

GACIA

Product Catalog 2012-2013

for professional users



MCCB SERIE
DISTRIBUTION BOARDS
DIN MODULAIR SERIE
CONTACTOR SERIE
MOTOR PROTECTION SERIE

MCCB



PN SERIES
p3-p10

Distribution cabinet



GAC SERIES
p11-p12



GMK SERIES
p13-p14

DIN Modular devices



SD-60
p15-p16



R80M
p17-p18



M80N(k)
p19-p20



M80
p21-p22



L80M
p23-p24



AUX/ALT
UVT/SHT
p25-p26



CT-6
p27-p28



PB
p29-p30



IL / ILT
p31-p32



PBIL
p33-p34

Contactors



KC SERIES
p35-p36



SC SERIES
p35-p40



Motor protection



MP SERIES
p41-p42

ANNEX



The design of PN series molded case circuit breaker (hereinafter circuit breaker) indicates the newest current-limiting principle and manufacturing technology with the characteristics of compact structure, modulization, high breaking capacity, no flashover. It is used for infrequent exchange and startup of motor in the circuit AC 50HZ of which rated insulation voltage is 750V, rated working voltage 690V or less, rated working current up to 630A. Circuit Breaker has the overload, short-circuit, and undervoltage protection device, which can protect the circuit and power-supply device from damages.

This circuit breaker can be installed vertically (Erect), and horizontally installed(Level). The line of this circuit breaker can not be connected reversely, that is, 1,3,5 line connected to power line, 2,4,6 connected to the load line.

Use and Range of Application

This circuit breaker has isolation function, using the mark  to refer to.

This circuit breaker conforms to the standard below:

- IEC 60947-1 and GBT14048.1 General Principle
- IEC 60947-1 and GBT14048.2 Low Voltage Circuit Breaker
- IEC 60947-4 and GBT14048.4 Contactor and Motor Starter
- IEC60947-5-1 and GBT14048.5 Electromechanical Controlling Circuit Appliance

Use and Application Range

- Height above Sea Level: No more than 2000m
- Ambient Medium Temperature: not higher than +40℃, not lower than -5℃
- Can endure the effect of humid air and the effect of salt mist, oil mist and fog bacteria.
- In the place within the midium without danger of explosion and without corrosion of metal box, damage of insulation gases and conductive dust:
- No damage of rain and snow
- Pollution degree: 3

Function and Attached Device

			PN-250	PN-630
Poles			3,4	3,4
Control	Manual operation	Push the handle	■	■
		Direct rotary handle and outspread rotary handle	■	■
	Motor operation		■	■
Connection	Fixed	Front wiring	■	■
		Back wiring	■	■
	Plug-in wiring	Front wiring	■	■
		Back wiring	■	■



Technical parameters

PN250

Model number			PN250N-TM (EL)
Rated current of frame size Inm(A)			250
Rated current In(A)			16,20,25,32,40,50,63,80,100,125,160,200,250
Rated insulation voltage Ui			750V
Rated operational voltage Ue			400V/415V
Number of poles			3/4
AC400V/50Hz O-CO(Icu)Rated ultimate short-circuit breaking capacity (kA)			50
AC400V/50Hz O-CO-CO(Ics)Rated service short-circuit breaking capacity (kA)			50
(Uimp)Rated impulse withstand voltage(V)			8000
Dielectric property (V)			3000
Endurance(times)	Total cycles		8000
	Electrical endurance		1000
	Mechanical endurance		7000
Flashover distance (mm)			≤100
Utilization category	Main circuit		A
	Auxiliary circuit		AC-15
Outline dimensions	W(mm)	3P/4P	105/140
	L(mm)	3P/4P	161/161
	H(mm)	3P/4P	125/125



PN630

Model number			PN630N-EL
Rated current of frame size Inm(A)			630
Rated current In(A)			400,630
Rated insulation voltage Ui			750V
Rated operational voltage Ue			400V/415V
Number of poles			3/4
AC400V/50Hz O-CO(Icu)Rated ultimate short-circuit breaking capacity (kA)			50
AC400V/50Hz O-CO-CO(Ics)Rated service short-circuit breaking capacity (kA)			50
(Uimp)Rated impulse withstand voltage(V)			8000
Dielectric property (V)			3000
Endurance(times)	Total cycles		5000
	Electrical endurance		1000
	Mechanical endurance		4000
Flashover distance (mm)			≤100
Utilization category	Main circuit		A/B
	Auxiliary circuit		AC-15
Outline dimensions	W(mm)	3P/4P	140/185
	L(mm)	3P/4P	256/256
	H(mm)	3P/4P	168/168

PN

GAC

GMK

SD60

R80M

M80N

M80

L80M

ALT /
AUX /
SHNT /
UVT

CT6

PB

IL / ILT

PBIL

KC

SC

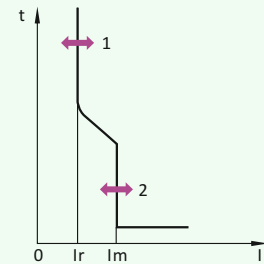
MP

Low Voltage Power Distribution Protection PN250-630

Pn250 circuit breaker is attached with electro-magnetic or electronic tripping machine. With a mechanical structure, it can prevent the mismatching between tripper and circuit breaker from happening.

1. Protection protection function can be realized through adjusting the knob.
2. Overload protection thermal protection can be adjusted.
3. Short-circuit protection: It can be divided into fixed and adjustable types according to current specification magnetic protection.
4. Switching Neutral line without protection:
4P 3d +N type (neutral line without protection)

- Overload Thermal Protection Adjustable Value(1)
- Protection Setting Value Adjustable or Fixed Short-circuit Fault



PN-100-250 Tripping Mechanism

		TMD16~250							
Rated Value(A)	In40℃	16	25	32	40	50	63	80	100
Circuit Breaker	PN250	■	■	■	■	■	■	■	■

Overload Protection(Thermal Protection)

Tripping Current Value(A)		Adjustable range 0.7~1×In							
Short-circuit Current Protection(Electro-magnetic Tripper)		Fixed							
Short-circuit Current Value(A)	Im	190	300	400	500	500	500	1000	1250
	PN160/250								

Switching Neutral Line Protection

Neutral Line Protection	4P 3d+N	No protection							
-------------------------	---------	---------------	--	--	--	--	--	--	--

PN250 Tripping Mechanism

		TMD16~250			
Rated Value(A)	In40℃	125	160	200	250
Circuit Breaker	PN250	■	■	■	■

Overload Protection(Thermal Protection)

Tripping Current Value(A)		Adjustable range 0.7~1×In							
Short-circuit Current Protection(Electro-magnetic Tripper)		Fixed		Adjustable		Fixed			
Short-circuit Current Value(A)	Im	1250	1250	5~10xIn	63	80	80	125	
	PN250								

Switching Neutral Line Protection

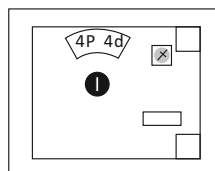
Neutral Line Protection	4P 3d + N	No protection				No protection			
-------------------------	-----------	---------------	--	--	--	---------------	--	--	--

Technical Parameter

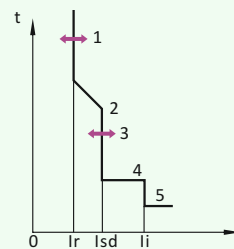
Electrical Trip Unit

- Protection
 - LT (Long Time Delay) Overload protection Adjustable I_r Setting Value
 - ST (Short Time Delay) short-circuit Current Protection:
 1. I_m Operating Value Adjustable
 2. Have Fixed Time Delay(4)
 - INST(Instantaneous) Short-circuit Current Protection, operating value(5) fixed 4 pole Circuit Breaker without neutral line protection.
- Indication
 1. Load(LED) Indicator light(6) on the front side
 2. The indicator light will be turned on brightly when setting value is bigger than 90% I_r .
 3. Indicator Light twinkles when setting value is bigger than 105% I_r .
- Test

There is a test hole on the front side from which small testing appliance or calibration testing box can be connected, and working state of circuit breaker can be checked.



Neutral Line protection



1. Long Time Delay Protection Setting Value
2. Long Time Delay Protection Delaying Time
3. Short-circuit Protection Setting Value
4. Short-circuit Protection Delaying Time
5. Instantaneous Short-circuit Protection
6. Warning Indicator Light
7. Testing Hole

PN Electrical Trip Unit

		PN250				PN630	
Rated Current (A)	$I_n 20 \sim 70^\circ\text{C} (*)$	40	100	160	250*	400	630
Circuit Breaker	PN-250	■	■	■	■	—	—
	PN-630	—	—	—	—	■	■
Tripping Current Setting Value(A)(I_r)	$I_r = I_n \times \dots$	0.4...1 Adjustable(48 Points)				0.4...1 Adjustable(48 Points)	
Tripping Time (s)(min...max)	at $1.5 \times I_r$	90...180				90...180	
	at $1.6 \times I_r$	5...7.5				5...7.5	
	at $7.2 \times I_r$	3.2...5.0				3.2...5.0	
Tripping current setting value	$I_{sd} = I_r \times \dots$	2...10				2...10	
Accurate Assurance $\pm 15\%$		Adjustable(8 Points)				Adjustable(8 Points)	
Delaying Time (ms)		Fixed					
	High overcurrent trip time	≤ 40				≤ 40	
	Total Breaking Time	≤ 60				≤ 60	
Tripping Current Value (A)	I_i	Fixed $\geq 11 \times I_n$				Fixed $\geq 11 \times I_n$	

Neutral line protection

No neutral line protection	4P 3d+N	No protection	No protection
----------------------------	---------	---------------	---------------

PN

GAC

GMK

SD60

R80M

M80N

M80

L80M

ALT /
AUX /
SHNT /
UVT

CT6

PB

IL / ILT

PBIL

KC

SC

MP

External Auxiliary Device

- The rotary handle of PN series products has two types: direct and indirect.
Through rotary handle used for PN series circuit breakers, operation requirements of complete equipments (drawer chest, distribution box, and power control box) on the panel should be implemented in order to assure that door sheet of cabinet body cannot be opened, that is, interlocked with door, when the circuit breaker is at the "ON" state. Only when the operation handle is at the OFF or RESET state, can the door of switch plate be opened. When it is so urgent that the door of switch plate needs to be opened at the "ON" state of circuit breaker, you can press the red release button beside the handle holder.
- Motor operation mechanism
Motor operation mechanism is used with circuit breaker auxiliary device for remote automatic opening or closing the circuit breaker and has two types: CD and CD2.
CD2 type motor operation mechanism means to be driven by miniature permanent magnet DC motor, which is of compact structure, small volume, convenient installation and reliable operation and can be used for DC and AC, and can be operated manually by handle. . It has the same mechanical life and electrical life as the circuit breaker.

