model	TXCK-P TXCK-T	110 110	102 102	128 121	118 118	127 127	145 145	106 106	181 155	155	139 139
Operating force	OF Max.	700g	700g	700g	500g	700g	500g-cm	100g	100g	100g	500g-cm
Release force	RF Min.	200g	200g	200g	100g-cm	200g	100g-cm	40g	40g	40g	100g-cm
Pre-travel	PT Max	1.8mm	1.8mm	1.8mm	20°	1.8mm	20°	30mm	30mm	30mm	20°
Tripping position	TP $\pm 10\%$	2.0mm	2.0mm	2.0mm	22.5°	2.0mm	22.5°	22.5°	22.5°	22.5°	22.5°
Movement differential	MD Max.	1.2mm	1.2mm	1.2mm	10°	1.2mm	10°	14°	14°	14°	10°
Over travel	OT Min.	4.0mm	4.0mm	4.0mm	75°	4.0mm	75°	20mm	20mm	20mm	75°
Total travel	TT Min.	5.8mm	5.8mm	5.8mm	95°	5.8mm	95°	50mm	50mm	50mm	95°
Rotary indexing					22.5°		22.5°				22.5°

### Characteristics

Double Break Mechanism	INO+HNC Force Break snap action
Rated Voltage / Current	10(4)A, 125, 250VAC/6(2)A, 380VAC For inductance Load, $\text{Cos}\phi=0.4$
Contact Resistance	25m $\Omega$ max. (Initial value)
Insulation Resistance	100m $\Omega$ max. (at 500VDC)
Dielectric Strength	1000VAC, 50/60Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60Hz for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60Hz for 1 minute between each terminal and ground
Electrical life	500,000 at 10A 250VAC Resistive
Mechanical Life	10,000,000 operations min. (under rated conditions)
Operating Speed	5mm/s to 0.5m/s
Degree of Protection	IP64
Ambient Temperature Rise	Max 30°C over ambient temperature at rated voltage/current
Conformed Standards	CENELEC EN 50041, EN 50047, IEC 337-1, VDE 0660
Operating Temperature	-5°C~+65°C(with no icing)
Storage Temperature	-5°C~+65°C(with no icing)
Ambient Operating Humidity	95% RH Max.
Shock Resistance	Mechanical durable: 1000m/s <sup>2</sup> min
	Malfunction: 300 m/s <sup>2</sup> min
Vibration Frequency	Malfunction: 10 to 55 Hz, 1.5mm double amplitude
Terminal Screw Torsional Force	6-8 kgf-cm
Other Screw Torsional force	Cover 12-14 kgf-cm/Head 8-9 kgf-cm/Mounting 50-60 kgf-cm
Bare Wire Diameter	$\phi 2$ max
Cable Diameter	$\phi 12$ max

### Electrical life





Appearance and dimension

<p><b>TXCK-P110</b></p>	<p><b>TXCK-P145</b></p>
<p><b>TXCK-P102</b></p>	<p><b>TXCK-P106</b></p>
<p><b>TXCK-P128</b></p>	<p><b>TXCK-P181</b></p>
<p><b>TXCK-P118</b></p>	<p><b>TXCK-P155</b></p>
<p><b>TXCK-P127</b></p>	<p><b>TXCK-P139</b></p>



## CWL Limit Switch

### Features

- Double-circuit type of limit switch is widely used
- With strong aluminum cast outer shell
- High mechanical strength
- Water-proof, oil-proof construction
- Structure preventing oil, water and pressure
- Indicating plate with setting position is installed in it, so it is easy to maintain
- Various of actuators is taken convenience for using
- Built-in contact stand has double-spring, so it has long mechanical life

### Ratings

Rated voltage	Noninductive Load (A)				Inductive Load (A)			
	Resistance Load		Lamp Load		Inductive Load		Motor Load	
	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	10		3	1.5	10		5	2
250VAC	5		2	1	5		3	1
480VAC	3		1.5	0.8	3		1.5	0.8
600VAC	1		1	0.5	1.5		1	0.5
8VDC	10		6	3	10		6	
14VDC	10		6	3	10		6	
30VDC	6		4	3	6		4	
125VDC	0.8		0.2	0.2	0.8		0.2	
250VDC	0.4		0.1	0.1	0.4		0.1	

### Characteristics

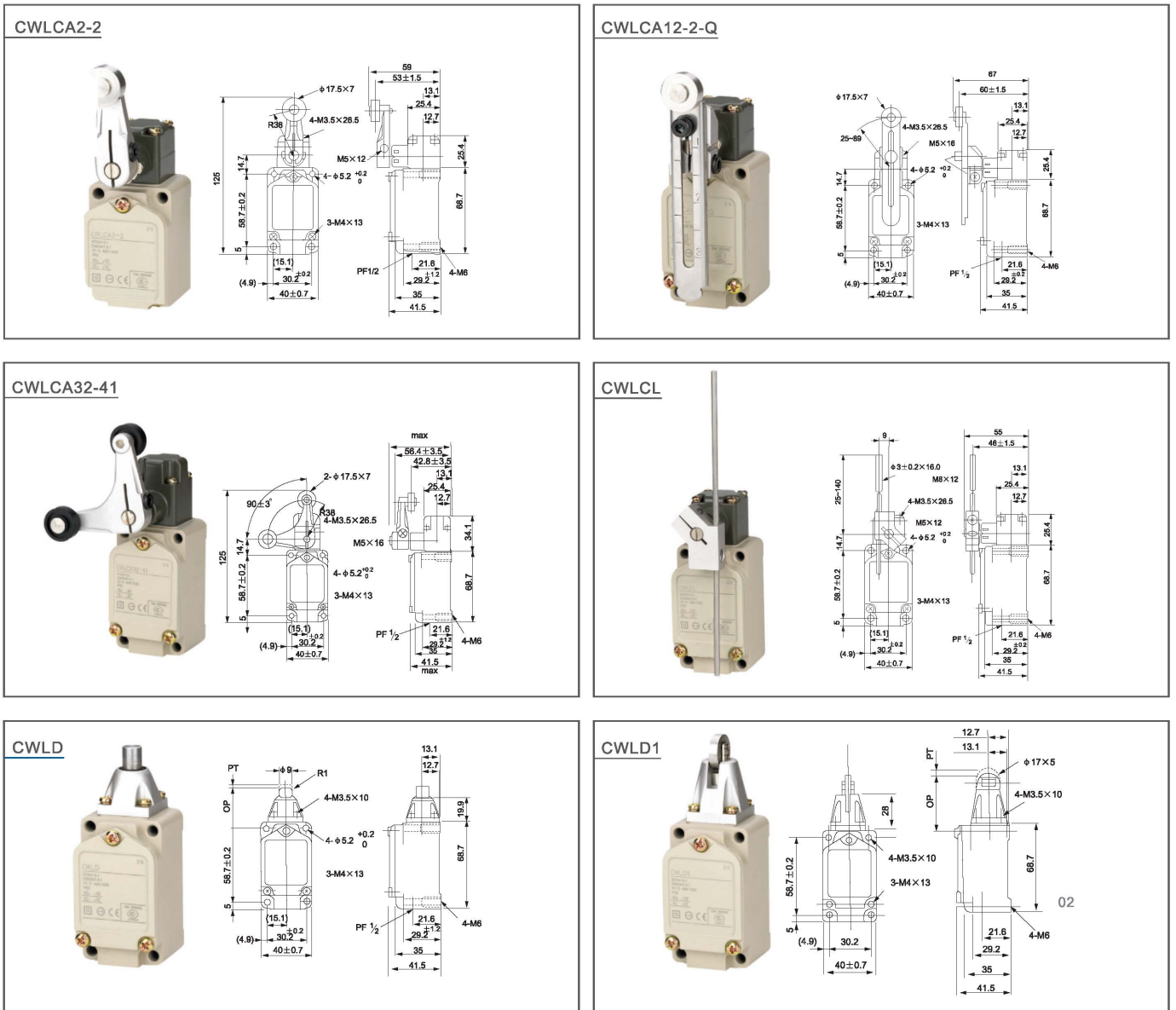
Operation speed	1mm~2m/s
Operation frequency	Mechanical: 120 operations/minute Electrical: 30 operations/minute
Contact resistance	15mΩmax. (Initial value)
Insulation resistance	100mΩabove (at 500VDC)
Dielectric strength	1000VAC, 50/60Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60Hz for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60Hz for 1 minute between each terminal and ground
Vibration	10~55Hz, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G'S)
	Malfunction: 300m/Sec <sup>2</sup> (about 30G'S)
Ambient temperature	-10℃ to +80℃
Humidity	< 95% RH
Life	Mechanical: 15,000,000 operations above (under rated OT)
	Electrical: 500,000 operations above
Weight	About 275g
Degree of protection	IP66

# SWITCH

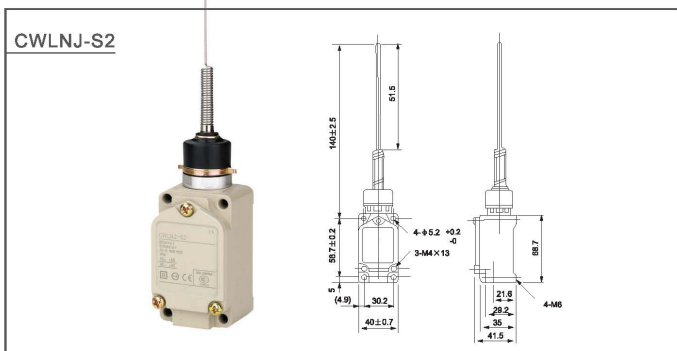
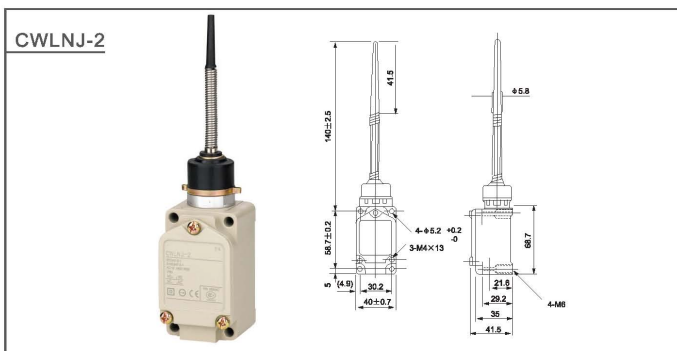
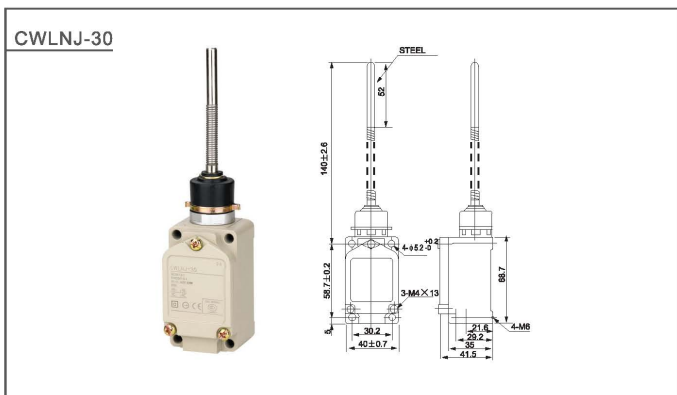
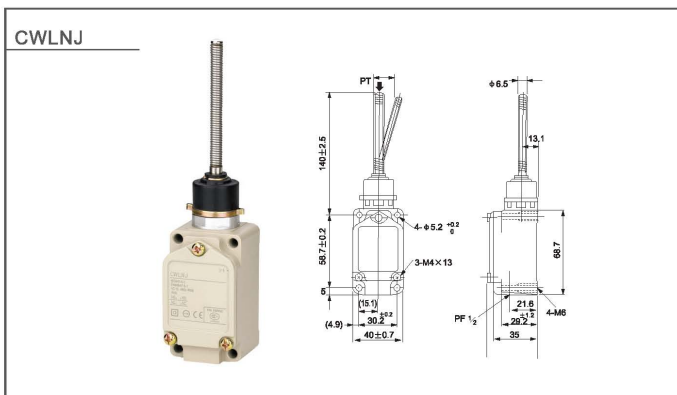
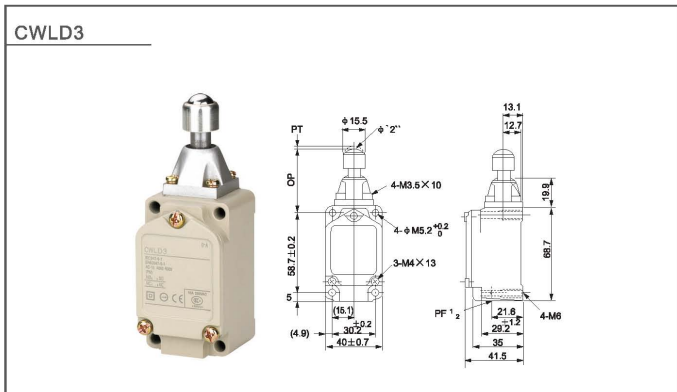
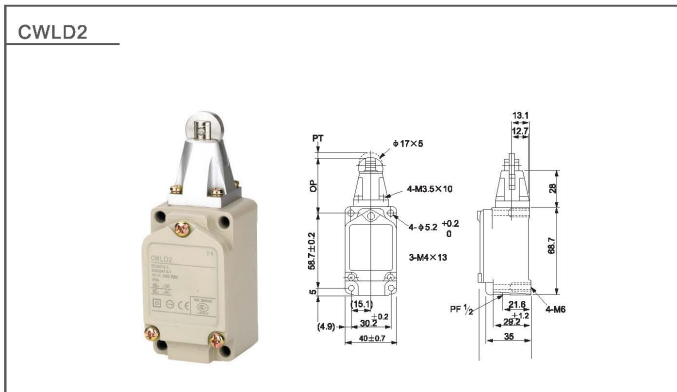
## Operating characteristics