The characteristics and installation of attached devices

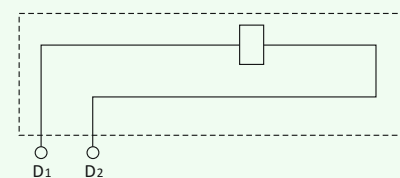
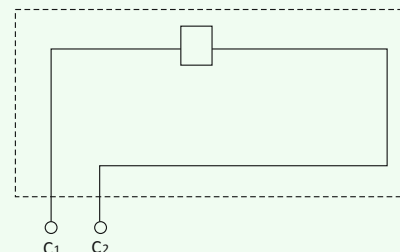
Shunt release trip unit wiring diagram (it is the internal attached device of switch in the inner box.)

a: When the controlling voltage reaches 70%-100%, the circuit breaker can break reliably.
b: long time power is forbidden($\leq 5s$)
Response time: impulse mode $\geq 20ms$, $\leq 60ms$

- When the controlling voltage is lowered to 35% -70%, undervoltage tripping unit should trip and circuit breaker should break reliably.
- When the controlling voltage reaches more than or equal to 85%, the switching on of circuit breaker should be assured.
- When the controlling voltage reaches less than 35%, switching on of circuit breaker should be prevented.

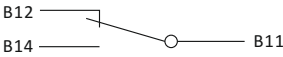
Attention: As for circuit breaker attached with undervoltage trip unit, the circuit breaker can be switched on or off normally when its controlling voltage reaches more than or equal to 85%.

- Note: The attached undervoltage module is PN (125, 160): Other type without undervoltage module can be connected with lead wire; when it reaches the 70%-35% of the rated working voltage, undervoltage trip unit should let circuit breaker trip reliably.
- Warning: Undervoltage trip unit should be power on first. Then the circuit breaker can be reset and switched on, or the switch will be damaged.
- User Warning: After the internal attached device of circuit breaker is installed, it can be adjusted and tested in order to assure the quality when products are transported out of the factory. If user purchases the internal attached device from the outside by his own, user should bear the bad results.

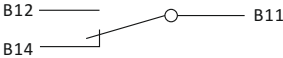


Alarm Contact

Contact Position of circuit breaker at the state of "on" or "off"



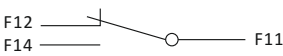
Contact Position of circuit breaker at the state of tripping (Alarm)



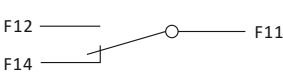
- When circuit breaker normally switches on or off, alarm contact doesn't trip. Only when free tripping (or fault tripping) happens, it will alarm.
- Contact position changes from "on" to "off" , or "off" to "on". When circuit breaker has already been reset, alarm contact returns to original state.

Auxiliary Contact

Contact Position of Circuit Breaker at the "off" state



Contact Position of Circuit Breaker at the "on" state



Auxiliary Contact Rated Current

Frame Level Rated Current (A)	Agreed Thermal Current Ith(A)	Rated Working Current at AC400V Ie(A)
<250	3	0.3
>400	6	0.4

PN

GAC

GMK

SD60

R80M

M80N

M80

L80M

ALT /
AUX /
SHNT /
UVT

CT6

PB

IL / ILT

PBIL

KC

SC

MP



PN Series MCCB

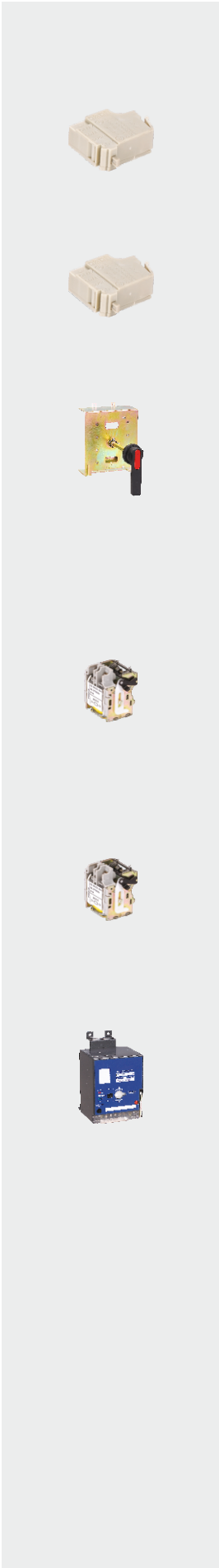
Order Code

MCCB PN-250 (TM adjustable 0,7 - 1)

	3p	4p
MCCB adjustable 11,2 ~ 16A (50kA)	PN250/16TM3	PN250/16TM4
MCCB adjustable 14 ~ 20A (50kA)	PN250/20TM3	PN250/20TM4
MCCB adjustable 17,5 ~ 25A (50kA)	PN250/25TM3	PN250/25TM4
MCCB adjustable 22,4 ~ 32A (50kA)	PN250/32TM3	PN250/32TM4
MCCB adjustable 28 ~ 40A (50kA)	PN250/40TM3	PN250/40TM4
MCCB adjustable 35 ~ 50A (50kA)	PN250/50TM3	PN250/50TM4
MCCB adjustable 44,1 ~ 63A (50kA)	PN250/63TM3	PN250/63TM4
MCCB adjustable 56 ~ 80A (50kA)	PN250/80TM3	PN250/80TM4
MCCB adjustable 70 ~ 100A (50kA)	PN250/100TM3	PN250/100TM4
MCCB adjustable 87,5 ~ 125A (50kA)	PN250/125TM3	PN250/125TM4
MCCB adjustable 112 ~ 160A (50kA)	PN250/160TM3	PN250/160TM4
MCCB adjustable 175 ~ 250A (50kA)	PN250/250TM3	PN250/250TM4

MCCB PN-250 | PN-630 (EL adjustable 0,4 - 1)

MCCB adjustable 100 ~ 250A (50kA)	PN250/250EL3	PN250/250EL4
MCCB adjustable 160 ~ 400A (50kA)	PN630/400EL3	PN630/400EL4
MCCB adjustable 252 ~ 630A (50kA)	PN630/630EL3	PN630/630EL4



PN Series MCCB

Order Code

Auxiliary contacts

Auxiliary contact for PN-250
Auxiliary contact for PN-630

Single auxiliary

PN250-AUX1
PN630-AUX1

Alarm contacts

Alarm contact for PN-250
Alarm contact for PN-630

PN250-ALT
PN630-ALT

Handle operation

Direct operation handle for PN-250
Direct operation handle for PN-630
Indirect operation handle for PN-250
Indirect operation handle for PN-630

PN250-RD
PN630-RD
PN250-RI
PN630-RI

Shunt release

Shunt release for PN-250
Shunt release for PN-630

230VAC

PN250-SHT230
PN630-SHT230

400VAC

PN250-SHT380
PN630-SHT380

Under voltage release

Under voltage release for PN-250
Under voltage release for PN-630

230VAC

PN250-UVT230
PN630-UVT230

400VAC

PN250-UVT380
PN630-UVT380

Electric operating mechanism

Motor drive for PN-250
Motor drive for PN-630

230VAC

PN250-MOT230
PN630-MOT230

400VAC

PN250-MOT380
PN630-MOT380

* other types special order

Cover low

Terminal cover low for PN-250
Terminal cover low for PN-630

3p

PN250-CPL3
PN630-CPL3

4p

PN250-CPL4
PN630-CPL4

Plug-in unit

Plug-in unit for PN-250
Plug-in unit for PN-630

3p

PN250-PL3
PN630-PL3

4p

PN250-PL4
PN630-PL4

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

The GAC Distribution cabinet is specially designed for household purposes. The design is based on the Dutch market, the with is the standard of 220mm. The cabinets come fully prepared with Isolator switch, RCD and MCB (RCBO combination). Every row is protected for unintended of switching of the components with a transparant lid.

- Width 220mm
- Double isolated
- Standard with tube connection
- Standard with transparant lids
- Horizontal and vertical combination possible
- Including attributes (earthbar, connection bar, covers)
- Protection class: IP40

Technical Data

Electrical features

Rated current In	40Amp
Poles	2P 4P
Rated voltage Ue	2P:230V~ 4P:400V~
Insulation voltage Ui	500V
Rated frequency	50/60Hz
Rated short circuit breaking capacity	6000A
Pollution degree	2

Installation

Protection degree	IP40
Ambient temperature(with daily average≤35℃)	-5~+40℃
Storage temperature	-25+70℃
Terminal connection type	Cable/U-type busbar/Pin -type busbar
Terminal size top/bottom for cable	50mm ² 18-1/0
Tightening torque feeding cable	3.5N*m 22
Connection cable entry	From top, bottom, back

Used components of GACIA

Isolator switch 2p / 4p	GACIA SD60
RCD 2p / 4p	GACIA R80M
MCB 1p+n	GACIA M80N
RCBO 1p+N	GACIA L80M



Order Code	
1 PHASE - 4 MCB Distribution cabinet	
1x CHB24 Distribution cabinet (h=330mm, b=220mm)	GAC 100
1x SD60-240 Isolator switch 2p / 40A	
2x R80M-4020 RCD 2p/ 40A / 30mA	
4x M80N-B16 MCB 1p+n / B16	
# Busbars / Wires / Assembly	
1 PHASE - 6 MCB Distribution cabinet	
1x CHB24 Distribution cabinet (h=330mm, b=220mm)	GAC101
1x SD60-240 Isolator switch 2p / 40A	
2x R80M-4020 RCD 2p/ 40A / 30mA	
6x M80N-B16 MCB 1p+n / B16	
# Busbars / Wires / Assembly	
1 PHASE - 6 RCBO Distribution cabinet	
1x CHB24 Distribution cabinet (h=330mm, b=220mm)	GAC102
1x SD60-240 Isolator switch 2p / 40A	
6x L80M-B16 RCBO 1p+N / B16 / 30mA	
# Busbars / Wires / Assembly	
1 PHASE - 9 MCB Distribution cabinet	
1x CHB24 Distribution cabinet (h=330mm, b=220mm)	GAC109
1x SD60-240 Isolator switch 2p / 40A	
3x R80M-4020 RCD 2p/ 40A / 30mA	
9x M80N-B16 MCB 1p+n B16	
# Busbars / Wires / Assembly	
3 PHASE - 4 MCB Distribution cabinet	
1x CHB24 Distribution cabinet (h=330mm, b=220mm)	GAC 110
1x SD60-440 Isolator switch 4p / 40A	
2x R80M-4040 RCD 4p/ 40A / 30mA	
4x M80N-B16 MCB 1p+n / B16	
# Busbars / Wires / Assembly	
3 PHASE - 6 MCB Distribution cabinet	
1x CHB24 Distribution cabinet (h=330mm, b=220mm)	GAC111
1x SD60-440 Isolator switch 4p / 40A	
2x R80M-4040 RCD 4p/ 40A / 30mA	
6x M80N-B16 MCB 1p+n / B16	
# Busbars / Wires / Assembly	
3 PHASE - 6 RCBO Distribution cabinet	
1x CHB24 Distribution cabinet (h=330mm, b=220mm)	GAC112
1x SD60-440 Isolator switch 4p / 40A	
6x L80M-B16 RCBO 1p+N / B16 / 30mA	
# Busbars / Wires / Assembly	
3 PHASE - 9 MCB Distribution cabinet	
1x CHB24 Distribution cabinet (h=330mm, b=220mm)	GAC119
1x SD60-440 Isolator switch 4p / 40A	
3x R80M-4020 RCD 2p/ 40A / 30mA	
9x M80N-B16 MCB 1p+n B16	
# Busbars / Wires / Assembly	

PN	
GAC	
GMK	
SD60	
R80M	
M80N	
M80	
L80M	
ALT / AUX / SHNT / UVT	
CT6	
PB	
IL / ILT	
PBIL	
KC	
SC	
MP	

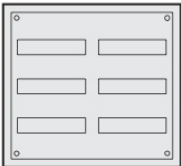
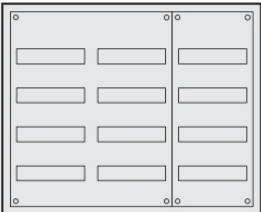
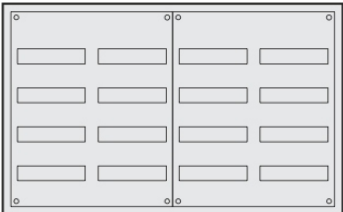
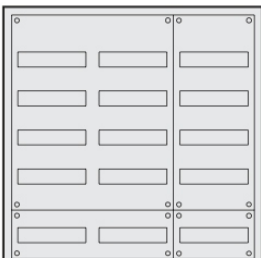
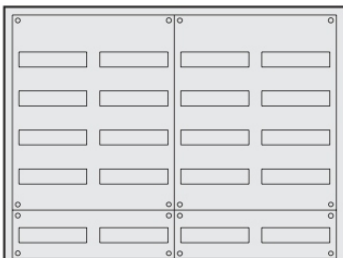
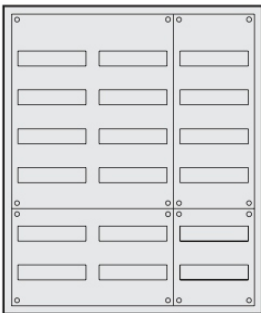
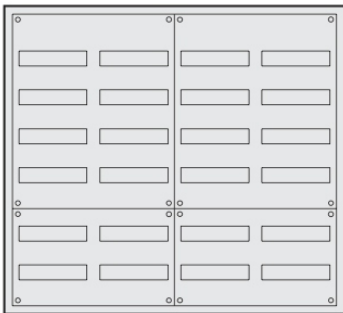


General

The GMK metal double isolated surface mounted distribution cabinet is specially designed for purposes up to 125Amp. In combination with the GACIA components it is a strong product to function as a head- or sub- distribution board. It is normally used in the industrial-, commercial-, utility- buildings and luxury appartments.

- RAL9016
- Standard delivered with modulair frame
- Standard delivered with input cover on the bottom and top
- Double isolated metal cabinet
- Protection class: IP43

Appearance and Dimensions

	300	550	800	1050
500	 GMK13N	 GMK23N	 GMK33N	 GMK43N
650	 GMK14N	 GMK24N	 GMK34N	 GMK44N
800	 GMK15N	 GMK25N	 GMK35N	 GMK45N
950	 GMK16N	 GMK26N	 GMK36N	 GMK46N



Order Code	
Distribution cabinet height 3	
Surface mounted 36 modules (W=300mm, H=500mm, D=160mm)	GMK13N
Surface mounted 72 modules (W=550mm, H=500mm, D=160mm)	GMK23N
Surface mounted 108 modules (W=800mm, H=500mm, D=160mm)	GMK33N
Surface mounted 144 modules (W=1050mm, H=500mm, D=160mm)	GMK43N
Distribution cabinet height 4	
Surface mounted 48 modules (W=300mm, H=650mm, D=160mm)	GMK14N
Surface mounted 96 modules (W=550mm, H=650mm, D=160mm)	GMK24N
Surface mounted 144 modules (W=800mm, H=650mm, D=160mm)	GMK34N
Surface mounted 192 modules (W=1050mm, H=650mm, D=160mm)	GMK44N
Distribution cabinet height 5	
Surface mounted 60 modules (W=300mm, H=800mm, D=160mm)	GMK15N
Surface mounted 120 modules (W=550mm, H=800mm, D=160mm)	GMK25N
Surface mounted 180 modules (W=800mm, H=800mm, D=160mm)	GMK35N
Surface mounted 240 modules (W=1050mm, H=800mm, D=160mm)	GMK45N
Distribution cabinet height 6	
Surface mounted 72 modules (W=300mm, H=950mm, D=160mm)	GMK16N
Surface mounted 144 modules (W=550mm, H=950mm, D=160mm)	GMK26N
Surface mounted 216 modules (W=800mm, H=950mm, D=160mm)	GMK36N
Surface mounted 288 modules (W=1050mm, H=950mm, D=160mm)	GMK46N
Distribution cabinet attributes	
Earth/Neutral busbar	GPEN
Document holder A4 (foil)	GA4F
Cover strip RAL9002 lenght 48 modules	CHB-S48 (RAL9002)
Encoding strip length 1 meter	GCOD1M
Cable entrance box	GKAB
Cable entrance box cover	GFKAB
Cable trunk width 300mm	GGRK1
Cable trunk width 550mm	GGRK2
Cable trunk width 800mm	GGRK3
Cable trunk width 1050mm	GGRK4

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

As the main switch in the combination of electrical terminal apparatus, DN isolator is suitable for circuit of AC 50Hz, rated voltage 230V/400V, rated current up to 125A for isolating, it also can be used for infrequent on-and-off circuit, and is widely used in industry, mine, high-building, commerce and household and so on.

- In conformity to IEC/EN60947-3
- Double-point direct-moving structure
- With indicator function in the contact position
- Bilateral busbar wiring capabilities to adapt to the wider use of premises
- Maximum connecting ability of 35/50mm², wiring torque 3 N*m, applicable to a variety of installing equipments, wiring stronger
- Protection class: IP20

Technical Data

Electrical features

Rated current In	25 -125A
Poles	1P 2P 3P 4P
Rated voltage Ue	1P:230/400V~ 2P,3P,4P:400V~
Insulation voltage Ui	500V
Rated frequency	50/60Hz
Rated short-time withstand current Icw	12Ie 1s
Rated making and breaking capacity	3Ie, 1.05Ue, cos ϕ=0. 65
Rated short circuit making capacity	20Ie, t=0. 1s
Utilization category	AC-22A
Rated impulse withstand voltage(1.2/50)Uimp	6000V
Dielectric test voltage at and ind.Freq.for 1min	2.5kV
Electrical life	1500
Mechanical life	8500
Pollution degree	2

Installation

Protection degree	IP20
Ambient temperature(with daily average≤35℃)	-5~+40℃
Storage temperature	-25+70℃
Terminal connection type	Cable/U-type busbar/Pin -type busbar
Terminal size top/bottom for cable	50mm ² 18-1/0
Terminal size top/bottom for busbar	50mm ² 18-1/0
Tightening torque	3 N*m 22
Connection	From top and bottom



1P

le(A)	Order Code
25A	SD60-105
40A	SD60-140
63A	SD60-163
80A	SD60-180
100A	SD60-199
125A	SD60-125

2P

le(A)	Order Code
25A	SD60-205
40A	SD60-240
63A	SD60-263
80A	SD60-280
100A	SD60-299
125A	SD60-225

3P

le(A)	Order Code
25A	SD60-305
40A	SD60-340
63A	SD60-363
80A	SD60-180
100A	SD60-399
125A	SD60-325

4P

le(A)	Order Code
25A	SD60-405
40A	SD60-440
63A	SD60-463
80A	SD60-480
100A	SD60-499
125A	SD60-425

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

R80M RCD is suitable to the circuit of AC50/60Hz, rated voltage 230V for 2poles and 400V for 4 poles, and rated current up to 100A. When people come across the electric shock or the leakage current of the electrical network exceeds the fixed value, this product can cut off the fault current in short period so as to protect persons and the equipments. It also can be used in the infrequent starting of the circuit and motors. The circuit breaker is suitable to industry, commerce, high-rise building, household and other kinds of places. This product meets the standard of IEC/EN61008-1. It has the following features:

- Bilateral busbar wiring capabilities to adapt to the wider use of premises.
- Maximum connecting ability of 35mm², wiring torque 3N*m, applicable to a variety of installing equipments, wiring stronger.
- Protection class: IP20