Model	CWLCA2-2	CWLD2	CWLNJ	CWLNJ-S2	CWLCA12-2-Q	CWLCL	CWLCA32-41	CWLD	CWLNJ-2	CWLNJ-30	CWLD1	CWLD3
OF Max.	1360g	2720g	150g	29g	1360g	142g	1200g	2720g	120g	80g	2720g	2720g
RF Min.	227g	910g	-	-	227g	28g	-	910g	-	-	910g	910g
PT Max.	20°	1.7mm	28mm	28mm	20°	20°	55°	1.7mm	28mm	28mm	1.7mm	1.7mm
OT Min.	30°	5.6mm	-	-	30°	30°	35°	6.4mm	-	-	5.6mm	5.6mm
MD Max.	12°	1mm	-	-	12°	12°	-	1mm	-	-	1mm	1mm
TF Max.	2720g	-	-	-	2720g	200g	-	-	-	-	2720g	2720g
TT Min.	50°	6.5± 0.8mm	-	-	50°	50°	OP: 90±10°	OP: 34± 2.8mm	-	-	6.5 ± 0.8mm	9 ± 0.8mm

## Operating characteristics



Operating characteristics





# SWITCH

## THL

### Limit Switch

#### Features

- Metallic bottom shell
- Stainless steel roller, punch and spring
- Strong electric property 10A, 250V, for 500,000 times

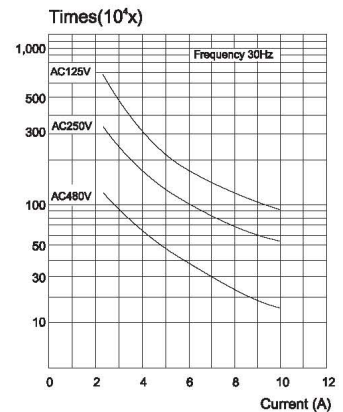
#### Specifications

Model	THL	5000	5030	5050	5100	5200	5220	5300	5330	5301	5300-L
Operating force	OF Max.	750g-cm	750g-cm	750g-cm	750g-cm	900g-cm	900g-cm	150g	150g	150g	550g-cm
Release force	RF Min.	100g-cm	100g-cm	100g-cm	200g	200g	200g	30g	30g	30g	100g-cm
Pre-travel	PT Max.	20°	20°	20°	1.8mm	1.8mm	1.8mm	30mm	30mm	30mm	20°
Tripping position	TP ±10%	22.5°	22.5°	22.5°	2.0mm	2.0mm	2.0mm	22.5°	22.5°	22.5°	22.5°
Movement differential	MD Max.	10°	10°	10°	1.2mm	1.2mm	1.2mm	14°	14°	14°	14°
Over travel	OT Min.	75°	75°	75°	4.0mm	4.0mm	4.0mm	20mm	20mm	20mm	75°
Total travel	TT Min.	95°	95°	95°	5.8mm	5.8mm	5.8mm	50mm	50mm	50mm	95°

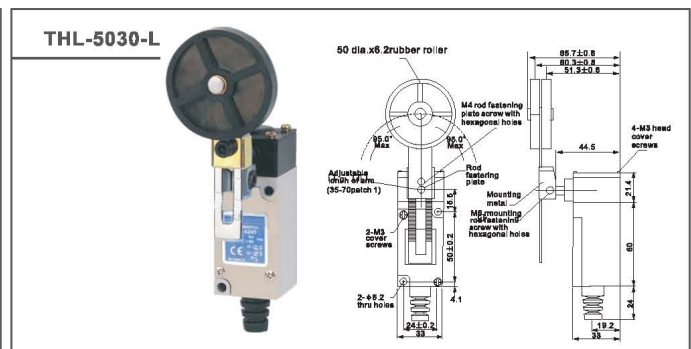
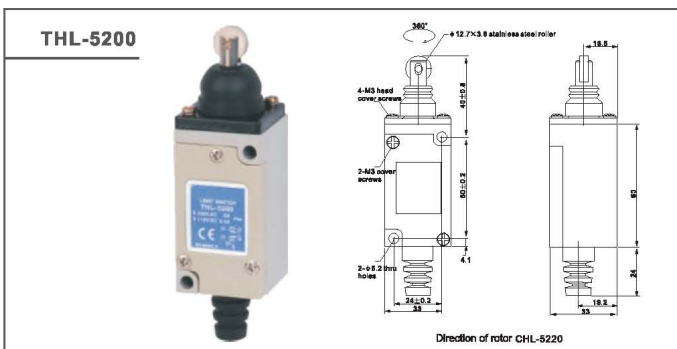
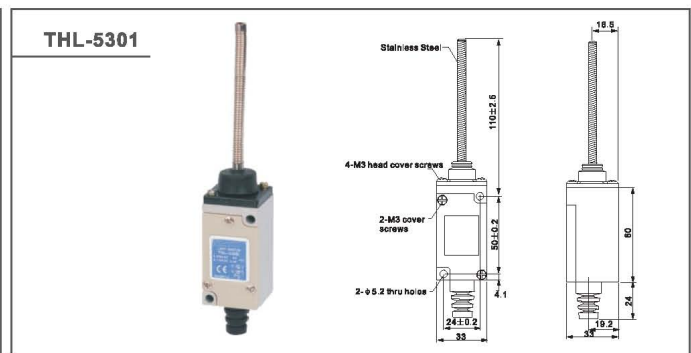
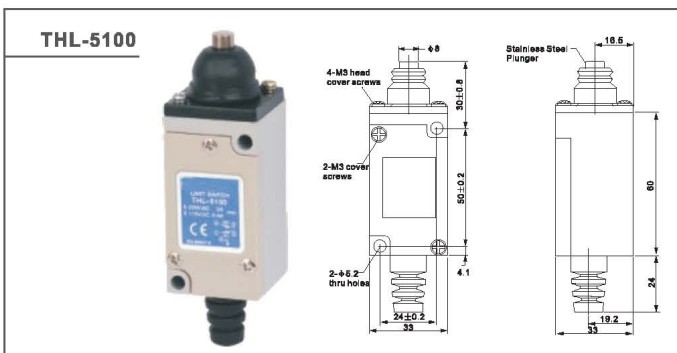
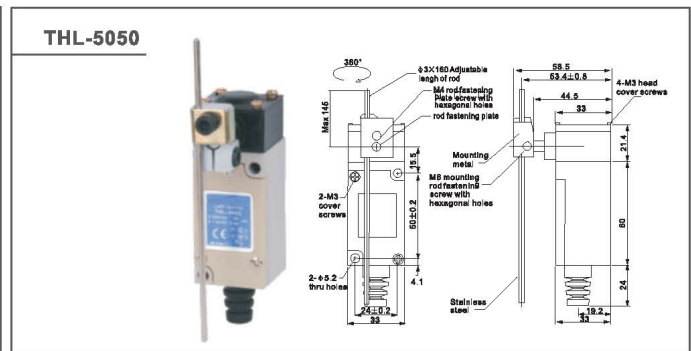
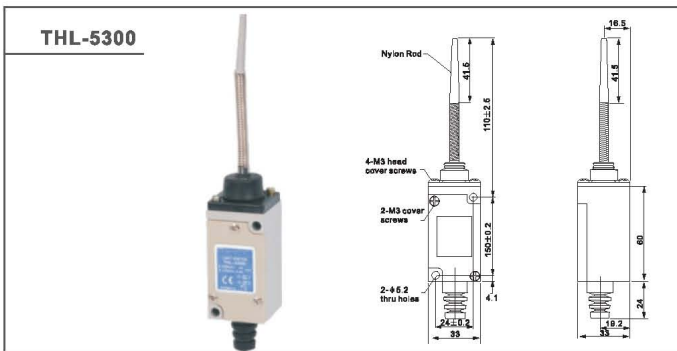
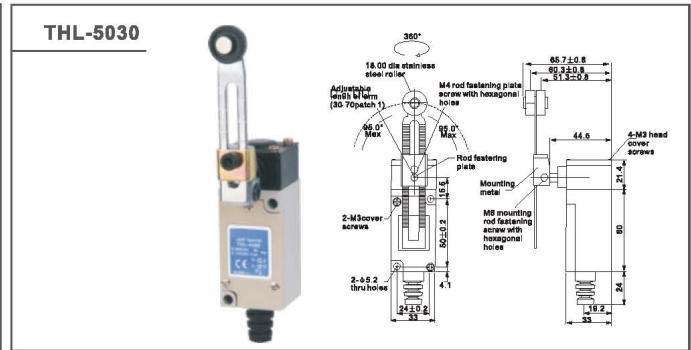
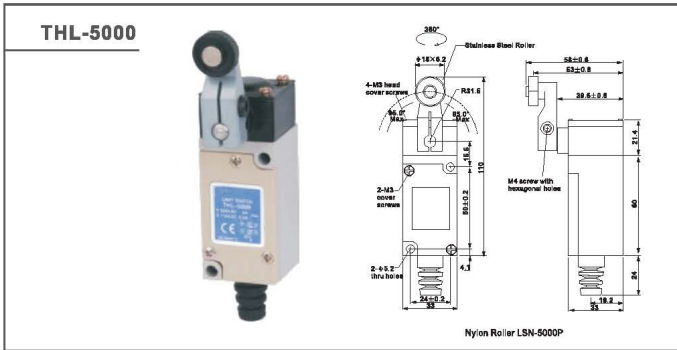
#### Characteristics

Double Break Mechanism	INO+INC Force Break snap action
Rated Voltage / Current	10(4)A, 125, 250VAC/6(2)A, 380VAC For inductance Load, Cosφ=0.4
Contact Resistance	25m Ω max. (initial value)
Insulation Resistance	100mΩ max. (at 500VDC)
Dielectric Strength	1000VAC, 50/60Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60Hz for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60Hz for 1 minute between each terminal and ground
Electrical life	500,000 at 10A 250VAC Resistive
Mechanical Life	10,000,000 operations min. (under rated conditions)
Operating Speed	5mm/s to 0.5m/s
Degree of Protection	IP65
Ambient Temperature Rised	Max 30°C over ambient temperature at rated voltage/current
Conformed Standards	CENELEC EN 50041, EN 50047, IEC 337-1, VDE 0660
Operating Temperature	-5°C~+65°C(with no icing)
Storage Temperature	-5°C~+65°C(with no icing)
Ambient Operating Humidity	95% RH Max.
Shock Resistance	Mechanical durable: 1000m/s <sup>2</sup> min
	Malfunction: 300 m/s <sup>2</sup> min
Vibration Frequency	Malfunction: 10 to 55 Hz, 1.5mm double amplitude
Terminal Screw Torsional Force	6-8 kgf-cm
Other Screw Torsional force	Cover 12-14 kgf-cm/Head 8-9 kgf-cm/Mounting 50-60 kgf/cm
Bare Wire Diameter	φ2 max
Cable Diameter	φ9 max(IP 65 if use cableφ8-9)

#### Electrical life



Appearance and dimension



# SWITCH

## CM

### Micro Switch

#### Features

- Various of actuators, action position is adjustable (such as Cm1701)
- High switch on and off capacity (15A)
- High accuracy
- Wide range of operation speed
- Each type of CM series has solder terminal, screw terminal and tab terminal are selective
- Add A for solder terminal, add C for tab terminal, blank for screw terminal

#### Ratings

Rated voltage	Noninductive load (A)				Inductive Load (A)					
	Resistance		LoadLamp Load		Nductive Load		Motor Load			
	NC	NO	NC	NO	NC		NO	NC	NO	NONC
125VAC	15		3	1.5	15		5	2.5		
250VAC	15		2.5	1.25	15		3	1.5		
500VAC	3		1.5	0.75	2.5		1.5	0.75		
8VDC	15		3	1.5	15		5	2.5	30 max.	15 max.
14VDC	15		3	1.5	10		5	2.5		
30 VDC	6(2)		3	1.5	5		5	2.5		
125 VDC	0.4		0.4	0.4	0.05		0.05	0.05		
250 VDC	0.2		0.2	0.2	0.03		0.03	0.03		

#### Characteristics

Operation speed	0.01mm~1m/sec
Operation frequency	Mechanical: 240 operations/min. Electrical: 20 operations/min.
Contact resistance	15mΩmax. (initial value)
Insulation resistance	100mΩ min. (at 500VDC)
Dielectric strength	1000VAC, 50/60Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60Hz for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60Hz for 1 minute between each terminal and ground
Vibration	10-55Hz, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec <sup>2</sup> (about 100G'S)
	Malfunction: 300m/Sec <sup>2</sup> (about 30G'S)
Ambient temperature	General purpose type: -25°C to +80°C, Sealed type: -15°C to +80°C
Humidity	General purpose type: 85% RH max., Sealed type: 95% RH max.
Life	Mechanical: 20,000,000 operations/min.
	Electrical: 500,000 operations/min.
Weigh	About 22g to 58g
Degree of protection	IP65

## Operating characteristics

Model	CM1300	CM1301	CM1303	CM1305	CM1306	CM1307	CM1308	CM1309	CM1701	CM1702	CM1703	CM1704	CM1705	CM1743
OF Max.	350g	300g	300g	350g	350g	350g	350g	350g	70g	100g	160g	160g	10g	160g
RF Min.	114g	50g	50g	114g	114g	114g	114g	114g	14g	28g	22g	42g	3g	42g
PT Max.	0.4mm	4mm	4mm	0.4mm	0.4mm	0.4mm	0.4mm	0.4mm	10mm	5mm	7.1mm	2.7mm	20mm	2.7mm
OT Min.	0.13mm	1.6mm	1.6mm	1.6mm	1.6mm	5.5mm	3.58mm	3.58mm	5.6mm	2mm	4mm	2.4mm	5.8mm	2.4mm
MD Max.	0.05mm	1.3mm	1.3mm	0.05mm	0.05mm	0.05mm	0.05mm	0.05mm	1.27mm	1mm	1.02mm	0.5mm	3mm	0.5mm
FP Max.		20.6mm	31.8mm						28.2mm	24.8mm	36.5mm	32.5mm		43.6mm
OP(mm)	15.9±0.4	17.4±0.8	28.6±0.8	28.2±0.5	21.5±0.5	21.8±0.8	33.4±1.2	33.4±1.2	19±0.8	19±0.4	30.2±0.8	30.2±0.4	19±0.4	43.1±0.8

Definitions of operating characteristics:

OF: operating force

Force needed to add to the executer unit to actuate switch contact

RF: releasing force

Force needed to add to the executer unit to make the switch contact back to normal position

TF: total force

Force needed to make executer unit move from free position to limitation position

FP: free position

Primary position of executer unit without external force adding to executer unit

OP: operating position

The position of executer unit in case of the contact rapidly moving to the contact position for action

RP: releasing position

The position of executer unit in case of the contact rapidly backing to normal position to action contact position

TTP: total travel position

The position of executer unit in case of executer unit reaching the limitation position

PT: pre-travel

The distance or angle that the executer unit passes since free position to action position

OT: over-travel

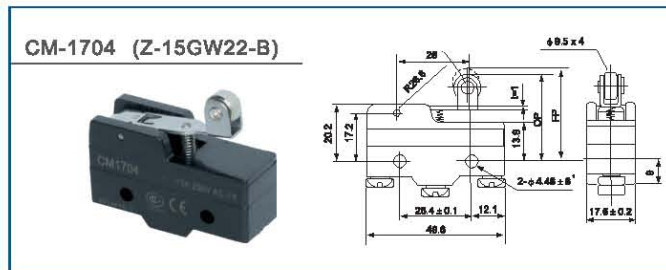
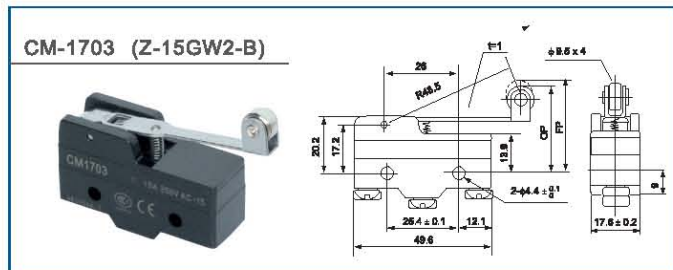
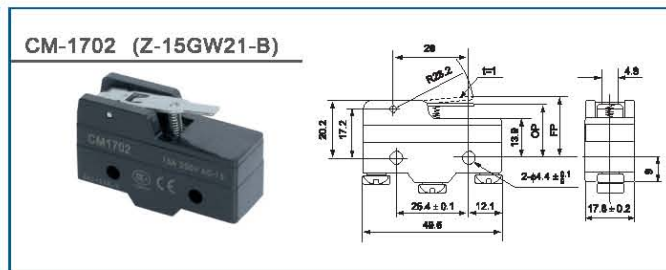
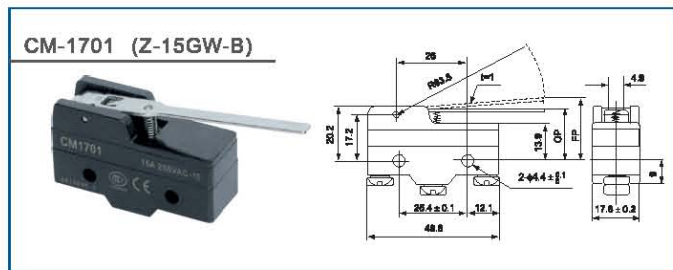
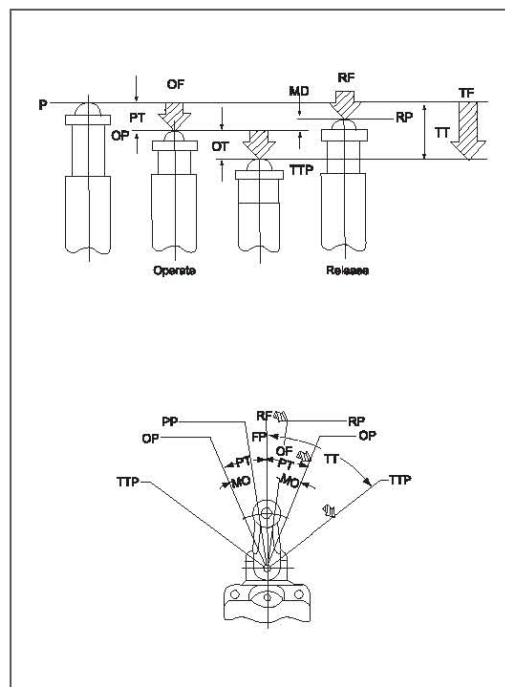
The distance or angle that the executer unit surpasses action position

MD: movement differential

The distance or angle from action position to reversion position

TT: total travel

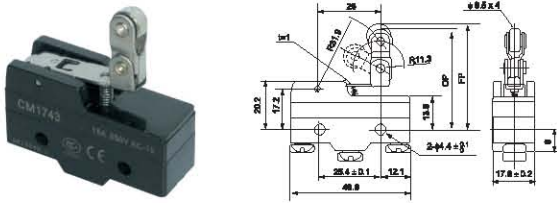
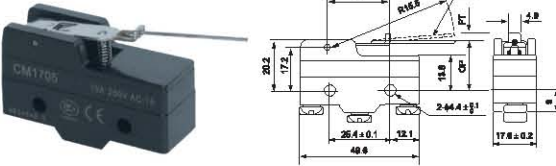








The distance or angle represents the movement till action and the total movement till action and the total movement after all actions.





# SWITCH

## Appearance and dimension

<p><b>CM-1743 (Z-15GW2277-B)</b></p>  <p>Technical drawing showing dimensions: 20.2, 17.2, 28, R0.15, 51.3, 13.8, 2-φ4±0.1, 25.4±0.1, 12.1, 48.8, 17.8±0.2, φ8.5x4.</p>	<p><b>CM-1705 (Z-15HW78-B)</b></p>  <p>Technical drawing showing dimensions: 20.2, 17.2, 28, R0.15, 13.8, 2-φ4±0.1, 25.4±0.1, 12.1, 48.8, 17.8±0.2, φ8.5x4.</p>
<p><b>CM-1306 (Z-15GD-B)</b></p>  <p>Technical drawing showing dimensions: 23.4±0.2, 25.4±0.1, 12.1, 48.8, 17.8±0.2, 2-φ4±0.1, φ7.3, 20.7, 29.0.</p>	<p><b>CM-1307 (Z-15GQ-B)</b></p>  <p>Technical drawing showing dimensions: 23.4±0.2, 25.4±0.1, 12.1, 48.8, 17.8±0.2, 2-φ4±0.1, φ8.3, SR14, M12xP1.0, 18.3, 13.1, 11.3.</p>
<p><b>CM-1308 (Z-15GQ22-B)</b></p>  <p>Technical drawing showing dimensions: 23.4±0.2, 25.4±0.1, 12.1, 48.8, 17.8±0.2, 2-φ4±0.1, φ12.7x3.8, M12xP1.0, 18.3, 11.6.</p>	<p><b>CM-1309 (Z-15GQ21-B)</b></p>  <p>Technical drawing showing dimensions: 23.4±0.2, 25.4±0.1, 12.1, 48.8, 17.8±0.2, 2-φ4±0.1, φ12.7x3.8, M12xP1.0, 18.3, 11.6.</p>
<p><b>CM-1300 (Z-15G-B)</b></p>  <p>Technical drawing showing dimensions: 25.3±0.25, 25.4±0.1, 11.8, 48.2, 17.45, 2-φ4.2, 11.3, 2.2.</p>	<p><b>CM-1301 (Z-15GQL-B)</b></p>  <p>Technical drawing showing dimensions: 48.9±0.8, 1-0.2, 25.4±0.1, 11.8, 48.2, 17.45, 2-φ4.2, 11.3, 11.8.</p>
<p><b>CM-1303 (Z-15GL2-B)</b></p>  <p>Technical drawing showing dimensions: 48±0.8, 25.4±0.1, 11.8, 48.2, 17.45, 2-φ4.2, φ8.5x4.</p>	<p><b>CM-1305 (Z-15GS-B)</b></p>  <p>Technical drawing showing dimensions: 23.3±0.25, 25.4±0.1, 11.8, 48.2, 17.45, 2-φ4.2, 2.4.0.</p>



## Toggle Switch

### Features

- The current has 10A and 15A
- Movement way has fixed type and auto-return type(both single-throw and double-throw can return)
- The terminal block has screw terminal and solder terminal (tab terminal also can be used)
- Rainproof cap, water-proof and oil-proof, it is suitable for full series products
- Mounting hole:  $\Phi 12\text{mm}$

### Ratings

Load	Type	AC Rating	DC Rating
Resistance Load	CO	10A 250V 15A 125V	0.4A 250V 0.8A 125V
	C5	15A 250V 20A 125V	0.5A 250V 0.9A 125V
Inductive Load	CO	10A 250V 15A 250V	0.2A 250V 0.4A 125V
	C5	15A 250V 20A 125V	0.3A 250V 0.5A 125V 15A 30V
Lamp Load	CO	300W 100V 500W 200V	-
	C5	400W 125V 800W 250V	7A 30V
Motor Load	CO	200W 125V 300W 250V	-
	C5	400W 125V (single phase)	
	CO	550W 250V (three phase)	
	C5	750W 250V (three phase)	

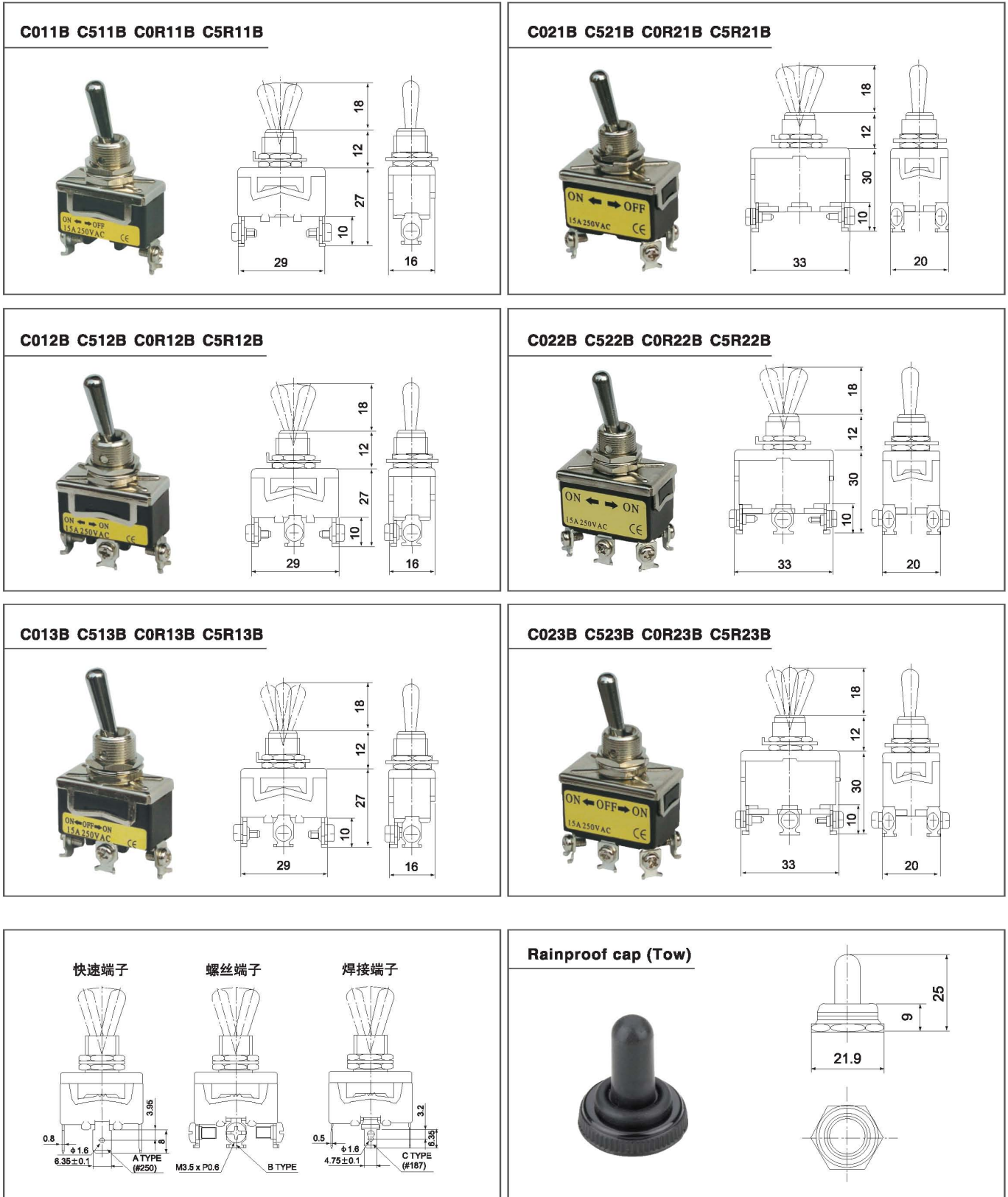
### Characteristics

Contact resistance	15M $\Omega$ max. (initial)
Insulation resistance	100M $\Omega$ above (under 500VDC)
Dielectric strength	2000V, 50/60Hz for 1 minute
Vibration	10 to 55Hz, 1.5mm double amplitude
Ambient temperature	-25°C to +80°C
Humidity	85% RH max.
Life	Mechanical: 500,000 operations min.
	Electrical: 100,000 operations min.