Technical Data

Electrical features

Rated current In	25 -100A
Poles	2P 4P
Rated voltage Ue	2P:230V~/4P:400V~
Insulation voltage Ui	500V
Rated frequency	50/60Hz
Rated sensitivity IΔn	0.03A 0.3A
Rated residual making and breaking capacity IΔm	1000A
Short-circuit current Inc=IΔc	10000A
SCPD fuse	 10000
Break time under IΔn	≤0.1s
Rated impulse withstand voltage(1.2/50)Uimp	6kV
Dielectric test voltage at and ind.Freq.for 1min	2.5kV
Electrical life	4000
Mechanical life	8000
Pollution degree	2

Installation

Fault current indicator	No
Protection degree	IP20
Ambient temperature(with daily average≤35℃)	-5~+40℃
Storage temperature	-25+70℃

Combination with accessories

Terminal connection type	Cable/U-type busbar/Pin -type busbar
Terminal size top/bottom for cable	35mm ² 18-3
Terminal size top/bottom for busbar	35mm ² 18-3
Tightening torque	3N*m 22
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	From top and bottom



2P

I_{Δn}=30mA

25A

40A

63A

I_{Δn}=300mA

63A

4P

I_{Δn}=30mA

25A

40A

63A

I_{Δn}=300mA

63A

100A

Order Code

	A type	A [S] type
R80M-2520		
R80M-4020		
R80M-6320		
R80M-6323		R80M-6323S
R80M-2540		
R80M-4040		
R80M-6340		
R80M-6343		R80M-6343S
R80M-9943		

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

M80N mini circuit breaker is used for protection against overload and short circuit in the circuit of 50/60Hz, rated voltage 230V, rated current up to 40A, It also can be used for non-frequent on-and-off switching operation under normal circumstance.

- In compliance with IEC/EN60898-1
- 1P+N structure,18mm | 2P+2N structure,36mm
- With indicator function in the contact position.
- Bilateral busbar wiring capabilities to adapt to the wider use of premises.
- Maximum connecting ability of 16mm²,wiring torque 1.2N•m, applicable to a variety of installing equipments, wiring stronger.
- Protection class:IP20

Technical Data
Electrical features

Rated current In	1 -40A
Poles	1P+N / 2P+2N
Rated voltage Ue	230V~
Insulation voltage Ui	500V
Rated frequency	50/60Hz
Rated breaking capacity	6000A
Rated impulse withstand voltage (1.2/50)Uimp	4kV
Dielectric test voltage at and ind.Freq.for 1min	2kV
Pollution degree	2
Electrical life	4000
Mechanical life	10000

Installation

Contact position indicator	Yes
Protection degree	IP 20
Reference temperature for setting of thermal element	30℃
Ambient temperature(with daily average≤35℃)	-5~+40℃
Storage temperature	-25~+70℃
Terminal connection type	Cable/Conductor Wiring
Terminal size top/bottom for cable	16mm ² 18-5
Tightening torque	1.2Nm 10
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Bottom

Combination with accessories

Auxillary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Under voltage release	Yes



Order Code

1P+N	Curve B	Curve C	Curve D
1A	M80N-B01	M80N-C01	M80N-D01
2A	M80N-B02	M80N-C02	M80N-D02
4A	M80N-B04	M80N-C04	M80N-D04
6A	M80N-B06	M80N-C06	M80N-D06
8A	M80N-B08	M80N-C08	M80N-D08
10A	M80N-B10	M80N-C10	M80N-D10
13A	M80N-B13	M80N-C13	M80N-D13
16A	M80N-B16	M80N-C16	M80N-D16
20A	M80N-B20	M80N-C20	M80N-D20
25A	M80N-B25	M80N-C25	M80N-D25
32A	M80N-B32	M80N-C32	M80N-D32
40A	M80N-B40	M80N-C40	M80N-D40
2P+2N (DEVICE MCB)			
16A	M80NK-B16	M80NK-C16	
20A	M80NK-B20	M80NK-C20	
25A	M80NK-B25	M80NK-C25	

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

M80 miniature circuit breaker is mainly used for protection against overload and short circuit under the AC 50Hz/60Hz, rated voltage 230V/400V and rated current from 1A to 63A.It also can be used for non-frequent on-and-off switching operation under normal circumstance.

- In compliance with IEC/EN60898-1
- With indicator function in the contact position.
- Bilateral busbar wiring capabilities to adapt to the wider use of premises.
- Maximum connecting ability of 35mm²,wiring torque 3Nm, applicable to a variety of installing equipments, wiring stronger.
- Protection class:IP20

Technical Data

Electrical features

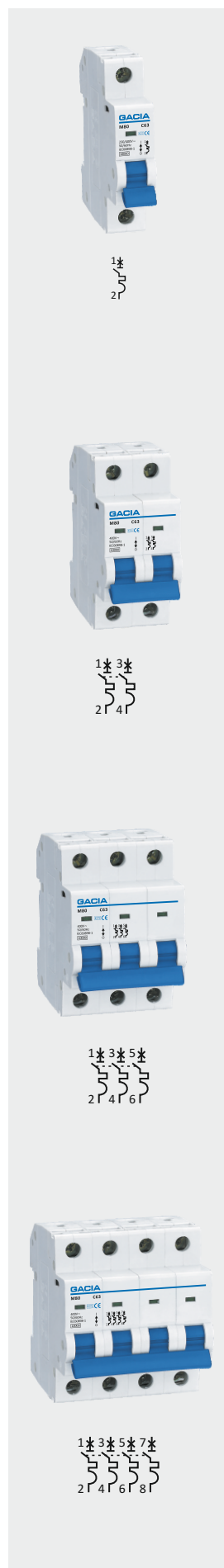
Rated current In	1 -63A
Poles	1P 2P 3P 4P
Rated voltage Ue	1P:230/400V~ 2/3/4P:400V~
Insulation voltage Ui	500V
Rated frequency	50/60Hz
Rated breaking capacity	10000A
Rated impulse withstand voltage (1.2/50)Uimp	6kV
Dielectric test voltage at and ind.Freq.for 1min	2kV
Pollution degree	2
Thermo-magnetic release characteristic	B C D
Electrical life	4000
Mechanical life	10000

Installation

Contact position indicator	Yes
Protection degree	IP 20
Reference temperature for setting of thermal element	30℃
Ambient temperature(with daily average≤35℃)	-5~+40℃
Storage temperature	-25~+70℃
Terminal connection type	Cable/U-type busbar/Pin -type busbar
Terminal size top/bottom for cable	35mm ² 18-3
Terminal size top/bottom for busbar	25mm ² 18-3
Tightening torque	3.0 Nm 22
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	Top and bottom

Combination with accessories

Auxillary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Under voltage release	Yes



Order Code

1P	Curve B	Curve C	Curve D
1A	M80-1B01	M80-1C01	M80-1D01
2A	M80-1B02	M80-1C02	M80-1D02
4A	M80-1B04	M80-1C04	M80-1D04
6A	M80-1B06	M80-1C06	M80-1D06
8A	M80-1B08	M80-1C08	M80-1D08
10A	M80-1B10	M80-1C10	M80-1D10
13A	M80-1B13	M80-1C13	M80-1D13
16A	M80-1B16	M80-1C16	M80-1D16
20A	M80-1B20	M80-1C20	M80-1D20
25A	M80-1B25	M80-1C25	M80-1D25
32A	M80-1B32	M80-1C32	M80-1D32
40A	M80-1B40	M80-1C40	M80-1D40
50A	M80-1B50	M80-1C50	M80-1D50
63A	M80-1B63	M80-1C63	M80-1D63
2P	Curve B	Curve C	Curve D
1A	M80-2B01	M80-2C01	M80-2D01
2A	M80-2B02	M80-2C02	M80-2D02
4A	M80-2B04	M80-2C04	M80-2D04
6A	M80-2B06	M80-2C06	M80-2D06
8A	M80-2B08	M80-2C08	M80-2D08
10A	M80-2B10	M80-2C10	M80-2D10
13A	M80-2B13	M80-2C13	M80-2D13
16A	M80-2B16	M80-2C16	M80-2D16
20A	M80-2B20	M80-2C20	M80-2D20
25A	M80-2B25	M80-2C25	M80-2D25
32A	M80-2B32	M80-2C32	M80-2D32
40A	M80-2B40	M80-2C40	M80-2D40
50A	M80-2B50	M80-2C50	M80-2D50
63A	M80-2B63	M80-2C63	M80-2D63
3P	Curve B	Curve C	Curve D
1A	M80-3B01	M80-3C01	M80-3D01
2A	M80-3B02	M80-3C02	M80-3D02
4A	M80-3B04	M80-3C04	M80-3D04
6A	M80-3B06	M80-3C06	M80-3D06
8A	M80-3B08	M80-3C08	M80-3D08
10A	M80-3B10	M80-3C10	M80-3D10
13A	M80-3B13	M80-3C13	M80-3D13
16A	M80-3B16	M80-3C16	M80-3D16
20A	M80-3B20	M80-3C20	M80-3D20
25A	M80-3B25	M80-3C25	M80-3D25
32A	M80-3B32	M80-3C32	M80-3D32
40A	M80-3B40	M80-3C40	M80-3D40
50A	M80-3B50	M80-3C50	M80-3D50
63A	M80-3B63	M80-3C63	M80-3D63
4P	Curve B	Curve C	Curve D
1A	M80-4B01	M80-4C01	M80-4D01
2A	M80-4B02	M80-4C02	M80-4D02
4A	M80-4B04	M80-4C04	M80-4D04
6A	M80-4B06	M80-4C06	M80-4D06
8A	M80-4B08	M80-4C08	M80-4D08
10A	M80-4B10	M80-4C10	M80-4D10
13A	M80-4B13	M80-4C13	M80-4D13
16A	M80-4B16	M80-4C16	M80-4D16
20A	M80-4B20	M80-4C20	M80-4D20
25A	M80-4B25	M80-4C25	M80-4D25
32A	M80-4B32	M80-4C32	M80-4D32
40A	M80-4B40	M80-4C40	M80-4D40
50A	M80-4B50	M80-4C50	M80-4D50
63A	M80-4B63	M80-4C63	M80-4D63

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

L80M RCBO is a kind of protective device against residual current, short circuit, overload, is suitable to the AC circuit of 50/60Hz, rated voltage 230V, rated current upto 40A, it is mainly used to protect human safety from electrical shock and prevent fire disaster caused by residual current due to damaged equipment, It also can be used in the infrequent on-and-off switching operation under the normal case. This circuit breaker is mainly applied to industry, mine, building, household, hotel and other similar locations.