Item	Code	Description
Type	CO	10A 250VAC
	COR	10A 250VAC Spring return
	C5	15A 250VAC
	C5R	15A 250VAC Spring return
Contact	11	Single pole single throw ON-OFF
	12	Single pole double throw ON-OFF
	13	Single pole double throw (central OFF) ON-OFF-ON
	131	Single pole double throw (central OFF single return) ON-OFF-ON
	21	Double pole single throw ON-OFF
	22	Double pole double throw ON-ON
	23	Double pole double throw (central OFF) ON-OFF-ON
	231	Double pole double throw (central OFF single return) ON-OFF-ON
Terminal	A	Tab terminal
	B	Screw terminal
	C	Solder terminal

# SWITCH

## Appearance and dimension



## PEY

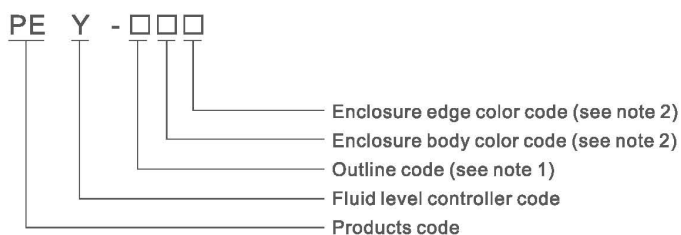
### Float Switch



### Application

The product it applies to industrial and mining enterprises and civil architecture, and it's the equipment which controls pool, water tower, water box etc. It has the advantages of sensitive responses, accurate control novelty and practicality, so it is the necessary water supply product of factories hotels, flat building, houses and so on high buildings.

### Model No.



Note 1(Outline code): "1"- Trapezium "2"- Rectangle "3"- Large circular "4"- Small circular "5"- "Oval"  
 Note 2(Color code): "R"- red "Y"- yellow "S"- blue "G"- gray "B"- black

### Main technical parameter

Specifications	
Rated voltage	250V(380V)
Rated current	10(8)A/10(4)A
Working temperature	0℃ ≤ water temperature ≤ 80℃
Mechanical endurance	≥ 100000times
Electrical endurance	≥ 50000times
Protection Grade	IP68CS

# UNIVERSAL CHANGEOVER SWITCH

## LW26

### Series Rotary Switches



### Application

The LW26 series rotary switch mainly applies to 440V and below, AC 50Hz or 240V and below DC circuits. For breaking, closing and change-over of circuit under unfrequently manual operation. And the typical application are: control switch of 3 phase motors, control switch of switch gear, control switch of instruments and change-over switch of machinery and welding machine.

The switch complies with the GB1408.3, GB14048 and IEC60947-3, IEC60947-5-1.

The LW26 series have 7 current ratings: 10A, 20A, 25A, 32A, 63A, 125A and 160A.

The LW26 series rotary switch were designed for multiple functions and wide variety of applications, The LW26-10, LW26-20, LW26-25 and LW26-32F have finger protection terminals.

Lw26 series rotary switch has two derivatives, LW26GS PAD-LOCK and LW26S lock.

Both of them are applicable in circuits when an physical control is required.

We can equip protective box for 20A, 25A, 35A and 63A.

### Working conditions

(1) Ambient temperature can't exceed 40°C and the average temperature, measured over a period of 24 hours, do not exceed 35°C

(2) Ambient temperature should not be below -5°C

(3) Should not be installed over 2000m above sea level

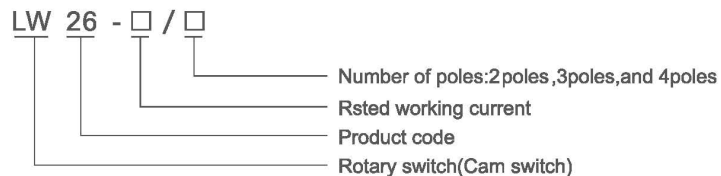
(4) The humidity should not exceed 50 when the ambient temperature is over 40°C, and higher humidity is allowed at lower temperature.

### Installation conditions

(1) A clean environment is required.

(2) Please follow our manual.

### Model No.

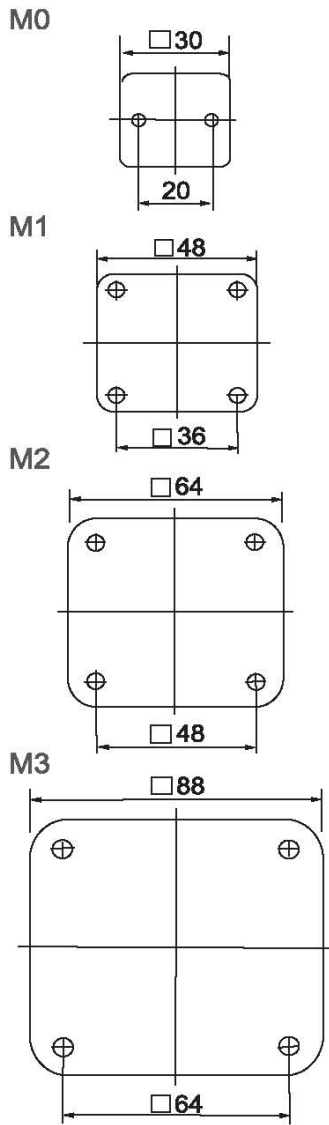










Re: switches in this category normally rotated at 60°.





# UNIVERSAL CHANGEOVER SWITCH



Type of handle	Color	Escutcheon plate M0M1M2M3	Type of handle	Color	Escutcheon plate M0M1M2M3
<b>R type</b> 	Black	● ● ●	<b>I type</b> 	Black	● ● ●
	Red	● ● ●		Red	● ● ●
	White	● ● ●		White	● ● ●
	Gray	● ● ●		Gray	● ● ●
Yellow	●	Yellow		●	
<b>F type</b> 	Black	● ●	<b>B type</b> 	Black	● ●
	Red	● ●		Red	● ●
	White	● ●		White	● ●
	Gray	● ●		Gray	● ●
<b>H type</b> 	Black	●	<b>L type</b> 	Black	●
	Red	●		Red	●
	White	●		White	●
	Gray	●		Gray	●
<b>P type</b> 	Black	● ●	<b>K type</b> 	Black	● ●
	Red	● ●		Red	● ●
	White	● ●		White	● ●
	Gray	● ●		Gray	● ●

## Main technical parameter

Description	LW26-10	LW26-20	LW26-25	LW26-32	LW26-63	LW26-125	LW26-160							
Rated thermal current I <sub>th</sub>	A 10		20		25		32		63		125		160	
Rated working voltage U <sub>e</sub>	V 240 440		240 440		240 440		240 440		240 440		240 440		240 440	
Rated working current I <sub>e</sub>														
AC-21A AC-22A	A 10	10	20	20	25	25	32	32	63	63	100	100	150	150
AC-23A	A 7.5	7.5	15	15	22	22	30	30	57	57	90	90	135	135
AC-2	A 7.5	7.5	15	15	22	22	30	30	57	57	90	90	135	135
AC-3	A 5.5	5.5	11	11	15	15	22	22	36	36	75	75	95	95
AC-4	A 1.75	1.75	3.5	3.5	6.5	6.5	11	11	15	15	30	30	55	55

Description	LW26-10	LW26-20	LW26-25	LW26-32	LW26-63	LW26-125	LW26-160
AC-15	A	2.5 1.5	5 4	8 5	14 6		
<b>Power</b>							
AC-23A	KW	1.8 3	3.7/2.5 7.5/3.7	5.5/3 11/5.5	7.5/4 15/7.5	15/10 30/18.5	30/15 45/22 37/22 75/37
AC-2	KW	2.5 3.7	4 7.5	5.5 11	7.5 15	18.5 30	30 45 37 55
AC-3	KW	1.5 2.2	3/2.2 5.5/3	4/3 7.5/3.7	5.5/4 11/5.5	11/6 18.5/11	15/7.5 30/13 22/11 37/18.5
AC-4	KW	0.37 0.55	0.55/0.75 1.5/1.5	1.5/1.1 3/2.2	2.7/1.5 5.5/3	5.5/2.4 7.5/4	6/3 12/5.5 1.4 15/7.5

Re1:Neutral

Re2: The power under AC-23A,AC-3,AC-4 are in three phases three poles, and the denominator represents the power under single phase two poles.

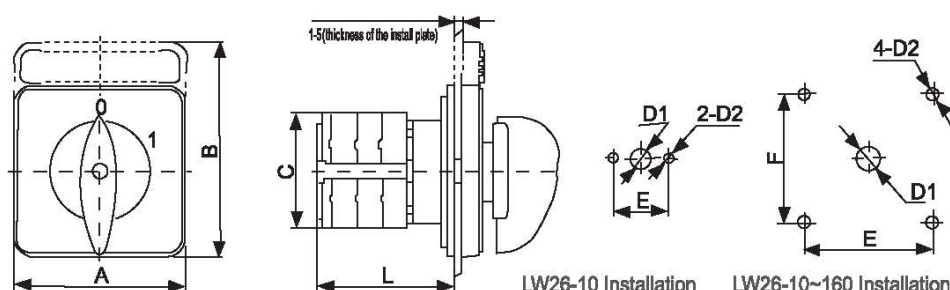
Mechanical life

Mechanical life without load:0.1x10<sup>6</sup> times operation frequency is 120 times/h.

Mechanical life with load:0.03x10<sup>6</sup> times operation frequency is 120 times/h.

## Dimensions and installstion

Square escutcheon plate and rectangular escutcheon plate



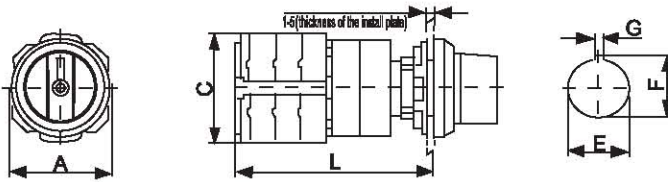
Description	Escutcheon plate	Dimensions(mm)				Installation(mm)			
		A	B	C	L	E	F	D1	D2
LW26-10	M0 square	30	30	28	22+8n	20		Φ8	Φ3.2
LW26X-10	M0 square	30	30	28	26.5+12n	20		Φ8	Φ3.2
LW26-20	M1 square	48	48	43	22+9.6n	36	36	Φ8.5	Φ4.5
	M1 rectangular	48	60	43	22+9.6n	36	36	Φ8.5	Φ4.5
	M2 square	64	64	43	25+9.6n	48	48	Φ10	Φ4.5
	M2 rectangular	64	80	43	25+9.6n	48	48	Φ10	Φ4.5
LW26X-20	M1 square	48	48	46	22+14n	36	36	Φ8.5	Φ4.5
	M1 rectangular	48	60	46	25+14n	36	36	Φ8.5	Φ4.5
	M2 square	64	64	46	25+14n	48	48	Φ10	Φ4.5
	M2 rectangular	64	80	46	25+14n	48	48	Φ10	Φ4.5
LW26-25	M1 square	48	48	45.2	23+12.8n	36	36	Φ8.5	Φ4.5
	M1 rectangular	48	60	45.2	23+12.8n	36	36	Φ8.5	Φ4.5
	M2 square	64	64	45.2	26.5+12.8n	48	48	Φ10	Φ4.5
	M2 rectangular	64	80	45.2	26.5+12.8n	48	48	Φ10	Φ4.5
LW26-32	M2 square	64	64	58	28.2+12.8n	48	48	Φ10	Φ4.5
	M2 rectangular	64	80	58	29.2+12.8n	48	48	Φ10	Φ4.5
LW26-32F	M1 square	48	48	48	23+14n	36	36	Φ8.5	Φ4.5
	M1 rectangular	48	60	48	23+14n	36	36	Φ8.5	Φ4.5
	M2 square	64	64	48	24.5+14n	48	48	Φ10	Φ4.5
	M2 rectangular	64	80	48	24.5+14n	48	48	Φ10	Φ4.5

# UNIVERSAL CHANGEOVER SWITCH

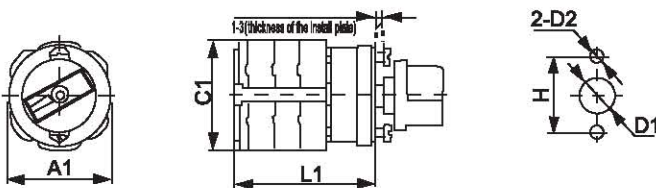
Description	Escutcheon plate	Dimensions(mm)				Installation(mm)			
		A	B	C	L	E	F	D1	D2
LW26-63	M2 square	64	64	66	29.2+21.5n	48	48	Φ10	Φ4.5
	M2 rectangular	64	80	66	29.2+21.5n	48	48	Φ10	Φ4.5
	M3 square	88	88	66	29.2+21.5n	68	68	Φ13	Φ4.5
	M3 rectangular	88	107	66	29.2+21.5n	68	68	Φ13	Φ4.5
LW26-125	M3 square	88	88	84	35+26.5n	68	68	Φ13	Φ6
	M3 rectangular	88	107	84	35+26.5n	68	68	Φ13	Φ6
LW26-160	M3 square	88	88	88	35+32.5n	68	68	Φ13	Φ6
	M3 rectangular	88	107	88	35+32.5n	68	68	Φ13	Φ6

Re:n for number of layers.

## Single hole installation



## Double hole installation



Description	Dimensions(mm)						Installation(mm)					
	A	C	L	A1	C1	L1	E	F	G	H	D1	D2
LW26-10	Φ29	28	35+8n				Φ16.2	18	1.9			
LW26x-10	Φ29	28	39+12n				Φ16.2	18	1.9			
LW26-20	Φ39	43	35+9.6n				Φ30.5	33	4.8			
LW26-20	Φ39	43	42+9.6n	Φ39	43	24+9.6n	Φ22.3	24.1	3.2	30	Φ15	Φ5
LW26x-20	Φ39	46	42+14n	Φ39	46	25+14n	Φ22.3	24.1	3.2	30	Φ15	Φ5
LW26-25	Φ39	45.2	42+12.8n	Φ39	45.2	25+12.8n	Φ22.3	24.1	3.2	30	Φ15	Φ5
LW26-32F	Φ39	48	42+14n	Φ39	48	25+14n	Φ22.3	24.1	3.2	30	Φ15	Φ5

## LW26GS

### Series Pad-lock Type Switches



### Application

LW26GS series Pad-lock type switch is derivative of LW26 series rotary switches. installed in equipment where it requires a pad-lock to lock the switch in certain position, for instance to fix the switch in ON position to prevent the unauthorized personnel from operating the switch.

LW26GS series Pad-lock type switch complies with the CB1408.3 and IEC60947.3.

The LW26GS switch has 6 current ratings:20A,25A,32A,63A,125A and 160A.For 20A and 25A is able to install M1 or M2 plate and for 32A and 63A is able to install M2 or M3 plate for 125A and 160A is able to install M3 plate only. The M1 plate is able to put 2 lockers M2 and M3 is able to put 3 lockers.

Re:1,-2,-3 represent M1,M2,M3.

The LW 26GS switch has two types:

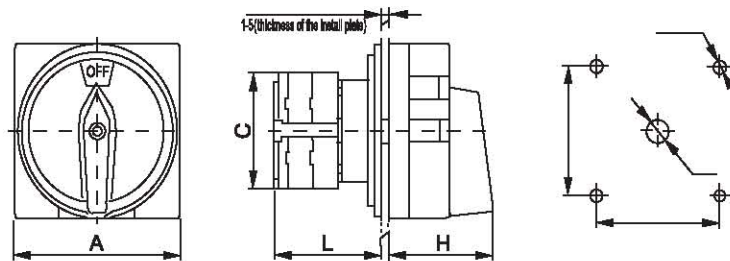
Common type is with black plate black handle

Quick stop type with quick stop mark, yellow plate and red handle.

### Main technical parameter

Description		LW26GS-20	LW26GS-25	LW26GS-32	LW26GS-63	LW26GS-125	LW26GS-160
Rate working voltage Ue	V	440	440	440	440	440	440
Rate thermal current Ith	A	25	25	32	63	125	160
Rated working current Ie							
AC-21A	A	25	25	32	63	100	150
AC-22A	A	25	25	32	63	100	150
AC-23A	A	22	22	30	57	90	135
Power							
AC-23A	KW	11	11	15	30	45	75
Operation							
Non-load		8500	8500	8500	8500	8500	8500
Load		1500	1500	1500	1500	1500	1500
Total		10000	10000	10000	10000	10000	10000

### Dimensions and installation



Description	Escutcheon plate	Dimensions(mm)				Installation(mm)			
		A	C	L	H	E	F	D1	D2
LW26GS-20	M1	48	43	42	33	36	36	Φ8.5	Φ4.5
LW26GS-20	M2	64	43	42	42	48	48	Φ8.5	Φ4.5
LW26GS-25	M1	48	45.2	50	33	36	36	Φ8.5	Φ4.5
LW26GS-25	M2	64	45.2	51	42	48	48	Φ8.5	Φ4.5
LW26GS-32	M2	64	58	55	42	48	48	Φ10	Φ4.5
LW26GS-32	M3	88	58	55	52	68	68	Φ13	Φ6
LW26GS-63	M2	64	66	72.5	42	48	48	Φ10	Φ4.5
LW26GS-63	M3	88	66	72.5	52	68	68	Φ13	Φ6
LW26GS-125	M3	88	84	88	52	68	68	Φ13	Φ6
LW26GS-162	M3	88	88	100	52	68	68	Φ13	Φ6



# UNIVERSAL CHANGEOVER SWITCH

## LW26S

### Series Key-lock Type Switches

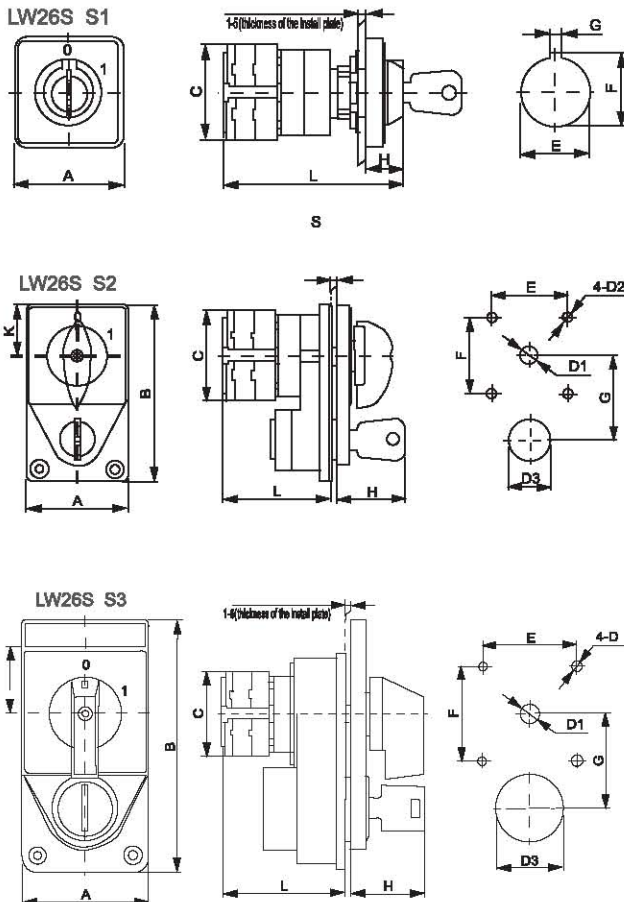
### Application

LW26S key-lock type switch is derivative of LW26 series rotary switches, installed in equipments which requires a key to lock the switch to prevent the unauthorized personnel from mis-operation. LW26S key-lock type switches comply with the CB1408.3 and IEC60947.3.

### Main technical parameter

Description		LW26S-10	LW26S-20	LW26S-25	LW26S-32	LW26S-63
Rated working voltage $U_e$	V	440	440	440	440	440
Rated thermal current $I_{th}$	A	10	20	25	32	63
Rated working current $I_e$						
AC-21A	A	10	20	25	32	63
AC-22A	A	10	20	25	32	63
AC-23A	A	7	15	22	30	57
Power $P$						
AC-23A	kW	3	7.5	11	15	30

### Dimensions and installation



Description	Dimensions(mm)				Installation(mm)		
	A	C	H	L	E	F	G
LW26S-10	□30	28	8.5	71.5	Φ16.2	18	1.9
LW26S-20	□48	43	15.6	76.5	Φ22.3	24.1	3.2
LW26S-20	□64	43	15.6	76.5	Φ22.3	24.1	3.2
LW26S-25	□48	45.2	15.6	83	Φ22.3	24.1	3.2
LW26S-25	□64	45.2	15.6	83	Φ22.3	24.1	3.2
LW26S-32F	□48	48	15.6	86.5	Φ22.3	24.1	3.2
LW26S-32F	□64	48	15.6	86.5	Φ22.3	24.1	3.2

Description	Dimensions(mm)							Installation(mm)					
	A	B	K	C	L	H	S	E	F	G	D1	D2	D3
LW26S-20	48	84	24	43	51.5	32.5	1~4	36	36	40	Φ8.5	Φ4.5	Φ20
LW26S-25	48	84	24	45.2	58	32.5	1~4	36	36	40	Φ8.5	Φ4.5	Φ20
LW26S-32	64	112	32	58	72	34	1~6	48	48	48	Φ10	Φ4.5	Φ34
LW26S-32F	48	84	24	48	61.5	32.5	1~4	36	36	40	Φ8.5	Φ4.5	Φ20
LW26S-63	64	112	32	66	79	34	1~6	48	48	48	Φ10	Φ4.5	Φ34

Description	Dimensions(mm)							Installation(mm)					
	A	B	K	C	L	H	S	E	F	G	D1	D2	D3
LW26S-20	64	126.5	32	43	51.5	34	48	48	48	48	Φ10	Φ4.5	Φ34
LW26S-25	64	126.5	32	45.2	58	34	48	48	48	48	Φ10	Φ4.5	Φ34
LW26S-32	64	126.5	32	58	72	34	48	48	48	48	Φ10	Φ4.5	Φ34
LW26S-32F	64	126.5	32	48	61.5	34	48	48	48	48	Φ10	Φ4.5	Φ34
LW26S-63	64	126.5	32	66	79	34	48	48	48	48	Φ10	Φ4.5	Φ34



Selection of typical contact diagrams

Function	Usage code or character code	Marks of plate	Contact diagrams																																																																																																																																																																																																																																	
Start and run of motor	Q		<table border="1"> <thead> <tr> <th>Position</th> <th>0</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td>x</td> </tr> <tr> <td>2</td> <td></td> <td>x</td> </tr> <tr> <td>3</td> <td></td> <td>x</td> </tr> <tr> <td>4</td> <td></td> <td>x</td> </tr> <tr> <td>5</td> <td></td> <td>x</td> </tr> <tr> <td>6</td> <td></td> <td>x</td> </tr> <tr> <td>7</td> <td></td> <td></td> </tr> <tr> <td>8</td> <td></td> <td></td> </tr> </tbody> </table>	Position	0	1	1		x	2		x	3		x	4		x	5		x	6		x	7			8																																																																																																																																																																																																								
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# UNIVERSAL CHANGEOVER SWITCH

## KDH

### Series Welding Machine Switch



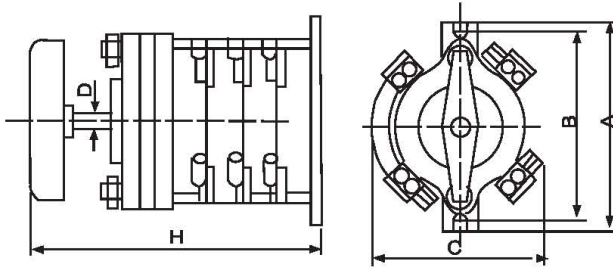
### Application

KDH series welding machine switch used as the main control switch for BX3 series welding machine and for changeover of coil turns, coil at the stalls thus expanding the range of current regulation. Can also be used for other moving-coil transformers arc welding machine.

### Main technical parameter

Description			KDH-125	KDH-160	KDH-200
Rated thermal current	I <sub>th</sub>	A	125	160	200
Operation			0.01×10 <sup>6</sup>		
Operation frequency times/h			120		

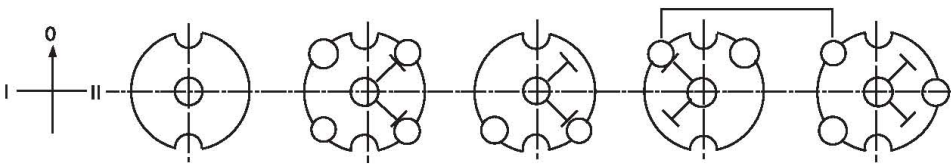
### Dimensions and installation



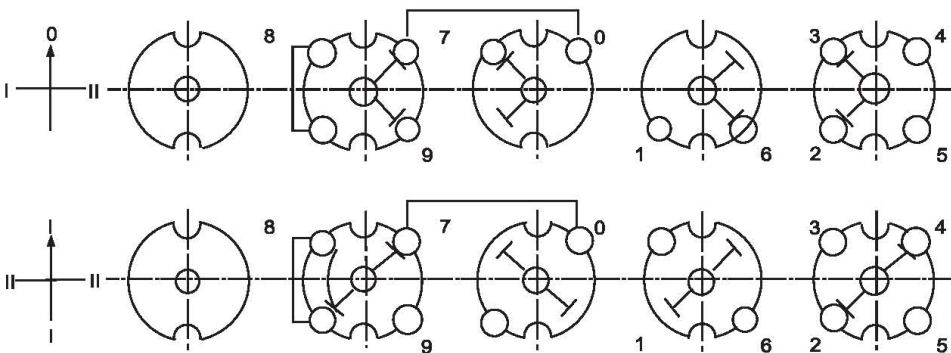
Description	Dimensions(mm)				
	A	B	C	H	D
KDH-125	142	112	120	170	Φ9
KDH-160	155	142	142	190	Φ9
KDH-200	155	142	142	194	Φ9

### Contact diagrams

#### KDH-125 Contact diagrams



#### KDH-160,200 Contact diagrams



## HZ10D-□/E119

### Series Welding Machine Switch



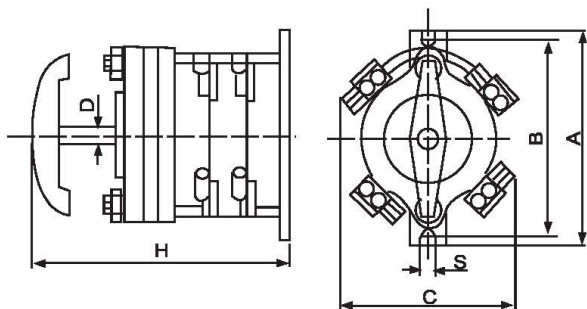
#### Application

HZ10D-□/E119 welding machine switch applied to welding machine for adjusting current of 100A and below AC50 Hz or 60Hz, rated voltage 380V and below for the change of main circuit auxiliary electrical appliances.