- In compliance with IEC/EN61009-1
- Bilateral busbar wiring capabilities to adapt to the wider use of premises.
- Maximum connecting ability of 25mm², wiring torque 3N·m, applicable to a variety of installing equipments, wiring stronger.
- Protection class:IP20

Technical Data

Electrical features

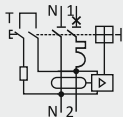
Rated current In	1-40A
Poles	1P+N
Rated voltage Ue	230V~
Insulation voltage Ui	500V
Rated frequency	50/60Hz
Rated sensitivity I Δ n	0.03A 0.3A
Rated residual making and breaking capacity I Δ m	500A
Short-circuit current Inc=I Δ c	6000A
Break time under I Δ n	≤0.1s
Rated impulse withstand voltage(1.2/50)Uimp	4kV
Dielectric test voltage at and ind.Freq.for 1min	2.5kV
Electrical life	4000
Mechanical life	10000
Pollution degree	2

Installation

Fault current indicator	Yes
Protection degree	IP20
Ambient temperature(with daily average≤35℃)	-5~+40℃
Storage temperature	-25+70℃
Terminal connection type	Cable/Conductor wiring
Terminal size top/bottom for cable	25mm ² 18-3
Terminal size top/bottom for busbar	25mm ² 18-3
Tightening torque	3.0N·m 22
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	From top and bottom

Combination with accessories

Auxiliary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Under voltage release	Yes



1P+N

IΔn=30mA type A

	Curve B	Curve C	Curve D
6A	L80M-B06	L80M-C06	L80M-D06
10A	L80M-B10	L80M-C10	L80M-D10
13A	L80M-B13	L80M-C13	L80M-D13
16A	L80M-B16	L80M-C16	L80M-D16
20A	L80M-B20	L80M-C20	L80M-D20
25A	L80M-B25	L80M-C25	L80M-D25
32A	L80M-B32	L80M-C32	L80M-D32
40A	L80M-B40	L80M-C40	L80M-D40

IΔn=300mA type A

	Curve B	Curve C	Curve D
6A	L80MA-B06	L80MA-C06	L80MA-D06
10A	L80MA-B10	L80MA-C10	L80MA-D10
13A	L80MA-B13	L80MA-C13	L80MA-D13
16A	L80MA-B16	L80MA-C16	L80MA-D16
20A	L80MA-B20	L80MA-C20	L80MA-D20
25A	L80MA-B25	L80MA-C25	L80MA-D25
32A	L80MA-B32	L80MA-C32	L80MA-D32
40A	L80MA-B40	L80MA-C40	L80MA-D40

Order Code

PN

GAC

GMK

SD60

R80M

M80N

M80

L80M

ALT /
AUX /
SHNT /
UVT

CT6

PB

IL / ILT

PBIL

KC

SC

MP



Mode	Controlling voltage V(AC)	V(DC)	Order Code
SHT shunt trip unit	110...415	110...130	SHT8-230
	48	48	SHT8-48
SHT+AUX	110...415	110...130	SHTA8-230
	48	48	SHTA8-48
UVT undervoltage trip unit instantaneous trip	230		UVT8-230
Delayed trip	230		UVT8-230S
ALT alarming contact	125...415		ALT8
AUX state indicating contact	125...415		AUX8

Tripping Accessories

Red tripping indicator on the front cover of the device

SHT. SHT+AUX shunt trip unit

After receiving signal,it will trip tripping from the circuit breaker assembled with it.

ON+OFF switching contact(SHT+AUX)

- Indicate the position of circuit breaker
- Used as power contact. No access to other weakening power modules as stem contact

UVT Undervoltage trip unit

When voltage power of drops to(35%-70% Un),it will make circuit breaker trip; only when voltage power comes back to 85%Un, when the power supply does not return to normal state, it can prevent the circuit breaker from connecting to the power again.

Usage

After receiving signal,it will trip tripping from the circuit breaker assembled with it.

ON+OFF switching contact(SHT+AUX)

- Rapidly stop button
- Prevent machines from restarting without controlling signal so as to assure safety.

UVT[□]Undervoltage delay trip unit

Undervoltage relay control the on-and-off of circuit breaker When delayed for 0.2 seconds. It will prevent failure trips from the temporarliy drop of voltage.

Tripping power consuming

	Voltage (VAC or DC)	Closing power (W or VA)
SHT/SHT+ AUX	415V AC	400
	230V AC	130
	110V AC/DC	35
		45
	12/24V AC/DC	30
		30
UVT	230V AC	3.5
UVT [□]	230V AC	3.6

Remote Indicating Accessories

AUX State indicating contact

Indicate the open closed state of circuit breaker

ALT Alarming contact

Send out signals when the circuit breaker fails to trip.

Technical data

Conform to standard: IEC 60947-2
rated current of auxiliary contact

	Voltage (VAC or DC)	Closing power (W or VA)
AUX+ALT	415V AC	3
	≤240V AC	6
	110V AC	1
	≤48V AC	2

Wiring

- Screw-type thread pressed terminal. connent with 1 or 2 conducting wire of 2.5mm² max. cross sectional area.
- Obvious marks upon terminal

PN

GAC

GMK

SD60

R80M

M80N

M80

L80M

ALT /
AUX /
SHNT /
UVT

CT6

PB

IL / ILT

PBIL

KC

SC

MP



Technical Data

	Utilization category	Ie	Controlled power
CT6-25	AC-7a	25A	5kW
	AC-7b	9A	1.2kW
CT6-63	AC-7a	63A	12kW
	AC-7b	32A	4kW

General

Electric ratings: up to 25A, 63A,
Utilization category:AC-7a,AC-7b
Standard: IEC/EN61095
Operating frequency:AC-7a=6000,AC-7b=30000
CT6-2520 / 11 / 02 :Ue=230V~
CT6-2540 / 04 :Ue=400V~
CT6-6340 / 04 / 31 / 22 :Ue=400V~
Ui:500V



	Order Code	
	24VAC	230VAC
25A		
1NO / 1NC	CT6-2511a	CT6-2511
2NO	CT6-2520a	CT6-2520
2NC	CT6-2502a	CT6-2502
4NO	CT6-2540a	CT6-2540
4NC	CT6-2504a	CT6-2504
63A		
3NO / 1NC	CT6-6331a	CT6-6331
2NO / 2NC	CT6-6322a	CT6-6322
4NO	CT6-6340a	CT6-6340
4NC	CT6-6304a	CT6-6304
Afstandstuk / Luchtschot / Codeerschot 9mm	CSP	CSP

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

P60 Button indicator is applied to circuit controlling system of AC 50Hz or 60Hz and voltage up to 230V. It is used as a circuit controller for magnetic starter, contactor, relay and other electrical appliances. This lamp attaching button is also suitable to installations for indicating. The product conforms to IEC60947-5 Structural characteristics:

Button is for plane arrangement. Belonging to direct-moving double breaking points structure, which is made of insulation enclosure, partition board, contact, button, contact bridge, contact holder, contact board wiring holder, operating button and other components.

The wiring bridge and contact spring are fixed on the contact holder .and contact and operating button are connected together.The operating button pushes the contact to make and break with the power from outside The signal light can be considered as an individual circuit,and the two wiring terminals are installed on the outside of enclosure to indicate the working condition of the circuit.

Normal service condition and installation condition

- Ambient air temperature: The upper limit of ambient temperature does not exceed +40℃. and its average over a period of 24h does not exceed +35℃
- Altitude: The altitude of installation place can not be beyond 2000mm above sea level.
- Atmospheric conditions: When the upper temperature is +40℃, the relative humidity should not be beyond 50%, under the comparatively lower temperature higher relative humidity is allowed, eg.20℃ for 90%. Special measures should be taken for the moisture resulting from the change of temperature.
- Installation category:The method mounting II III
- Pollution degree:2
- Installation mode:Adopting standard guide rail 35mm

Main specifications and technical parameters

1. rated Insulation voltage(Ui)500V;
2. conventional thermal current(Ith)16A;
3. rated operational voltage (Ue) AC230V;
4. rated operational current(Ie)6A;
5. Usage category Ac-14;
6. protection degree IP 20;
7. mechanical endurance 250000 times;
8. Electrical endurance 100000 times;



Order Code	
Red	
1NO / 1NC	PB-R-11
2NO	PB-R-20
2NC	PB-R-02
2NO / 2NC	PB-R-22
3NO / 1NC	PB-R-31
4NO	PB-R-40
Green	
1NO / 1NC	PB-G-11
2NO	PB-G-20
2NC	PB-G-02
2NO / 2NC	PB-G-22
3NO / 1NC	PB-G-31
4NO	PB-G-40

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

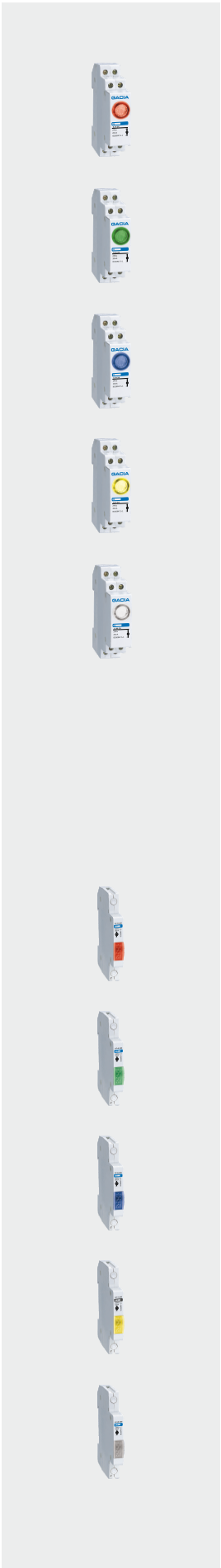
ILT Indicator light is used as an indicating signal, pre-placed signal, accident signal and other signal indicators for line of telecommunication, electric in the circuit control system of AC 50Hz or 60Hz and voltage up to 230V. The product conforms to IEC60947-1

Normal service condition and installation condition

- Ambient air temperature: The upper limit of ambient temperature does not exceed +40℃. and its average over a period of 24h does not exceed +35℃
- Altitude: The altitude of installation place can not be over 2000mm above sea level.
- Atmospheric conditions: When the upper temperature is +40℃, the relative humidity should not be beyond 50%, under the comparatively lower temperature higher relative humidity is allowed, eg. 20℃ for 90%. Special measures should be taken for the moisture resulting from the change of temperature.
- Installation category: The method mounting II III
- Pollution degree: 2
- Installation mode: Adopting standard guide rail 35mm

Main specifications and technical parameters

1. Rated Insulation voltage(Ui)500V;
2. Rated operational voltage: AC 24V, AC 230V;
3. IL Rated operational current: $\leq 20\text{mA}$;
ILT Rated operational current: $\leq 10\text{mA}$;
4. Electrical endurance: LED $\geq 3000\text{h}$
5. Basic color of the signal lights: red, green, blue, yellow, white
6. Degree of protection: IP20



		Order Code
Red		
24VAC		IL-R-24
230VAC		IL-R-230
Green		
24VAC		IL-G-24
230VAC		IL-G-230
Blue		
24VAC		IL-B-24
230VAC		IL-B-230
Yellow		
24VAC		IL-Y-24
230VAC		IL-Y-230
White		
24VAC		IL-W-24
230VAC		IL-W-230
Orange		
24VAC		IL-O-24
230VAC		IL-O-230
Red		
24VAC		ILT-R-24
230VAC		ILT-R-230
Green		
24VAC		ILT-G-24
230VAC		ILT-G-230
Blue		
24VAC		ILT-B-24
230VAC		ILT-B-230
Yellow		
24VAC		ILT-Y-24
230VAC		ILT-Y-230
White		
24VAC		ILT-W-24
230VAC		ILT-W-230
Orange		
24VAC		ILT-O-24
230VAC		ILT-O-230

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



General

PBIL Button Indicating Lamp can be used in the circuit controlling system of AC 50Hz or 60Hz and voltage up to 230V. to control the magnetic starter, contactor, relay and other electrical circuit. This lamp attaching button is also suitable to the places for indicating signals. The product conforms to IEC60947-5

Normal service condition and installation condition

- Ambient air temperature: The upper limit of ambient temperature does not exceed +40°C. And its average over a period of 24h does not exceed +35°C
- Altitude: Not higher than 2000m.
- Atmospheric conditions: When the upper temperature is +40°C, the relative humidity should not be beyond 50%, under the comparatively lower temperature higher relative humidity is allowed, eg. 20°C for 90%. Special measures should be taken for the moisture resulting from the change of temperature.
- Installation category: The method mounting II III
- Pollution degree: 2
- Installation mode: Adopting standard guide rail 35mm

Main specifications and technical parameters

1. Rated Insulation voltage (Ui) 500V;
 2. Conventional thermal current (Ith) 16A
 3. Rated operational voltage (Ue) AC 230V;
 4. Rated operational current (Ie) 6A;
 5. Usage category Ac-14;
 6. Protection degree IP 20
 7. Mechanical endurance 250000 times;
 8. Electrical endurance 100000 times;
- Rated operational voltage: AC 24V, AC 230V;
 - Rated operational current of indicator is no more than 20mA;
Rated operational current of pushbutton is 6A
 - Electrical endurance: LED ≥ 10000h
 - Basic color of the signal lights: red, green, blue, yellow, white



Order Code

Light Color	Button color 24VAC		Button color 230VAC	
	Red	Green	Red	Green
Red				
1NO / 1NC	PBIL-RR-24-11	PBIL-GR-24-11	PBIL-RR-230-11	PBIL-GR-230-11
2NO	PBIL-RR-24-20	PBIL-GR-24-20	PBIL-RR-230-20	PBIL-GR-230-20
2NC	PBIL-RR-24-02	PBIL-GR-24-02	PBIL-RR-230-02	PBIL-GR-230-02
2NO / 1NC	PBIL-RR-24-21	PBIL-GR-24-21	PBIL-RR-230-21	PBIL-GR-230-21
1NO / 2NC	PBIL-RR-24-12	PBIL-GR-24-12	PBIL-RR-230-12	PBIL-GR-230-12
3NO	PBIL-RR-24-30	PBIL-GR-24-30	PBIL-RR-230-30	PBIL-GR-230-30
Green				
1NO / 1NC	PBIL-RG-24-11	PBIL-GG-24-11	PBIL-RG-230-11	PBIL-GG-230-11
2NO	PBIL-RG-24-20	PBIL-GG-24-20	PBIL-RG-230-20	PBIL-GG-230-20
2NC	PBIL-RG-24-02	PBIL-GG-24-02	PBIL-RG-230-02	PBIL-GG-230-02
2NO / 1NC	PBIL-RG-24-21	PBIL-GG-24-21	PBIL-RG-230-21	PBIL-GG-230-21
1NO / 2NC	PBIL-RG-24-12	PBIL-GG-24-12	PBIL-RG-230-12	PBIL-GG-230-12
3NO	PBIL-RG-24-30	PBIL-GG-24-30	PBIL-RG-230-30	PBIL-GG-230-30
Yellow				
1NO / 1NC	PBIL-RY-24-11	PBIL-GY-24-11	PBIL-RY-230-11	PBIL-GY-230-11
2NO	PBIL-RY-24-20	PBIL-GY-24-20	PBIL-RY-230-20	PBIL-GY-230-20
2NC	PBIL-RY-24-02	PBIL-GY-24-02	PBIL-RY-230-02	PBIL-GY-230-02
2NO / 1NC	PBIL-RY-24-21	PBIL-GY-24-21	PBIL-RY-230-21	PBIL-GY-230-21
1NO / 2NC	PBIL-RY-24-12	PBIL-GY-24-12	PBIL-RY-230-12	PBIL-GY-230-12
3NO	PBIL-RY-24-30	PBIL-GY-24-30	PBIL-RY-230-30	PBIL-GY-230-30
Blue				
1NO / 1NC	PBIL-RB-24-11	PBIL-GB-24-11	PBIL-RB-230-11	PBIL-GB-230-11
2NO	PBIL-RB-24-20	PBIL-GB-24-20	PBIL-RB-230-20	PBIL-GB-230-20
2NC	PBIL-RB-24-02	PBIL-GB-24-02	PBIL-RB-230-02	PBIL-GB-230-02
2NO / 1NC	PBIL-RB-24-21	PBIL-GB-24-21	PBIL-RB-230-21	PBIL-GB-230-21
1NO / 2NC	PBIL-RB-24-12	PBIL-GB-24-12	PBIL-RB-230-12	PBIL-GB-230-12
3NO	PBIL-RB-24-30	PBIL-GB-24-30	PBIL-RB-230-30	PBIL-GB-230-30
White				
1NO / 1NC	PBIL-RW-24-11	PBIL-GW-24-11	PBIL-RW-230-11	PBIL-GW-230-11
2NO	PBIL-RW-24-20	PBIL-GW-24-20	PBIL-RW-230-20	PBIL-GW-230-20
2NC	PBIL-RW-24-02	PBIL-GW-24-02	PBIL-RW-230-02	PBIL-GW-230-02
2NO / 1NC	PBIL-RW-24-21	PBIL-GW-24-21	PBIL-RW-230-21	PBIL-GW-230-21
1NO / 2NC	PBIL-RW-24-12	PBIL-GW-24-12	PBIL-RW-230-12	PBIL-GW-230-12
3NO	PBIL-RW-24-30	PBIL-GW-24-30	PBIL-RW-230-30	PBIL-GW-230-30
Orange				
1NO / 1NC	PBIL-RO-24-11	PBIL-GO-24-11	PBIL-RO-230-11	PBIL-GO-230-11
2NO	PBIL-RO-24-20	PBIL-GO-24-20	PBIL-RO-230-20	PBIL-GO-230-20
2NC	PBIL-RO-24-02	PBIL-GO-24-02	PBIL-RO-230-02	PBIL-GO-230-02
2NO / 1NC	PBIL-RO-24-21	PBIL-GO-24-21	PBIL-RO-230-21	PBIL-GO-230-21
1NO / 2NC	PBIL-RO-24-12	PBIL-GO-24-12	PBIL-RO-230-12	PBIL-GO-230-12
3NO	PBIL-RO-24-30	PBIL-GO-24-30	PBIL-RO-230-30	PBIL-GO-230-30

PN

GAC

GMK

SD60

R80M

M80N

M80

L80M

ALT /
AUX /
SHNT /
UVT

CT6

PB

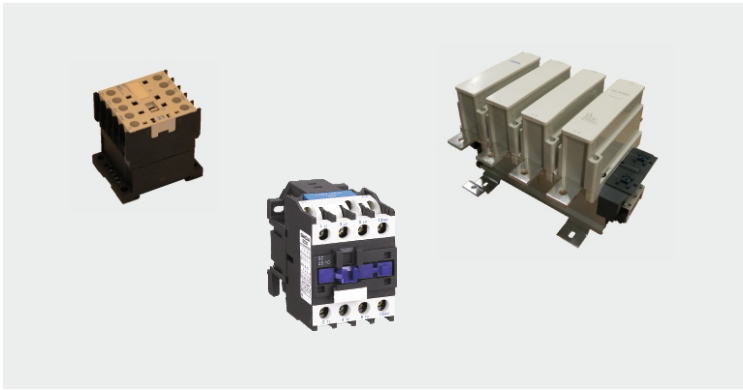
IL / ILT

PBIL

KC

SC

MP



Introduction

SC series AC contactor is suitable for using in the circuits up to the rated voltage 660V AC 50Hz or 60Hz, rated current up to 630A, for making, breaking, frequently starting & controlling the AC motor. Combined with the auxiliary contact block, time delay & machine-interlocking device etc, it becomes the delay contactor, mechanical interlocking contactor, star-delta starter. With the thermal relay, it is combined into the electromagnetic starter. The contactor is produced according to IEC947-2, VDE0660 & BS5452.

Attached Device and Derivative Products

Matched Top Hanging Auxiliary Contact, Side Hanging Auxiliary Contact, Air Time-delay Contact are now researched and developed. If customers need these contacts, they can purchase other brand attached device.