#### Main technical parameter

Description	HZ10D-25/E119		HZ10D-63/E119		HZ10D-100/E119		HZ10D-100/E119A	
Rated thermal current I <sub>th</sub>	A 25		63		100		100	
Rated working voltage U <sub>e</sub>	V 240	440	240	440	240	44	240	440
Rated working current I <sub>e</sub>	A 25	25	63	63	100	10	100	100

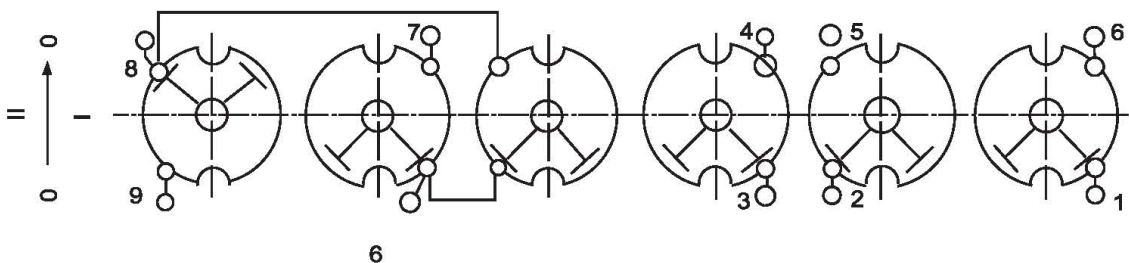
#### Dimensions and installstion



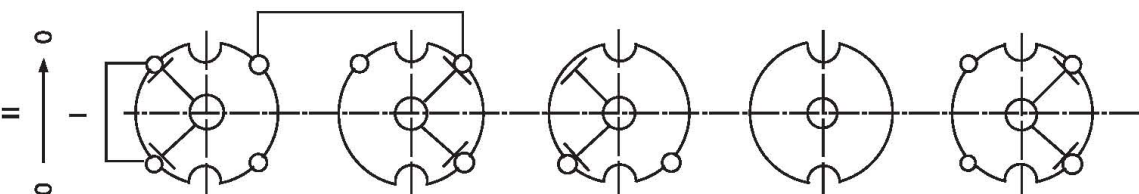
Description	Dimensions(mm)					
	A	B	C	D	H	S
HZ10D-25/E119	100	90	90	Φ8	140	6
HZ10D-63/E119	142	128	110	Φ9	165	7
HZ10D-100/E119	142	128	128	Φ9	210	7
HZ10D-100/E119A	142	128	128	Φ9	188	7

#### Contact diagrams

##### HZ10D-□/E119 Contact diagrams



##### HZ10D-□/E119A Contact diagrams



# UNIVERSAL CHANGEOVER SWITCH

## HZ10D

### Series Combination Switch



### Application

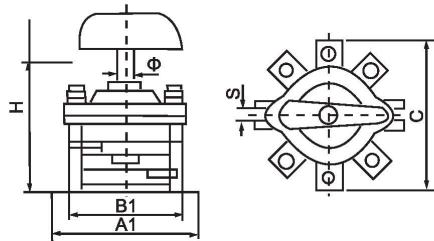
HZ10D mainly used in the circuit for unfrequent manual closing, breaking resistive and inductive mixed load, also for the control of AC motors.

### Main technical parameter

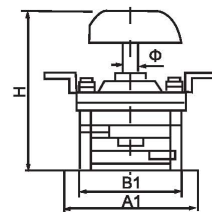
Description	HZ10D-10		HZ10D-25		HZ10D-63		HZ10D-100	
Rated thermal current I <sub>th</sub>	A		10		25		63	
Rated working voltage U <sub>e</sub>	V		240	440	240	440	240	440
Rated working current I <sub>e</sub>	A							
AC-3			3		6.3			
AC-20A/21A/22A			10		25		63	100
DC20A/21A			10		25		63	100
Power P	kW		1.1		2.2			
Operation AC-22A								
Non-load			8500		8500		8500	
Load			1500		1500		1500	
Total			10000		10000		10000	

### Dimensions and installation

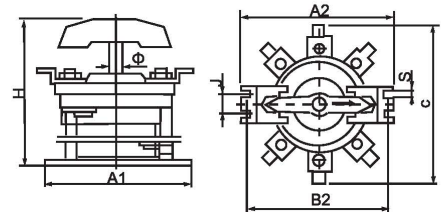
#### Before board



#### HZ10D-10, 25 Behind board



#### HZ10D-63, 100 Behind board



**HZ10D**

## Series Combination Switch

Description	Dimensions(mm)					Installation(mm)			
	A1	A2	H	Φ	C	B1	B2	S	J
HZ10D-10/1	65	86	62	6		55	74	5	--
HZ10D-10/2	65	86	62	6		55	74	5	--
HZ10D-10/3	65	86	74	6	~58	55	74	5	--
HZ10D-25/2	100	144	98	8		90	100	6	--
HZ10D-25/3	100	144	108	8	~92	90	100	6	--
HZ10D-63/2	142	153	129	9		128	139	7	18
HZ10D-63/3	142	153	144	9	~154	128	139	7	18
HZ10D-100/3	142	153	152	9	~128	128	139	7	18



# FUSE

## RDHG2B

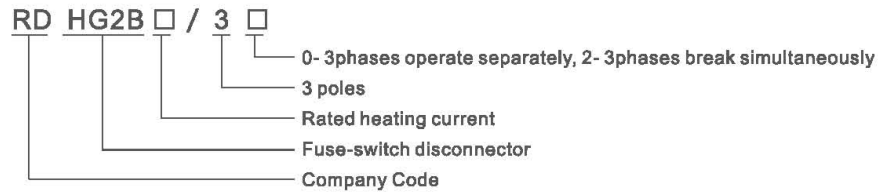
### Series Bar type Fuse-switch Disconnecter



### Application

RDHG2B series bar type fuse-switch disconnecter can be applied in the distribution & motor circuit, AC 50Hz, rated voltage up to 660V, rated current up to 630A. Can infrequently manually break & make circuit, and safely provide protection against overload & short-circuit. Conform to IEC60497-3 standard.

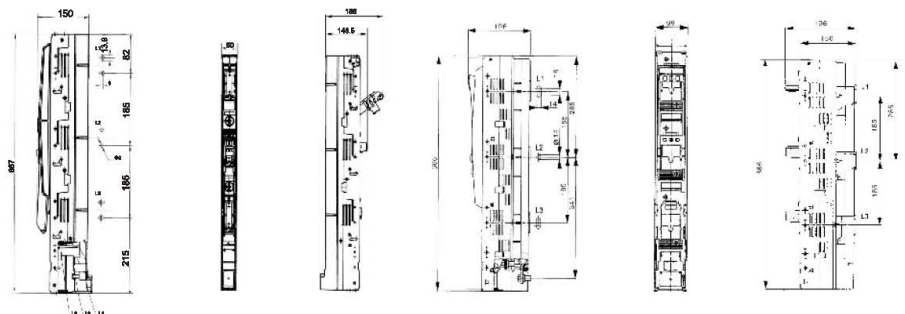
### Model No.



### Main technical parameter

Model	RDHG2B-160	RDHG2B-250	RDHG2B-400	RDHG2B-630	
Rated thermal current	160A	250A	400A	630A	
Rated isolation voltage Ui	690V				
Rated working voltage Ue	400V/660VAC				
Rated Working current Ie	400V/AC-23B	160A	250A	400A	630A
	660V/AC-22B	100A	200A	315A	425A
Rated making capacity (A.r.m.s)	10Ie				
Rated breaking capacity (A.r.m.s)	8Ie				
Rated limited short-circuit current	50kA				
Mechanical life (times)	3000	2000	1000	1000	
Electrical life (times)	600	400	200	200	
Consumption power	12W	24W	34W	48W	
Weight (kg)	1.66	8.64	8.64	9.42	

### Outline & mounting dimension



RDHG2B-160

RDHG2B-250 400 630

## HR17B

### Series Square type Fuse-switch Disconnecter



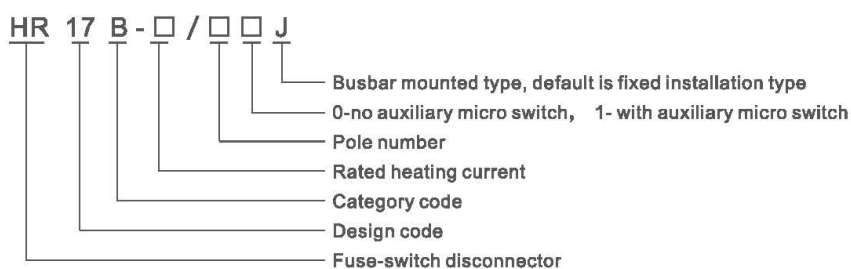
### Application

HR17B series fuse-switch disconnecter can be applied in the circuit, AC 50Hz, rated voltage 400V, rated current from 40 to 630A, as power switch, isolation switch and emergency switch, can be mounted on the busbar or fixed plate. Sealed inspection hole on the switch cover, with signal switch, testing switch inside.

With 2 poles, 3 poles, 4 poles types.

Conform to IEC60947-3 standard.

### Model No.

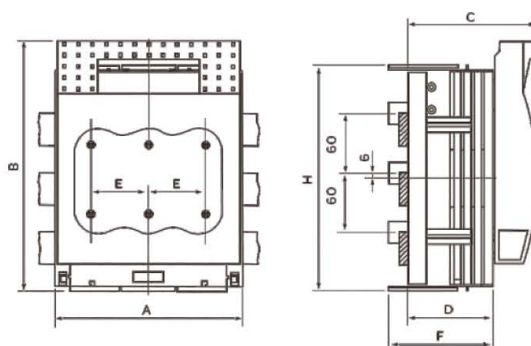


### Main technical parameter

Model	HR17B-40	HR17B-63	HR17B-160	HR17B-250	HR17B-400	HR17B-630
Rated isolation voltage $U_i$	690V					
Rated working voltage $U_e$	400V					
Rated working current $I_e$	40A	63A	160A	250A	400A	630A
Rated short-circuit making capacity $I_{cm}$	400A	630A	1600A	2500A	4000A	6300A
Rated limited short-circuit current $I_{nc}$	50kA					
Usage category	AC-23B					
Matched fuse-link	14x51	22x58	NT00-160	NT1-250	NT2-400	NT3-630

### Outline & mounting dimension

HR17B-160~630A busbar mounted type



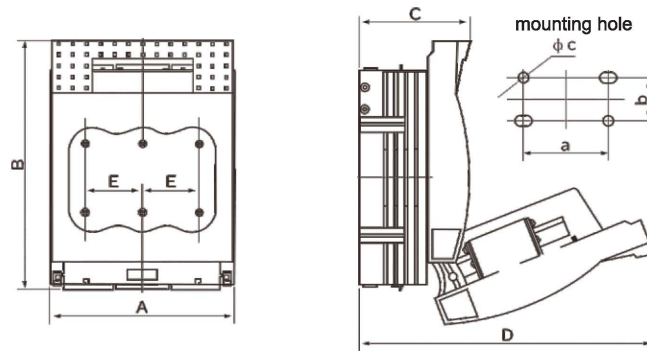
# FUSE

## HR17B

Series Square type  
Fuse-switch Disconnecter

Model	A	B	C	D	E	F	H
HR17B-160/30J	106	200	97	60	33	87	200
HR17B-250/30J	185	247	128	88	57	110	220
HR17B-400/30J	210	290	145	97	65	125	268
HR17B-630/30J	256	300	160	112	81	139	285

HR17B-40~630A fixed mounted type



Model		A	B	C	D	E	a	b	φ
HR17B-40	2 poles	55	116	76	150	21	25	/	φ6
	3 poles	76	116	76	150	21	42	/	φ6
HR17B-63	2 poles	74	116	76	150	31	35	/	φ6
	3 poles	105	116	76	150	31	62	/	φ6
HR17B-160	2 poles	75	200	83	205	33	43	25	φ7
	3 poles	106	200	83	205	33	66	25	φ7
	4 poles	138	200	83	205	33	100	25	φ7
HR17B-250	2 poles	128	247	110	295	57	72	50	φ11
	3 poles	185	247	110	295	57	114	50	φ11
	4 poles	242	247	110	295	57	172	50	φ11
HR17B-400	2 poles	145	290	125	340	65	80	50	φ11
	3 poles	210	290	125	340	65	130	50	φ11
	4 poles	276	290	125	340	65	195	50	φ11
HR17B-630	2 poles	175	300	145	360	81	90	50	φ11
	3 poles	256	300	145	360	81	162	50	φ11
	4 poles	340	300	145	360	81	243	50	φ11

## RDT16(NT0)

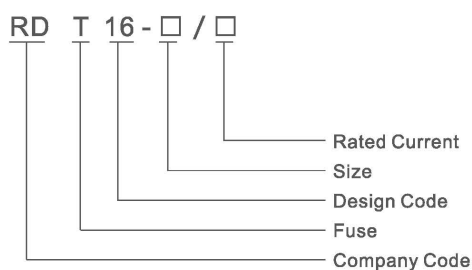
### Series Filled Tube Type Knife Contact Fuse



#### Application

RDT16 (NT0) series filled tube type knife contact fuse can be applied in the industrial electrical distribution device of AC 50Hz, rated voltage up to 500/690V, rated current up to 1250A, for circuit overload & shortcircuit protection. Conform to IEC60269-2 standard.

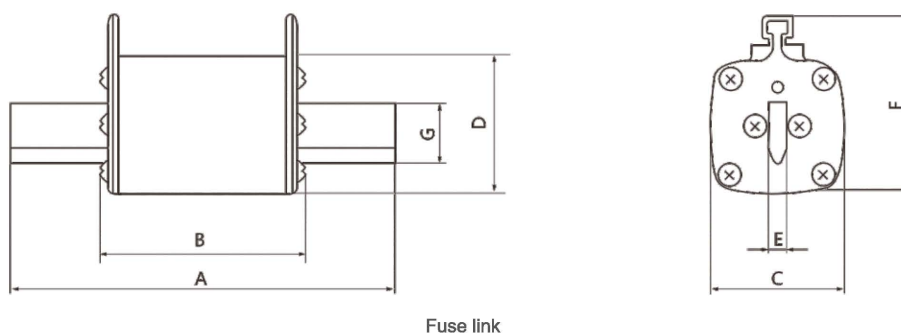
#### Model No.



#### Main technical parameter

Size	Rated Voltage	Rated breaking capacity	Rated current (A)		Power factor Cosφ
			Fuse	Fuse link	
00C	500V 660V	120kA 50kA	100	6, 10, 16, 20, 25, 32, 40, 50, 63, 80, 100	0.1~0.2
00			160	6, 10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160	
0			160	16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160	
1			250	80, 100, 125, 160, 200, 250	
2			400	125, 160, 200, 250, 315, 400	
3			630	315, 400, 500, 630	
4	500V	100kA	1000	800, 1000	
4a			1200	1000, 1250	

#### Outline & mounting dimension



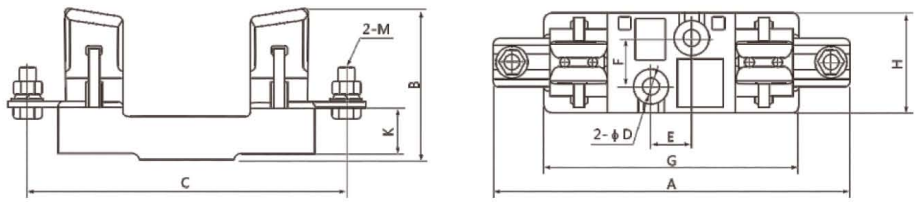
# FUSE

## RDT16(NT0)

Series Filled Tube Type  
Knife Contact Fuse

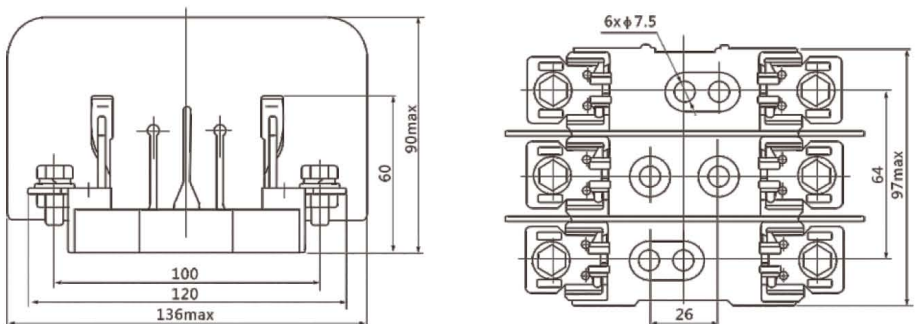


Size	A	B	C	D	E	F	G
00C	78.5	49	21	40.5	6	42.5	15
00	78.5	49	29	45	6	56.5	15
0	126	68	29	45	6	56.5	15
1	135	68	48	49	6	62	20
2	150	68	56	59	6	70	25
3	150	68	67	68	6	85	32
4	200	90	97	100	8	113	50
4A	200	90	97	100	8	113	50

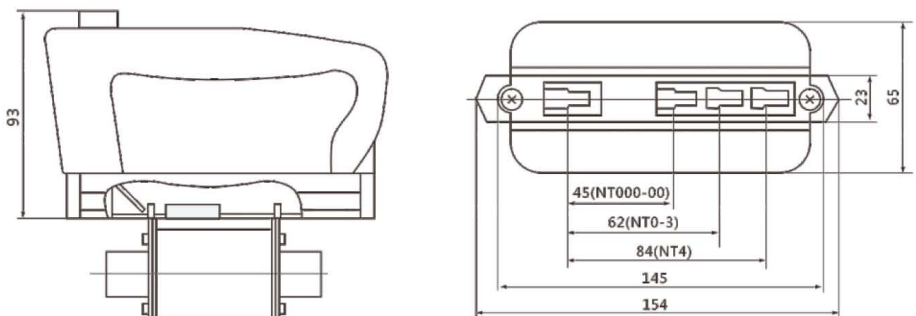


Fuse base

Size	A	B	C	D	E	F	G	H	K	M
00	120	61	100	7.5	25	-	90	30	24	8
1	200	80	175	10.5	25	30	142	58	30	10
2	224	90	200	10.5	25	30	160	62	36.5	10
3	250	105	210	10.5	25	30	160	62	36.5	12
4	304	145	260	13	30	45	-	96	44	12



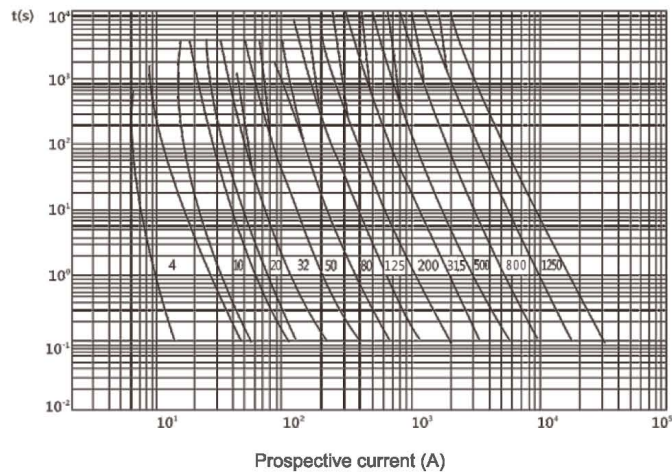
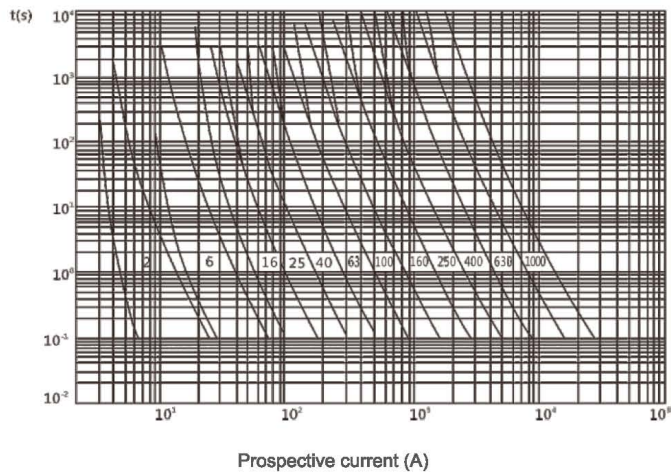
RDT16-00 3pole fuse base



Fuse puller outline & dimension

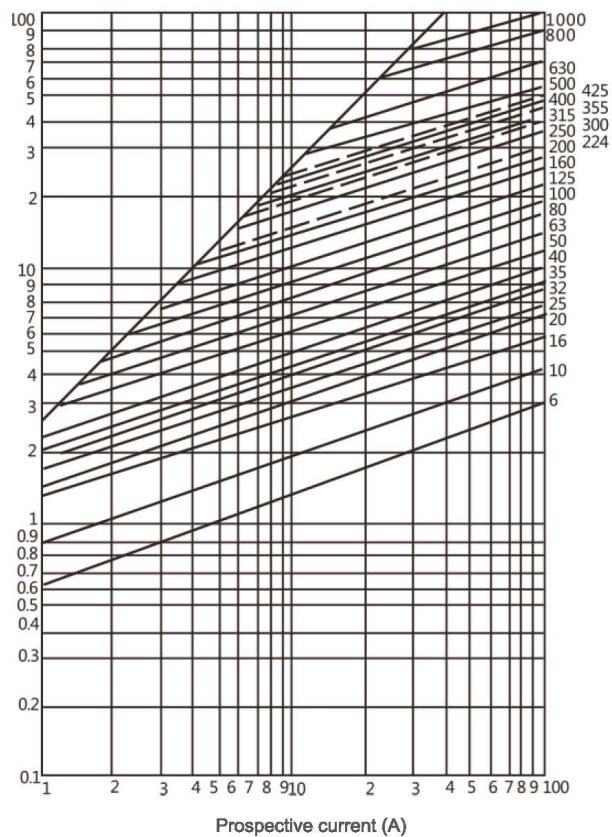


Fuse link time-current characteristic curve



Fuse link time-current characteristic curve

Fusing current (kA)



# FUSE

## RT0

### Series Filled Tube Type Knife Contact Fuse

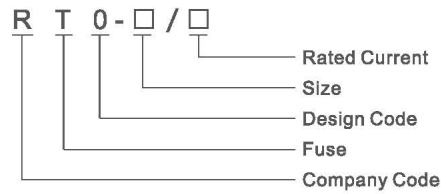


#### Application

RT0 series filled tube type knife contact fuse can be applied in the industrial electrical distribution device of AC 50Hz, rated voltage 380V, rated current up to 1000A, for circuit overload & shortcircuit protection.

Conform to IEC60269-2 standard.

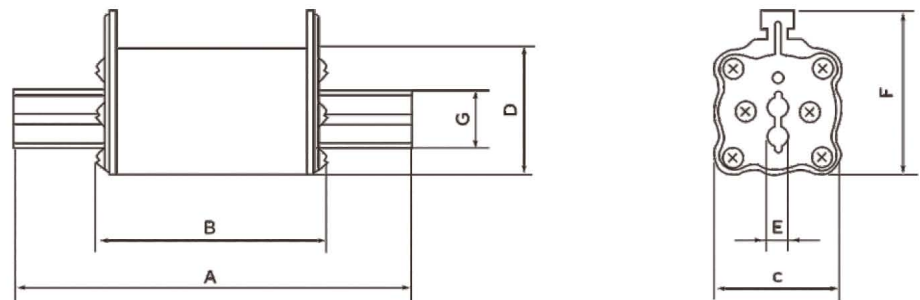
#### Model No.



#### Main technical parameter

Model	Rated Voltage	Rated breaking capacity	Rated current (A)		Power factor Cosφ
			Base current	Fuse link	
RT0-50	380V	50kV	50	10, 12, 15, 20, 32, 40, 50,	0.1~0.2
RT0-100			100	32, 40, 50, 63, 80, 100	
RT0-200			200	80, 100, 125, 160, 200	
RT0-400			400	160, 200, 250, 315, 400	
RT0-600			600	315, 400, 500, 630	
RT0-1000			1000		

#### Outline & mounting dimension

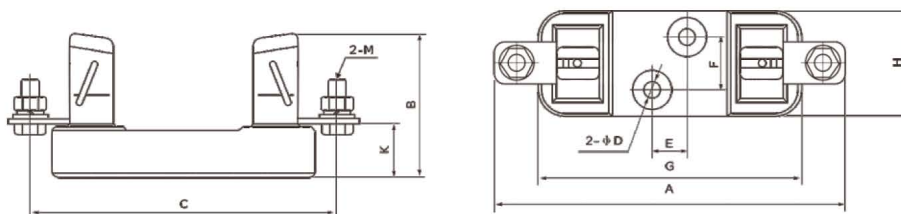


Fuse link

# RT0

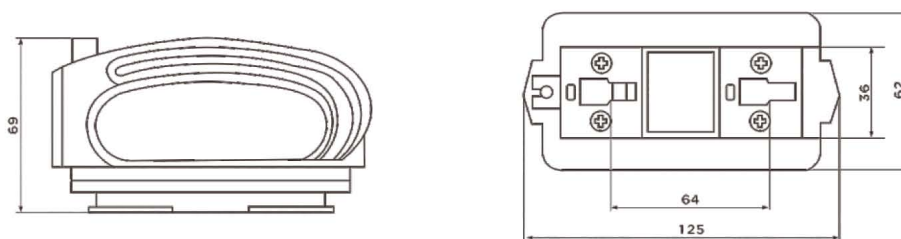
## Series Filled Tube Type Knife Contact Fuse

Model	A	B	C	D	E	F	G
RT0-50	103	66	25	40	4	52	10
RT0-100	123	68	40	40	6	52	18
RT0-200	133	68	40	40	6	58	23
RT0-400	143	68	55	55	6	66	30
RT0-600	163	68	67	67	6	78.5	36
RT0-1000	280	90	85	100	6	100	48



Fuse base

Size	A	B	C	D	E	F	G	H	K	M
RT0-50	135	46	120	7.5	20	-	100	334	24	8
RT0-100	180	74	160	9.5	20	30	140	35	30	10
RT0-200	200	82	175	9.5	20	30	150	60	30	10
RT0-400	220	95	190	9.5	20	30	160	70	30	12
RT0-600	250	115	220	9.5	20	30	180	80	35	16
RT0-1000	350	149	300	12.5	50	40	250	90	45	16



Fuse Puller outline & dimension

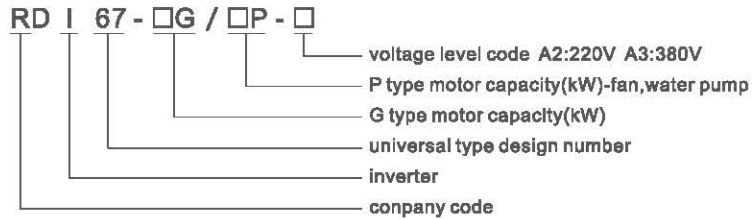
# INVERTER & SOFT STARTER

## RDI67

### Series Inverter



### Model No.



### Normal Working condition and installation condition

Humidity: Relative humidity shall not exceed 50% at the Max temperature 40°C, and higher humidity could be accepted at lower temperature. The condensation must be taken care which is caused by temperature change. When temperature is above +40°C, location should be well-ventilated. When environment is unstandard, please using telecontrol or electrical cabinet. Inverter working life is affected by install location. Longtime continuous using, the life electrolytic capacitor in inverter would not exceed 5 years, cooling fan life would not exceed 3 years, exchange and maintenance should be done earlier.

### Specification

Voltage type: 380V and 220V Applicative motor capacity:0.75kw to 355kw

Voltage	Model No.	Rated capacity (KVA)	Rated output current (A)	Adaptive motor (KW)	
380V three phase	RDI67-0.75G-A3	1.5	2.3	0.75	
	RDI67-1.5G-A3	3.7	3.7	1.5	
	RDI67-2.2G-A3	4.7	5.0	2.2	
	RDI67-4G-A3	6.1	8.5	4.0	
	RDI67-5.5G/7.5P-A3	11	13	5.0	
	RDI67-7.5G/11P-A3	14	17	7.5	
	RDI67-11G/15P-A3	21	25	11	
	RDI67-15G/18.5P-A3	26	33	15	
	RDI67-18.5G/22P-A3	31	39	18.5	
	RDI67-22G/30P-A3	37	45	22	
	RDI67-30G/37P-A3	50	60	30	
	RDI67-37G/45P-A3	61	75	37	
	RDI67-45G/55P-A3	73	90	45	
	RDI67-55G/75P-A3	98	110	55	
	RDI67-75G/90P-A3	130	150	75	
	RDI67-93G/110P-A3	170	176	90	
	RDI67-110G/132P-A3	138	210	110	
	RDI67-132G/160P-A3	167	250	132	
	RDI67-160G/185P-A3	230	310	160	
	RDI67-200G/220P-A3	250	380	200	
220V single phase and three phase	RDI67-0.75G-A2	1.4	4.0	0.75	
	RDI67-1.5G-A2	2.6	7.0	1.2	
	RDI67-2.2G-A2	3.8	10.0	2.2	

**RDI67**

Series Inverter

Appearance and mounting dimension

Shape size see fig2, fig3, fig4, operation case shape see fig 1.

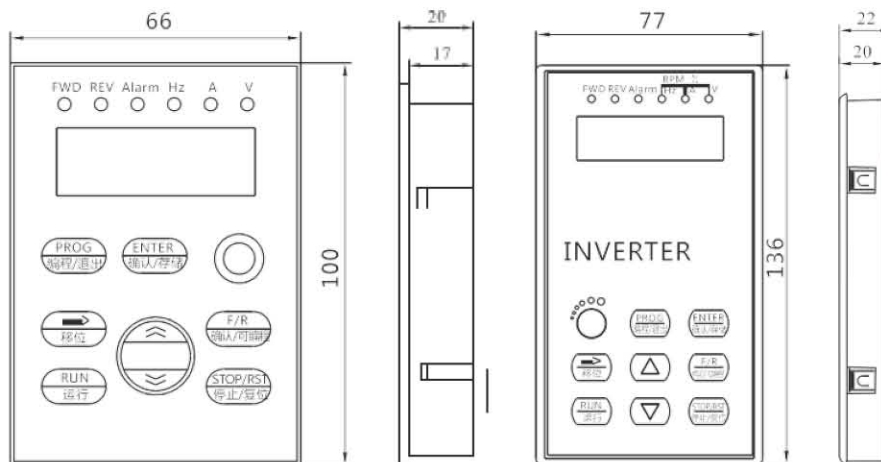


Fig 1 operation case 0.75kW-2.2kW

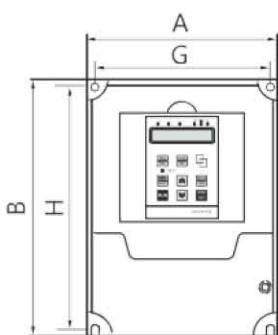


Fig 2 3.7KW-7.5KW

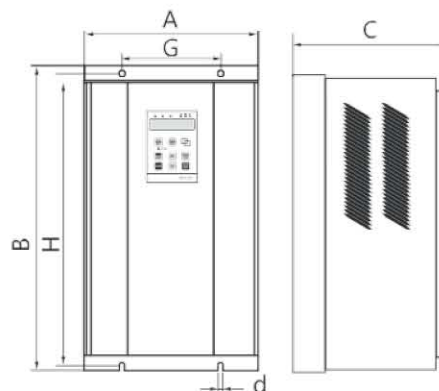


Fig 3 11KW-200KW

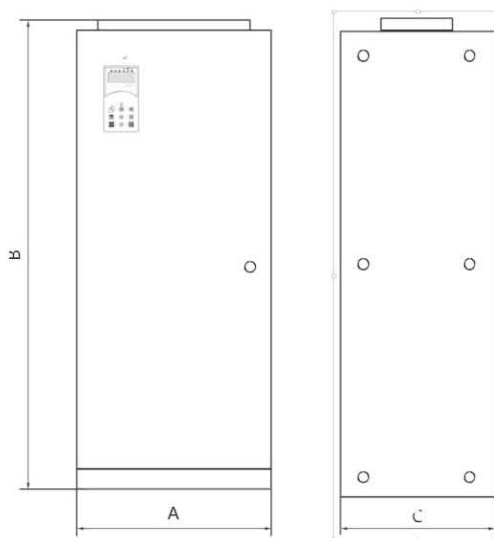


Fig 4 220KW-400KW



# INVERTER & SOFT STARTER

## RDI67

### Series Inverter

#### Single phase 220V series

Adaptation of standard motors (KW)	Inverter model	Drawing number	Size(mm)					The safety bolt
	220V series		A	B	C	G	H	
0.75-2.2	0.75kW-2.2kW		125	170	165	112	160	M4
3.7-4	3.7kW-4kW		150	220	175	137	205	M5

#### Three phase 380V series

Adaptation of standard motors (KW)	Inverter model	Drawing number	Size(mm)					The safety bolt
	380V series		A	B	C	G	H	
0.75-2.2	0.75kW-2.2kW	Figure 1	160	90	132.5	81	147	M4
3.7-7.5	3.7kW-7.5kW	Figure 2	240	140	178	130	230	M5
11-15	11kW-15kW	Figure 3	357	200	205	152	330	M8
18.5-30	18.5kW-30kW		450	270	205	195	425	M10
37-55	37kW-55kW		560	320	275	240	535	M10
75-110	75kW-110kW		665	380	275	240	640	M10
132-200	132kW-200kW		775	500	290	360	738	M10
220	220kW-280kW	Figure 4	700	1350	417	Console cabinet installation		
250								
280								
315								
350	315kW-400kW		1000	2000	600			
400								

## RDJR6

### Series Soft-starter



### Application

AC induction-motor has advantages of low-cost,high reliablity and infrequent maintainance.

1.starting current is 5-7 times higher than rated current.And it requires that power grid has large margin,and it also would reduce the working life of electrical control device,improving maintainance cost.

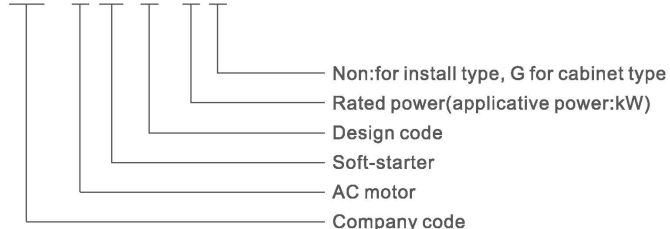
2.starting torque is doule-time of normal starting torque to cause the load shock and drive components damage.

The RDJR6 soft-starter adopts the controllible thyistor module and phase shift technology to improve the voltage of motor regularly.And it can realize the requirement of motor torque,current and load by control parameter.

RDJR6 series soft-starter adopts microprocessor to control and realize functions of soft-starting and soft-stopping of AC asynchronous motor,has complete protection function,and widely used in Motor drive equipment in the fields of metallurgy,petroleum,mine,chemical industry.

### Model No.

RD J R 6 - □ □



### Production feature

Adopts the Microprocessor digital auto control,it has great electromagnetic performance.soft starting,soft stoping or free stoping.The starting voltage,current,soft-start and soft-stop time can be adopted according to different loads for reducing the shock of starting current.stable performance,easy operation,direct display,small volume,digital set,has telecontrol and external control functions.

Has protection against phase-loss,overvoltage,overload,overcurrent,overheating.has functions of input voltage display,operating current display,failure self-inspection,fault memory.has 0-20mA simulation value output,can realize motor current monitoring.

# INVERTER & SOFT STARTER

## RDJR6

### Series Soft-starter

#### Appearance and mounting dimension

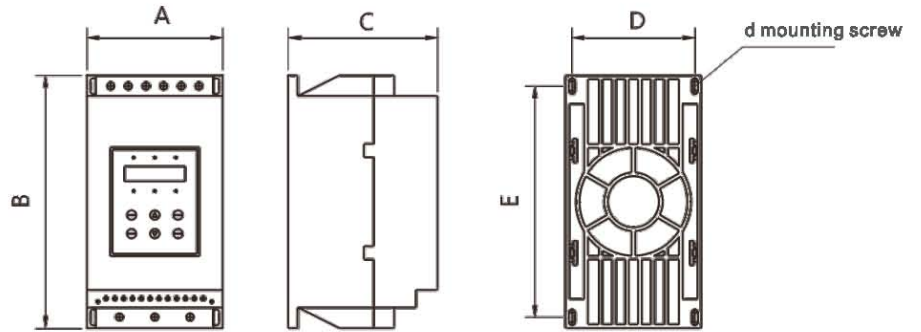


Fig1 RDJR6-5.5 to 55

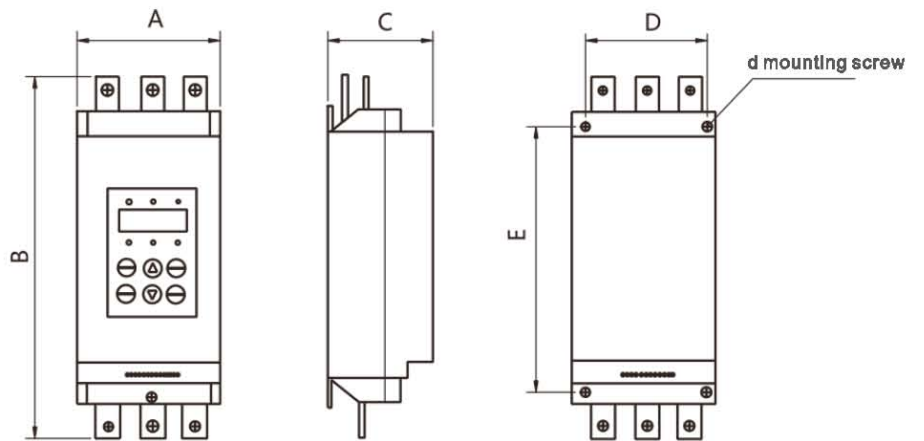


Fig2 RDJR6-75 to 200

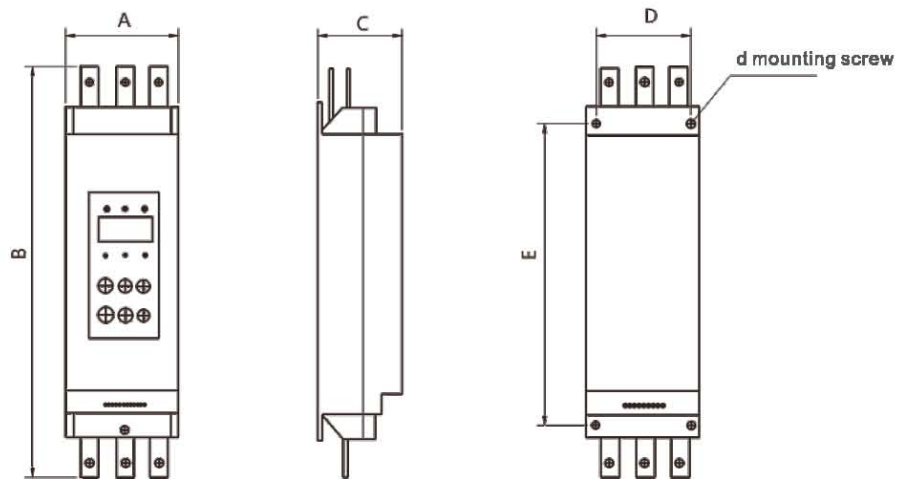


Fig3 RDJR6-250 to 320

Production specification

Model No.	Rated power (kW)	Rated current(A)	Applicative motor power(kW)	Shape size(mm)						Weight (kg)	Note
				A	B	C	D	E	d		
RDJR6-5.5	5.5	11	5.5	145	278	165	132	250	M8	3.7	Fig2.1
RDJR6-7.5	7.5	15	7.5								
RDJR6-11	11	22	11								
RDJR6-15	15	30	15								
RDJR6-18.5	18.5	37	18.5								
RDJR6-22	22	44	22								
RDJR6-30	30	60	30								
RDJR6-37	37	74	37								
RDJR6-45	45	90	45								
RDJR6-55	55	110	55								
RDJR6-75	75	150	75	260	530	205	196	380	M8	18	Fig2.2
RDJR6-90	90	180	90								
RDJR6-115	115	230	115								
RDJR6-132	132	264	132								
RDJR6-160	160	320	160								
RDJR6-185	185	370	185								
RDJR6-200	200	400	200	290	570	260	260	470	M8	25	Fig2.3
RDJR6-250	250	500	250								
RDJR6-280	280	560	280								
RDJR6-320	320	640	320								

## LEADERSHIP CARE

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Zheng Yuanbao, leading his management team, combing the wind rain, encouraging forward, after years of practice and exploration, has successfully created a pattern of people for private enterprises to forge ahead, consolidate resources, and achieve mergers and acquisitions and leap-forward development, which has been widespread concerned in the community. Xi Jinping, Li Keqiang, Zhang Dejiang, Yu Zhengsheng, Wang Qishan, Ma Kai, Liu Yandong, Liu Qibao, Sun Zhencai, Li Yuanchao, Meng Jianzhu, Hu Chunhua, Guo Jinlong, Zhao Hongzhu and other party and national leaders and former party and national leaders such as Jiang Zemin, Hu Jintao, Zhu Rongji, Wen Jiabao, Jia Qinglin and others interviewed Zheng Yuanbao kindly. The party and government leaders of ministries and more than 20 provinces, cities and autonomous regions, such as Quan Zhezhu, Wang Yi, Miao Xu, Zhong Shan, Yu Xinrong and Xia Baolong visited and inspected People Electric Appliance Group, giving high evaluation and enthusiastic encouragement.





**Xi Jinping, General Secretary of the CPC Central Committee; President of PRC; Chairman of Central Military Commission cordially met with Zheng Yuanbao, Chairman of People Electric Appliance Group.**



**Li Keqiang, Member of the Standing Committee of the Political Bureau of CPC Central Committee; Premier of State Council, had a cordial talk with Zheng Yuanbao, Chairman of People Electric Appliance Group.**



**Zhang Dejiang, Member of the Standing Committee of the Political Bureau of CPC Central Committee; Chairman of the Standing Committee of the NPC, together with Zheng Yuanbao, Chairman of People Electric Appliance Group.**



**Yu Zhengsheng, Member of the Standing Committee of the Political Bureau of CPC Central Committee; Chairman of the National Committee of the CPPCC, had a cordial talk with Zheng Yuanbao, Chairman of People Electric Appliance Group.**



**Wang Qishan, Member of the Standing Committee of the Political Bureau of CPC Central Committee; Secretary of the Central Commission for Discipline Inspection, together with Zheng Yuanbao, Chairman of People Electric Appliance Group.**



**William Jefferson Clinton, the former US President, met with Zheng Yuanbao, Chairman of People Electric Appliance Group.**



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