High-altitude Areas Application Correction Factor

GB/T14048.1-2000 Standard stipulates the relationship between altitude and impact withstand voltage and product performance will not be affected obviously when the altitude is lower than 2000m.

When altitude is beyond 2000m, air cooling and rated impact withstand voltage dropping should be considered., so it needs agreement between factory and clients to design and use.

In the below chart, the correction factor of rated impact withstand voltage and rated working current is given

Altitude(m)	2000	3000	4000
Correction factor of rated impact withstand voltage	1	0.88	0.78
Correction factor of rated working current	1	0.92	0.9

The Application Temperature in the unusual working environment

GB/T14048.1-2000 standard stipulates the normal working temperature of product. When the product is used at the normal working state, the product performance will not be affected notably.

When the working ambient temperature becomes higher than +40℃, the tolerable limit of the product should be considered. The temperature rise should be lowered; rated working current should also be lowered, and the number of contactors in the standard component should be decreased, otherwise, the application life of product will be damaged and shortened, and the reliability of product will be lowered, and the product tripping range will be influenced. When temperature is lower than -5℃, we should consider that the oil used for insulation and lubrication will become frozen at the extreme low ambient temperature so that the working of product becomes ineffective. So it needs the mutual agreement between factory and clients to design and use.

In the below chart, the correction factor of rated working current is given in the situation that the rated working voltage does not change at the working ambient temperature higher than 40℃.

Ambient Temperature ℃	40	50	60	70
Correction Factor	1	0.875	0.75	0.625



Order Code

	Spoel spanning		
KC Contactor	24VAC	230VAC	400VAC
6Amp, AC-3, Contactor 3 Main + 1NO, 2,2kW	KC-0610B7	KC-0610P7	KC-0610V7
6Amp, AC-3, Contactor 3 Main + 1NC, 2,2kW	KC-0601B7	KC-0601P7	KC-0601V7
6Amp, AC-3, Contactor 4 Main, 2,2kW	KC-0604B7	KC-0604P7	KC-0604V7
6Amp, AC-3, Contactor 2NO + 2NC Main, 2,2kW	KC-0608B7	KC-0608P7	KC-0608V7
9Amp, AC-3, Contactor 3 Main + 1NO, 4kW	KC-0910B7	KC-0910P7	KC-0910V7
9Amp, AC-3, Contactor 3 Main + 1NC, 4kW	KC-0901B7	KC-0901P7	KC-0901V7
9Amp, AC-3, Contactor 4 Main, 4kW	KC-0904B7	KC-0904P7	KC-0904V7
9Amp, AC-3, Contactor 2NO + 2NC Main, 4kW	KC-0908B7	KC-0908P7	KC-0908V7
Thermal relais			
Thermal relais 0,1 ~ 0,16A, 1NO + 1NC			KC-TR016
Thermal relais 0,16 ~ 0,25A, 1NO + 1NC			KC-TR025
Thermal relais 0,25 ~ 0,4A, 1NO + 1NC			KC-TR04
Thermal relais 0,63 ~ 1A, 1NO + 1NC			KC-TR1
Thermal relais 1 ~ 1,6A, 1NO + 1NC			KC-TR1.6
Thermal relais 1,25 ~ 2A, 1NO + 1NC			KC-TR2
Thermal relais 1,6 ~ 2,5A, 1NO + 1NC			KC-TR2.5
Thermal relais 2,5~ 4A, 1NO + 1NC			KC-TR4
Thermal relais 4 ~ 6A, 1NO + 1NC			KC-TR6
Thermal relais 5,5 ~ 8A, 1NO + 1NC			KC-TR8
Thermal relais 7 ~ 10A, 1NO + 1NC			KC-TR10
Thermal relais 9 ~ 13A, 1NO + 1NC			KC-TR13
Auxilairy contacts top mounted			
1NO / 1NC			KC-D11
2NO			KC-D20
2NC			KC-D02
1NO / 3NC			KC-D13
2NO / 2NC			KC-D22
3NO / 1NC			KC-D31
4NO			KC-D40
4NC			KC-D04

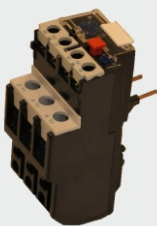
PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP

SC Series AC Contactor



Order Code

SC Contactor	Spoel spanning		
	24VAC	230VAC	400VAC
9Amp, AC-3, Contactor 3 Main + 1NO, 4kW	SC-0910B7	SC-0910P7	SC-0910V7
9Amp, AC-3, Contactor 3 Main + 1NC, 4kW	SC-0901B7	SC-0901P7	SC-0901V7
9Amp, AC-3, Contactor 4 Main, 4kW	SC-0904B7	SC-0904P7	SC-0904V7
9Amp, AC-3, Contactor 2NO + 2NC Main, 4kW	SC-0908B7	SC-0908P7	SC-0908V7
12Amp, AC-3, Contactor 3 Main + 1NO, 5,5kW	SC-1210B7	SC-1210P7	SC-1210V7
12Amp, AC-3, Contactor 3 Main + 1NC, 5,5kW	SC-1201B7	SC-1201P7	SC-1201V7
12Amp, AC-3, Contactor 4 Main, 5,5kW	SC-1204B7	SC-1204P7	SC-1204V7
12Amp, AC-3, Contactor 2NO + 2NC Main, 5,5kW	SC-1208B7	SC-1208P7	SC-1208V7
18Amp, AC-3, Contactor 3 Main + 1NO, 7.5kW	SC-1810B7	SC-1810P7	SC-1810V7
18Amp, AC-3, Contactor 3 Main + 1NC, 7.5kW	SC-1801B7	SC-1801P7	SC-1801V7
25Amp, AC-3, Contactor 3 Main + 1NO, 11kW	SC-2510B7	SC-2510P7	SC-2510V7
25Amp, AC-3, Contactor 3 Main + 1NC, 11kW	SC-2501B7	SC-2501P7	SC-2501V7
25Amp, AC-3, Contactor 4 Main, 11kW	SC-2504B7	SC-2504P7	SC-2504V7
25Amp, AC-3, Contactor 2NO + 2NC Main, 11kW	SC-2508B7	SC-2508P7	SC-2508V7
32Amp, AC-3, Contactor 3 Main + 1NO, 15kW	SC-3210B7	SC-3210P7	SC-3210V7
32Amp, AC-3, Contactor 3 Main + 1NC, 15kW	SC-3201B7	SC-3201P7	SC-3201V7
40Amp, AC-3, Contactor 3 Main + 1NO / 1NC, 18,5kW	SC-4011B7	SC-4011P7	SC-4011V7
40Amp, AC-3, Contactor 4 Main, 18,5kW	SC-4004B7	SC-4004P7	SC-4004V7
40Amp, AC-3, Contactor 2NO + 2NC Main, 18,5kW	SC-4008B7	SC-4008P7	SC-4008V7
50Amp, AC-3, Contactor 3 Main + 1NO / 1NC, 22kW	SC-5011B7	SC-5011P7	SC-5011V7
50Amp, AC-3, Contactor 4 Main, 22kW	SC-5004B7	SC-5004P7	SC-5004V7
50Amp, AC-3, Contactor 2NO + 2NC Main, 22kW	SC-5008B7	SC-5008P7	SC-5008V7
65Amp, AC-3, Contactor 3 Main + 1NO / 1NC, 30kW	SC-6511B7	SC-6511P7	SC-6511V7
65Amp, AC-3, Contactor 4 Main, 30kW	SC-6504B7	SC-6504P7	SC-6504V7
65Amp, AC-3, Contactor 2NO + 2NC Main, 30kW	SC-6508B7	SC-6508P7	SC-6508V7
80Amp, AC-3, Contactor 3 Main + 1NO / 1NC, 37kW	SC-8011B7	SC-8011P7	SC-8011V7
80Amp, AC-3, Contactor 4 Main, 37kW	SC-8004B7	SC-8004P7	SC-8004V7
80Amp, AC-3, Contactor 2NO + 2NC Main, 37kW	SC-8008B7	SC-8008P7	SC-8008V7
95Amp, AC-3, Contactor 3 Main + 1NO / 1NC, 45kW	SC-9511B7	SC-9511P7	SC-9511V7
95Amp, AC-3, Contactor 4 Main, 45kW	SC-9504B7	SC-9504P7	SC-9504V7
95Amp, AC-3, Contactor 2NO + 2NC Main, 45kW	SC-9508B7	SC-9508P7	SC-9508V7



	Order Code
SC Contactor accessories	
Thermal relais 0,1 ~ 0,16A, 1NO + 1NC	SC-TR0.16
Thermal relais 0,16 ~ 0,25A, 1NO + 1NC	SC-TR0.25
Thermal relais 0,25 ~ 0,4A, 1NO + 1NC	SC-TR0.4
Thermal relais 0,63 ~ 1A, 1NO + 1NC	SC-TR1
Thermal relais 1 ~ 1,6A, 1NO + 1NC	SC-TR1.6
Thermal relais 1,25 ~ 2A, 1NO + 1NC	SC-TR2
Thermal relais 1,6 ~ 2,5A, 1NO + 1NC	SC-TR2.5
Thermal relais 2,5 ~ 4A, 1NO + 1NC	SC-TR4
Thermal relais 4 ~ 6A, 1NO + 1NC	SC-TR6
Thermal relais 5,5 ~ 8A, 1NO + 1NC	SC-TR8
Thermal relais 7 ~ 10A, 1NO + 1NC	SC-TR10
Thermal relais 9 ~ 13A, 1NO + 1NC	SC-TR13
Thermal relais 12 ~ 18A, 1NO + 1NC	SC-TR18
Thermal relais 17 ~ 25A, 1NO + 1NC	SC-TR25
Thermal relais 23 ~ 32A, 1NO + 1NC	SC-TR32
Thermal relais 30 ~ 40A, 1NO + 1NC	SC-TR40
Thermal relais 37 ~ 50A, 1NO + 1NC	SC-TR50
Thermal relais 48 ~ 65A, 1NO + 1NC	SC-TR65
Thermal relais 55 ~ 70A, 1NO + 1NC	SC-TR70
Thermal relais 63 ~ 80A, 1NO + 1NC	SC-TR80
Thermal relais 80 ~ 93A, 1NO + 1NC	SC-TR95
Auxilairy contacts top mounted	
1NO / 1NC	SC-D11
2NO	SC-D20
2NC	SC-D02
1NO / 3NC	SC-D13
2NO / 2NC	SC-D22
3NO / 1NC	SC-D31
4NO	SC-D40
4NC	SC-D04
Auxilairy contacts side mounted	
1NO / 1NC	SCF-F11
Timerblock	
On delay 0,1 ~ 3s	SC-D220
On delay 0,1 ~ 30s	SC-D222
On delay 10 ~180s	SC-D224
Off delay 0,1 ~ 3s	SC-D320
Off delay 0,1 ~ 30s	SC-D322
Off delay 10 ~180s	SC-D324

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



Order Code

SC Contactor

	Spoel spanning	
	230VAC	400VAC
115A, AC-3, Contactor 3 Main, 55kW	SC-115P7	SC-115V7
115A, AC-3, Contactor 4 Main, 55kW	SC-1154P7	SC-1154V7
150A, AC-3, Contactor 3 Main, 75kW	SC-150P7	SC-150V7
150A, AC-3, Contactor 4 Main, 75kW	SC-1504P7	SC-1504V7
225A, AC-3, Contactor 3 Main, 110kW	SC-225P7	SC-225V7
225A, AC-3, Contactor 4 Main, 110kW	SC-2254P7	SC-2254V7
265A, AC-3, Contactor 3 Main, 132kW	SC-265P7	SC-265V7
265A, AC-3, Contactor 4 Main, 132kW	SC-2654P7	SC-2654V7
330A, AC-3, Contactor 3 Main, 160kW	SC-330P7	SC-330V7
330A, AC-3, Contactor 4 Main, 160kW	SC-3304P7	SC-3304V7
400A, AC-3, Contactor 3 Main, 200kW	SC-400P7	SC-400V7
400A, AC-3, Contactor 4 Main, 200kW	SC-4004P7	SC-4004V7
500A, AC-3, Contactor 3 Main, 250kW	SC-500P7	SC-500V7
500A, AC-3, Contactor 4 Main, 250kW	SC-5004P7	SC-5004V7
630A, AC-3, Contactor 3 Main, 335kW	SC-630P7	SC-630V7
630A, AC-3, Contactor 4 Main, 335kW	SC-6304P7	SC-6304V7

Specifications

Type		KC-06	KC-09	SC-09	SC-12	SC-18
Rated working current(A)	AC3	6	6	9	12	18
	AC4	3,8	5	3.5	5	7.7
AC3 capacity of phase 3 squirrel-cage motor AC3(kW)	220/230V	1,5	2,2	2.2	3	4
	380/400V	2,2	4	4	5.5	7.5
	415V	2,2	4	4	5.5	9
	440V	2,2	4	4	5.5	9
	500V	3	4	5.5	7.5	10
	660/690V	3	4	5.5	7.5	10
Rated heat current(A)		20	20	20	20	32
Electrical life	AC4 × 10 ⁴	12	12	20	20-15	20-7
	AC3 × 10 ⁶	2	2	2	2	2
Mechanical life × 10 ⁶		10	10	20	20	20
Type		SC-25	SC-32	SC-40	SC-50	SC-65
Rated working current(A)	AC3	25	32	40	50	65
	AC4	8.5	12	18.5	24	28
AC3 capacity of phase 3 squirrel-cage motor AC3(kW)	220/230V	5.5	7.5	11	15	18.5
	380/400V	11	15	18.5	22	30
	415V	11	15	22	25	37
	440V	11	15	22	30	37
	500V	15	18.5	22	30	37
	660/690V	15	18.5	30	33	37
Rated heat current(A)		40	50	60	80	80
Electrical life	AC4 × 10 ⁴	15-7	15-7	10-7	7	7-6
	AC3 × 10 ⁶	2	2	2	2	1.6
Mechanical life × 10 ⁶		20	20	20	20	20
Type		SC-80	SC-95	SC-115	SC-150	SC-225
Rated working current(A)	AC3	90	95	115	150	225
	AC4	37	44	86	108	137
AC3 capacity of phase 3 squirrel-cage motor AC3(kW)	220/230V	22	25	-	-	-
	380/400V	37	45	55	75	110
	415V	45	45	-	-	-
	440V	45	45	-	-	-
	500V	55	55	-	-	-
	660/690V	45	45	80	100	129
Rated heat current(A)		125	125	200	225	275
Electrical life	AC4 × 10 ⁴	7-5	7-5	6-4	6-4	4-2
	AC3 × 10 ⁶	1.6	1.6	1.2	1.2	1
Mechanical life × 10 ⁶		10	10	10	10	6
Type		SC-265	SC-330	SC-400	SC-500	SC-630
Rated working current(A)	AC3	265	330	400	500	630
	AC4	170	235	303	353	462
AC3 capacity of phase 3 squirrel-cage motor AC3(kW)	220/230V	-	-	-	-	-
	380/400V	132	165	200	250	335
	415V	-	-	-	-	-
	440V	-	-	-	-	-
	500V	-	-	-	-	-
	660/690V	160	220	280	335	450
Rated heat current(A)		315	450	560	630	800
Electrical life	AC4 × 10 ⁴	4-2	4-2	4-2	4-2	4-2
	AC3 × 10 ⁶	0.8	0.8	0.8	0.8	0.8
Mechanical life × 10 ⁶		6	6	6	6	6

PN

GAC

GMK

SD60

R80M

M80N

M80

L80M

ALT /
AUX /
SHNT /
UVT

CT6

PB

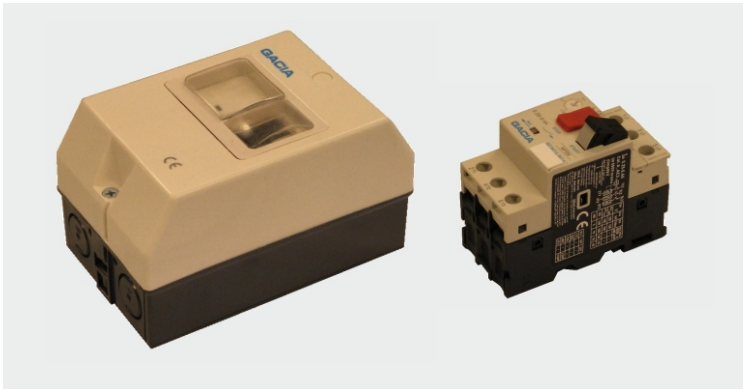
IL / ILT

PBIL

KC

SC

MP



Introduction

The MP motorprotection switch is a 3 pole thermal- magnetic circuit protection, specially designed for the controlling and securing of motors. The protection can be used as a stand alone unit with manual switching, or in combination with a contactor. The design is suited for DIN mounting. The motorprotection is designed according the standards IEC/EN60947-2 and IEC/60947-4-1.

Technical Data

Electrical features

Rated current of release In	0,1...80
Poles	3
Rated voltage Ue	230V/240V - 400/415V - 500V - 690V
Insulation voltage Ui	690V
Rated frequency	50/60Hz
Rated impulse withstand voltage(1.2/50)Uimp	8000V
Electrical life	10000
Mechanical life	10000
Pollution degree	3

Installation

Fault current indicator	No
Protection degree	IP20L0
Ambient temperature(with daily average≤35℃)	-5~+40℃
Storage temperature	-25+70℃
Terminal connection type	Busbar/Cable/Conductor wiring
Mounting	On DIN rail FN 60715 (35mm) by means of fast clip device
Connection	From top and bottom

Combination with accessories

Auxillary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Under voltage release	Yes



MP motor protection switch	Order Code
Protection 0,1 ~ 0,16A, AC-3 0kW	MP-0.16
Protection 0,16 ~ 0,25A, AC-3 0.06kW	MP-0.25
Protection 0,25 ~ 0,4A, AC-3 0.09kW	MP-0.4
Protection 0,4 ~ 0,63A, AC-3 0.12kW	MP-0.63
Protection 0,63 ~ 1A, AC-3 0.25kW	MP-1
Protection 1 ~ 1,6A, AC-3 0.37kW	MP-1.6
Protection 1,6 ~ 2,5A, AC-3 0.75kW	MP-2.5
Protection 2,5 ~ 4A, AC-3 1.5kW	MP-4
Protection 4 ~ 6.3A, AC-3 2.2kW	MP-6.3
Protection 6 ~ 10A, AC-3 4kW	MP-10
Protection 9 ~ 14A, AC-3 5.5kW	MP-14
Protection 13 ~ 18A, AC-3 7.5kW	MP-15
Protection 17 ~ 23A, AC-3 11kW	MP-23
Protection 20 ~ 25A, AC-3 11kW	MP-25
Protection 16 ~ 25A, AC-3 11kW	MP2-25
Protection 25 ~ 40A, AC-3 18.5kW	MP2-40
Protection 40 ~ 63A, AC-3 30kW	MP2-63
Protection 56 ~ 80A, AC-3 40kW	MP2-80
Auxiliary contacts top mounted	
1NO / 1NC	MP-AE20
2NO	MP-AE11
Auxiliary contacts side mounted	
1NO / 1NC	MP-AE11
2NO	MP-AE20
Trip contact / auxiliary contact side mounted	
1NC / 1NC	MP-AD0101
1NC / 1NO	MP-AD0110
1NO / 1NC	MP-AD1001
1NO / 1NO	MP-AD1010
Shunt Coil	
110VAC	MP-SH110
220VAC	MP-SH220
380VAC	MP-SH380
Undervoltage coil	
110VAC	MP-UV110
220VAC	MP-UV220
380VAC	MP-UV380
Mounting box	
Standard mounting box	MP-MC
Mounting box with emergency stop	MP-MC1

PN
GAC
GMK
SD60
R80M
M80N
M80
L80M
ALT / AUX / SHNT / UVT
CT6
PB
IL / ILT
PBIL
KC
SC
MP



<http://www.gacia.nl>

GACIA

Weverstraat 4,
9403 VJ Assen
The Netherlands
Phone: +31 (0) 88 - 5460735
Fax: +31 (0) 88 - 5460735

E-mail: mail@gacia.nl
<http://www.gacia.nl>

UW LEVERANCIER: