ANDELI

CATALOGUE

ELECTRICAL PRODUCT

ANDELI GROUP CO.,LTD.

About Andeli

Andeli Group Co., Ltd. was founded in 1993. It is located in the largest manufacturing hub of low-voltage electric equipment at Yueqing in China, which is called "the Electrical city of China".

Andeli is a leading Group in the electrical industry with production, scientific research, transport, import-export, trade & investment.

Andeli is one of the largest group in China. It has 12 share holding companies in ZHEJIANG,UAE, RUSSIA, Uganda and Brazil. It has over 300 cooperation companies & over 3000 employees with total assets of US$150,000,000 in area of 235,000 square meters.

Andeli regards quality of products as life. We have achieved ISO9001:2008 Quality Management System certificates, ISO14001:2004 Environmental Management System certificates, OHSAS18001:2007 Occupational health and safety Management System certificates along with Measure Detection System, Standardization System Certification and “CCC” for all products in the market. We have also passed ROHS, CE, CB, SEMKO, KEMA, INMETRO and many other international certifications.

Our R&D engineers are planning and Research to innovate a concrete advantage for the users, for actual product development and advance manufacturing process. We widely produce and sell over 300 series, more than 10000 type in Low- & High-voltage electrical devices, complete equipments, power transformers, cables, instruments, meters and welding equipments which are praised by all users in home & overseas. A number of new independent intellectual property right, intelligent appliances is moving into the market from us.

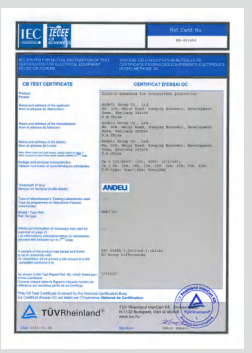
We are keeping our business principles for “Approaching the first-class management, producing the first-class products, providing the first-class service”. Andeli staffs are hard-working, constantly innovated and honest to all users & business partners to enjoy a better tomorrow together with us.

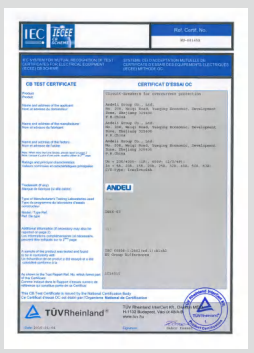
President of ANDELI Mr. Cheng Anlin

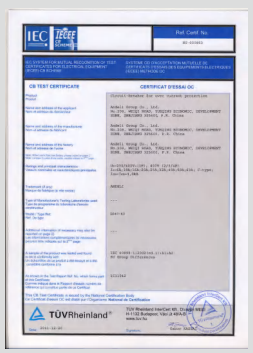
ANDELI

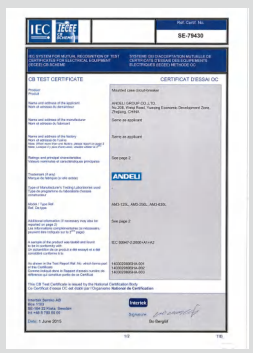
Quality System& Product Certificates

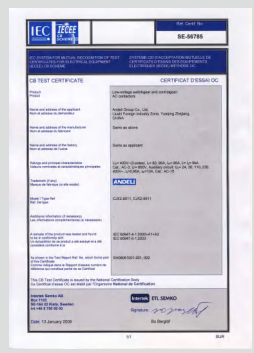
ISO9001 OHSAS18001 ISO14001

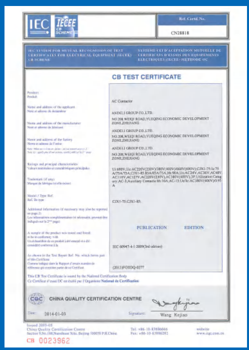




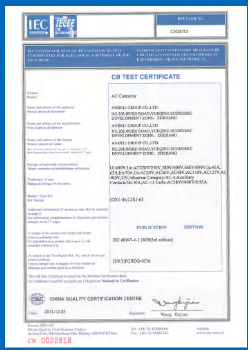







CB TEST CERTIFICATE

CHINA QUALITY CERTIFICATION CENTRE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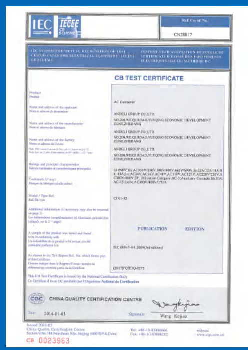
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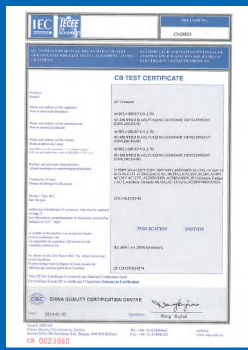
CHINA QUALITY CERTIFICATION CENTRE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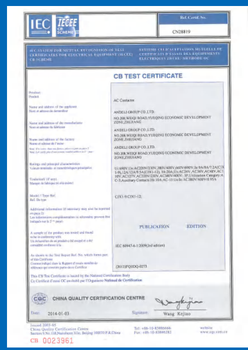

CB TEST CERTIFICATE

CHINA QUALITY CERTIFICATION CENTRE


CB TEST CERTIFICATE

IEC SYSTEM OF CONFORMITY ASSESSMENT SCHEMES FOR ELECTROTECHNICAL EQUIPMENT AND COMPONENTS (IECEE) CB SCHEME

DEKRA


CB TEST CERTIFICATE

IEC SYSTEM OF CONFORMITY ASSESSMENT SCHEMES FOR ELECTROTECHNICAL EQUIPMENT AND COMPONENTS (IECEE) CB SCHEME

DEKRA


CB TEST CERTIFICATE

IEC SYSTEM OF CONFORMITY ASSESSMENT SCHEMES FOR ELECTROTECHNICAL EQUIPMENT AND COMPONENTS (IECEE) CB SCHEME

DEKRA


CB TEST CERTIFICATE

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

DEKRA


CB TEST CERTIFICATE

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

DEKRA


TÜVRheinland

Certificado de Conformidade


Certificado Certificate

TÜVRheinland

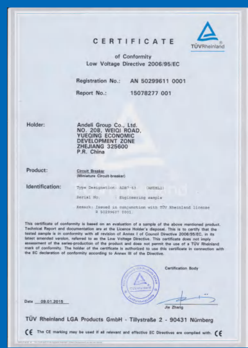

Certificate of Approval


Intertek

Certificate

for European Product Safety

Moulded Case Circuit-breakers


CERTIFICATE

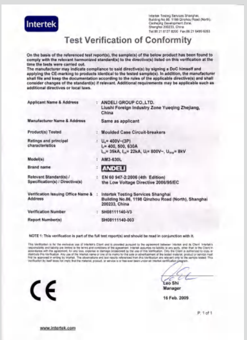
of Conformity

Low Voltage Directive 2006/95/EC

TÜVRheinland


TCP Dr. Genz (HK) Co., Ltd.

Verification of Conformity


Intertek

Test Verification of Conformity


EC DECLARATION OF CONFORMITY


ATC

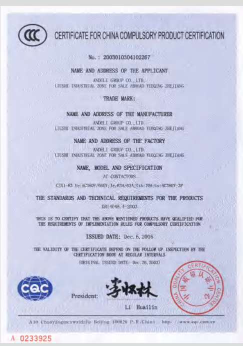
CERTIFICATE

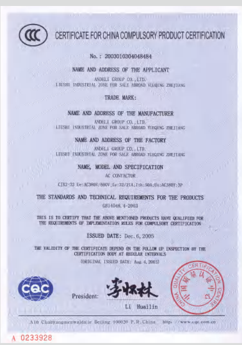
of Conformity


SGS

STANDARDS ORGANISATION OF NIGERIA

PRODUCT Certificate


CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION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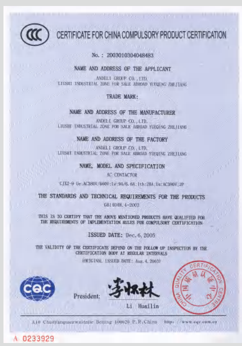
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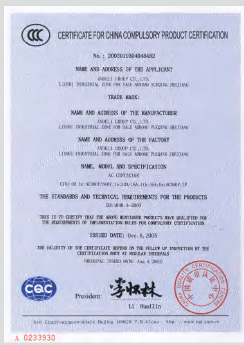

CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

Moulded Case Circuit Breaker & Dual Power Automatic Transfer Switch
Miniature Circuit Breaker & Residual Current Circuit Breaker

AM1 Series Moulded Case Circuit Breaker

AM1-63M/3P

1. Application

AM1 series moulded case circuit breaker is one of products developed and manufactured by adopting international advanced technology. It is supplied with rated insulating voltage 500 and 800V and used for the circuit of AC 50/60Hz, rated operating voltage AC 400V (or below), rated operating current up to 1600A for infrequently changing over and starting of the motors. The products conforms to IEC60947-2 standard.

AM1-63M/4P

2. Main Technical Specification

Table 1

Type	Rated current(A)	Pole	Rated insulating voltage (V)	Rated operating voltage (V)	Arcing-over distance (mm)	Ultimate short circuit breaking capacity (kA)	Service short circuit breaking capacity (kA)	Operation performance		Utilization category
								Load	Unload	
AM1-63L	(6),10,16 20,25,32 40,50,63	3,4	500V	400V	0	25	18	1500	8500	A
AM1-63M					0	50	35			
AM1-125L	(10),16,20,25 32,40,50,63 80,100,125		800V		0(≤50)	35	22			
AM1-125M					0(≤50)	50	35			
AM1-250L	100,125,160 180,200,225				≤50	35	22	1000	7000	
AM1-250M					≤50	50	35			
AM1-400L	225,250,315 350,400				≤50	50	35	1000	4000	
AM1-400M					≤100	65	42			
AM1-630L	400,500,600				≤100	50	35			
AM1-630M					≤100	65	42			
AM1-800M	630,700,800				≤100	75	50			
AM1-1250M	1000,1250				≤100	100	65			
AM1-1600M	1600				≤100	150	80			

AM1-100M/3P

Note: 6A without thermal protection

The N-pole of four-poles breaker is sited at the right side of the product has four types:

Type A: Without current trip-release on N pole which making all the time, not closing and opening with the other three poles.

Type B: Without current trip-release on N pole which closing and opening with the other poles.

Type C: With current trip-release which closing and opening with the other three poles.

Type D: With current trip release which making all the time not closing and opening with the other three poles.

AM1-250L/3P

3. Protection Characteristic

The thermodynamic release of a circuit breaker provides the feature of inverse time-delay, while the magnetic release is the instantaneous operation as shown on table 2(distribution circuit breaker) and table 3(motor protection circuit breaker.

TWO OPTIONS:PAPER OR LASER LABEL,DEFAULT IS LABER LABEL

AM1-250L/3P

AM1-400L/3P

Back panel connection

Plug-in connection

Electromagnetic operation device

Motor-driven operation device

Table 2

Rated current of release (A)	Thermodynamic release(ambient temperature land +40°C marine +45°C)		Operating current of magnetic release (A)
	1.05In(cold state) Inoperative time(h)	1.30In(heat state) Operative time(h)	
10 ⩽ In ⩽ 63	⩾ 1	< 1	10In±20%
63 < In ⩽ 100	⩾ 2	< 2	
100 < In ⩽ 800	⩾ 2	< 2	5In±20% 10In±20%

Table 3

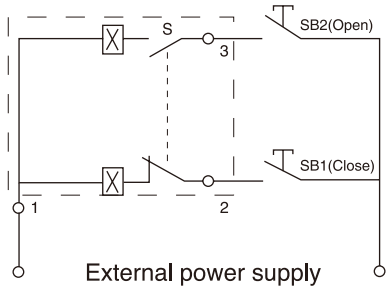
Rated current of release (A)	Thermodynamic release (ambient temperature land +40°C marine +45°C)				Operating current of magnetic release (A)
	1.0In(cold state) non-trip time(h)	1.20In(heat state) trip time (h)	1.50In(heat state) trip time (m)	7.2In(cold state) trip time(s)	
10 ⩽ In ⩽ 250	⩾ 2	< 2	⩽ 4	4 < t ⩽ 10	12In±20%
250 < In ⩽ 630			⩽ 8	6 < t ⩽ 20	

4. Accessories of Circuit Breaker

4.1 The external accessories of the breaker

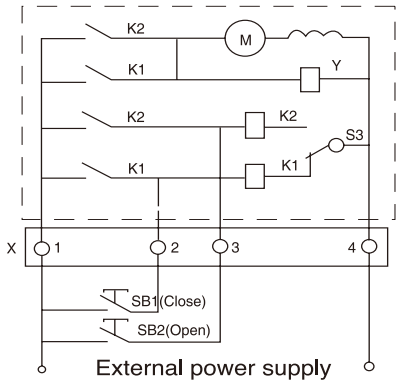
● **Electromagnetic operation device and Motor-driven operation device**

1) Wiring diagram of type CDM electromagnetic operation device(fitting AM1-63,100,250) see the following drawing (wiring diagram of the external accessories of the breaker in the dotted frame)

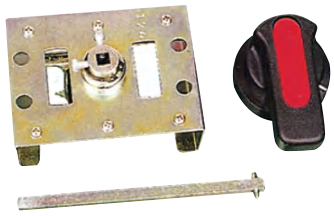


Code description: SB1, SB2 stand for push button.(provided by users themselves)
Number “1”、“2”、“3” stand for number of wiring terminals.
Voltage rating: AC50/60Hz 230V 400V, DC 220V

2) Wiring diagram of type CD Electromagnetic operation device and motor-driven operation device (fitting AM1-400、630、800) see belows (wiring diagram of the external accessories of the breaker in the dotted frame)



Code description: SB1, SB2 stand for push button. (provided by users themselves)
“X” stands for line connection terminals
Voltage rating: AC50/60Hz 230V 400V, DC220V

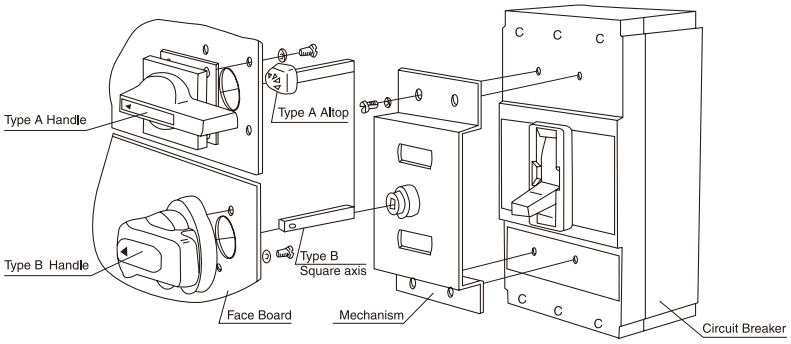


Rotary handle operation device

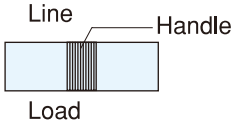
● **Rotary handle operation device**

The mechanism is used with moulded case circuit breaker to operate the draw-out panel. Power distribution panel and supply box outside the panel by turning the handle ,and to ensure the door of panel would not be openned when the breaker being on.

The hand-drive mechanism can be equiped with two types of operation, one is “A” model square handle , the other is “B” model round handle.



4.2 Release pattern and accessories code



UVR: Under-voltage release; SHT: Shunt release;
AL: Alarm contact AX: Auxiliary contact;

Release pattern and accessories code	Name \ Type	AM1-63, 100, 250	AM1-400	AM1-630	AM1-800
200, 300	Without accessories	200: magnetic release (only short circuit protection) 300: thermal magnetic release(both overload and short circuit protection)			
208, 308	Alarm contact	AL |	AL |	AL |	AL |
210, 310	Shunt release	SHT |	SHT |	SHT |	| SHT
220, 320	Auxiliary contact	AX |	AX |	AX |	AX |
230, 330	Under-voltage release	| UVR	| UVR	| UVR	UVR |
240, 340	Shunt release Auxiliary contact	SHT | AX	SHT | AX	SHT | AX	AX | SHT
250, 350	Shunt release Under-voltage release	SHT | UVR	SHT | UVR	SHT | UVR	UVR | SHT
260, 360	Two group of auxiliary contact	AX | AX	AX | AX	AX | AX	AX | AX
270,370	Under-voltage release Auxiliary contact	AX | UVR	AX | UVR	AX | UVR	UVR | AX
218, 318	Shunt release Alarm contact	AL | SHT	SHT | AL	AL | SHT	AL | SHT
228, 328	Alarm contact Auxiliary contact	AL AX |	AL | AX	AL | AX	AL | AX
238, 338	Under-voltage release Alarm contact	AL | UVR	AL | UVR	AL | UVR	AL UVR |
248, 348	Shunt release, Alarm contact, Auxiliary contact	AL AX | SHT	SHT | AL AX	AL AX | SHT	AL AX | SHT
268, 368	Two group of auxiliary contact, Alarm contact	AL AX | AX	AL AX | AX	AL AX | AX	AL AX | AX
278, 378	Shunt release, Alarm contact, Under-voltage release	SHT | AL UVR	AL UVR | SHT	AL UVR | SHT	SHT | AL UVR

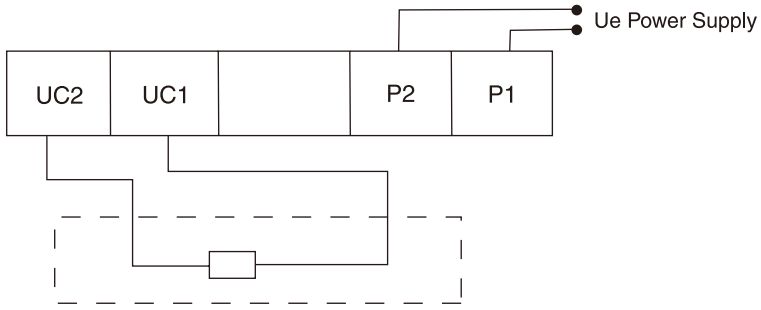
According to user's demands, accessories could lead to direct wire outcoming or line wiring terminals could be added(please mark out in case of placing order).

Under-voltage release

● **Under-voltage release**

Wring diagram of the under-voltage release connected externally (the internal accessories in the dotted frame)

Ue: AC230V, 400V



When the operation voltage is 35%~70% of the rated voltage, the under-voltage release should make the breaker trip correctly.

When the operation voltage is 85%~110% of the rated voltage, the under-voltage release should make the breaker close.

In case of the operation voltage less than 35% of the rated voltage, the under-voltage should prevent the breaker from closing.

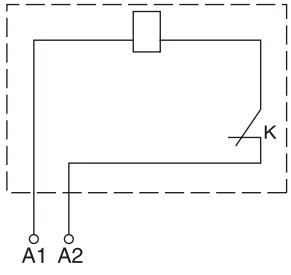
Note: Only the under-voltage release should be energized in advance, the breaker could be recramped and turned-on, otherwise the breaker will be damaged.

Shunt release

● **Shunt release**

Wring diagram of the shunt release (the internal accessories in the dotted frame)

"K" is the slow motion switch normal-close contact connect the coil in series in the shunt release. It turns-on or turns-off automatically as soon as the breaker on or off.

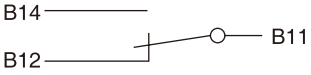


Voltage rating: AC230V 400V, DC 110V 220V

The shunt release should make the breaker trip reliably when the operation voltage is 70%~110% of the rated control voltage.

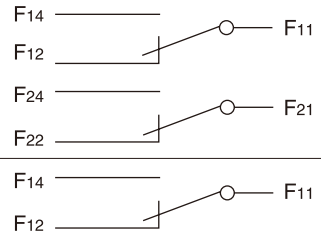
Alarm contact

● **Alarm contact**

The position of the breaker in "off" or "on"	
The position of the breaker in "free trip" (alarm)	B11 and B12 switch from "close" to "open", status of B11 and B14 switch from "open" to "close"

Auxiliary Contact

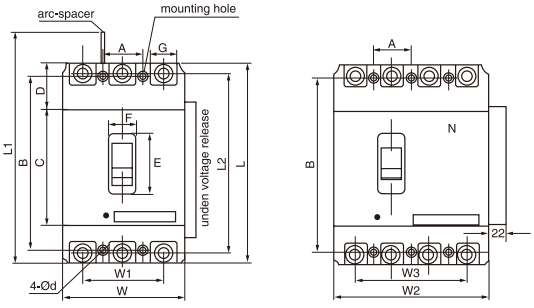
● **Auxiliary Contact**

When the breaker is in "off"		For the breaker with frame current 400A and above
		For the breaker with frame current 250A and below
When the breaker is in "on"	When the breaker is in "off", the contacts switch from "close" to "open". When the breaker is in "off", the contacts switch from "open"to close"	

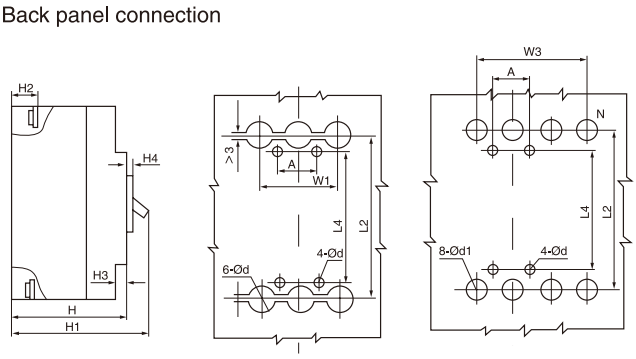
5. Outline and Installation Dimensions (mm)

Type	Outline Dimensions(mm)																															Installation Dimensions		
	Front panel connection																Back panel connection					Plug-in connection													
	W	W1	L	L1	L2	H	H1	H2	H3	H4	C	D	E	F	G	W2	W3	L4	H5	H6	ØD	ØD1	L5	L6	H7	H8	H9	H10	J	K	Ød1	M	A	B	Ød
AM1-63L	76	50	135	170	117	74	92	20	7	4	85	28.5	48	22	14	100	75	117	44	66	8	8							60.7				25	117	3.5
AM1-63M	76	50	135	170	117	82	98.5	28	7	4	85	28.5	48	22	14	100	75	117	44	66	8	8							62				25	117	3.5
AM1-100L	92	60	150	185	132	68	86	24	7	4	88	35.5	50	22	17.5	122	90	129	68	108	26	16	92	168	50	62	74	17.5	56	60	6.5	M8	30	129	4.5
AM1-100M	92	60	150	185	132	86	104	24	7	4	88	35.5	50	22	17.5	122	90	129	68	108	26	16	92	168	50	62	74	17.5	56	60	6.5	M8	30	129	4.5
AM1-250L	107	70	165	215	144	86	110	24	5	4	102	31.5	50	22	17	142	105	126	66	110	20	20	94	183	50	69.5	84.5	17.5	54	70	6.5	M8	35	126	5
AM1-250M	107	70	165	215	144	103	127	24	5	4	102	31.5	50	22	17	142	105	126	66	110	20	20	94	183	50	69.5	84.5	17.5	54	70	6.5	M8	35	126	5
AM1-400L	182	116	270	370	234	110	160	43	8	6	134	70	89	65	ø29	198	144	200	65	125	36	36	169	299	60	92	110	21	123	100	8.5	M12	58	200	7
AM1-400M	182	116	270	370	234	110	160	43	8	6	134	70	89	65	ø29	198	144	200	65	125	36	36	169	299	60	92	110	21	123	100	8.5	M12	58	200	7
AM1-630L	182	116	270	370	234	110	160	43	8	6	134	70	89	65	ø29	240	174	200	65	125	36	36	169	299	60	92	110	21	123	100	8.5	M12	58	200	7
AM1-630M	182	116	270	370	234	110	160	43	8	6	134	70	89	65	ø29	240	174	200	65	125	36	36	169	299	60	92	110	21	123	100	8.5	M12	58	200	7
AM1-800M	210	140	280	380	243	106	145	33	30	128									128														70	243	7.2
AM1-1250M	210	140	393			200																													
AM1-1600M	210	140	393			200																													

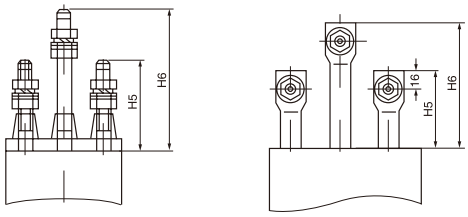
Front panel connection



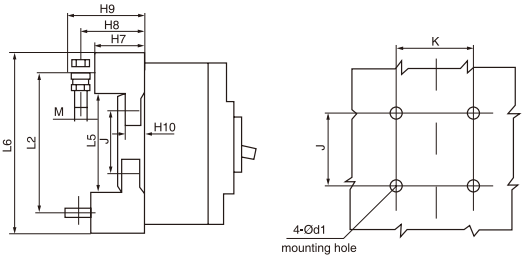
Back panel connection



Back panel connection



Plug-in connection



AM1E Series Moulded Case Circuit Breaker

AM1E-250/3300

AM1E-250/4300

AM1E-800/3300

AM1E-800/4300

1. Application

AM1E series intelligent moulded case circuit breaker is developed and manufactured by adopting international advanced technology. It is supplied with rated insulating voltage 800V and used for circuit of AC 50/60Hz, rated operating voltage 400V, rated operating current up to 800A of the circuit breaker infrequent changing over and starting of the motors. The circuit beaker has protection function of overload long delay inverse time, short circuit short delay time limit, short circuit instantaneous and under voltage, which can protect the line and power supply equipment from damage.

The circuit breaker can be mounted vertically(i.e. vertical) or horizontally. The Circuit breaker can not be poured into the line, that is, only 1,3,5 connect power cord;2,4,6 connect load line.

The circuit breaker conforms to following standards:

IEC60947-1 GBIT14018.1 low-voltage switchgear and control equipment Part I: General

IEC60947-2 GB14048.2 low-voltage switchgear and control equipment, the second part of circuit breaker and annex with electronic over-current protection circuit breaker additional requirement;

IEC60947-4 GB14048.4 low-voltage switchgear and control equipment contactors and motor starts;

IEC60947-5.1 GB14048.5 low-voltage switchgear and control equipment electromechanical control circuit electrical appliances.

GB22710 electronic controller for low voltage circuit breaker.

2. Main Performance Characteristics

AM1E intelligent moulded case circuit breaker is belongs to B category with three grades protection. In the short-circuit conditions, AM1E has a fully selective cooperation with some other short-circuit protection devices in the same circuit.

With five tripping feature options. The users can adjust & set the tripping current according to the load current requirements

The energy of electronic release is provided by the circuit breaker itself. The current signal and the control source are from the toroidal current transformer which is installed in the circuit breaker.

With warning indication: When the load current exceeds the preset current, the LED on the circuit breaker cover indicates yellow;

With overload indication: When the load current exceeds the set current, the LED on the circuit breaker cover indicates red;

With a dedicated fire overload no-trip only alarm function. When the load current overload operation, the circuit breaker does not trip, outputs a passive contact, drive the corresponding alarm device;

Compliance with IEC60947 Appendix F of the electromagnetic compatibility requirements;

Dimensions are same to the same frame AM1 molded case circuit breaker, installation is interchangeable.

3. Type and Meaning

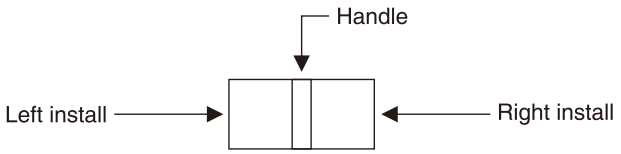
A M 1 E - □ □ □ / 3 □ □ □

- Type designation
- Electric relay code
- Trip type and accessory code(see table)
- Number pole: 3P-3poles 4P-4poles
- Operating mechanism
- Breaking capacity code: Middle type: M
  Relatively high type: H
- Frame size rated current
- Intelligent type
- Design sequence
- MCCB
- Company code

Note:

1.Distribution without code, protection motor code: 2;
2.Electronic accessories are: 1 communication module, 11 communication with shunt. 111 communication with passive auxiliary contacts, IV overload alarm does not trip module, no electronic components code;
3.According to the number of poles of the product is divided into three poles and four poles, 4 poles N type: N pole over load current protection, time parameter 100% automatic tracking phase line setting value, and N pole and other three poles ON-OFF Together(N pole turn off after close);
4.Directly operation without code, motor operation: P indicate, turn handle: Z indicate.

4. Main Technical Performance of Circuit Breaker



▲ Under-voltage release
■ Shunt realese
● Alarm contact
○ Two group of auxiliary contact
→ Leading wire

Table 1

Type		AM1E-125		AM1E-250		AM1E-400		AM1E-800	
Accessories code	Name / Pole	3	4	3	4	3	4	3	4
308	Alarm contact								
310	Shunt realese								
320	Auxiliary contact								
330	Under-voltage release								
340	Shunt realese Auxiliary contact								
350	Shunt realese Under-voltage release	—		—		—			
360	Two group of auxiliary contact								
370	Auxiliary contact Under-voltage release								
318	Shunt realese Alarm contact	—		—		—			
328	Auxiliary contact Alarm contact								
338	Under-voltage release Alarm contact	—		—		—			
348	Shunt realese Auxiliary contact Alarm contact	—		—		—			
368	Two group of auxiliary contact Alarm contact								
378	Auxiliary contact Under-voltage release Alarm contact	—		—		—			

Note:
a. Release and internal accessories code first number 3 with three section protection electronic release. After the two digit indicate the internal attachment code. No internal accessory attachments with 00.
b. 348 specifications of AM1E-800 auxiliary contact for a pair of contacts (i.e., 1 NO and 1 NC). 368 specifications auxiliary contact three pairs of contacts(3 NO and 3 NC).
c. 4P product with N form is only separable type.

5. Capacity Loss and Coefficient Ratio

Capacity loss

Table 3

Type	Charging current	Total power loss for three phases	
		Front-panel board or back panel board connection	plug-in connection
AM1E-125	125	35	
AM1E-250	250	62	40
AM1E-400	400	115	70
AM1E-800	800	262	210

Coefficient ratio due to environment temperature factor

Table 4

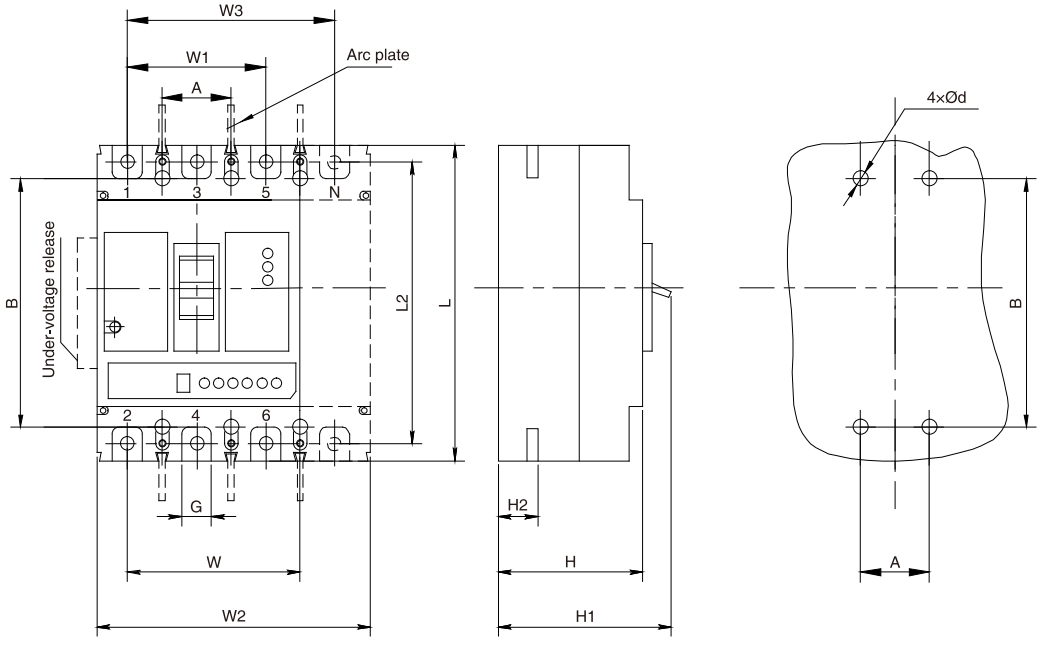
Type / Environment temperature factor	+40°C	+45°C	+50°C	+55°C	+60°C
	Coefficient ratio	Coefficient ratio	Coefficient ratio	Coefficient ratio	Coefficient ratio
AM1E-125	1In	0.95In	0.89In	0.84In	0.76In
AM1E-250	1In	0.96In	0.91In	0.87In	0.82In
AM1E-400	1In	0.94In	0.87In	0.81In	0.73In
AM1E-800	1In	0.88In	0.83In	0.79In	0.76In

6. Main Technical Specifications

Table 2

Type		AM1E-125		AM1E-250		AM1E-400		AM1E-800	
Frame current(InmA)		125		250		400		800	
Breaking capacity		M	H	M	H	M	H	M	H
Rated current		32A(16,20,25,32)		100,125,140,160 180,200,225,250		200,225,250,280 315,350,400		630,640,660,680 700,720,740,760 780,800	
		125A(40,50,60,70, 80,90,100,125)							
Pole		3, 4		3, 4		3, 4		3, 4	
Rated insulating voltage		AC690V							
Rated operating voltage		AC400V							
Rated impulse withstanding voltage		6000V		8000V		8000V		8000V	
Rated frequency		50Hz							
Flashover distance	Top-down	≤50		≤50		≤80		≤80	
	Left-right	0		0		0		0	
	Front-back	0		0		0		0	
Using category		A		B		B		B	
Rated limiting short-circuit breaking capacity		50	65	50	70	65	85	65	85
Rated service short-circuit breaking capacity		35	50	35	50	42	65	42	65
Rated withstand short-circuit current		1.5	1.5	5	5	8	8	10	10
Operating lift(time)	Elctrical	1500		1000		1000		500	
	Mechanical	8500		7000		4000		3000	

7. Outline and Installation Dimension



AM1DC Series Moulded Case Circuit Breaker

AM1DC-250/4300

1. Application

AM1 DC series DC moulded case circuit breaker is developed by advanced design and manufacturing technology, suitable for a the circuit of AC50/60Hz, rated voltage is DC250V, DC500V, DC750V and DC 1000V, rated current up to 400A, the circuit breaker have function of short circuit, overload and under-voltage protection to protect circuit and power equipment against damage. The breaker are comply with the IEC60947-1 and IEC60947-2.

2. Main Technical Specifications

Type		AM1DC-100			AM1DC-250			AM1DC-400	
Frame current Inm(A)		100			250			400	
Rated current In (A)		10,16,20, 25, 32,40, 50,63, 80, 100			16, 20,25,32,40, 50, 63, 80,100, 125, 140,160,180, 200, 225,250			250,315 350,400	
Pole number		2	3	4	2	3	4	3	4
Rated insulation voltage Ui (V)		1000							
Rated impulse withstanding voltage Uimp(V)		8000							
Rated working voltage Ue(V)		DC250 DC500	DC500 DC750	DC750 DC1000	DC250 DC500	DC500 DC750	DC750 DC1000	DC500 DC750	DC750 DC1000
Using category		A							
Isolation		○							
Arcing distance (mm)		≤50						≤100	
Rated short time making capacity Icm (kA)		100% Icu							
Rated limiting short- circuit breaking capacity Icu (kA)	DC250V	35			35				
	DC500V	20	35		20	35		50	
	DC750V		20	35		20	35	35	50
	DC1000V			20			20		35
Rated service short-circuit breaking capacity Ics (kA)		75% Icu							
Electrical life (times)		5000			5000			1000	
Mechanical life (times)	Without maintenance	10000			10000			5000	
	With maintenance	20000			20000			10000	

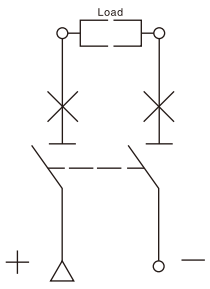
2. Main Technical Specifications

Shunt release	AC230V 400V DC24V~30V DC220V~250V
Under-voltage release	DC220~250V
Auxiliary contact	AC-15:AC400/0.3A DC-13:DC250V/0.15A
Alarm contact	AC-15:AC400/0.3A DC-13:DC250V/0.15A
Motor-driven operation device	AC110V 230V 400V DC24V~30V, DC110V~125V, DC220V~250V

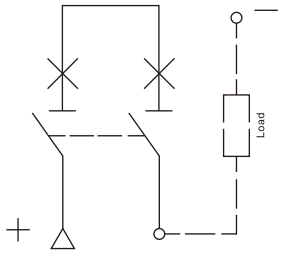
3. Wiring diagram

Two pole circuit breaker

C type connection

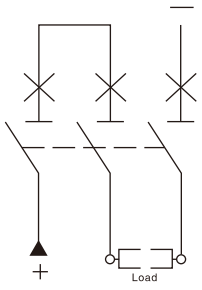


D type connection

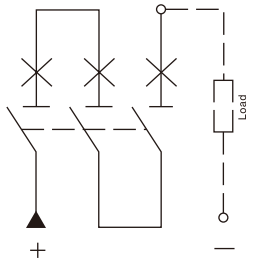


Three pole circuit breaker

E type connection

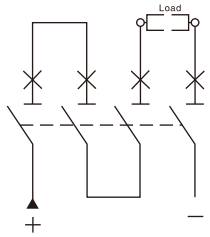


F type connection

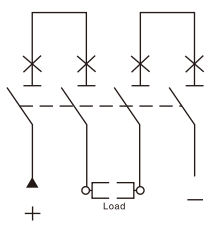


Four pole circuit breaker

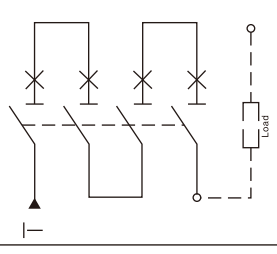
G type connection



H type connection



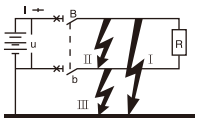
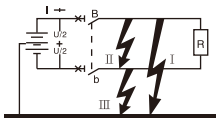
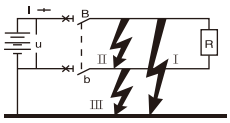
I type connection



Power system suitable for above wiring diagram

Rated working voltage	Power/Load wiring type						
	Ungrounding system		Negative pole grounding system				Core point grounding system
DC250V	C		-	D			C
DC500V	E	-	D	E	-	-	C
DC750V	E	H	E	F	G	I	H
DC1000V	-	H	-	-	G	I	H

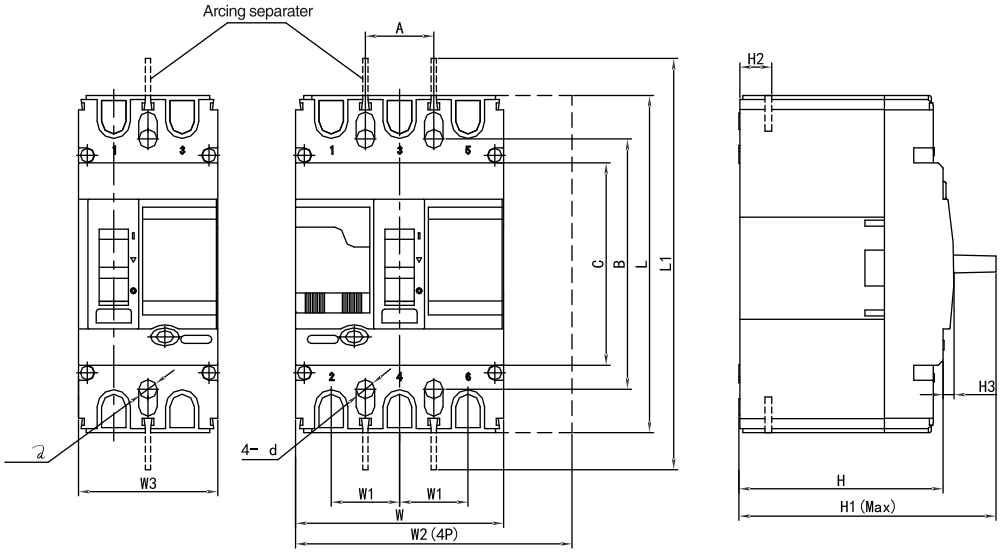
4. Application in DC Grounding system

System catelogy		Grounding system		No grounding system
		Negative pole grounding	Core point grounding	
All of fault category				
Fault effect	Fault I	Producing the highest short–circuil current Breaking the positive pole contact connected to power	U/2voltage,producing the highest short–circuil current effect Breaking the positive pole contact connected to power	No effect
	Fault II	Producing the highest short–circuil current But the contaets in series are all breaking	Producing the highest short–circuil current But the contaets in series are all breaking	Producing the highest short–circuil current But the contaets in series are all breaking
	Fault III	No effect	the same as fault I, but breaking the negative pole contact connected to power	No effect
The most serious condition		Fault I	Fault I and fault III	Fault II
Breaking pole condition		Can be in series on the positive pole, breaking both poles	With U/2, use breaking highest short–circuit current to each pole	Breaking both poles

Wiring conduct selection

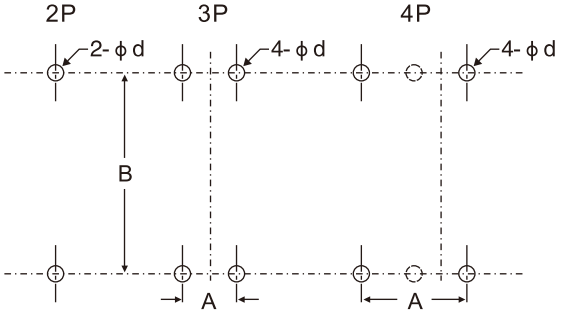
Rated current (A)	Section area (mm^2)	Rated current (A)	Section area (mm^2)
16, 20	2.5	125, 140	50
25	4	160	70
32	6	180, 200, 225	95
40, 50	10	250	120
63	16	315, 350	185
80	25	400	240
100	35		

5. Outline and Installation Dimension (mm)



Two pole　　Three pole/four pole

Remarks:The arcing separaters are only installed between the phase lines



Type		AM1DC–100			AM1DC–250			AM1DC–400	
		2P	3P	4P	2P	3P	4P	3P	4P
Outline dimensions	C	87.5			102			129	
	H	87			103			105	
	H1	105			127			155	
	H2	24			24			38	
	H3	4			5.5			6.5	
	L	150			165			257	
	L1	250			360			457	
	W	75			107			150	
	W1	30			35			48	
	W2	100			142			198	
	W3	50			75			/	
Installation dimensions	A	/	30	60	/	35	70	44	88
	B	129			126			194	
	Φd	4.5			4.5			7	

AM1L Series Earth Leakage Circuit Breaker

AM1L-125L/4300A

AM1L-250L/4300A

AM1L-400L/4300A

AM1L-630L/4300A

1. Application

AM1L series earth leakage circuit breaker is one of the new type earth leakage breakers which has been developed by the company using international advanced design and manufacturing technology. Suitable for a line of AC50/60Hz, rated voltage up to 400V, rated current 16A to 630A. and is acted as infrequently changeover of circuit or infrequent starting of motor.The breaker has overload, short-circuit and under-voltage protective function, which can protect the circuit and the power equipment against damage, meanwhile, it can provide protection to these fire risk that caused by these long-time existed grounding fault that can not be detected by the over-current protection.

This breaker can be installed vertically(upright) or horizontally(transverse).

The wiring of the breaker can not be in adverse direction, that means power supply line must be connected to terminal 1,3 and 5,and the load line connected to terminal 2,4 and 6.

The rated residual operating current I △ n and the maximum breaking time can be adjusted on site according to practical condition.

The leakage protection module still can work normally when the phase voltage reduced to 50V. It has the same overall size with the AM1 series breakers, which make the installation more exchangeable.

The breakers are suitable for isolation, its symbol are: —/|×—

The breakers comply with the demands of the following standards:

IEC60947-1 and GB/T 14048.1 General

IEC60947-2 and GB 14048.2 Low voltage breakers

IEC60947-4 and GB 14048.4 Contactors and motor starters

IEC60947-5.1 and GB 14048.5 Electrical equipments of electromechanical control circuit

2. Main Technical Specifications

Table 1

Type		AM1L-100			AM1L-225			AM1L-400		AM1L-630	
Frame current Inm(A)		100			225			400		630	
Rated current In(A)		(10)16,20,25,32, 40,50,63,80,100			100, 125, 160, 180, 200, 225			225, 250, 315, 350,400		400, 500, 630	
Pole number		3		4	3		4	3	4	3	4
Rated insulation voltage Ui(V)		AC800									
Rated working voltage Ue(V)		AC400									
Rated impulse with-stand voltage Uimp(V)		8000									
Arc-over distance(mm)		≥50									
Breaking capacity grade		M	H		M	H		M		M	
Limiting short-circuit breaking capacity Icu (kA)	AC400V	50	85	50	50	85	50	65		65	
Service short-circuit breaking capacity Ics(kA)	AC400V	35	50	35	35	50	35	42		42	
Rated residual operating current I △ n(mA)	Non-delay type	100/300/500									
	Delay type	100/300/500								300/500/1000	
Rated residual non-operating current I △ no(mA)		1/2 I △ n									
Operation performance (time)	Electrified	1500			1000			1000		1000	
	Unelectrified	8500			7000			4000		4000	

Note: According to the pole number of product, it classifies three and four poles. The neutral pole (N-Pole) of the four-poles products has four types:

Type A: N-pole without over-current release unit, it has been connected all the time, not closing and opening with the other three poles.

Type B: N-pole without over-current release unit, which closing and opening with the other three poles.

Type C: N-pole fixed with over-current release unit, which closing and opening with the other three poles.

Type D: N-pole fixed with over-current release unit, it has been connected all the time, not closing and opening with the other three poles.

1. The limiting breaking and arc-over distance includes horizontal and vertical installation.

2. If the three-pole breaker of this series is connected with three phase load, the load can not have neutral line, otherwise the breaker will have fault action.

3. If the three-pole breaker of this series is connected with single phase load, the phase line will be connected to the left pole, and the neutral line is connected to the right pole, the middle pole is blanket

3. Protection Characteristic

The thermal release of the breaker has again-time-limit property; the electromagnetic release is inst. Operation, its property see table 2(for distribution),table 3 (motor protection).

Table 2

Rated current of release(A)	Thermal release (ambient temperature +40°C)		Electromagnetic release tripping current(A)
	1.05In(cold state) non-trip time (h)	1.03In(hot state) trip time (h)	
10 ⩽ In ⩽ 63	1	1	10In ± 20%
63 ⩽ In ⩽ 125	2	2	
125 ⩽ In ⩽ 630	2	2	5In ± 20% 10In ± 20%

Table 3

Rated current of release	Thermal release (ambient temperature +40°C)				Electromagnetic release tripping current(A)
	1.0In (cold state) non-trip time (h)	1.20In(hot state) trip time(h)	1.50In(thermal state) trip time	7.2In(cold state) trip time	
10 ⩽ In ⩽ 400	2	2	8min	6s<Tp ⩽ 20s	12In±20%

4. Residual Current Operating Time of Earth Leakage Circuit Breaker

4.1 Non-delay type operation characteristics see table 4(I △n ⩽ 30mA should be Non-delay type)

Table 4

Rated current		I △n	2I △n	5I △n	10I △n
Non-delay type	Max.breaking time(s)	0.3	0.15	0.04	0.04

Note: [a]to I △n ⩽ 30mA earth leakage circuit breaker, 0.25A can instead of 5I △n
According to[a], adopt 0.25A, then 10 I △n is 0.5A.

4.2 Delay type operation characteristics see table 5

Limiting non-driven time of delay type earth leakage circuit breaker according to 2I △n, operation characteristics see table 5

Back panel connection

Table 5

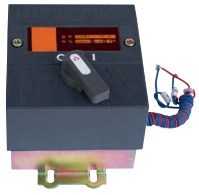
Delay time (s)	Max. breaking time(s) at I △ n	Limiting non-driven time (s) at 2I △ n	Max. breaking time(s)	Max. breaking time(s) at 5I △ n	Max. breaking time(s) at 10I △ n
0.1	0.4	0.06	0.2	0.15	0.15
0.2	0.5	0.06	0.2	0.15	0.15
0.3	0.6	0.1	0.4	0.3	-
0.4	0.7	0.2	0.5	0.4	-
0.5	0.8	0.3	0.6	0.5	-
0.6	0.9	0.4	0.7	0.6	-
0.7	1.0	0.5	0.8	0.7	-

5 .Accessories of Circuit Breaker

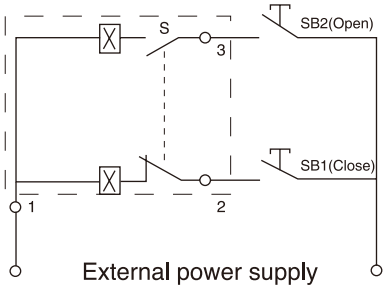
5.1 The external accessories of the breaker

● **Electromagnetic operation device and Motor-driven operation device**

1) Wiring diagram of type CDM electromagnetic operation device(fitting AM1L-100,225) see the following drawing (wiring diagram of the external accessories of the breaker in the dotted frame)



Electromagnetic operation device

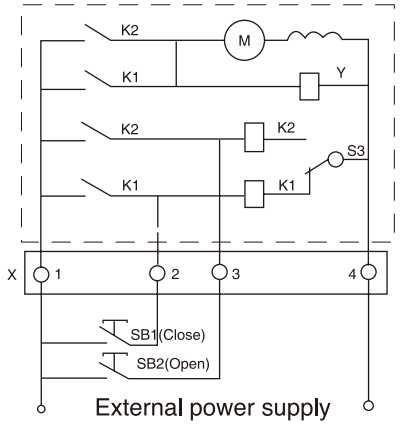


2) Wiring diagram of type CD motor-driven operation device (fitting AM1L-400,630) see belows (wiring diagram of the external accessories of the breaker in the dotted frame)

Code description: SB1, SB2 stand for push button.(provided by users themselves)
Number “1”、“2”、“3” stand for number of wiring terminals.

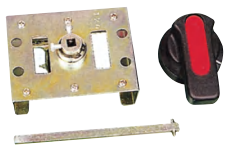
Voltage rating: AC230V、400V, DC 220V

Motor-driven operation device



Code description: SB1, SB2 stand for push button. (provided by users)
“X” stands for line connection terminals

Voltage rating: AC50Hz 230V、400V; DC220V



Rotary handle operation device

● **Rotary handle operation device**

The mechanism is used with moulded case circuit breaker to operate the draw-out panel. Power distribution panel and supply box outside the panel by turning the handle ,and to ensure the door of panel would not be openned when the breaker being on.

The hand-drive mechanism can be equipped with two types of operation one is “A” model square handle , the another is “B” model round handle.

5.2 The Internal Accessories of the Breaker

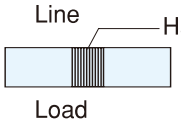
5.2.1 Release pattern and accessories code see following table

Under-voltage release

Shunt release

Alarm contact

Auxiliary contact



SHT: Shunt release; UVR: Under-voltage release;
AX: Auxiliary contact; AL: Alarm contact

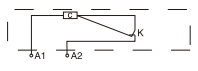
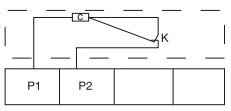
Release pattern and accessories code	Type / Name	AM1L- 100, 225	AM1L-400	AM1L-630
200, 300	Without accessories	200: Magnetic release (only short circuit protection) 300: Thermal magnetic release(both overload and short circuit protection)		
208, 308	Alarm contact	AL	AL	AL
210, 310	Shunt release	SHT	SHT	SHT
220, 320	Auxiliary contact	AX	AX	AX
230, 330	Under-voltage release	UVR	UVR	UVR
228, 328	Auxiliary contact, Alarm contact	AL AX	AL AX	AL AX

5.2.2 The technical parameter and functions of the accessories

Accessory	Rated operating voltage (V)			
	AC50/60Hz		DC	
Shunt release Us	220(230)	380(400)	110	220
Under-voltage release Us	220(230)	380(400)		

Auxiliary contact and Alarm contact: Auxiliary contact is as same as Alarm contact , the technical parameter see following table

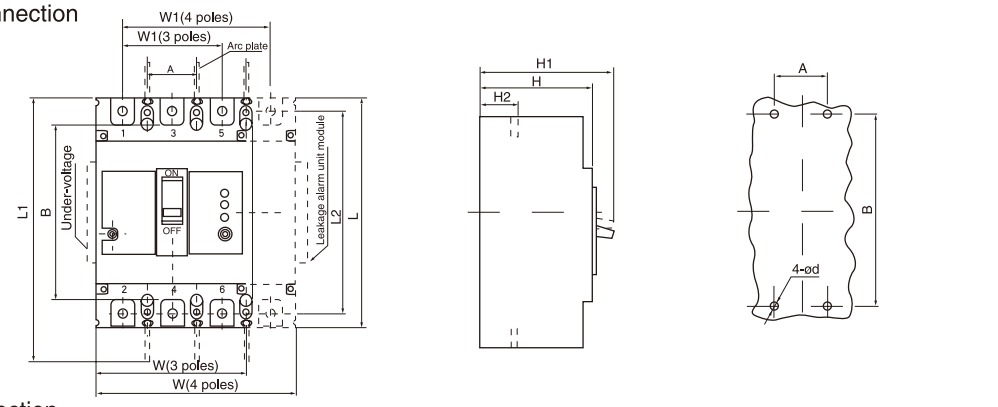
Rated thermal current Ith (A)	Rated operating current Ie(A)		Suited Frame Inm(A)
	AC380V	DC220V	
3	0.3	0.15	100, 225
3	0.4	0.15	400, 630

Accessory	Function	Wiring connection diagram
Alarm contact	Indicate circuit breaker at tripping	B14 B12 B11 The position of breaker at opening and closing
Auxiliary contact	Indicate circuit breaker at opening or closing	B14 B12 F11 The position of breaker at opening
Shunt release	The shunt release should make the breaker trip reliably when the operatiopn voltage is 70%-110% of rated control voltage	The micro switch will cut by itself when breaker open 
Under-voltage release	When Ue is 35%-70% of the rated control voltage, the under voltage release should make the breaker trip correctly When Ue is 85%-110% of the rated control voltage, the under voltage release should make the breaker close In case of Ue less than 35%of the rated control voltage should prevent the breaker from closing	

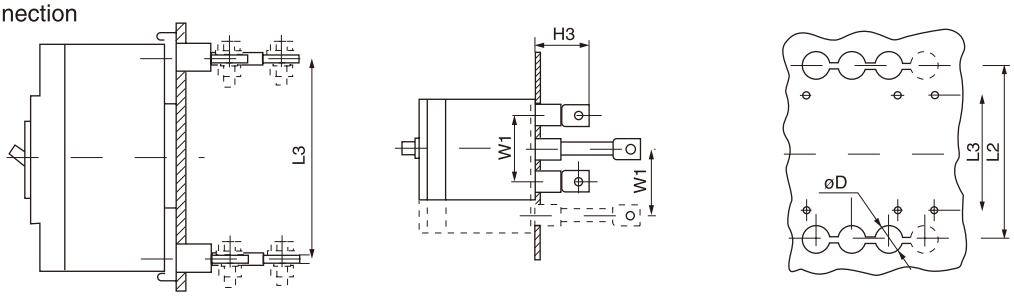
6. Outline and Installation Dimension(mm)

Type	Outline dimensions																			Installation dimensions		
	Front panel connection								Back panel connection			Plug-in connection										
	W	L	H	W1	L1	L2	H1	H2	L3	H3	D	L4	L5	H4	H5	H6	C	D	D1	A	B	d
AM1L-100M,H/3P	92	150	92	60	200	132	110	28.5	90	93	22	168	92	50	64	76	56	60	6.5	30	129	4.5
AM1L-100M,H/4P	122	150	92	90	200	132	110	28.5	90	93	22	168	92	50	64	76	56	90	6.5	30	129	4.5
AM1L-225M,H/3P	107	165	90	70	265	144	110	24	93	100	24	183	94	50	71.5	86.5	54	70	6.5	35	126	5.5
AM1L-225M,H/4P	142	165	103	105	265	144	110	24	93	100	24	183	94	50	71.5	86.5	54	105	6.5	35	126	5.5
AM1L-400M,H/3P	150	257	106.5	96	441	224	146.5	38	164	108.5	32	279	-	60	83.5	106.5	70	105	8.5	44	194	7
AM1L-400M,H/4P	198	257	106.5	144	441	224	146.5	38	164	108.5	32	279	-	60	83.5	106.5	70	129	8.5	44	194	7
AM1L-630M,H/3P	210	280	115.5	145	480	243	155	45.3	158	84	48	296	-	61	97	148	140	143	10	70	243	7
AM1L-630M,H/4P	280	280	115.5	210	480	243	155	45.5	158	84	48	296	-	61	97	148	140	210	10	70	243	7

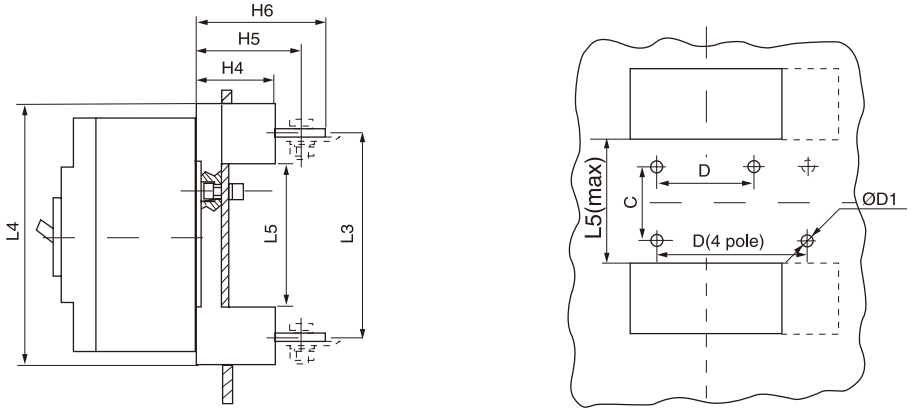
Front panel connection



Back panel connection



Plug-in connection



AM1/MS1-40L Series Moulded Case Circuit Breaker

AM1/MS1-40L

1. Application

AM1/MS1 series molded case circuit breaker is Economic type of AM1 Type. It is suitable to the circuit of AC 50Hz, rated voltage up to 380V, rated current up to 63A, used as the protection of over load, short circuit and the non frequent start of motor. Complies with GB140048.2, GB14048.4, IEC60947-2 and IEC60947-4 standards.

AM1/MS1 MCCB operation mechanism has obviously close and break swiftly. The contact is AgZno, the contact resistance is small, abrasion resistant, anti fusion welding, the long time delay release adopt oil damping hydraulic type release, ideal time-inverse protection feature can be supplied.

2. Main Technical Specification

Type		AM1/MS1-40	AM1/MS1-63
Un(V)		AC 380/220	
Inm(A)		40	63
Pole		3	
In(A)		6,10,16,20,25,32,40	50,63
Electrical life(times)	With load	1500	
	No load	8500	
	Total	10000	
Operation Time/Hour		120	
Over current tripping feature	1.05IH	Not trip within 1 hour	Cool status
	1.3In	Trip within 1 hour	Thermal status
	3.0In	Return time ≥2s	Cool status
	10IN	≤2s trip	Cool status

Remark: Frame current>63A,default tripping time or not tripping time is 2 hour.

3. Normal Working Conditions and Installation Condition

1.Maximum ambient air temperature does not exceed 40°C, and the minimum is not less than -5°C. The average temperature does not exceed 35°C within 24h;

Note 1: When the lower limit is -10°C or -25°C, users should state to manufacturer when ordering.

Note 2: When the upper limit is more than +55°C or the lower limit is less than -25°C, users shouldnegotiate with the manufacturer.

2.The altitude of installation site does not exceed 2000m;

3.Relative humidity of the surrounding air temperature is less than 50% at 40°C. At a lower temperature, it can be a higher relative humidity. For example at 20°C, it is up to 90%. When it occurs the occasional condensation due to temperature changes, appropriate measures should be taken.

4.Pollution degree: Class 3;

5.Installation category: Main circuit of circuit breaker is ClassIII. Control and auxiliary circuits are ClassII.

AM2 Series Moulded Case Circuit Breaker

AM2-100N/3P

AM2-250N/3P

AM2-400N/3P

AM2-630N/3P

1. Application

AM2 series moulded case circuit breaker is one of the breakers which adopts international advanced design, manufacture technology to develop. The rated insulating voltage is 750V, suitable for the circuit of AC 50/60Hz,rated working voltage 690V or below,rated working current is 12.5A to1600A and used in distributing electric energy,and infrequently breaking in the normal conditions , protecting the circuit & equipment from overload & under voltage, circuit breaker with rated frame current 400A or below,can be used in mousecage motor's infrequent start, breaking during working, protecting motor from overload, short circuit & undervoltage,the product conforms to IEC60947-2 standard.

2. Main Technical Specifications

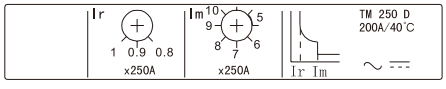
Table 1

Type	Pole	Rated insulating voltage (V)	Rated operating voltage (V)	Rated ultimate short circuit breaking capacity Icu (kA) at 380/415V	Rated service short circuit breaking capacity Ics at 380/415V(kA)	Operation performance		Utilization category
						ON	OFF	
AM2-100N	3, 4 pole	750	690 or below	25	25	1500	8500	A
AM2-100H				70	70			
AM2-100L				150	150			
AM2-160N				36	36	1000	7000	
AM2-160H				70	70			
AM2-160L				150	150			
AM2-250N				36	36	1000	7000	
AM2-250H				70	70			
AM2-250L				150	150			
AM2-400N				45	45	1000	4000	
AM2-400H				70	70			
AM2-400L				150	150			
AM2-630N				45	45	1000	4000	
AM2-630H				70	70			
AM2-630L				150	150			
AM2-1250N	3 pole			50	37.5	1000	4000	
AM2-1600N				50	37.5			

Note:1. The N-pole breaker which closing and opening with the other three poles no protection.

3 Main Technical Parameter of Trip Units

Thermal magnetic release

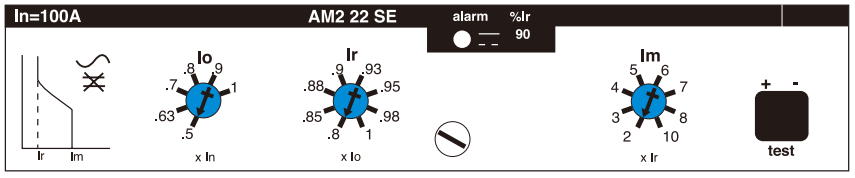


Type	Rated current In(A)	Note
AM2-100	12.5,16,20,25,32,40,50,63,80,100	T adjustable (0.8~1In) M adjustable (5~10In)
AM2-160	16,20,25,32,40,50,63,80,100,125,160	
AM2-250	160、180、200、225、250	
AM2-400	315、350、400	
AM2-630	400、500、630	
AM2-1250	800、1000、1250	T adjustable (0.8~1In) M fixed
AM2-1600	1000、1250、1600	

● Electronic release

AM2 22SE: protection of low-voltage distribution networks for AM2-100\160\250

AM2-250N/4P

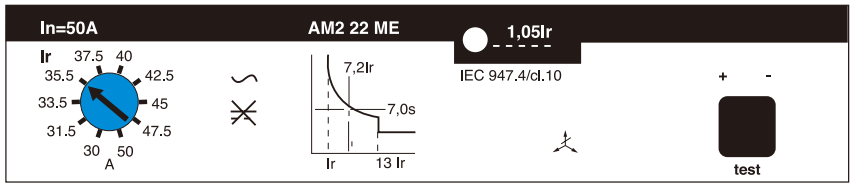


1. Overload protection with adjustable threshold
2. Short-circuit protection with adjustable threshold
3. Load indication : light at 90% of Ir setting threshold;
   Flashing at 105% or more of Ir setting threshold

Type	Rated current In(A)	Note
AM2-100	40、100	Ir=0.4…1 × In(adjustable 48 setting) Tripping between 1.05…1.3 × Ir (IEC60947-2) (**Long-time overload protection**) Im=2-3-4-5-6-7-8-10 × Ir (**Short-circuit protection**)
AM2-160	40、100、160	
AM2-250	40、100、160、250	

AM2 22ME: protection of motor for AM2-100\160\250

AM2-630N/4P

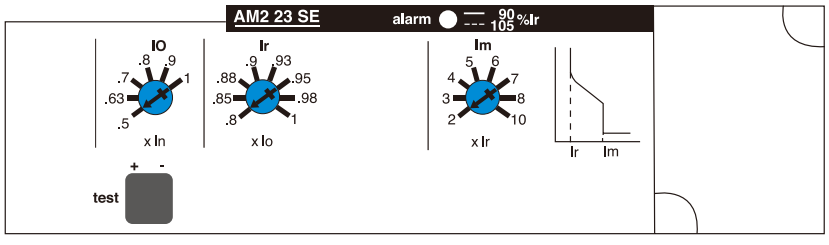


1. Overload protection with adjustable threshold, as defined by IEC60947-4 (2) tripping class 10
2. Short-circuit protection with fixed threshold (13xIr)
3. phase failure protection (tripping time delay between 3.5s-6s)
4. Load indication : dark less than 105% of Ir setting threshold;
   Flashing at 105% or more of Ir setting threshold

Type	Rated current In(A)	Note
AM2-100	40、50、80、100	Ir=0.6-0.63-0.67-0.71-0.75-0.80-0.85-0.90-0.95-1 × In
AM2-160	40、50、80、100、150	
AM2-250	40、50、80、100、150、220	

AM2 23SE: protection of low-voltage distribution networks for AM2-400\630

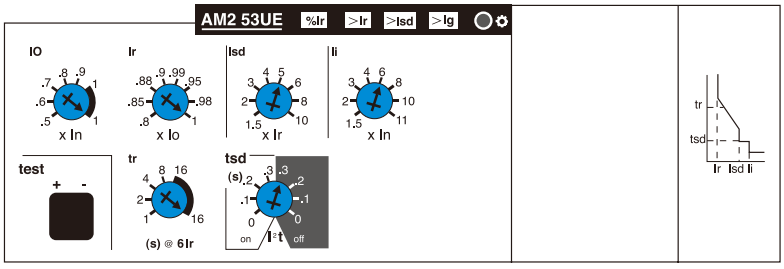
AM2-1600N



1. Overload protection with adjustable threshold
2. Short-circuit protection with adjustable threshold
3. Load indication : light at 90% of Ir setting threshold;
   Flashing at 105% or more of Ir setting threshold

Type	Rated current In(A)	Note
AM2-400	400	Ir=0.4…1 × In(adjustable 48 setting) Tripping between 1.05…1.3 × Ir (IEC60947-2) (**Long-time overload protection**) Im=2-3-4-5-6-7-8-10 × Ir (**Short-circuit protection**)
AM2-630	630	

AM2 53UE: protection of low-voltage distribution networks for AM2-400\630



1. Overload protection with adjustable threshold, as defined by IEC60947-2
2. Short-circuit protection with adjustable threshold
3. Instantaneous short-circuit protection
4. Earth fault protection with adjustable threshold
5. Load indication : light at 90% of Ir setting threshold;
   Flashing more than Ir setting threshold
6. Fault indication

   LEDs indicates the type of fault that caused tripping

   Overload (**LT** protection) or abnormal component temperature **(>Ir)**;

   Short-circuit (**ST** or instantaneous protection)**(>Im)**;

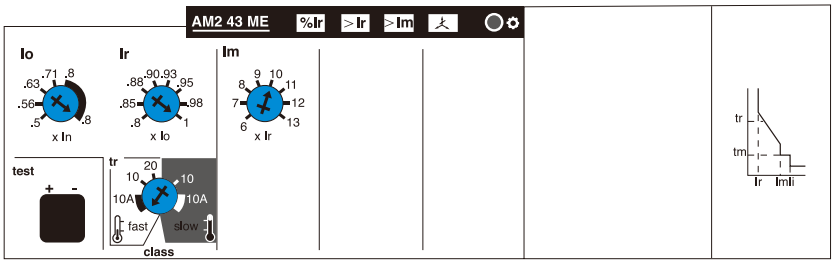
   Earth fault (if earth fault protection option is present)**(Ig)**;

   Microprocessor malfunction (both **(>Ir)** and **(>Im)** LEDs go on ,plus the **(Ig)** LEDs if earth fault protection option is present)

   Battery powered. Spare battery are supplied in an adapter box. When a fault occurs , the LED indicating the type of fault ,lights for about 10 minutes . The information is however stored in memory . The LED can be illuminated by pressing the test pushbutton. The LED automatically goes off and the memory is cleared when the circuit breaker is reset .

Type	Rated current In(A)	Note
AM2-400	400	Ir=0.4…1 × In(adjustable 48 setting) Tripping between 1.05…1.3 × Ir (IEC60947-2) at 6 × Ir Trip time: 1s, 2s, 4s, 8s, 16s(adjustable) (**Long-time overload protection**) Isd=1.5-2-3-4-5-6-7-8-10 × Ir Trip time: 0s, 0.1s, 0.2s, 0.3s adjustable+I^2t (**Short-circuit short time delay protection**) Ii=1.5-2-3-4-6-7-8-10-11 × Ir (**Instantaneous short-circuit protection**) Ig=0.1-0.2-0.3-0.4-0.5-0.6-0.7-0.8-1 × Ir Trip time: 0.1s, 0.2s, 0.3s, 0.4s adjustable+I^2t (**Earth fault protection**) (**If option is present**)
AM2-630	630	

AM2 43ME: protection of motor for AM2-400\630



1. Overload protection with adjustable threshold, as defined by IEC60947-4 (2) tripping class 10A,10 and 20
2. Short-circuit protection with adjustable threshold (6...13xIr)
3. Phase failure protection (built-in electronic release: operates unbalanced single-phase current at 40% and more than)(tripping time delay 4s±10%),as defined by IEC60947-4.1
4. Load indication : Flashing more than Ir setting threshold
5. Fault indication

LEDs indicates the type of fault that caused tripping

Overload (**LT** protection) or abnormal component temperature **(>Ir)**;

Short-circuit (**ST** or instantaneous protection)**(>Im)**;

Phase failure **(right LED)**;

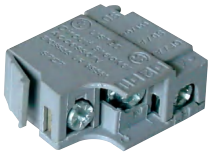
Microprocessor malfunction (**(>Ir) (>Im)** and phase failure LEDs all go on)

Battery powered. Spare battery are supplied in an adapter box. When a fault occurs ,the LED indicating the type of fault ,lights for about 10 minutes . The information is however stored in memory . The LED can be illuminated by pressing the test pushbutton. The LED automatically goes off and the memory is cleared when the circuit breaker is reset .

Type	Rated current In(A)	Note
AM2-400	400	Ir=0.4…1 × In(adjustable 48 setting) Trip degree: class 10A, 10,20(IEC60947-4) (**Long-time overload protection**) Im=6-7-8-9-10-11-12-13 × Ir (**Short-circuit protection**)
AM2-630	630	

Under-voltage release

Shunt release



Auxiliary contact

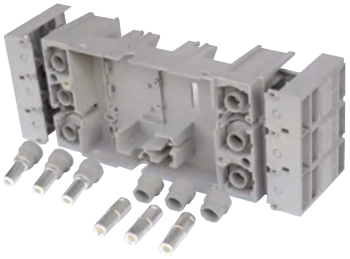
Alarm contact

4. Accessories

Accessories	Rated operating voltage	Consumption		For type
		Pick-up	Seal-in	
Shunt release (MX)	24V 100V 220/230V 380/400V	<10VA	<5VA	AM2-100~630
Under-voltage release(UN)	220/230V 380/400V	<10VA	<5VA	

Accessories	Rated operating voltage	Rated operating current		For type
		AC12	AC15	
Auxiliary contact (OF)	380/400V	6	3	AM2-100~630
Alarm contact(AL)	380/400V	6	3	

Rotary handle



Plug-in base

Rotary handle

● **Direct rotary handle**

Degree of protection:IP40

Function: 1) suitability for isolation

2) indication of three positions 0(off) I(on) and tripped

3) press “push to trip” button, can trip-free

4) visibility of and access to trip unit settings

5) the circuit breaker can be locked in the off position by one to three padlocks , diameter 5 to 8mm(not supplied)

● **Extended rotary handle**

Degree of protection:IP55

Function: 1) Suitability for isolation

2) Indication of three positions 0(off) I(on) and tripped

3) Visibility of and access to trip unit settings when the door is open

4) Door opening prevented when circuit breaker is on

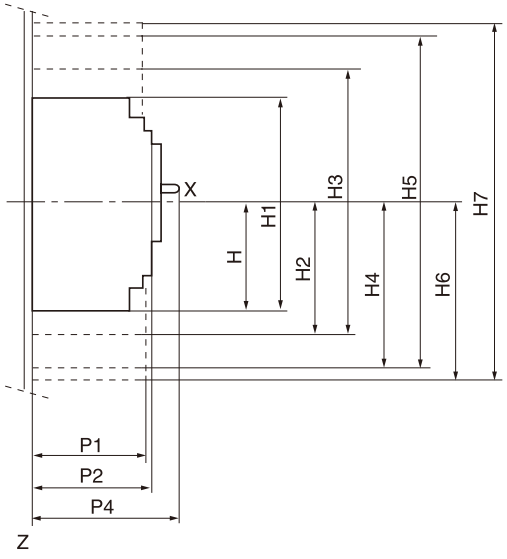
5) The circuit breaker can be locked in the off position by one to three padlocks , diameter 5 to 8mm(not supplied).Locking prevents opening of the switchboard door

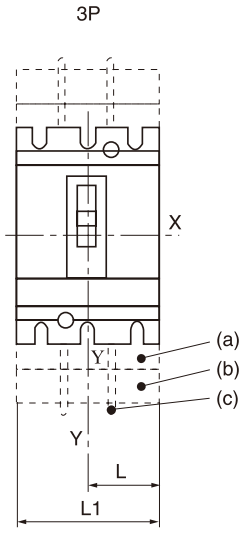
5. Installation: Circuit breaker may be mounted vertically, horizontally or flat on their back without any derating of characteristics.

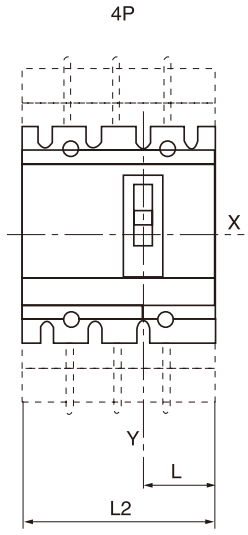
6. Fix: Mounting on backplate , mounting on rails

7. Connection: Front panel connection , back panel connection , plug-in connection

8. Outline and Installation Dimension

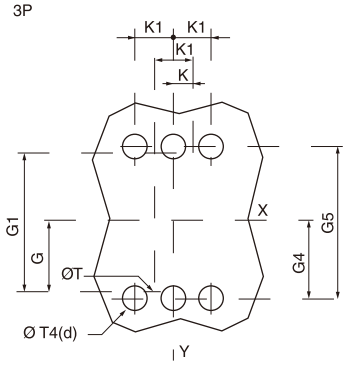




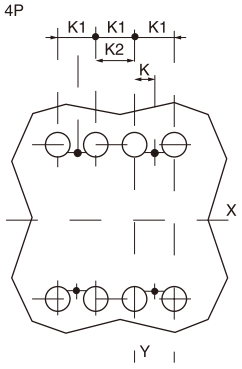


Mounting on backplate

3P

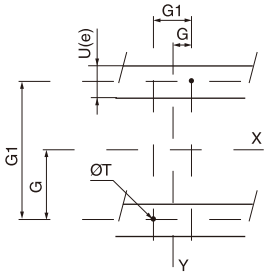


4P

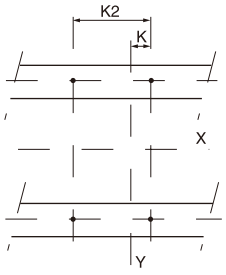


Mounting on rails

3P

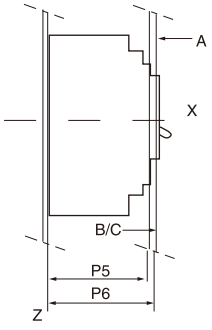


4P

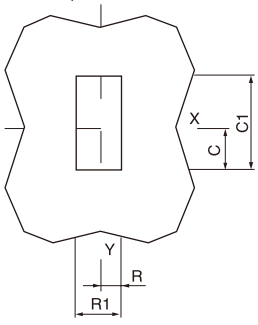


Aperture on a front panel

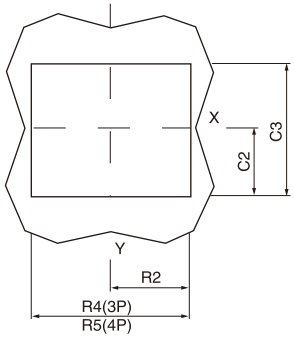
Fitting to fixed and plug-in circuit breaker



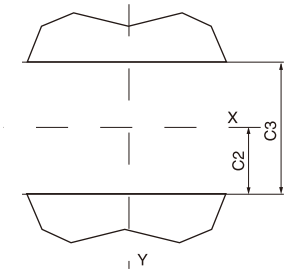
Aperture A



Aperture B



Aperture C



AM2-100~630

Unit: mm

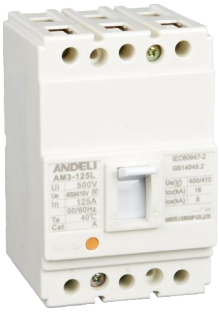
Type	C	C1	C2	C3	G	G1	G4	G5	H	H1	H2
AM2 100/160/250N/H/L	29	76	54	108	62.5	125	70	140	80.5	161	94
AM2 400/630N/H/L	41.5	116	92.5	184	100	200	113.5	227	127.5	255	142.5
AM2 1250/1600N									100	255	

Type	H3	H4	H5	H6	H7	K	K1	K2	L	L1	L2	P1	P2	P4	P5
AM2 100/160/250N/H/L	188	160.5	321	178.5	357	17.5	35	70	52.5	105	140	81	86	111*	83
AM2 400/630N/H/L	285	240	480	237	474	22.5	45	90	70	140	185	95.5	110	168	107
AM2 1250/1600N						99.5	199	209	99.5	199	269	107.5		205	

Type	P6	R	R1	R2	R4	R5	ØT	ØT4	(Ue)
AM2 100/160/250N/H/L	88	14.5	29	54	108	143	6	22	⩽ 32
AM2 400/630N/H/L	112	31.5	63	71.5	143	188	6	32	⩽ 32
AM2 1250/1600N							6.5		

* P4=126 is suitable for AM2 250N/H/L

AM3 Series Moulded Case Circuit Breaker



AM3-125L/3P

AM3-250L/3P

AM3-400L/3P

AM3-630L/3P

1. Application

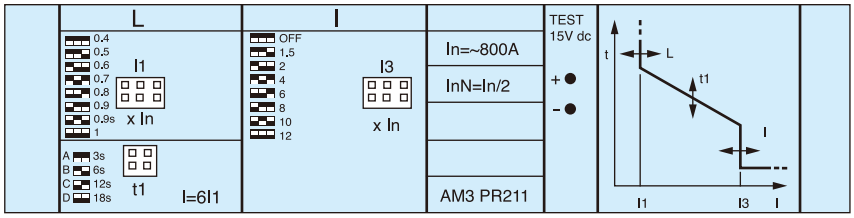
AM3 series moulded case circuit breaker is applicable for the circuit of AC 50/60Hz,rated insulation voltage 690V(AM3-125 500V),rated operating voltage AC 690V or below ,rated operating current 12.5-1600A, for distribute energy of electric and infrequently making and breaking circuit in normal conditions.The circuit-breakers are provided with the function of the protection against overload,short circuit and under-voltage.The circuit breakers comply with standard of IEC60947-2.The circuit-breakers are double insulating (Inm=250A or above), the control circuit of the accessories is set apart with the main circuit , and doesn't need to open the cover of the circuit breaker when install the accessories.

2. Specification

Table 1

Type	Pole number	Rated insulating voltage (V)	Rated operating voltage (V)	Ultimate short circuit breaking capacity Icu(kA)		Rated short-circuit service breaking capacity Ics(%Icu)	Utilization category
				AC380V (400)	AC660V (690)		
AM3-125L	1,2, 3,4	500	500	25	-	50%	A
AM3-160L	3, 4	690	690 and below	35	8	75%	
AM3-160M				50	10	75%	
AM3-250L		800		35	14	100%	
AM3-250M				65	18	75%	
AM3-400L				35	18	100%	
AM3-400M				65	22	100%	
AM3-630L				35	20	100%	
AM3-630M				50	22	100%	
AM3-800L				35	20	100%	
AM3-800M				50	22	100%	
AM3-1250L	3			50	20	100%	
AM3-1600L							

3. Main Technical Parameter of Trip Units (See Table 2)



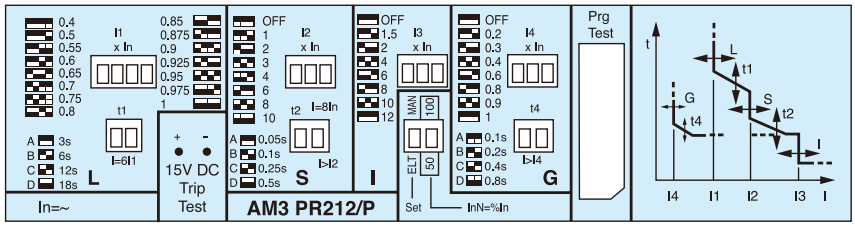


Table 2

Type	Thermal magnetic release		Electronic release	
	Rated current In(A)	Note	Rated current In(A)	Note
AM3-125	12.5,16,20,25,32,40, 50,63,80,100,125	T fixed M fixed	-	
AM3-160	16,20,25,32,40,50, 63,80,100,125,160	T adjustable (0.7~1In) M fixed	-	
AM3-250	100,125,160,180, 225,250	T adjustable (0.7~1In) M fixed	-	
AM3-400	225,250,315, 350,400	T fixed or adjustable (0.7~1In) M fixed	320,400	I1=0.4…1 × In AM3 PR211(L-LI) I1=0.4…1 × In AM3 PR212(LSI-LSIG) Tripping between 1.05…1.3 × I1 (IEC60947-2) I^2t=constant (**Long-time overload protection**) I2=1-2-3-4-6-8-10 × In t2=0.05s, 0.1s, 0.25s, 0.5s adjustable (**Short-circuit short time delay protection**) I3=1.5-2-4-6-8-10-12 × In (**Instantaneous short-circuit protection**) I4=0.2-0.3-0.4-0.6-0.8-0.9-1 × In t4= 0.1s, 0.2s, 0.4s, 0.8s adjustable (**Earth fault protection**)
AM3-630	400,500,630	T fixed M fixed	630	
AM3-800	630,700,800	T fixed M fixed	800	
AM3-1250	-	-	800,1000, 1250	
AM3-1600	-	-	1000,1250, 1600	

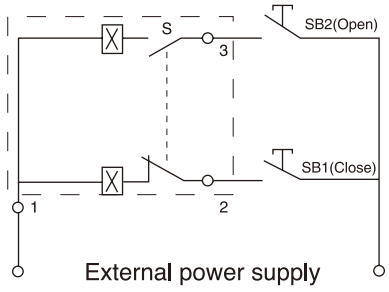
Note: T-thermal M-magnetic L-long time S-short time relay I-instantaneous G-earth fault
AM3-125/160 In=12.5,16,20,32,40 magnetic protection that is fixed at 500A.

4. Accessories

4.1 The external accessories of the breaker

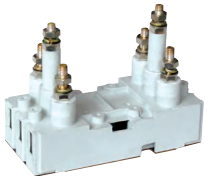
- **Electromagnetic operation device and Motor-driven operation device**

1) Wiring diagram of type CDM electromagnetic operation device(fitting AM3-125,160,250) see the following drawing (wiring diagram of the external accessories of the breaker in the dotted frame)



Code description: SB1, SB2 stand for push button.(provided by users themselves)
Number “1”、“2”、“3” stand for number of wiring terminals.
Voltage rating: AC50Hz 230V、400V, DC 220V

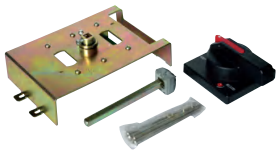
2) Wiring diagram of type CD motor-driven operation device (fitting AM3-400、630、800) see belows (wiring diagram of the external accessories of the breaker in the dotted frame)



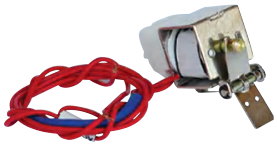
Plug-in base

Electromagnetic operation device

Motor-driven operation device



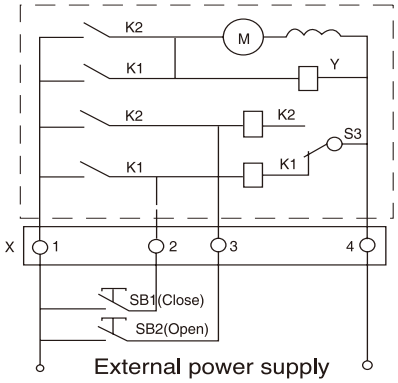
Rotary handle



Shunt release

Under-voltage release

Alarm contact



Code description: SB1, SB2 stand for push button. (provided by users)
"X" stands for line connection terminals
Voltage rating: AC 230V、400V; DC220V

● **Rotary handle**

Economic extended rotary handle
Degree of protection:IP30
Function: 1) With indication of isolation
2) Indication of three positions 0(off) I(on) and tripped
3) Door opening prevented when circuit breaker is on

4.2 The internal accessories of the breaker

● **Under-voltage release**

Us: AC 400V, 230V
When the operation voltage is 35%~70% of the rated voltage, the under-voltage release should make the breaker trip correctly.
When the operation voltage is 85%~110% of the rated voltage, the under-voltage release should make the breaker close.
In case of the operation voltage less than 35% of the rated voltage, the under-voltage should prevent the breaker from closing.
Note: Only the under-voltage release should be energized in advanced, the breaker could be recramped and turned-on, otherwise the breaker will be damaged.

● **Shunt release**

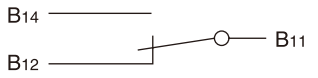
Us: AC230V 400V; DC110V 220V
The shunt release should make the breaker trip reliably when the operation voltage is 70%~110% of the rated control voltage

● **Auxiliary Contact**

When the breaker is in "off"	F14 — F12 — F11 F24 — F22 — F21 F14 — F12 — F11	Size 2N/O+2N/C 1N/O+1N/C
When the breaker is in "on"	When the breaker is in "off", the contacts switch from "close" to "open". When the breaker is in "off", the contacts switch from "open"to close"	

Auxiliary Contact

● **Alarm contact**

The position of the breaker in “off” or “on”	
The position of the breaker in “free release” (alarm)	B_{11} and B_{12} switch from “close” to “open”, status of B_{11} and B_{14} switch from “open” to “close”

Auxiliary contact and Alarm contact: Auxiliary contact is as same as Alarm contact , the technical parameter(see table 3)

Table 3

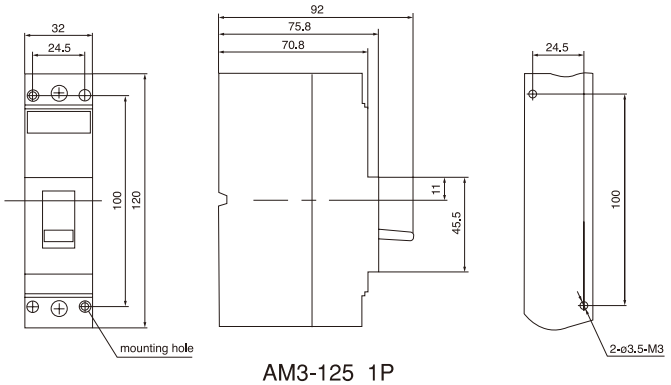
Rated heating current Ith (A)	Rated operating current Ie(A)		Suited Frame Inm(A)
	AC 380V	DC 220V	
3	0.3	0.15	125, 160
3	0.4	0.15	250, 400
3	0.4	0.15	630, 800,1250, 1600

5. Installation: Circuit breaker may be mounted vertically, horizontally or flat on their back without any derating of characteristics.

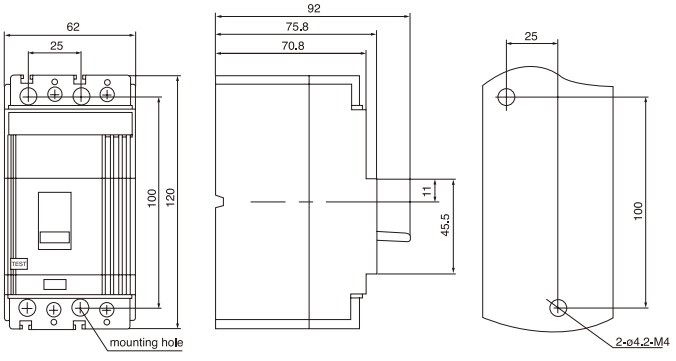
6. Fix: Mounting on backplate.

7. Connection: Front panel connection , black panel connection , plug-in connection

8. Outline and Installation Dimension

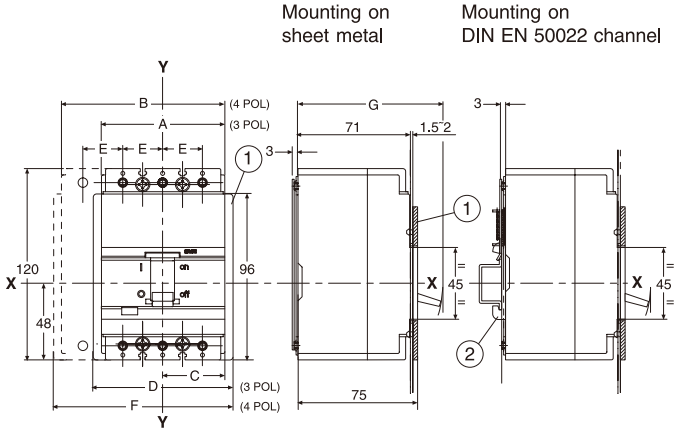


AM3-125 1P

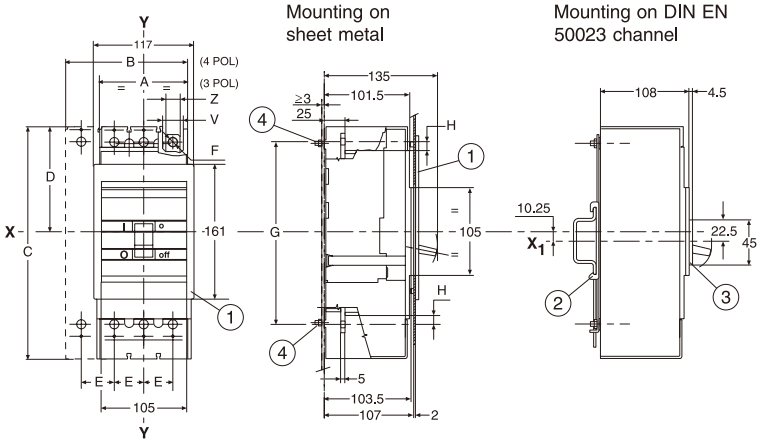


AM3-125 2P

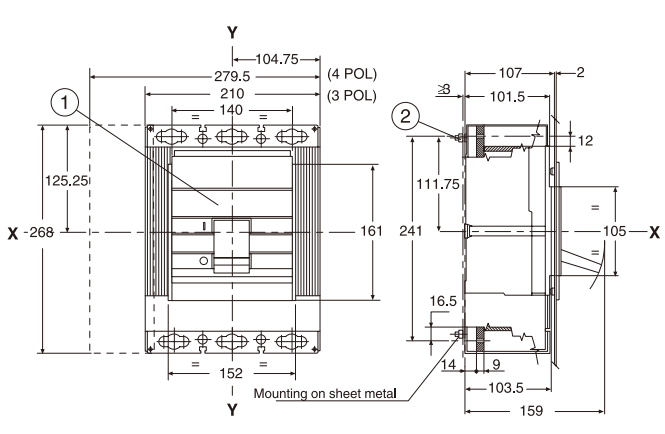
8. Outline and Installation Dimension (mm)



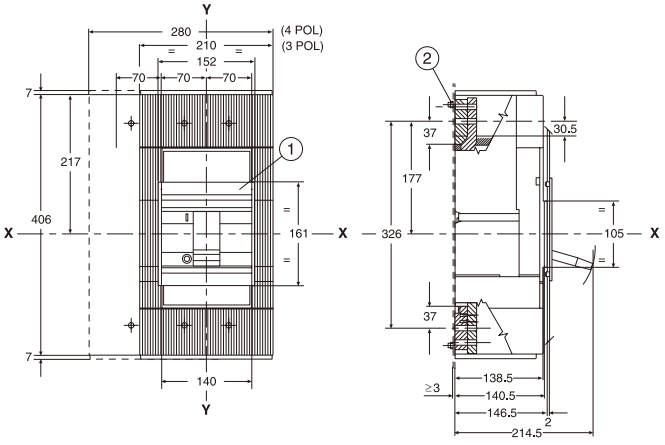
	A	B	C	D	E	F	G
AM3-125	78	103	39	91	25	116	91
AM3-160	90	120	45	103	30	133	93



	A	B	C	D	E	F	G	H
AM3-250	105	140	170	87.25	35	ø8	143	10
AM3-400	140	183.75	254	125.25	143.75	ø10	218	12



AM3-630/AM3-800



AM3-1250/AM3-1600

AM9 Series Moulded Case Circuit Breaker

AM9-63S

1. Application

AM9 series MCCB is suitable for industrial or commercial power and lighting with AC50/60Hz, rated working voltage up to AC600V/DC250V, rated current up to 630A. It's a kind of economical breaker with the characters of stable and reliable function, beautiful appearance, small size and long life. It can be used for conversion of line and infrequently starting motor. It can also be attached to install the accessories which have protection function for avoiding lossvoltage, undervoltage. The product can connect line with front board and back board, it also can be equipped with hand-operating apparatus or motor-operating apparatus to control in a remote distance.

AM9-103S

2. Specification

The rated insulation voltage for this series of circuit breaker is 690V, the rated operating voltage is 600V, the rated frequency is 50/60Hz, the other rated values for the main circuit.

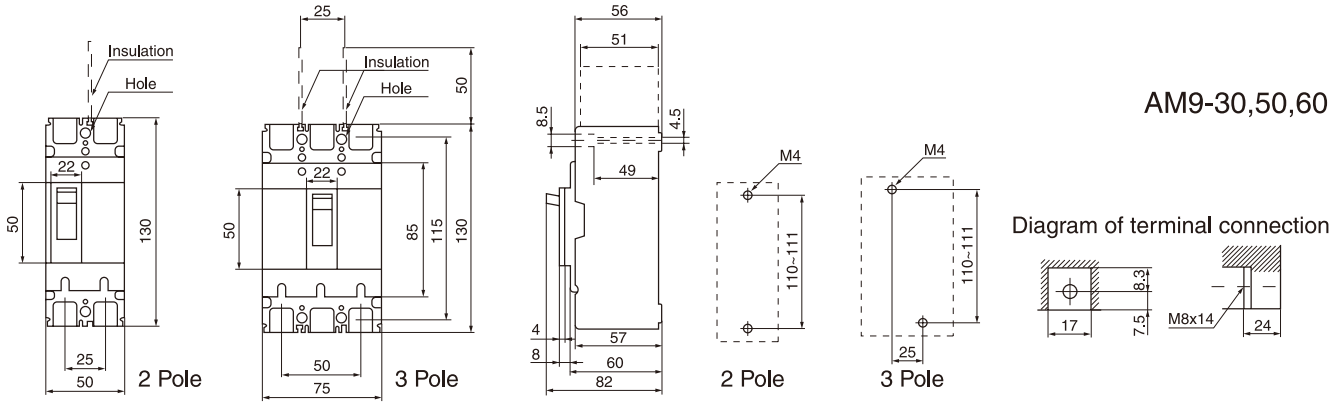
AM9-203S

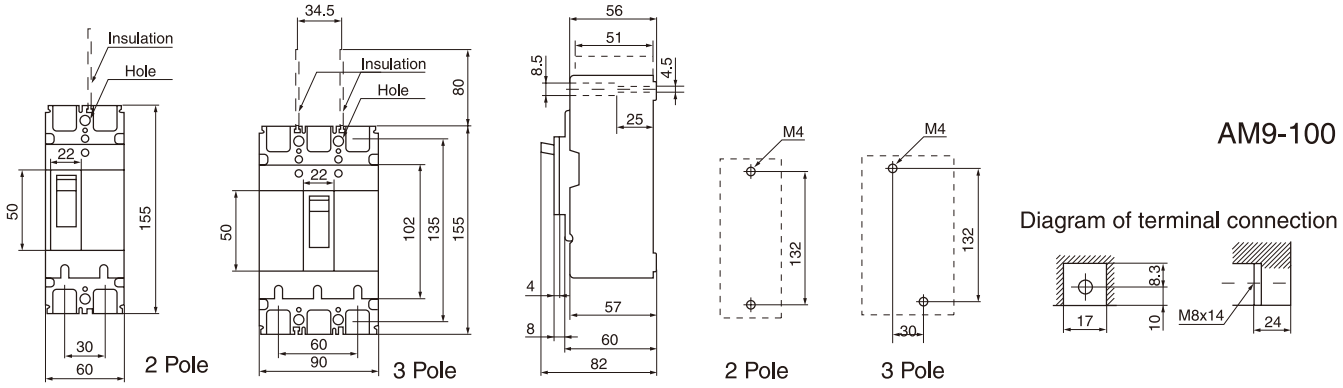
Type	2pole	AM9-32E	AM9-52E	AM9-52S	AM9-62E	AM9-62S
	3pole	AM9-33S	AM9-53E	AM9-53S	AM9-63E	AM9-63S
Frame size(AF)		30	50		60	
Rated current(A)		5,10,15,20,30	5,10,15,20,30,40,50		60	
Rated operational voltage(V)Ue (50/60Hz)		600	600	600	600	600
Rated insulation voltage(V)Ui(50/60Hz)		690	690	690	690	690
Rated impulse withstand voltage(kV)Uimp		6	6	6	6	6
Ultimate breaking capacity (kA,Icu AC 50/60Hz)	220V/240V	10	10	25	10	25
	380V	7.5/5	7.5/5	14/10	7.5/5	14/10
	415V	7.5/5	7.5/5	14/10	7.5/5	14/10
	440/460V	5	5	10	5	10
	480/500V	2.5	2.5	7.5	2.5	7.5
	600V	2.5	2.5	5	2.5	5
Utilisation category		A	A	A	A	A
Endurance	Mechanical	8500	8500	8500	8500	8500
	Electrical	1500	1500	1500	1500	1500

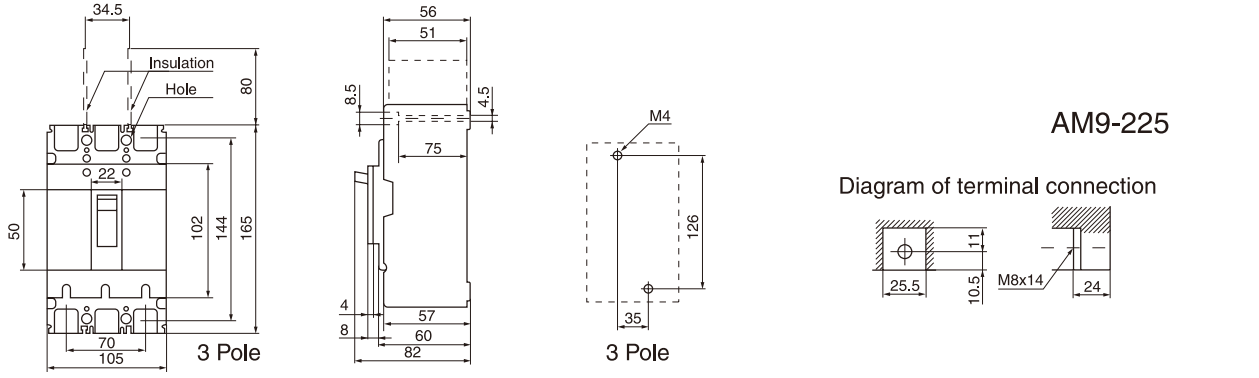
AM9-403S

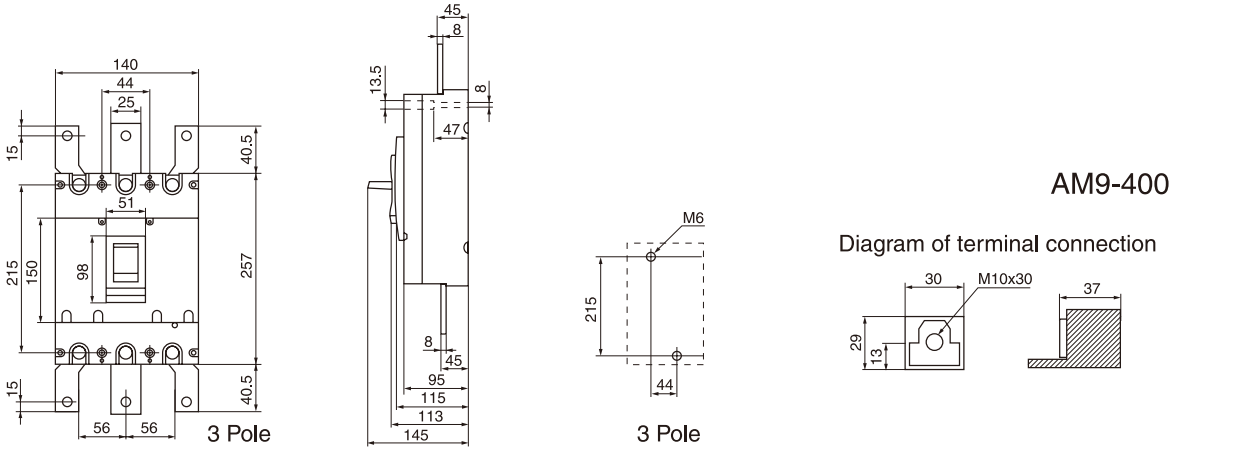
Type	2pole	AM9-102E	AM9-102S				
	3pole	AM9-103E	AM9-103S	AM9-203E	AM9-203S	AM9-403E	AM9-403S
Frame size(AF)		100		225		400	
Rated current(A)		5,10,15,20, 30,40,50, 60,75,100	15,20,30, 40,50,60, 75,100	100,125,150,175, 200,225		250,300,350,400	
Rated operational voltage(V)Ue (50/60Hz)		600	600	600	600	600	600
Rated insulation voltage(V)Ui(50/60Hz)		690	690	690	690	690	690
Rated impulse withstand voltage(kV)Uimp		6	6	6	6	6	6
Ultimate breaking capacity (kA,Icu AC 50/60Hz)	220V/240V	10	50	35	50	35	50
	380V	7.5/5	25	18	25	30	42
	415V	7.5/5	25	18	25	25	35
	440/460V	5	25	18	25	25	35
	480/500V	2.5	25	10	14	18	25
	600V	2.5	14	7.5	10	18	22
Utilisation category		A	A	A	A	A	A
Endurance	Mechanical	8500	8500	7000	7000	4000	400
	Electrical	1500	1500	1000	1000	1000	1000

3. Outline and Installation Dimensions (mm)









AW45 Air Circuit Breaker

1. Application

AW45-2000

AW45 series air circuit breaker (hereinafter referred to as breaker) is suitable for the circuit of AC 50/60Hz with rated voltage 400V, 690V and rated current up to 6300A .It is mainly used to distribute electric energy and protect circuit and power supply equipment from overload, under-voltage short-circuit ,and single-phase earthing .With intelligent and selective protection functions, the breaker can improve the reliability of power supply, and avoid unnecessary power failure . The breaker is applicable for power stations, factories , mines(for 690V) and modern high-building, especially for the distribution system of intelligent building.

The breaker conforms to IEC60947-2. The whole series have past CCC certification and CE certification.

2. Working Condition

AW45-3200

Temperature condition: -5°C~+40°C; the average value within 24h not exceed +35°C.

Elevation: altitude of installation place shall not exceed 2000m.

Atmosphere condition: relative humidity at +40°C shall not exceed 50%. Higher humidity is permissible at lower temperature condition. When the higher monthly average relative humidity is 90% in the humiddest month , the lowest monthly average temperature of this month is +25°C. And consider the influence of dew on product surface due to temperature changes.

Pollution grade: grade III.

The breaker should be installed according to the requirement on the instruction manual: the vertical inclination degree shall not exceed 5°.

3. Specification

AW45-6300

Type		AW45-2000	AW45-3200	AW45-4000	AW45-6300
Frame rated current Inm (A)		2000	3200	4000	6300
Number of poles		3,4	3,4	3,4	3,4
Rated current In (A)		630,800,1000, 1250,1600,2000	2000,2500, 3200	2000,2500, 3200,4000	4000,5000, 6300
Icu (kA)	400V	80	100	100	120
	690V	50	65	65	80
Ics = Icw (kA)	400V	50	80	80	100
	690V	40	50	50	65
Rated current at N-pole In (A)		50%In, 100%In			
Inherent making & breaking time		23-32ms			
Operational performance (operations)	Electric life	500			
	Mechanical life	Maintenance-free 2500 Maintenance 10000			
Mounting mode		Fixed / Withdrawable			
Arcing distance(mm)		0			
Intelligent controller		Standard type(M) telecommunication type (H)			

4. Intelligent Controller

Intelligent controller is one of the core components of the circuit breaker

4.1 properties of the intelligent controller

a. Protective function of over-load long time-delay and inverse time limit, short time-delay and inverse time limit, short time-delay definite time limit instantaneous operation protection;

b. Single-phase earthing failure protection;

c. Display of setting current Ir and operational current;

d. Ampere meter;

e. Over-load alarm;

f. Short-circuit alarm

g. Testing of operational properties

Note: The breakers with telecommunication port are available to realize remote control to breaker through master computer.

4.2 Protection performances of over-current release

a. Ir and its inaccuracy of the controller

Inm(A)	Long time-delay		Short time-delay		Instantaneous		Earthing failure	
	Ir1	Error	Ir2	Error	Ir3	Error	Ir4	Error
⩾ 2000	(0.4~1)In	±10%	(0.4~15)In	±10%	1.0In~15kA	±15%	Inm ⩽ 4000A(0.2-0.8) In (Max.1200A.Min.200A) Inm ⩽ 6300A(0.2-1.0) In	±10%

Note: 1.When the breaker could realize over-load with long time delay .short-circuit with short time-delay and short-circuit instantaneous protections, the setting ratings can not be over-lapped ,and Ir1< Ir2< Ir3

2. When the frame is 3200A and above ,the setting ratings range from 1.01In to 75kA.

b. Characteristics of long time-delay protection

1.05 Ir1	1.3 Ir1	1.5 Ir	2.0 Ir1
>2h non-tripping	<1h tripping	15s,30s,60s,120s,240s,480s	8.4s,16.9s,33.7s,67.5s,135s,270s

c. Characteristics of short time-delay protection.

For low over-current ,inverse time-limit protection could be realized; when the over-current is >8 Ir1, it will automatically change to be definite time-limit protection properties.

Refer to table below for time-limit properties.

Setting delay time (s)	Returnable time (s)
0.1, 0.2, 0.3, 0.4	0.06, 0.14, 0.23, 0.35

5. Standard Composition

To facilitate your ordering and utilization, the AW45 intelligent with basic electric accessories as follows.

Standard composition of the breaker	Fixed type	Withdrawable type
Body	■	■
Drawer base	■	■
Intelligent controller	■	■
Electric motor	■	■
Closing electro-magnet	■	■
Shunt release	■	■
Under-voltage	■	■
Auxiliary contact	■	■
Door frame	■	■

6. Accessories

6.1 Shunt release

a. Shunt release is for remote breaking of circuit breaker so as to enhance security of the operator;

b. Ratings of shunt release

Rated operational voltage (V)	AC220V	AC380V	DC110V	DC220V
Operational voltage range	(70%~110%) Ue			
Power consumption	24VA	24VA		40W

6.2 Under-voltage release

a. It is an optional accessory;

b. Mainly used to protect apparatus from damage due to lowering of the operational voltage to a certain value;

c. Two types of release are available: instantaneous release and time-delay release;

d. For breakers appended with the release, it should be electrified continuously;

e. Ratings of under-voltage release.

f. Operation properties of under-voltage release

Rated operational voltage (V)	AC220V	AC380V	DC110V	DC220V
Operational voltage range	(35%~110%) Us			
Power consumption	24VA	24VA		40W

Category		Under-voltage time-delay release	Under-voltage instantaneous release
Operation time of the release		Time-delay: 1s,3s,5s	Instantaneous
Operational voltage of the release	35% Us ~70% Us	Break the breaker	Break the breaker
	⩽ 35% Us	Can not make the breaker	Can not make the breaker
	⩾ 85% Us~110% Us	Reliably make the breaker	Reliably make the breaker
Within 1/2 delay time, voltage of power supply recovers to 85% Us		Can not trip the breaker	

Note: Error the time of time-delay is ±10%

6.3 Closing electro-magnet

a. The magent is for remote making of circuit breaker so as to enhance security of the operator.

b. The mangent could not be electrified for a long time.

c. Ratings of the magnet.

Rated operational voltage (V)	AC220V	AC380V	DC110V	DC220V
Operational voltage range	(85%~110%) Us			
Power consumption	40VA	40VA		40W

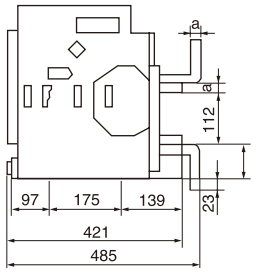
6.4 Auxiliary contact

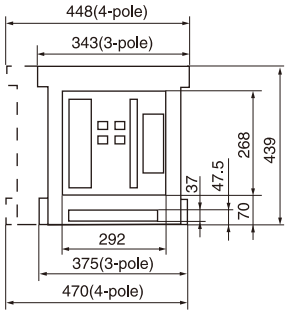
a. Conventional heating current of auxiliary contact: 6A

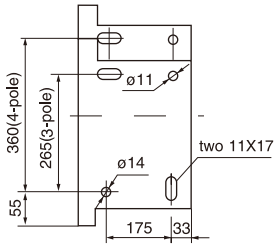
b. Auxiliary contacts: 4NO+4NC, 3NO+NC, 5NO+5NC(customization)

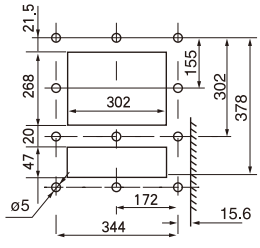
7. Outline and Installation Dimensions (mm)

AW45-2000 Drawer-type

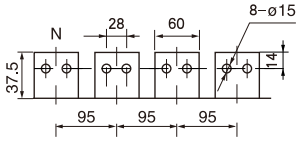






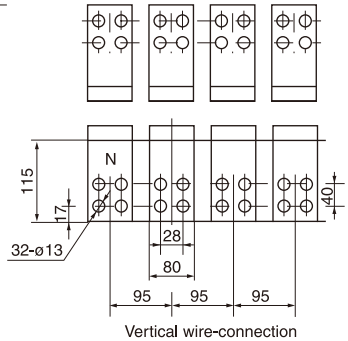


Opening hole on panel



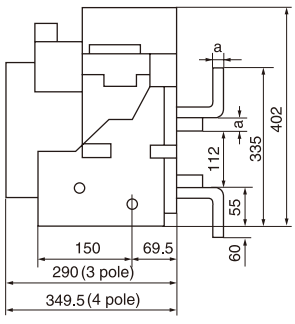
Horizontal Wire-connection

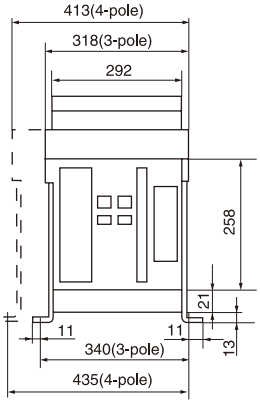
In(A)	a(mm)
630	10
800~1600	15
2000	20



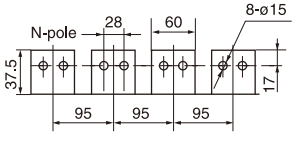
Vertical wire-connection

AW45-2000 Fixed type

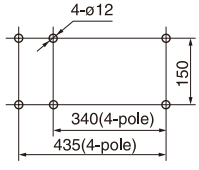




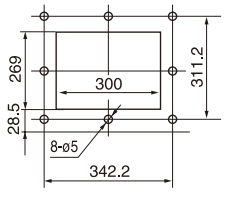
In(A)	a(mm)
630	10
800~1600	15
2000	20



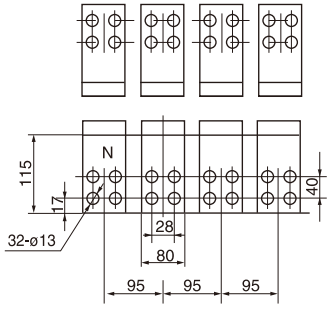
Horizontal Wire-connection



Installation hole on
flight & outer side

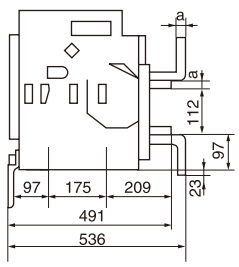


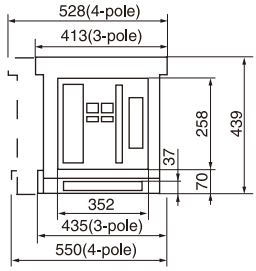
Opening hole on panel



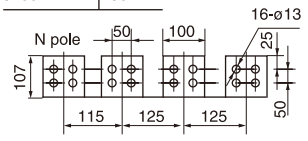
Vertical wire-connection

AW45-3200 Drawer type

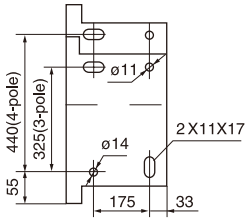


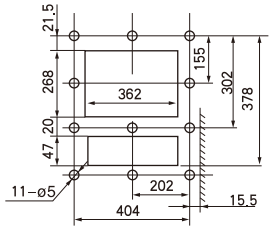


In(A)	a(mm)
2000-2500	20
3200	30

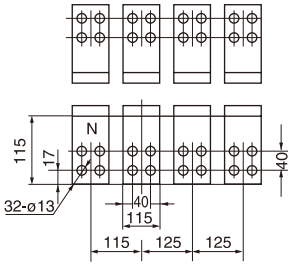


Horizontal Wire-connection



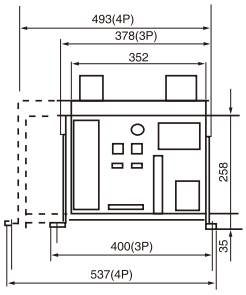


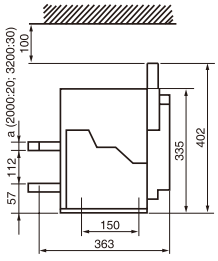
Opening hole on panel

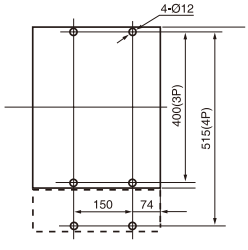


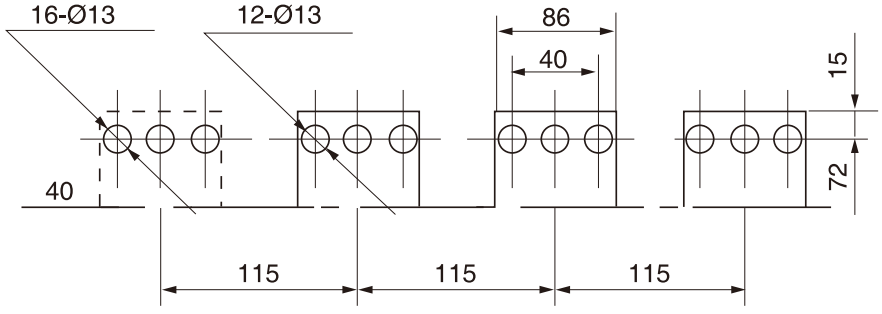
Vertical wire-connection

AW45-3200 Fixed type

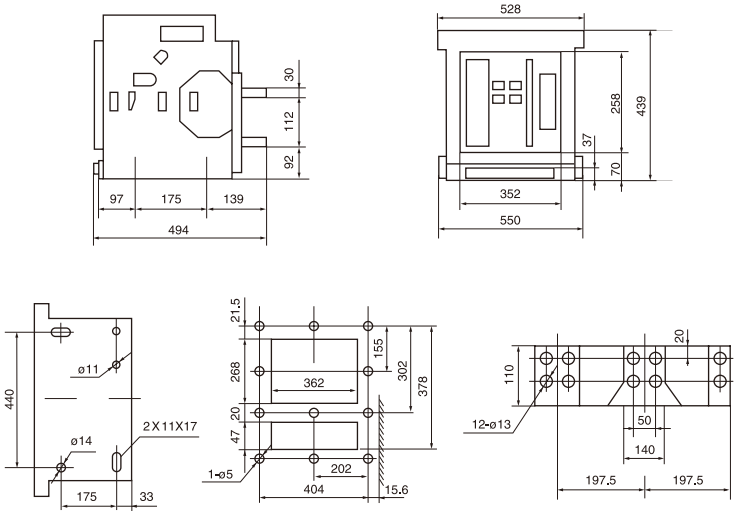




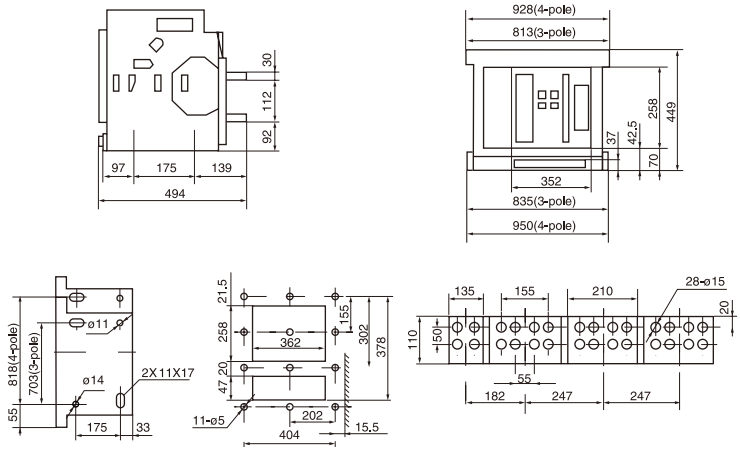




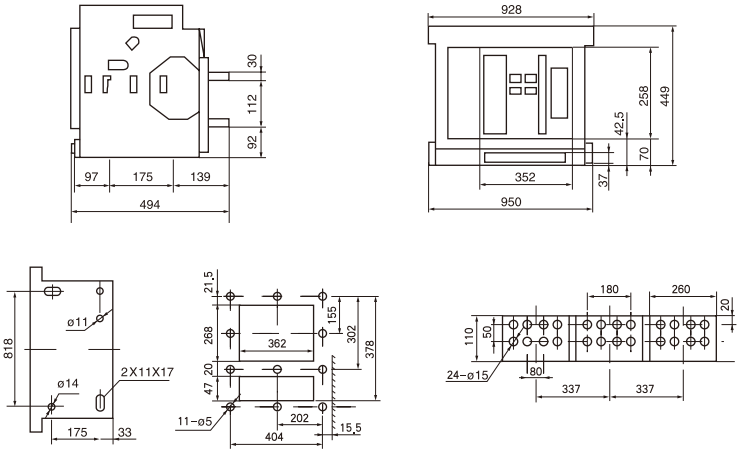
AW45-4000 Drawer type (3-pole)



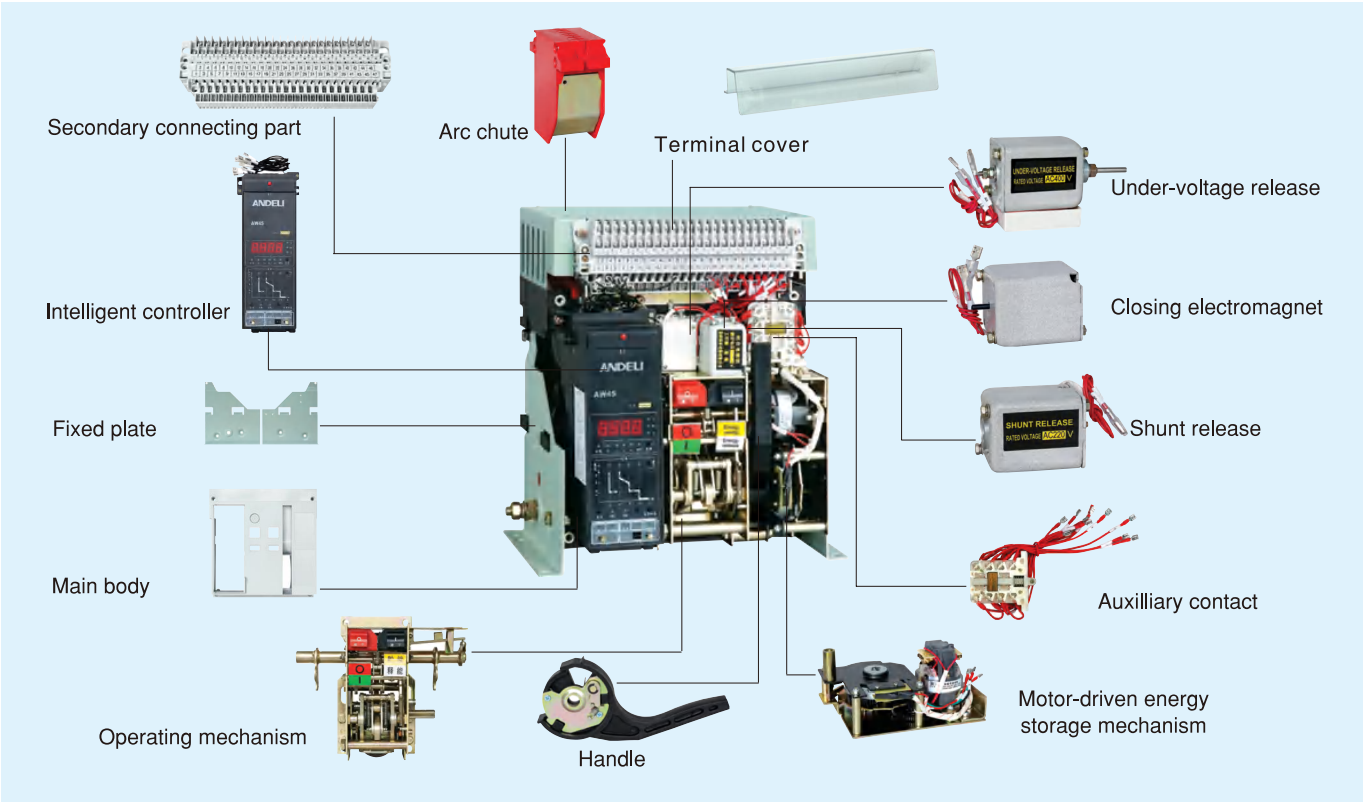
AW45-4000,5000 Drawer-type



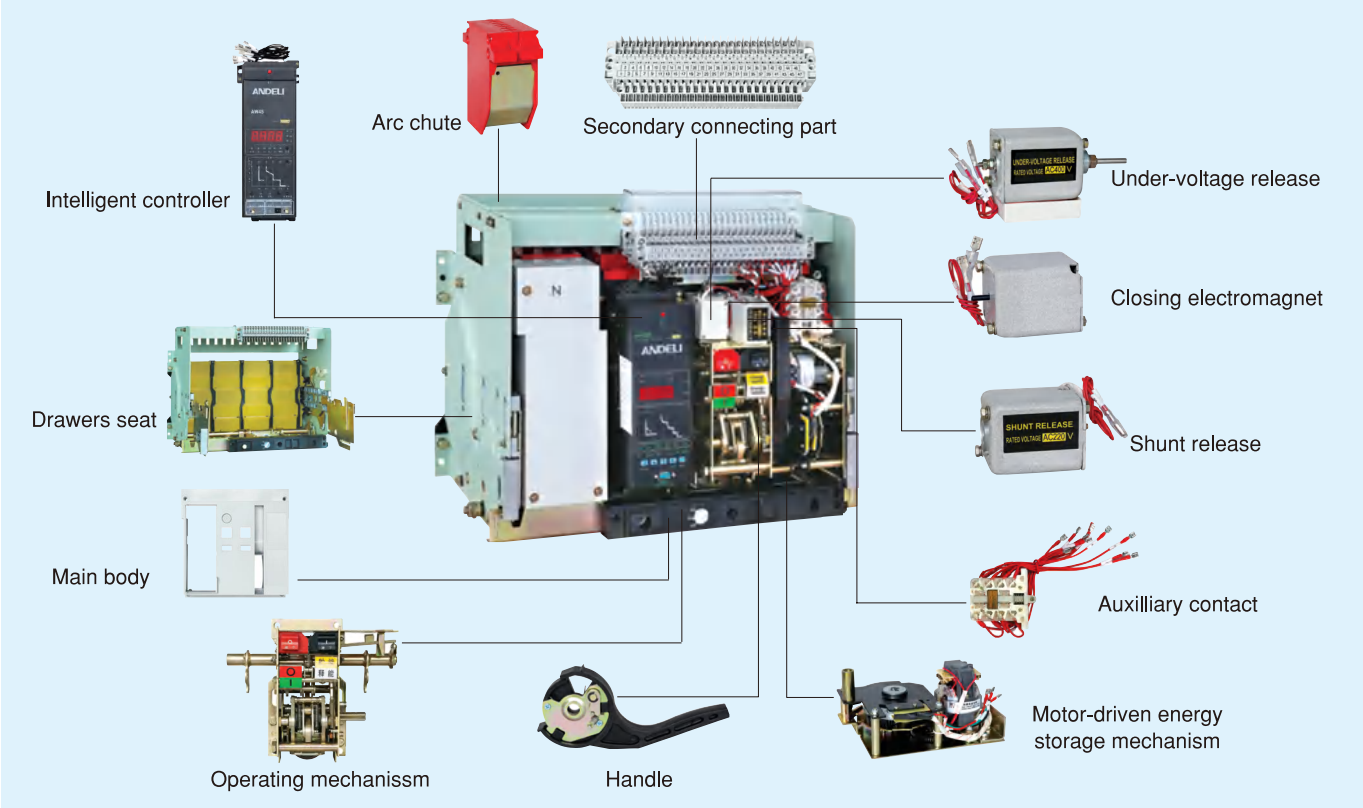
AW45-6300 Drawer type (3-pole)



Fixed Type Structure Explosion



Drawer Type Structure Explosion



ADZ30-32 Series Miniature Circuit Breaker

ADZ30-32

1. Application

ADZ30-32 is used in the single phase circuit of AC 50/60Hz, rated voltage 230V or below for protecting circuit from overload and short circuit. This product has advantages of high breaking capacity, small volume, width is only 18mm. It conforms with the standards of IEC60898.

2. Main Technical Parameter

Type	ADZ30-32
Pole	1P+N
Rated current (A)	6,10,16,20,25,32
Rated voltage(V)	230
Type of instantaneous release	C
Rated short circuit breaking capacity Icn(A)	3000

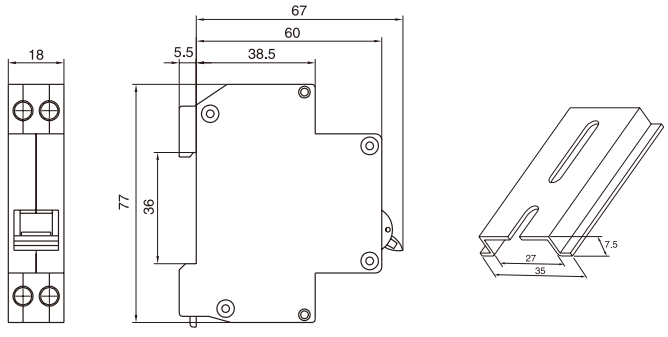
3. Applicable Conducting Wire

Rated current(A)	Norminal cross section of wire (mm^2)
In ⩽ 6	1
6<In ⩽ 13	1.5
13<In ⩽ 20	2.5
20<In ⩽ 25	4
25<In ⩽ 32	6

4. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s	Release	Current smoothly rises to specified value within 5s
-5~+40˚C	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C

5. Outline & Installation Dimension(mm)



DZ47-63 Series Miniature Circuit Breaker

1. Application

DZ47-63 1P

DZ47-63 is applicable to a line of AC 50/60Hz, 230/400V in single pole, 400V in double, three, four poles for protecting overload and short circuit, and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition.The breaker is applicable to lighting distribution system in industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60898 -1.

2. Main Technical Parameter

Type	DZ47-63			
Pole	1P		2P, 3P, 4P	
Rated current (A)	6,10,16,20,25,32,40,50,63			
Rated voltage(V)	230/400		400	
Ambient temperature	-5˚C~+40˚C			
Type of instantaneous release	C	D	C	D
Rated short circuit breaking capacity Icn(kA)	1-32A: 6 50-63A: 4	4	1-32A: 6 50-63A: 4	4

DZ47-63 2P

3. Applicable Conducting Wire

Rated current(A)	Norminal cross section of wire (mm²)
1-6A	1
10A	1.5
16,20A	2.5
25A	4
32A	6
40,50A	10
63A	16

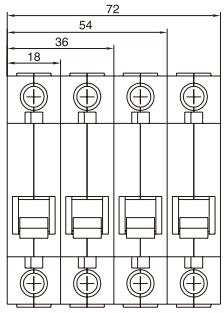
DZ47-63 3P

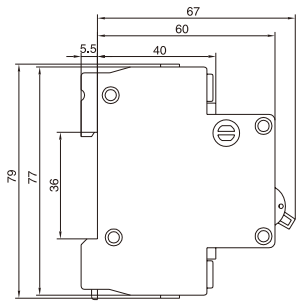
4. The Over-current Protection Property

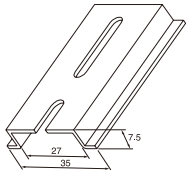
Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

DZ47-63 4P

5. Outline and Installation Dimensions (mm)







DZ47-63H Series Miniature Circuit Breaker

DZ47-63H 1P

DZ47-63H 2P

DZ47-63H 3P

DZ47-63H 4P

1. Application

DZ47-63H is applicable to a line of AC 50/60Hz, 230/400V in single pole, 400V in double, three, four poles for protecting overload and short circuit, and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition.The breaker is applicable to lighting distribution system in industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60898-1.

2. Main Technical Parameter

Type	DZ47-63H 1P			
Pole	1P		2P, 3P, 4P	
Rated current (A)	6,10,16,20,25,32,40,50,63			
Rated voltage(V)	230/400		400	
Ambient temperature	-5˚C~+40˚C			
Type of instantaneous release	C	D	C	D
Rated short circuit breaking capacity Icn(kA)	1-32A: 6 50-63A: 4	6	1-32A: 6 50-63A: 4	6

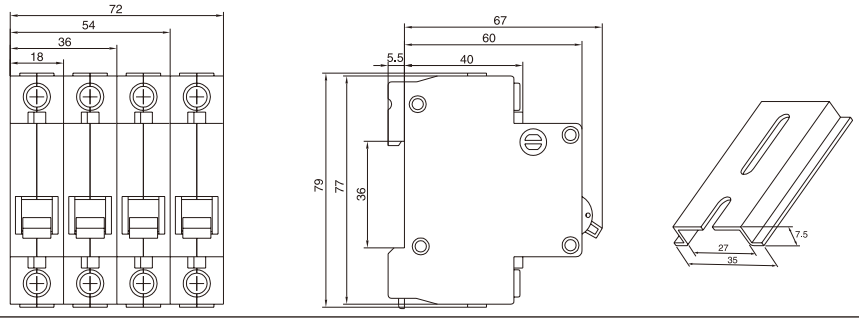
3. Applicable Conducting Wire

Rated current(A)	Norminal cross section of wire (mm^2)
1-6A	1
10A	1.5
16,20A	2.5
25A	4
32A	6
40,50A	10
63A	16

4. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

5. Outline and Installation Dimensions (mm)



DZ47N-63 Series Miniature Circuit Breaker

1. Application

DZ47N-63 is applicable to a line of AC 50/60Hz 230/400V in single pole, 400V in double, three, four poles for protecting overload and short circuit, and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition.The breaker is applicable to lighting distribution system in industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60898-1.

DZ47N-63 1P

DZ47N-63 2P

DZ47N-63 3P

DZ47N-63 4P

2. Main Technical Parameter

Type	DZ47N-63			
Pole	1P		2P, 3P, 4P	
Rated current (A)	6,10,16,20,25,32,40,50,63			
Rated voltage(V)	230/400		400	
Ambient temperature	-5˚C~+40˚C			
Type of instantaneous release	C	D	C	D
Rated short circuit breaking capacity Icn(kA)	1-32A: 6 50-63A: 4	4	1-32A: 6 50-63A: 4	4

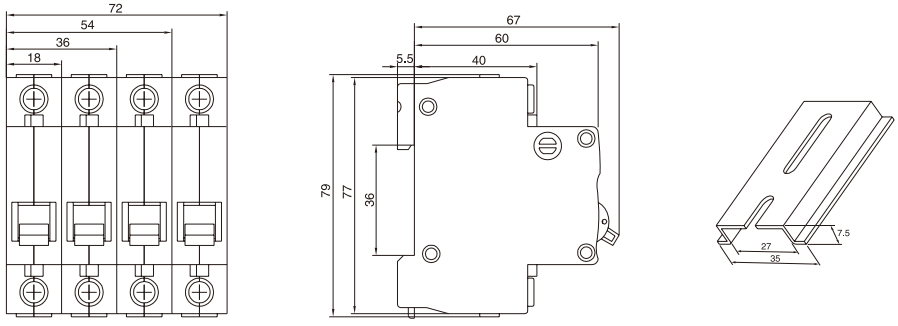
3. Applicable Conducting Wire

Rated current(A)	Norminal cross section of wire (mm^2)
1-6A	1
10A	1.5
16,20A	2.5
25A	4
32A	6
40,50A	10
63A	16

4. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

5. Outline & Installation Dimension(mm)



DZ47-100 Series Miniature Circuit Breaker

DZ47-100 1P

DZ47-100 2P

DZ47-100 3P

DZ47-100 4P

1. Application

DZ47-100 is such features as delicate appearance, light weight, excellent and reliable performance, high breaking capacity, rapid tripping and mounted by rail. Its enclosure and components adopts high fire-retarding and shock-resistance plastic of long durability. It mainly serves for protecting the circuits of AC 50/60Hz, 230V of single pole, 400V of two poles or three or four poles from overload or short-circuit, and also for unfrequent making and breaking electrical apparatus and lighting circuit.It conforms with the standards of IEC60947-2.

2. Main Technical Parameter

Type	DZ47-100	
Pole	1P	2P, 3P, 4P
Rated current (A)	63,80,100	
Rated voltage (V)	230	400
Ambient temperature	-5˚C~+40˚C	
Type of instantaneous release	C, D	
Rated short circuit breaking capacity Icn(kA)	6	

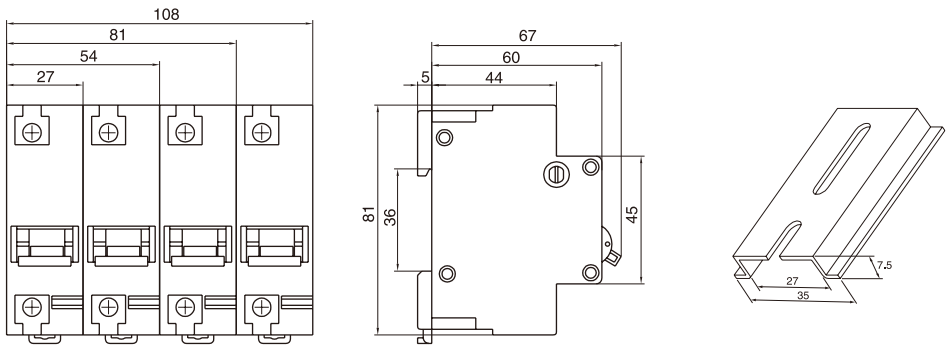
3. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
40±2˚C	Cold position	1.05In(In ⩽ 63A)	t ⩽ 1h	Non-release	–
	Cold position	1.05In (In>63A)	t ⩽ 2h	Non-release	–
	Carried out immediately after previous test	1.30In(In ⩽ 63A)	t<1h	Release	Current smoothly rises to specified value within 5s
		1.30In (In>63A)	t<2h	Release	
-5~+40˚C	Cold position	8.00In	t ⩽ 0.2s	Non-release	–
	Cold position	12.00In	t<0.2s	Non-release	–

4. Applicable Conducting Wire

Rated current(A)	Nominal cross section of wire (mm^2)
63A	16
80A	25
100A	35

5.Outline & Installation Dimension(mm)



ANDELI

DZ48N-63

DZ48N-63 Series Miniature Circuit Breaker

DZ48N-63 1P

DZ48N-63 2P

DZ48N-63 3P

DZ48N-63 4P

1. Application

DZ48N-63 miniature circuit breaker is applicable to a line of AC 50/60Hz, 230V in single pole, 400V in double, three, four poles for protecting overload and short circuit, and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition.The breaker is applicable to lighting distribution system in industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60947-2.

2. Main Technical Parameter

Type			DZ48N-63			
Pole			1P		2P, 3P, 4P	
Rated current (A)			6,10,16,20,25,32,40,50,63			
Rated voltage(V)			230		400	
Type of instantaneous release			C	D	C	D
Rated short circuit breaking capacity Icn(kA)			1-40A: 6 50-63A: 4.5	4.5	1-40A: 6 50-63A: 4.5	4.5
Life (times)	1-32A	Electric life	4000			
		Mechanical life	6000			
		Operation frequency	240 times per hour			
	40-63A	Electric life	4000			
		Mechanical life	6000			
		Operation frequency	120 times per hour			

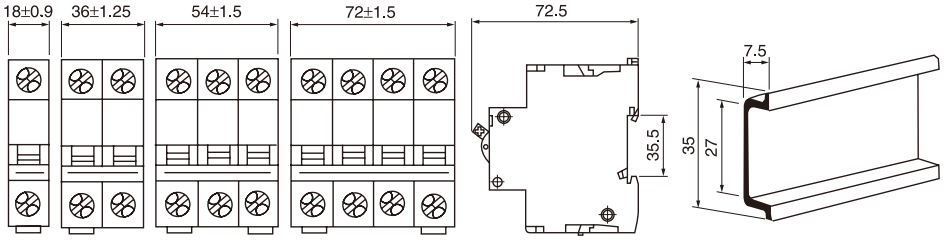
3. Applicable Conducting Wire

Rated current(A)	Nominal cross section of wire (mm^2)
1-6A	1
10A	1.5
16,20A	2.5
25A	4
32A	6
40,50A	10
63A	16

4. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

5. Outline & Installation Dimension(mm)



DZ49-63 Series Miniature Circuit Breaker

1. Application

DZ49-63 is applicable to a line of AC 50/60Hz, 230V in single pole, 400V in double, three, four poles for protecting overload and short circuit, and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition.The breaker is applicable to lighting distribution system in industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60947-2.

DZ49-63 1P

DZ49-63 2P

DZ49-63 3P

DZ49-63 4P

2. Main Technical Parameter

Type	DZ49-63			
Pole	1P		2P, 3P, 4P	
Rated current (A)	6,10,16,20,25,32,40,50,63			
Rated voltage(V)	230		400	
Ambient temperature	-5˚C~+40˚C			
Type of instantaneous release	C	D	C	D
Rated short circuit breaking capacity(kA)	1-32A: 6 50-63A: 4	4.5	1-32A: 6 50-63A: 4	4.5

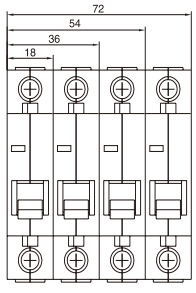
3. Applicable Conducting Wire

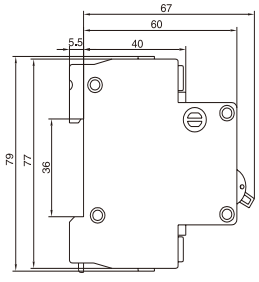
Rated current(A)	Nominal cross section of wire (mm^2)
1-6A	1
10A	1.5
16,20A	2.5
25A	4
32A	6
40,50A	10
63A	16

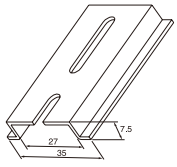
4. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

5. Outline & Installation Dimension(mm)







DZ50-63 Series Miniature Circuit Breaker

DZ50-63 1P

DZ50-63 2P

DZ50-63 3P

DZ50-63 4P

1. Application

DZ50-63 high switch-off ability miniature circuit breaker is applicable to a line of AC 50/60Hz, rated voltage 230/400V and rated current up to 63A, used for overload and short circuit protection. It can also be used for infrequent line conversion under the normal condition.The breaker is applicable to industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60947-2.

2. Main Technical Parameter

Type			DZ50-63	
Pole			1P	2P, 3P, 4P
Rated current (A)			1,2,3,4,6,10,16,20,25,32,40,50,63	
Rated voltage(V)			230	400
Type of instantaneous release			B,C,D	
Rated short circuit breaking capacity Icn(kA)			10	
Life (times)	1-32A	Electric life	8000	
		Mechanical life	20000	
		Operation frequency	240 times per hour	
	40-63A	Electric life	8000	
		Mechanical life	20000	
		Operation frequency	120 times per hour	

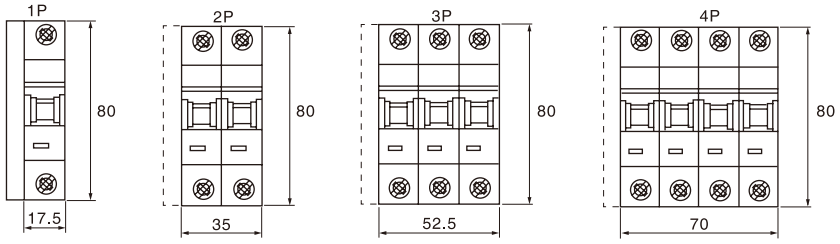
3. Applicable Conducting Wire

Rated current(A)	Nominal cross section of wire (mm^2)
1-6A	1
10A	1.5
16,20A	2.5
25A	4
32A	6
40,50A	10
63A	16

4. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

5. Outline & Installation Dimension(mm)



DZ50N-63 Series Miniature Circuit Breaker

DZ50N-63 1P

DZ50N-63 2P

DZ50N-63 3P

DZ50N-63 4P

1. Application

DZ50N-63 high breaking capacity miniature circuit breaker is applicable to a line of AC50 / 60Hz, rated voltage 23/400V and rated current up to 63A, used for overload and short circuit protection. It can also be used for infrequent line conversion under the normal condition.The breaker is applicable to industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60947-2.

2. Main Technical Parameter

Type			DZ50-63	
Pole			1P	2P, 3P, 4P
Rated current (A)			1,2,3,4,6,10,16,20,25,32,40,50,63	
Rated voltage(V)			230	400
Type of instantaneous release			B,C,D	
Rated short circuit breaking capacity Icn (kA)			10	
Life (times)	1-32A	Electric life	8000	
		Mechanical life	20000	
		Operation frequency	240 times per hour	
	40-63A	Electric life	8000	
		Mechanical life	20000	
		Operation frequency	120 times per hour	

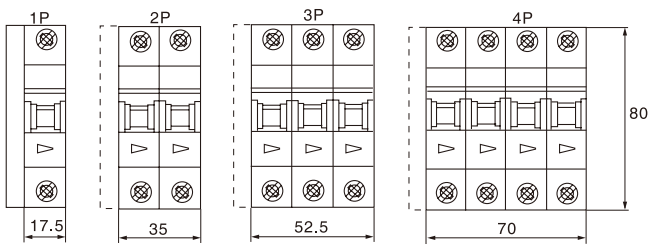
3. Applicable Conducting Wire

Rated current(A)	Nominal cross section of wire (mm^2)
1-6A	1
10A	1.5
16,20A	2.5
25A	4
32A	6
40,50A	10
63A	16

4. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

5. Outline & Installation Dimension(mm)



DZ55-63 Series Miniature Circuit Breaker

1.Application

DZ55-63 is applicable to a line of AC 50/SOHZ, rate voltage 400V or DC rate voltage 250V for protecting overload and shot circuit,and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition. The breaker is applicable to lighting distribution system in industrial enterprise. Commercially district, high-rise building and dwelling, it conforms with the standards of IEC60947-2.

DZ55-63 1P

2.Main Technical Parameter

Type	DZ55-63			
Pole	1P	2P	3P	4P
Rated voltage(AC)	230	400	400	400
Rated voltage(DC)	<60V	125V	125V	250V
Rate short circuit breaking(AC)	1-40A:6 kA 50-63A:4.5 kA			
Rate short circuit breaking(DC)	10 kA	15 kA	25 kA	25 kA

DZ55-63 2P

3.Applicable wire

Rated current (A)	Norminal cross section of wire (mm^2)
1-6A	1
10A	1. 5
16, 20A	2. 5
25A	4
32A	6
40, 50A	10
63A	16

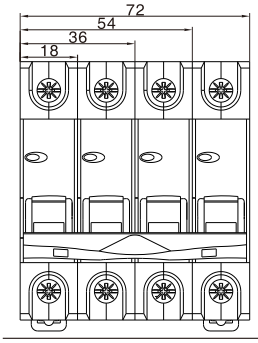
DZ55-63 3P

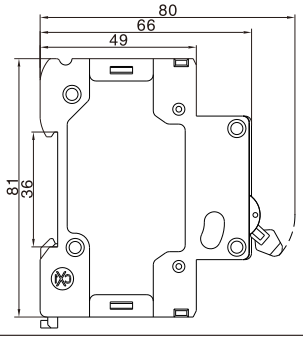
4.The Over-current Protection Property

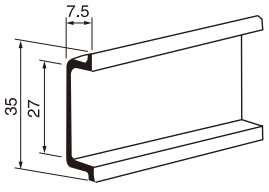
Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2℃	Cold position	1. 13In	t≤1h	Non-release	-
	Carried out immediately after previous test	1. 45In	t<1h	Release	-
	Cold position	2. 55In	1s<t<60s (In≤32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2. 55In	1s<t<120s (In>32A)	Release	
−5~+40℃	Cold position	3In	t≤0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t≥0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t≥0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

DZ55-63 4P

5. Outline & Installation Dimension(mm)







DZ56-125 Series Miniature Circuit Breaker

DZ56-125 1P

1.Application

DZ56-125 have delicate appearance, light weight. Excellent and reliable performance, high breaking capacity, rapid tripping and mounted by rail. Its enclosure and components adopts high fire-resistant and shock-resistant plastic of long durability. It mainly serves for protecting the circuits of AC 50Hz/60Hz, 230V of single pole, 400V of two poles or three or four poles from overload or short-circuit, and also for unfrequent making and breaking electrical apparatus and lighting circuit. It conforms with the standards of IEC60947-2.

2.Main Technical Parameter

Type	DZ56-125	
Pole	1P	2P,3P,4P
Rated current(A)	63,80,100,125	
Rated voltage(V)	230	400
Ambient temperature	~5℃~+40℃	
Type of instantaneous release	C,D	
Rated short circuit breaking capacity Icn(kA)	10	

DZ56-125 2P

3.The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
40±2℃	Cold position	1.05(In≤63A)	t≤1h	Non-release	-
	Cold position	1.05(In>63A)	t≤2h	Non-release	-
	Carried out immediately after previous test	1.30(In≤63A)	t<1h	Release	Current smoothly rises to specified value within 5s
		1.05(In>63A)	t<2h	Release	
-5~+40℃	Cold position	8 In	t≤0.2s	Non-release	-
	Cold position	12 In	t<0.2s	Non-release	-

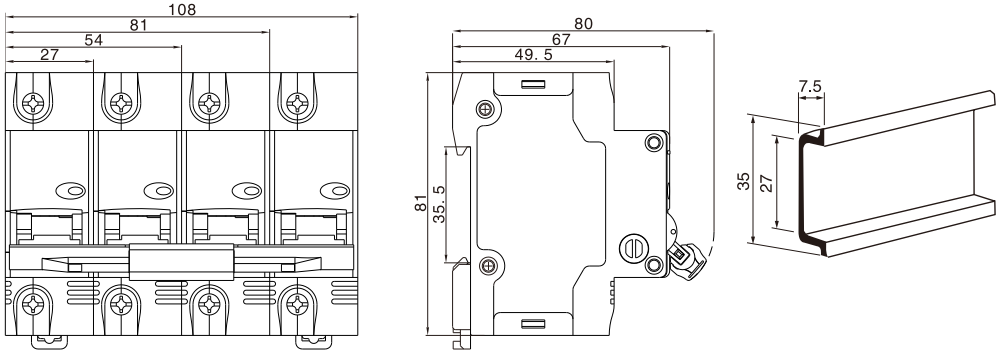
DZ56-125 3P

4.Applicable Conducting Wire

Rated current(A)	Norminal cross section of wire(mm^2)
63A	16
80A	25
100A	35
125A	50

DZ56-125 4P

5.Outline & Installation Dimension(mm)



DZ58-125 Series Miniature Circuit Breaker

DZ58-125 1P

1. Application

DZ58-125 Miniature Circuit Breakers combine the following functions:

- Protection of circuits against short-circuit current
- Protection of circuits against overload current
- Control
- Isolation

It is mainly suitable for the protection of commercial and industrial distribution system.

- Comply with standards IEC60947-2/GB14048.2
- Obtain the certificate of CCC

Structural features

- Suitable for using 35mm din rail to install
- Small size and high breaking capacity
- Visible indicator window shows the contact closed or not

DZ58-125 2P

Type and Meaning

DZ 58 - 125 □

- Pole: 1:1P; 2:2P; 3:3P; 4:4P
- Rated current grade of case:63:63A; 80:80A;100:100A;125:125A
- Design serial number
- Circuit breakers

DZ58-125 3P

DZ58-125 4P

Pole	Breaking capacity Icn (kA)	Rated current In (A)	Tripping type	
			C	D
1P	6	63	DZ58-63 1P	DZ58-63 1P
		80	DZ58-80 1P	DZ58-80 1P
		100	DZ58-100 1P	DZ58-100 1P
		125	DZ58-125 1P	DZ58-125 1P
2P	6	63	DZ58-63 2P	DZ58-63 2P
		80	DZ58-80 2P	DZ58-80 2P
		100	DZ58-100 2P	DZ58-100 2P
		125	DZ58-125 2P	DZ58-125 2P
3P	6	63	DZ58-63 3P	DZ58-63 3P
		80	DZ58-80 3P	DZ58-80 3P
		100	DZ58-100 3P	DZ58-100 3P
		125	DZ58-125 3P	DZ58-125 3P
4P	6	63	DZ58-63 4P	DZ58-63 4P
		80	DZ58-80 4P	DZ58-80 4P
		100	DZ58-100 4P	DZ58-100 4P
		125	DZ58-125 4P	DZ58-125 4P

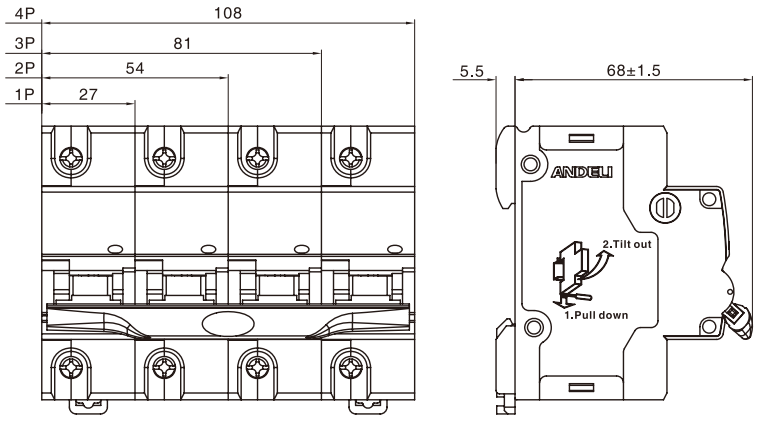
2. Main Technical Parameter

Pole		1P 2P 3P 4P
Rated current	In(A)	63, 80, 100, 125
Rated operating voltage	Ue	230V(1P) 400V(2P, 3P, 4P)
Rated Insulating voltage	Ui	500V
Rated breaking capacity	Icn	6kA
Mechanical life		8500 times(In=100A) 7000 times(In=100A)
Electrical life		1500 times(In=100A) 1000 times(In=100A)
Operation frequency		120 times/hour
Grade of protection		IP20
Installation mode		Embedded type din rail mounting
Connection type		The terminal block with clamp
Connection capability		Allow the wire under 25mm^2 to connect with
Tightening torque values		3.5N•m
Weight		1P 0.1588kg
		2P 0.3141kg
		3P 0.4695kg
		4P 0.6378kg

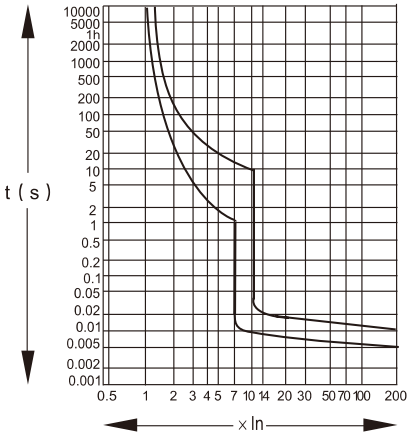
3. The Over-current Protection Property

Number	Initial Status	Rated current	Tripping type	Test current	Test time	Expected result	Note
1	Cold Position	63A >63A	C D	1.05In	t≥1h t≥2h	Non-release	
2	Hot Position	63A >63A	C D	1.30In	t<1h t<2h	Release	Current smoothly rises to specified value within 5s
3	Cold Position	≤125A	C D	3.0In 7.2In	The return time>8s	Non-release	
4	Cold Position	≤125A	C	8.5In x 80%	t≥0.2s	Non-release	
				8.5In x 120%	t<0.2s	Release	
			D	12In x 80%	t≥0.2s	Non-release	
				12In x 120%	t<0.2s	Release	

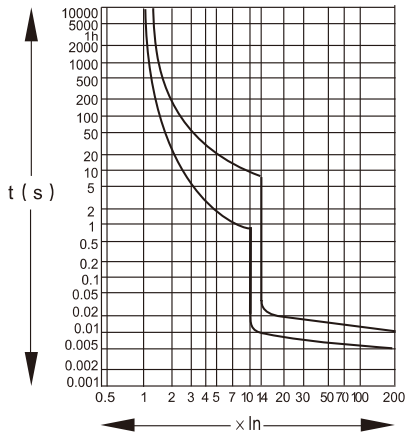
4. Outline and Installation Dimension(mm)



5. The Curve Diagrams of Over-current Tripping Characteristic



Type C:Lighting distribution circuit



Type D:Industrial distribution system

6.Working & Installation Conditions

Ambient temperature	-5°C~ +40°C, daily average temperature≤ 35°C
Altitude	≤ 2,000m
Air condition	No explosive hazard medium, no enough gas and dust to corrode metal and damage insulation
Relative humidity	When the maximum temperature is +40°C, relative humidity of air doesn't exceed 50%. Higher relative humidity may be allowed at lower temperature. For example, relative humidity reaches 90% at 20°C. Special measures should be taken to possible condensation incurred by the change of temperature
Pollution level	Level 2. or Level 3
Installation category	Category II &III
Installation location	No obvious vibration and impact; not expose to rain and snow

DZ65-63 Series Miniature Circuit Breaker

1. Application

DZ65-63 1P

DZ65-63 is applicable to a line of AC 50/60Hz, 230V in single pole, 400V in double, three, four poles for protecting overload and short circuit, and rated current up to 63A. It can also be used for infrequent line conversion under the normal condition.The breaker is applicable to lighting distribution system in industrial enterprise, commercially district, high-rise building and dwelling house. It conforms with the standards of IEC60898.

2. Main Technical Parameter

Type	DZ65-63	
Pole	1P	2P, 3P, 4P
Rated current (A)	1,2,3,4,6,10,16,20,25,32,40,50,63	
Rated voltage(V)	230	400
Ambient temperature	-5˚C~+40˚C	
Type of Instantaneous release	B,C,D	
Rated short circuit breaking capacity Icn(kA)	10	

DZ65-63 2P

3. Applicable Conducting Wire

Rated current(A)	Nominal cross section of wire (mm^2)
1-6A	1
10A	1.5
16,20A	2.5
25A	4
32A	6
40,50A	10
63A	16

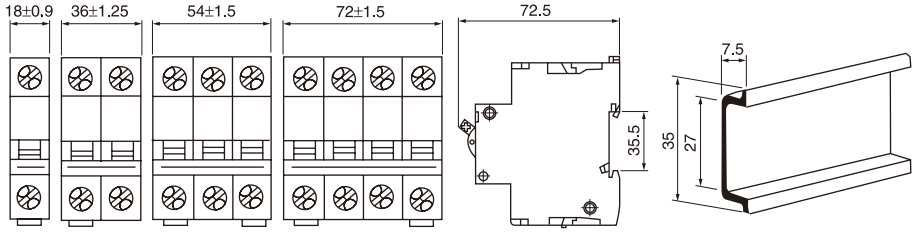
DZ65-63 3P

4. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

DZ65-63 4P

5.Outline & Installation Dimension(mm)



ADB7-63 Series Miniature Circuit Breaker

ADB7-63 1P

1. Application

ADB7-63 Miniature Circuit Breakers combine the following functions:

- Protection of circuits against short-circuit current
- Protection of circuits against overload current
- Control
- Isolation

It's mainly suitable for low voltage terminal electrical distribution in the residential houses, buildings, etc.

Type B:noninductive or micro-inductive circuit

Type C:Lighting distribution circuit

Type D:Industrial distribution system

2. Standards & Certificates

- Comply with standards IEC60898-1/GB10963.1
- Obtain the certificates of CCC,KEMA,CB

ADB7-63 2P

3. Type and Meaning

AD B 7 - 63 □

- Pole: 1:1P; 2:2P; 3:3P; 4:4P
- Rated Current: 1:1A; 3:3A;.....63:63A
- Design serial number
- Miniature Circuit Breaker
- Enterprise code

ADB7-63 3P

ADB7-63 4P

Pole	Breaking capacity Icn (kA)	Rated current In (A)	Tripping type		
			B	C	D
1P	10	1	ADB7-1 1P	ADB7-1 1P	ADB7-1 1P
		3	ADB7-3 1P	ADB7-3 1P	ADB7-3 1P
		6	ADB7-6 1P	ADB7-6 1P	ADB7-6 1P
		10	ADB7-10 1P	ADB7-10 1P	ADB7-10 1P
		16	ADB7-16 1P	ADB7-16 1P	ADB7-16 1P
		20	ADB7-20 1P	ADB7-20 1P	ADB7-20 1P
		25	ADB7-25 1P	ADB7-25 1P	ADB7-25 1P
		32	ADB7-32 1P	ADB7-32 1P	ADB7-32 1P
		40	ADB7-40 1P	ADB7-40 1P	ADB7-40 1P
		50	ADB7-50 1P	ADB7-50 1P	ADB7-50 1P
		63	ADB7-63 1P	ADB7-63 1P	ADB7-63 1P
2P	10	1	ADB7-1 2P	ADB7-1 2P	ADB7-1 2P
		3	ADB7-3 2P	ADB7-3 2P	ADB7-3 2P
		6	ADB7-6 2P	ADB7-6 2P	ADB7-6 2P
		10	ADB7-10 2P	ADB7-10 2P	ADB7-10 2P
		16	ADB7-16 2P	ADB7-16 2P	ADB7-16 2P
		20	ADB7-20 2P	ADB7-20 2P	ADB7-20 2P
		25	ADB7-25 2P	ADB7-25 2P	ADB7-25 2P
		32	ADB7-32 2P	ADB7-32 2P	ADB7-32 2P
		40	ADB7-40 2P	ADB7-40 2P	ADB7-40 2P
		50	ADB7-50 2P	ADB7-50 2P	ADB7-50 2P
		63	ADB7-63 2P	ADB7-63 2P	ADB7-63 2P

Pole	Breaking capacity Icn (kA)	Rated current In (A)	Tripping type		
			B	C	D
3P	10	1	ADB7-1 3P	ADB7-1 3P	ADB7-1 3P
		3	ADB7-3 3P	ADB7-3 3P	ADB7-3 3P
		6	ADB7-6 3P	ADB7-6 3P	ADB7-6 3P
		10	ADB7-10 3P	ADB7-10 3P	ADB7-10 3P
		16	ADB7-16 3P	ADB7-16 3P	ADB7-16 3P
		20	ADB7-20 3P	ADB7-20 3P	ADB7-20 3P
		25	ADB7-25 3P	ADB7-25 3P	ADB7-25 3P
		32	ADB7-32 3P	ADB7-32 3P	ADB7-32 3P
		40	ADB7-40 3P	ADB7-40 3P	ADB7-40 3P
		50	ADB7-50 3P	ADB7-50 3P	ADB7-50 3P
		63	ADB7-63 3P	ADB7-63 3P	ADB7-63 3P
4P	10	1	ADB7-1 4P	ADB7-1 4P	ADB7-1 4P
		3	ADB7-3 4P	ADB7-3 4P	ADB7-3 4P
		6	ADB7-6 4P	ADB7-6 4P	ADB7-6 4P
		10	ADB7-10 4P	ADB7-10 4P	ADB7-10 4P
		16	ADB7-16 4P	ADB7-16 4P	ADB7-16 4P
		20	ADB7-20 4P	ADB7-20 4P	ADB7-20 4P
		25	ADB7-25 4P	ADB7-25 4P	ADB7-25 4P
		32	ADB7-32 4P	ADB7-32 4P	ADB7-32 4P
		40	ADB7-40 4P	ADB7-40 4P	ADB7-40 4P
		50	ADB7-50 4P	ADB7-50 4P	ADB7-50 4P
		63	ADB7-63 4P	ADB7-63 4P	ADB7-63 4P

4. Main Technical Parameter

Pole		1P 2P 3P 4P
Rated current	In(A)	1, 3, 6, 10, 16, 20, 25, 32, 40, 50, 63
Rated operating voltage	Ue	230V(1P) 400V(1P, 2P, 3P, 4P)
Rated Insulating voltage	Ui	500V
Rated breaking capacity	Icn	10 kA
Mechanical life		16000 times
Electrical life		4000 times
Operation frequency		240 times/hour 120 times/hour
Grade of protection		IP20
Installation mode		Embedded type din rail mounting
Connection type		The terminal block with clamp
Connection capability		Allow the wire under 25mm^{2}to connect with
Tightening torque values		2N•m

5. Structural Features

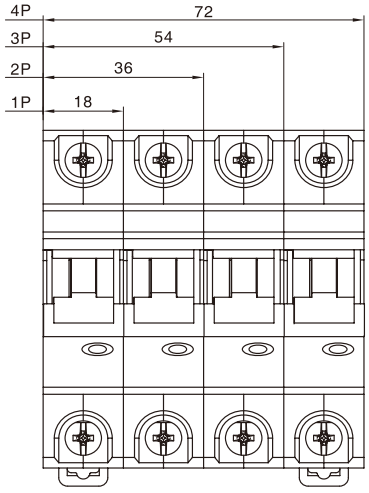
■ Bi-wiring function, connect to standard bus-bar, soft and hard wire easily;
■ A variety of accessories are available to be chosen.They are combined modularly and flexibly, so they can be installed easily by users;
■ The enclosure and some function parts are made of imported plastic resistant to fire, high temperature and impact;
■ The spare parts adopted with recyclable and naturally degradative material are good for environmental protection.
■ It can be installed vertically,horizontally or full-flatly, but can not decrease the electrical performance.

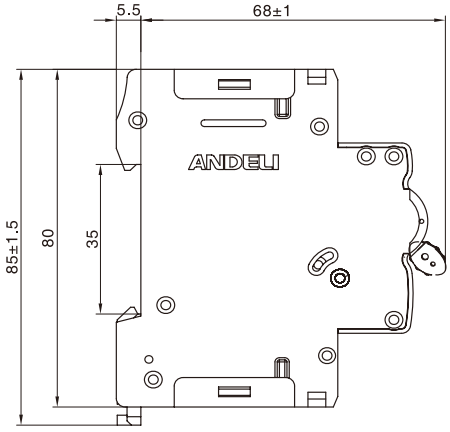
6. The Over-current Protection Property

Number	Initial Status	Rated current	Tripping type	Test current	Test time	Expected result	Note
1	Cold Position	1~63A	B C D	1.13In	t≤1h	Non-release	
2	Carried out immediately after previous test	1~63A	B C D	1.45In	t<1h	Release	Current smoothly rises to specified value within 5s
3	Cold Position	In≤32A	B C D	2.55In	1s<t<60s	Release	
		In>32A	B C D	2.55In	1s<t<120s	Release	
4	Cold Position	1~63A	B	3In	t≤0.1s	Non-release	
				5In	t<0.1s	Release	
			C	5In	t≤0.1s	Non-release	
				10In	t<0.1s	Release	
			D	10In	t≤0.1s	Non-release	
				20In	t<0.1s	Release	

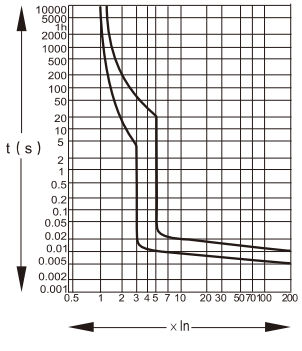
7. Outline & Installation Dimension(mm)

ADB7-63 is installed by Din Rail and its terminal block allows the wire under 25mm² to connect with.

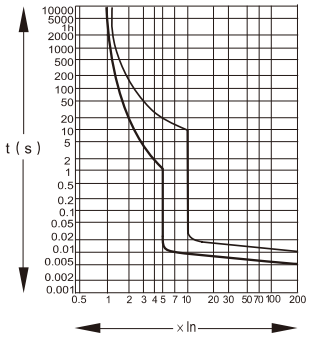




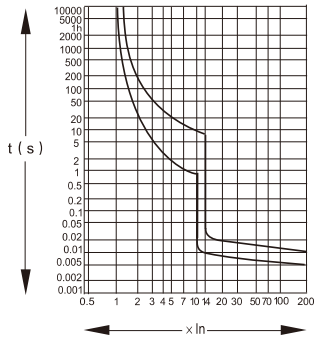
8. The Curve Diagrams of Over-current Tripping Characteristic



Type B thermal/magnetic tripping characteristic curve



Type C thermal/magnetic tripping characteristic curve



Type D thermal/magnetic tripping characteristic curve

ADZ7S-80 Miniature Circuit Breaker

1.Application

ADZ7S-80 2P

1.1 Main usage

ADZ7S-80 high breaking capacity miniature circuit breaker (Hereinafter referred to as circuit breaker) has the signal control tripping functions.It can be used in the circuits of AC50/60Hz, rated current up to 80A for circuit remote signal control ,overload and short circuit protection and also for unfrequent switch-over of circuits under normal conditions .It conforms with the standard GB10963.1 and IEC60898-1

1.2 Application scope

Widely used together with IC card prepaid watt-hour meter to remote control the power outages

2.Normal Operation and Installation Condition

2. 1 Ambient Air temperature: -5℃ to 40℃

2. 2 Location: Installation location can not exceed 2000 meters above sea level

2. 3 Installation Pollution Grade: Installation pollution grade is grade II.

ADZ7S-80 4P

3.Main Technical Parameters

3. 1 Type And Meaning

A DZ 7 S - 80

- 80-Rated current grade of case
- S-The signal control tripping
- 7-Design code
- DZ-Miniature circuit breaker
- A-Enterprise code

3. 2 Main technical parameter

3.2.1 Rated current In:10、16、20、25、30、40、50、63、80(A);

3.2.2 Type of instantaneous release:C;

3.2.3 Poles: 2 poles (with a protection pole), 4 poles (with 3 protection pole)

3.2.4 Rated short circuit breaking capacity:6000A(10A~40A) 4500A(50A~80A)

3.2.5 The over-current protection property (see table1)

Table1

Item No.	Type of Instantaneous release	Rated current(A)	Test current(A)	Test Time	Expected result	Initial state
1	C	≤63A	1.13In	t≤1h	Non-release	cold
		>63A		t≤2h		
2		≤63A	1.45In	t<1h	Release	Current smoothly rises to specified value within 5s
		>63A		t<2h		
3		≤32A	2.55In	1s<t<60s	Release	cold
		>32A	2.55In	1s<t<120s		
4		all	5In	t≤0.1s	Non-release	cold
5			10In	t<0.1s	Release	cold

3.2.6 Signal control release property(see table 2)

Table2

Rated voltage Un(V)	Action time	Repeat operation time interval
230V	0.5s<t<2s	3min
400V		

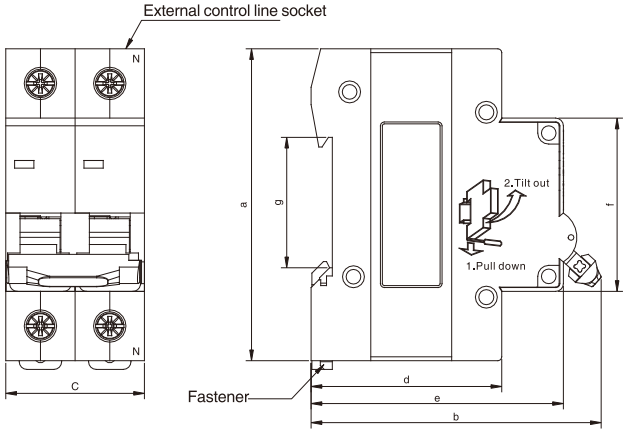
3.2.7 Nominal cross-section of wire (see table 3)

Table3

Rated current In(A)	Nominal cross-section of wire(mm)
10	1.5
16	2.5
20	2.5
25	4
30	6
40	10
50	10
63	16
80	25

3.2.8 Mechanical/electric lifetime (times)
Electric lifetime:4000 times, cosΦ=0.85~9;
Mechanical life (times):10000 times

4.Outline and Installation Dimensions (mm)

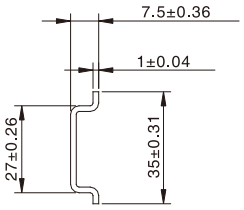


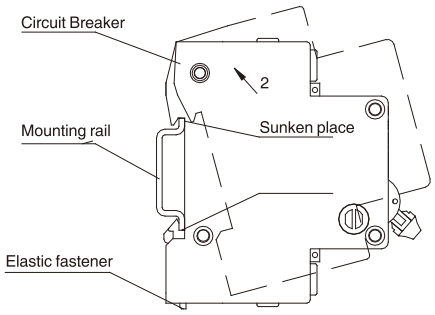
Poles \ Symbol	a	b	c	d	e	f	g
1P+N	81±0.60	75±0.60	36±0.50	49. 5±0.60	65.5±0.60	45±0.60	36±0.60
3P+N			72±0.60				

5.Installation and maintenance

5.1 Installation
5.1.1 Pre-Installation Check
a. The spare parts should have no damage
b. The data on the nameplate shoule match the use condition
5.1.2 Installation and wiring
a. Installation refer to picture 2(handle move up, circuit connected; handle move down,circuit disconnected) Installation position get into the rail track(see picture 2)
b. Push up the retainer to make the MCB fixed on the rail track.
c. The cross-section of main circuit wire(see table 3). Lead the wire into the connection hole, then tighten the screws to ensure the wire shall not loose, pull out, bare copper wire head can't dew outside the terminal.
d. Outside wire and control wire connect to control circuit, see picture 1 for wiring position, Wiring diagram. Neutral wire must connect to N side.

e. Manual operation with the MCB several times to confirm its flexible and reliable before power on.Then disconnect the control voltage ,make sure the MCB can open in the set time





5.2 Use and maintenance
5.2.1 The MCB should be inspected regularly,the frequency based on the working conditions. Cut off power supply when inspection,check if the fastener and wire is loose or any damage with the spare part.Manual operation with the MCB several times to confirm its flexible and reliable.
5.2.2 After the MCB switch off because of over current or short circuit current,please solve the fault before switch it on,otherwise will reduce the service life of circuit breaker.
5.2.3 The MCB must not be wetted or soaked by rain,snow or water during transportation, storage and usage.

6. The common faults and treatment

6.1 Handle not closed
a.Short circuit fault exist,check the circuit,to exclude short circuit fault, then run again;
b.Wrong model of MCB used,the current of the circuit much higher than the rated current of the MCB; so must replace a suitable one;
c.The MCB is broken;

6.2 The MCB with abnormal heat
a. The screws is loose,tighten the screws;
b. The cross-section of wire is small,choose a suitable cross-section of wire according to table 3 Please timely contact the seller or just contact the manufacturer directly if there is something womg with the products.

7. Order Notlce

Please pay attention when place a order:
a. Product model and name,Example: ADZ7S-80 miniature circuit breaker
b. Number of poles,Example: 1P+N or 3P+N
c. The rated current,Example: 10A,25A
d. Order quantity

Security Warning

- The products must not be operated when poewr on state in case of electric shock hazard
- The products must not be tested by short circuit between live wire and ground or live wire in case of electric shock hazard.
- Tighten the screws to make the wire fixed when installation.See table 3 to choose the cross-section of conductor
- Operation with wet hands is strictly prohibited in case of electric shock hazard
- The protection features is tested and adjusted by the manufacturer,users can not adjust the product at random during usage
- The MCB has no fuction to protect personal electric shock hazard and electric equipment leakage.

ADZ7S-100ZFD Series Automatic Reset Circuit Breaker

1.Application

ADZ7S-100ZFD 2P

ADZ7S-100ZFD series automatic reset circuit breaker is used for electricity consumption information collect and management system of power grid company, it is applicable to a line of AC50/60Hz, rated working voltage of 230/400V and rated control voltage of 220V, rated current up to 100A, it's rated isolating voltage is 500V. It conforms with the standard of IEC60898-1.

2.Type Meaning

A DZ 7 S - 100 □

- 10kA breaking capacity
  6kA breaking capacity
- Frame rated current (A)
- Use for prepaid kWH meter
- Design code
- Miniature Circuit Breaker
- ANDELI

3.Product Features

ADZ7S-100ZFD 4P

- Ultra-small volume: the control part use single module design,width is only 18mm.
- Powerful function: open and close automatically according to the situation of prepaid electricity charge. It can trip fastly,and keep the trip status when electricity charge is run out.
- Fast action: close within 3 seconds and open within 2 seconds.

Reliable performance: mechanical life more than 20,000 operation cycles.

- High safety: breaking capacity up to 10kA.With open safety lock hole.

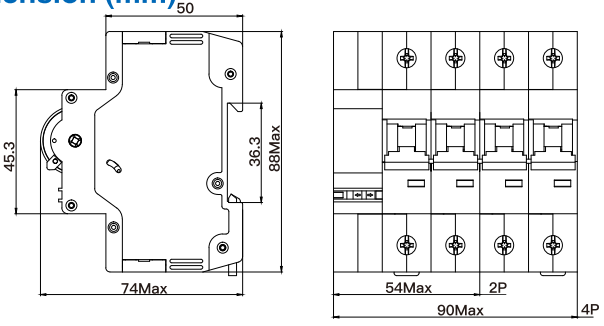
Reliable transmission: use inside axis for transmission to ensure the 2 poles and 4 poles breaker can close synchronously.

- Good compatibility: conform the standard of module terminal combined electric equipment,installed on DIN rail and easy for exchange.
- Environmentally friendly: low power consumption,use environmental protection materials and conform to RoHS requirements.
- Strong adaptability: suitable use at temperature of -40°C~70°C.

4.Main Technical Parameter

Type		ADZ7S-100ZFD	
		2P	4P
Frame rated current Inm(A)		80	80
Rated current In(A)		40,50,63,80	
Rated isolate voltage Ui(V)		500	
Rated working voltage Ue(V)		230	400
Rated impulse withstanding voltage (kV)		6	
Rated breaking capacity Icn(kA)		10	
Rated working breaking capacity Ics(kA)		7.5	
Rated frequency Fn(Hz)		50/60	
Curve type		C	
Working life	Mechanical life	20000	
	Electrical life	8000	
Working environment (°C)		Normal working temperature:-25~65; limit working temperature:-40~70	

5.Outline Dimension (mm)



Electrical Accessories of Miniature Circuit Breaker

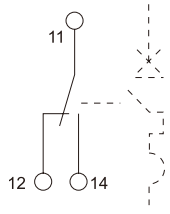
AOF-1

Accessory Name	Cat No.
Auxiliary contact	DZ58OF
Alarm contact	DZ58SD
Shunt release, used for 24~48V	DZ58MX24
Shunt release+Alarm contact,used for 24~48V	DZ58MS24
Shunt release+Auxiliary contact,used for 24~48V	DZ58MO24
Shunt release,used for 110~415V	DZ58MX220
Shunt release+Alarm contact,used for 110~415V	DZ58MS220
Shunt release+Alarm contact,used for 110~415V	DZ58MO220

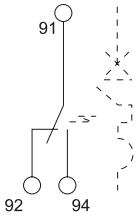
Note: The auxiliary contact and alarm contact are optional for DZ47LE
All of accessories are optional for DZ58

AOF-1 Auxiliary Contact

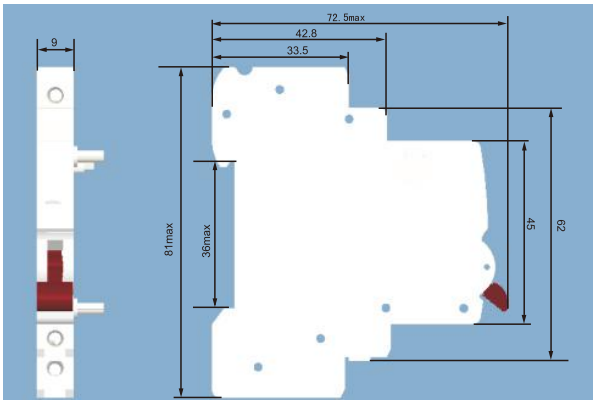
ABL-1

Rated operating voltage Ue V	AC230	AC400	DC24	DC48	DC110	DC220
Rated operating current Ie A	6	3	6	2	1	0.4
The mode of auxiliary contact	NO NC					
Connection diagram						

ABL-1 Alarm Contact

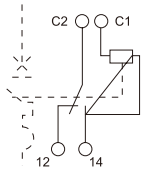
Rated operating voltage Ue V	AC230	AC400	DC24	DC48	DC110	DC220
Rated operating current Ie A	6	3	6	2	1	0.4
The mode of auxiliary contact	NO NC					
Connection diagram						

Outline & Installation Dimension(mm)

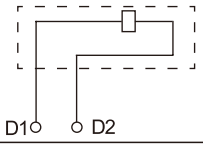


AOUT-1

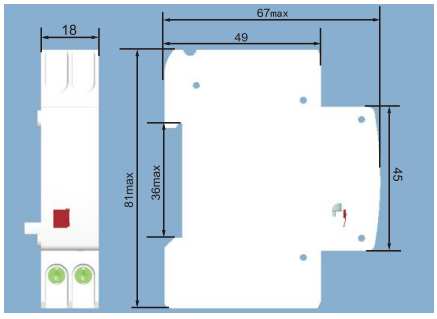
AST-1 Shunt Release

Control voltage Ue V	AC230, DC24
Operating voltage V	When the power voltage is equal to 70%~110% of the rated control power voltage (us) the shunt release should be released at any operation condition of the breaker.
Connection diagram	

AOUT-1 Over-Voltage &Under-Voltage Release

Rated control power voltage Ue V	AC: 48, 230
Under-voltage operating voltage V	The release can be released reliably when the voltage is 35%~70% of the rated working voltage; it should ensure switch-on when the voltage is 85%~100% of the rated working voltage and should prevent switch-on when the voltage is lower than 35% of the rated working voltage
Over-voltage operating voltage V	280V ±5%
Connection diagram	

Outline & Installation Dimension(mm)



ADZ30LE-32 Residual Current Operated Circuit Breaker With Over-current Protection

ADZ30LE-32

1. Application

ADZ30LE-32 is used in the single phase circuit of AC 50/60Hz, rated voltage 230V, used as electron shock protection. It can protect circuit from overload and short circuit. This product has advantages of small volume, high breaking capacity, live and zero wire are cut off at the same time, also protecting person from electric shock when the live wire connected opposite. It conforms with the standards of IEC61009.

2. Main Technical Parameter

Type	ADZ30LE-32
Pole	1P+N
Rated current (A)	6,10,16,20,25,32
Rated voltage(V)	230
Rated residual action current IΔn(A)	0.03
Rated residual non-action current IΔno(A)	0.015
Rated residual making/breaking capacity IΔm(A)	500
Type of instantaneous release	C
Rated making/breaking capacity Im(A)	3000

3. Applicable Conducting Wire:

Rated current(A)	Norminal cross section of wire (mm^2)
In ⩽ 6	1
6<In ⩽ 13	1.5
13<In ⩽ 20	2.5
20<In ⩽ 25	4
25<In ⩽ 32	6

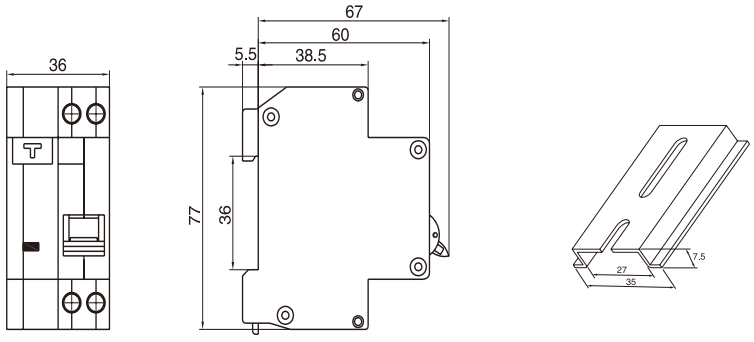
4. Residual Current Breaking Time

In (A)	IΔn (A)	Breaking time(s) when equals to rating following				
		IΔn	2IΔn	5IΔn	5,10,20,50,100,200,500[a](A)	IΔt[b]
6-32	0.03	0.1	0.06	0.04	0.04	0.04

5. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s	Release	Current smoothly rises to specified value within 5s
-5~+40˚C	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C

6. Outline & Installation Dimension(mm)



DZ47LE-63 Residual Current Operated Circuit Breaker With Over-current Protection

DZ47LE-63 1P+N

DZ47LE-63 2P

DZ47LE-63 3P

DZ47LE-63 4P

1. Application

DZ47LE-63 is applicable to a line of AC 50/60Hz,rated voltage 230V for single pole two-wire, 2-pole or 400V for 3-pole,3-pole 4-wire, 4-pole and rated current up to 63A. It can protect the line and motor from overload and short circuit. It can also be used for infrequent line conversion and infrequent motor start. It conforms with the standards of IEC60947-2.

2. Main Technical Parameter

Type	DZ47LE-63	
Pole	1P+N, 2P	3P, 3P+N, 4P
Rated current (A)	6,10,16,20,25,32,40,50,63	
Rated voltage (V)	230	400
Rated short circuit breaking capacity Icn(kA)	6-32A:6 / 40-63A:4.5	
Rated residual making/breaking capacity IΔm(A)	2000	
Rated residual action current IΔn(A)	0.03,0.05,0.1,0.3	
Rated residual non-action current IΔno(A)	0.5IΔn	

3. Applicable Conducting Wire

Rated current(A)	1-6A	10A	16,20A	25A	32A	40,50A	63A
Norminal cross section of wire mm^2	1	1.5	2.5	4	6	10	16

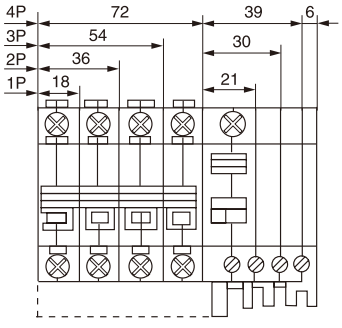
4. Residual Current Breaking Time

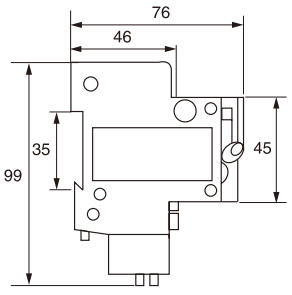
In (A)	IΔn (A)	Breaking time(s) when equals to rating following				
		IΔn	2IΔn	5IΔn	5,10,20,50,100,200,500[a](A)	IΔt[b]
6-63	0.03, 0.05, 0.1, 0.3	0.1	0.06	0.04	0.04	0.04

5. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

6. Outline & Installation Dimension(mm)





4P:72+45
3P+N:54+45
3P:54+36
2P:36+27
1P:18+27

DZ55LE-63 Residual Current Operated Circuit Breaker With Over-current Protection

DZ55LE-63 1P+N

DZ55LE-63 2P

DZ55LE-63 3P

DZ55LE-63 3P+N

DZ55LE-63 4P

1. Application

DZ55LE-63 is applicable to a line of AC 50/60Hz, rated voltage 230V for single pole two-wire, 2-pole or 400V for 3-pole, 3-pole 4-wire, 4-pole and rated current up to 63A. It can protect the line and motor from overload and short circuit. It can also be used for infrequent line conversion and infrequent motor start. It conforms with the standards of IEC61009.

2. Main Technical Parameter

Type	DZ55LE-63	
Pole	1P+N, 2P	3P, 3P+N, 4P
Rated current (A)	6,10,16,20,25,32,40,50,63	
Rated voltage (V)	230	400
Rated short circuit breaking capacity Icn(kA)	6-32A :6 / 40-63: 4.5	
Rated residual making/breaking capacity IΔm(A)	2000	
Rated residual action current IΔn(A)	0.03,0.05,0.1,0.3	
Rated residual non-action current IΔno(A)	0.5IΔn	

3. Applicable Conducting Wire

Rated current(A)	1-6A	10A	16,20A	25A	32A	40,50A	63A
Norminal cross section of wire (mm^2)	1	1.5	2.5	4	6	10	16

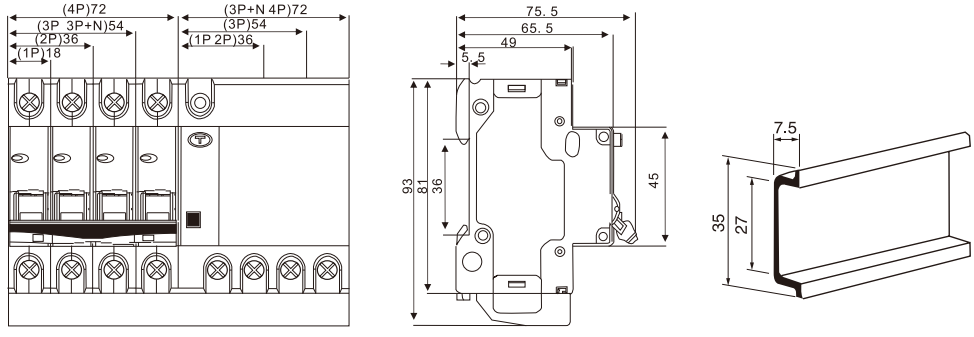
4. Residual Current Breaking Time

In (A)	IΔn (A)	Breaking time(s) when equals to rating following				
		IΔn	2IΔn	5IΔn	5,10,20,50,100,200,500 (A)	IΔt
6-63	0.03, 0.05, 0.1, 0.3	0.1	0.06	0.04	0.04	0.04

5. The Over-current Protection Property

Ambient temperature	Initial status	Test current	Test time	Expected result	Note
30±2˚C	Cold position	1.13In	t ⩽ 1h	Non-release	–
	Carried out immediately after previous test	1.45In	t<1h	Release	–
	Cold position	2.55In	1s<t<60s (In ⩽ 32A)	Release	Current smoothly rises to specified value within 5s
	Cold position	2.55In	1s<t<120s (In>32A)	Release	
-5~+40˚C	Cold position	3In	t ⩽ 0.1s	Non-release	Type B
	Cold position	5In	t<0.1s	Release	Type B
	Cold position	5In	t ⩾ 0.1s	Non-release	Type C
	Cold position	10In	t<0.1s	Release	Type C
	Cold position	10In	t ⩾ 0.1s	Non-release	Type D
	Cold position	20In	t<0.1s	Release	Type D

6. Outline & Installation Dimension(mm)



DZ58LE-63 Earth Leakage Circuit Breaker

DZ58LE-63 1P+N

DZ58LE-63 2P

DZ58LE-63 3P

DZ58LE-63 3P+N

1. Application

DZ58LE-63 Earth Leakage Circuit Breaker (ELCB) is mainly used in AC50/60HZ, rated operating voltage up to 400V, rated current up to 63A, rated operating capacity of no more than 6000A in protection distribution lines, make the earth leakage protection and there is overload and short-circuit protection, but also it is used for infrequent on-off and changeover operation.

2.Type and Meaning

DZ 58 LE - 63

- 63 — (Frame size)rated current
- LE — Function Code (Electronic Leakage Circuit Breaker)
- 58 — Design number
- DZ — Circuit Breaker

3.Products

3.1 Classification

a. 1P + N
b. 2P
c. 3P
d. 3P + N
e. 4P

3.2 Rated Current:6 10 16 20 25 32 40 50 63A
3.3 Rated operating voltage:230V/400V
3.4 Wiring:with pole clamp terminals
3.5 Instantaneous Release:Type C
3.6 Installation: DIN rail embedded
3.7 Operation: manual operation
3.8 Protection functions:not only with earth leakage protection, but also performance on the long delay overload protection and instantaneous short-circuit protection

4.Normal Using Conditions

4.1 Ambient temperature: -5°C~+40°C relative humidity lower than 95%
4.2 Installation site altitude not exceeding 2000 meters,
4.3 Atmospheric relative humidity does not exceed 50% at the highest temperature +40°C. when low humidity can have a high temperature, such as in the wettest month average temperature does not exceed +25°C, the monthly relative humidity less than 90%, and allows when temperature changing, there is condensation on the surface of the circuit breaker
4.4 The breaker's using place: pollution degree 2
4.5 Breake's installation category: usually class II

5.Technical Data

5.1 Residual current protection features

a Rated residual operating current: I = 30mA or 50mA; 100mA or 300 mA,
b Rated residual non-operating current :15mA or 25 mA; 50 mA or 150 mA
c Maximum breaking time of rated residual operating current:0.1S.
d Rated residual operating and breaking capacity:2000A

5.2 Over-current tripping characteristics
5.2.1 Over-current tripping characteristic of the circuit breaker, on the condition of the normal installation of 30±5°C ambient temperature, shall comply with the requirements under Table1

DZ58LE-63 4P

Table 1 overcurrent tripping characteristics

Item	Triping type	Rated current	Test currentA	Tripping time T	Expected result	Initial status
1	C	All currents	1.13In	t≤1h	Non-release	cold position
2		All currents	1.45In	t<1h	Release	Current smoothly rises to specified value within 5s
3		All currents	2.55In	1s<t<60s In≤32A	Release	cold position
		All currents	2.55In	1s<t<60s In≤32A	Release	cold position
4		All currents	5In	t≤0.1s	Non-release	cold position
5		All currents	10In	t<0.1s	Release	cold position

①Cold position means no more than 8h before the test with a load,
②Hot position means that: test is starting from cold position to 1.13In, load than or equal status after 1 hour.

5.3 Rated short circuit breaking capacity is shown in Table 2 Table 2

Rated current (A)	Rated short breaking capacity (A)	COSΦ
In≤40	6000	0.65-0.70
In>40	4500	0.75-0.80

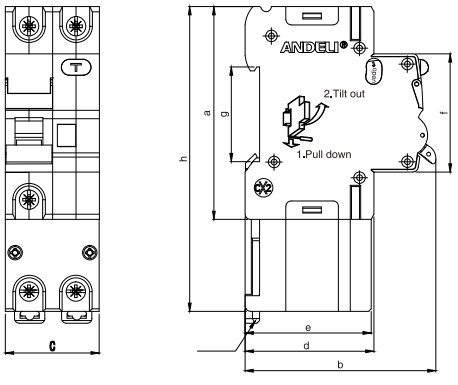
5.4 Mechanical and Electrical Life
Breaker at the rated voltage requirements, operating and breaking the rated currents, power factor is 0.85-0.9 to operate the frequency test by the cycle 240 times per hour,and its mechanical and electrical life is 4000 times.

6.Structural Characteristics and Working Principle

6.1 The breaker consists of contacts, arc systems, electromagnetic release system operation structure, zero-sequence current transformer, electronic amplification circuit, leakage release and other components. Electromagnetic system uses a precision and resistive thermal bimetal materials, graphite contacts with silver alloy contacts, also selected the enhanced wear plastic and other new materials to ensure product performance.

6.2 Breaker works:
Pressing the operating mechanism of the circuit breaker under normal working conditions, the power is turned on, then the release mechanism latched, the contact can not move, when the current is too large, the electromagnetic system of the bimetal is deformed to promote the lock, so the core being sucked move, contacts in the release of the spring force is disconnected, the protective effect of the circuit breaker to complete the breaking. When the line leakage and electric shock accident occurs, zero sequence transformer output signal to the thyristor, leakage release core action, putting action to promote the release, so that earth leakage circuit breaker cut off the power in a short time, in order to achieve leakage protection.

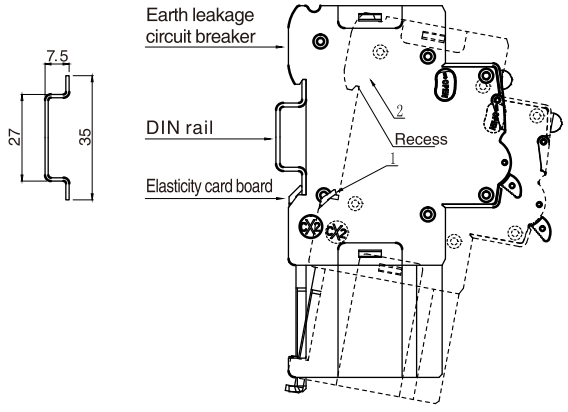
7.Outline & Installation Dimension(mm)



Symbol / Poles	a	b	c	d	e	f	g	h
1P+N	81±0.60	75±0.60	36±0.50	49±0.30	48±0.30	45±0.30	36±0.30	116±0.70
2P			54±0.60					
3P			72±0.60					
3P+N			72±0.60					
4P			90±0.70					

8. Installation and Adjustment

8.1 Should note the following before installing the circuit breaker
a Check circuit breakers, confirmed intact, flexible movement
b Check the mark whether the breaker is used in normal conditions consistent product
8.2 Installation breaker, should note the sign of terminal wiring
8.3 Except installed in the distribution box,when used alone installation,this circuit breakers should be installed a grounded metal (or insulating material) protective panel to prevent electric shock
8.4 Setting current can not be self-regulation and does not require maintenance
8.5 Installation and removal methods



8.5.1 The orbit of the circuit breaker aligned with the DIN rail (slightly tilted to the right, dotted line in Figure 2), so that the breaker push enough to an upward direction of the arrow 1,on the direction of the arrow 2, push the recess to the upper end of the DIN rail, let go.
8.5.2 In contrast with the installation process, so that a direction of the arrow 1 up to top of breaker, rotate the arrow 2 in the opposite direction, you can remove it.

9. Maintenance

9.1 Circuit Breaker (including packed products) in the transport and storage,shall not be affected by rain and snow,products should be placed in the boxes,on the conditions of the noninvasive, air circulation, monthly average relative humidity less than 90% (at 20±5°C),the air temperature does not exceed +40°C and not lower than -25°C
9.2 Breakers in operation should be checked regularly to clear dust and dirt on the inlet, outlet and the product surface, when examination, should cut off the power. and the cycle of the checking should consider the working conditions.
9.3 Comply the rules of the user of storage and use, from the date of installation within 12 months, but not more than the date of shipment from the factory within 18 months,if the products can't work properly because of quality problem caused by manufacturing , we will replace the product freely.

10. Order Specification

When ordering breaker, the following points need to be specified:
a product model and name, as DZ58LE-63 series Earth Leakage Circuit Breakers,
b Circuit breakers Poles, such as: 2P, 3P, 3P + N
c Rated current of the circuit breaker, such as: 40A, 50A
d Order Quantity

DZ58LE-125 Earth Leakage Circuit Breaker

DZ58LE-125 1P+N

DZ58LE-125 2P

DZ58LE-125 3P

DZ58LE-125 3P+N

1. Application

DZ58LE-125 Earth Leakage Circuit Breaker (ELCB) is mainly used in the distribution line with AC50/60Hz，rated insulation voltage 600V,rated operating voltage up to 380V(400V) and below; rated current from 63A to 125A, rated operating capacity of no more than 6000A,make the earth leakage protection and there is overload and short-circuit protection,and also it is used for infrequent on-off and changeover operation Its performance and compliance conforms with IEC60947-2 & GB14048.2 standard.

2. Type and Meaning

DZ 58 LE - 125

- 125 — (Frame size)rated current
- LE — Function Code (Electronic Earth Leakage Circuit Breaker)
- 58 — Design number
- DZ — Circuit Breaker

3.Products

3.1 Classification
a. 1P + N; b. 2P; c. 3P; d. 3P + N; e. 4P
3.2 Rated Current: 63A, 80A, 100A, 125A
3.3 Rated operating voltage: 230V/400V
3.4 Wiring: with pole clamp terminals
3.5 Tripping Type: the circuit breaker trip type is motor protection type
3.6 Installation: DIN rail embedded
3.7 Operation: manual operation
3.8 Protection functions: not only with earth leakage protection, but also performance on the long delay overload protection and instantaneous short-circuit protection

4. Normal Using Conditions

4.1 Ambient temperature:
a. Does not exceed +40 ℃
b. not less than -5 ℃,
c. In 24h the average does not exceed +35 ℃.
4.2 Installation site altitude not exceeding 2000 meters
4.3 Atmospheric relative humidity does not exceed 50% at the highest temperature +40 ℃. When low humidity can have a high temperature, such as in the wettest month average temperature does not exceed +25 ℃, the monthly relative humidity less than 90%, and allows when temperature changing, there is condensation on the surface of the circuit breaker
4.4 The breaker's using place: Pollution Degree 3
4.5 Breaker's installation category: usually category A

5.Technical Data

5.1 Residual current protection features
a. Rated residual operating current: I = 30mA or 50mA; 100mA or 300 mA,
b. Rated residual non-operating current :15mA or 25 mA; 50 mA or 150 mA
c. Rated residual operating current maximum breaking time: 0.1S
d. Rated residual operating and breaking capability: 2000A
5.2 Over-current tripping characteristics
5.2.1 Over-current tripping characteristic of the circuit breaker, on the condition of the normal installation of 30 ±2°C ambient temperature,shall comply with the requirements under Table 1

DZ58LE-125 4P

Table 1 Over-current tripping characteristics

Disconnect the power distribution characteristics of inverse time breaker				
Ambient temperature	Test current	Test time		Expected result
30±2°C		In≤63A	63A<In≤630A	
Cold position	1.05In	<1h	<2h	Non-release
Hot position	1.3In	<1h	<2h	Non-release

5.2.2 Inverse time of breaker tripping operation time should be consistent with "DZ58 MCCB equivalent test parameter table"

5.2.3 Instantaneous operating characteristics shall conform to Table 2

Table 2 Instantaneous operating characteristics

Initial status	Test current	Test time	Expected result
Cold position	12In±20%	Ta	Instantaneous trip

a When short-circuit current is equal to 80% of the instantaneous trip test setting current, the trip should be no action, the current duration time t ＜0.2s; the test current is equal to 120% of the short-circuit setting current, the tripping time t "0.2s

Note: Instantaneous tripping can be carried out at any temperature

5.3 Rated short circuit breaking capacity is shown in Table 3

Table 3 Short circuit breaking capacity

Rated current (A)	Rated short breaking capacity (A)	COSΦ
63≤In≤125	6000	0.65-0.70

5.4 Applicable Conducting Wire

Table 4

Rated Current (A)	63	80	100	125
Conducting wire (mm^2)	16	25	35	50

5.5 Mechanical and Electrical Life

Breaker at the rated voltage requirements, operating and breaking the rated currents, power factor is 0.65-0.7 to operate the frequency test by the cycle 240 times per hour, and its mechanical and electrical life is 4000 times.

6. Structural Characteristics and Working Principle

6.1 The breaker consists of contacts, arc systems, electromagnetic release system operation structure, zero-sequence current transformer, electronic amplification circuit, leakage release and other components. Electromagnetic system uses a precision and resistive thermal bimetal materials, graphite contacts with silver alloy contacts, also selected the enhanced wear plastic and other new materials to ensure product performance.

6.2 Breaker works

Pressing the operating mechanism of the circuit breaker under normal working conditions, the power is turned on, then the release mechanism latched, the contact can not move, when the current is too large, the electromagnetic system of the bimetal is deformed to promote the lock, so the core being sucked move, contacts in the release of the spring force is disconnected, the protective effect of the circuit breaker to complete the breaking. When the line leakage and electric shock accident occurs, zero sequence transformer output signal to the thyristor, leakage release core action, putting action to promote the release, so that earth leakage circuit breaker cut off the power in a short time, in order to achieve leakage protection.

7. Outline & Installation Dimension(mm)

Overall of Earth Leakage Circuit Breakers and mounting dimensions shown in Figure 1 and Table 3

Figure 1

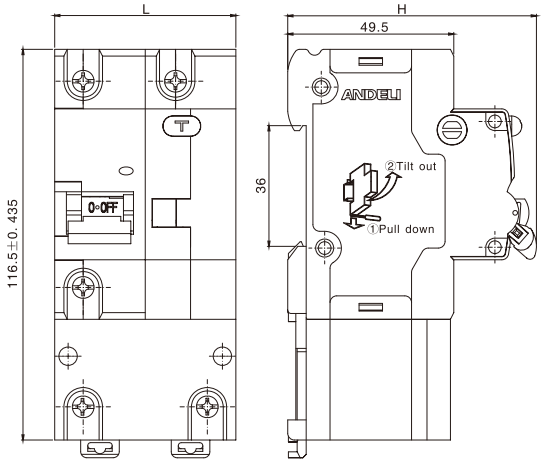


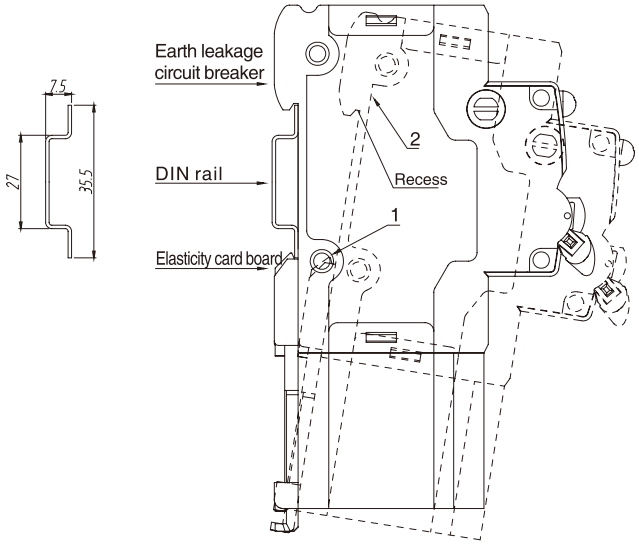
Table 3

Pole	1P+N	2P	3P	3P+N	4P
L(mm)	54±0.37	81±0.435	108±0.435	108±0.435	135±0.50
H(mm)	71.7±0.37	74±0.37	74±0.37	74±0.37	74±0.37

8. Installation and Adjustment

8.1 Should note the following before installing the circuit breaker
a Check circuit breakers, confirmed intact, flexible movement
b Check the mark whether the breaker is used in normal conditions
8.2 Installation breaker, should note the sign of terminal wiring
8.3 Except installied in the distribution box, when used alone, this circuit breakers should be installed with a grounded metal (or insulating material) protective panel to prevent electric shock
8.4 Setting current can not be self-regulated and does not require maintenance
8.5 Installation and remove methods (see Figure 2)

Figure 2



8.5.1 The orbit of the circuit breaker aligned with the DIN rail (slightly tilted to the right, dotted line in Figure 2), so that the breaker push enough to an upward direction of the arrow 1, on the direction of the arrow 2, push the recess to the upper end of the DIN rail, let go.
8.5.2 In contrast with the installation process, so that a direction of the arrow 1 up to top of breaker, rotate the arrow 2 in the opposite direction, you can remove it.

9. Custody and Maintenance

9.1 Circuit Breaker (including packed products) in the transport and storage, shall not be affected by rain water and snow, products should be placed in the coffers, on the conditions of the non-invasive, air circulation, monthly average relative humidity less than 90% (at 20±5 °C), the air temperature does not exceed +40 °C and not lower than -25 °C.

9.2 Breakers in operation users should be checked regularly to clear dust and dirt on the inlet, outlet and the product surface,when examination,should cut off the power.and consider the working conditions.

9.3 Comply the rules of the user of storage and use, from the date of installation within 12 months,but not more than the date of shipment from the factory within 18 months,if the products can't work properly because of quality problem caused by manufacturing,we will replace the product freely.

10. Order Specification

When ordering breaker, the following points need to be specified
a product model and name, as DZ58LE-125 series Earth Leakage Circuit Breakers,
b Circuit breakers poles, such as: 2P, 3P, 4P
c Rated current of the circuit breaker,such as: 63A,125A
d Order quantity

DZ59LE-63 Residual Current Circuit Breaker

DZ59LE-63

1. Application

DZ59LE-63 series residual current circuit breaker are mainly used in circuit, of AC50/60Hz, rated voltage up to 230V, rated current up to 40A for protection of personal electric shock hazard with overload protection and short circuit protection,also can infrequently switchover electric equipment and illuminating line under normal conditions, esppecially suitable for industrial and commercial lighting distribution system.

Conformity with the standard GB16917.1 and IEC60947-2.

2. Normal Operation Conditions

2.1 Ambient air temperature

Ambient air temperature ranges from-5℃ to 40℃ ,not exceeding 35℃ averagely in 24 hours.

2.2 Location:Installation location can not exceed 2000 meters above sea level

2.3 Air conditions

Relative humidity in the installation place can not exceed 50% when the air reaches the highest temperature 40,the average minimum temperature when it is the wettest can not exceed 20℃. Relative humidity not exceed 90%.

2.4 Installing categories: Class II Class III .

2.5 Installation Pollution Grade: grade II .

2.6 Installing type: : mounted by standard rail track

2.7 Installing condition: Installation location of the external magnetic field strength should not be in any direction to magnetic field strength of more than 5 times

2.8 Wiring: Tighten the screws to compress the wire

3. Type and Meaning

DZ 59 LE - 63

- 63 — 40-Casing class rated current
- LE — LE- Electronic earth leakage circuit breaker
- 59 — 59-Design code
- DZ — Circuit Breaker

4. Classfication

4.1 Rated current :6、10、16、20、25、32、40、50、63(A)

4.2 Poles: 2P (with a protection pole)

4.3 Type of instantaneous release: C ;(5In-10In)

5. Construction Characteristic & Operating Principle

Pull the handle of the leakage circuit breakers to the ON position, through mechanical contacts to static contact agencies to promote reliable contact with the circuit. When the circuit with overload fault, overload current bimetal bend and push the latch locking mechanism makes the mechanical reset, the moving contacts quickly left the static contact,so that to achieve sub-line functions; when short-circuit fault occurs , the short-circuit current make instantaneous release action, pushing the lock mandrel core mechanical action to achieve the lock breaking function; when leakage and electric shock occurs, the signal from zero sequence sensor makes the thyristor leakage release core action , putter push the circuit breaker trip to cut off the power leakage circuit breaker in a short time, thereby achieve leakage protection.

6. Structural Features

6.1 Small, tight structure, price is better than similar products

6.2 Housing and some functional parts are made of high fire-resistant.heat resistant,impact resistant material.

6.3 Directly with the zero wire installation,avoid the electric shock hazard which caused by zero

line connection errors.

6.4 Using the latest circuit design and high-performance electronic components, has strong ability to withstand when the impact of current and surge of over-voltage .

6.5 Mounted by standard rail track, convenient and save time.

7. Main Technical Parameter

7.1 Main technical parameter (see table 1)

7.2 Time-current character (see table 2)

7.3 Residual current protection character

3.1.1 Rated residual operating current I△n:30mA、50mA

3.1.2 Rated residual non-operating current I△no:15mA、25mA

3.1.3 Rated residual making and breaking capability I△m:2000A

3.1.4 Residual current breaking time(see table 3)

7.4 Mechanical/Electric lifetime (times)

- Electric lifetime:2000; - Mechanical life:4000

7.5 Nominal cross-section of wire (see table 4)

7.6 Performance curve of release (see figure 1)

Table 1

Frame rated current Inm A	Rated current In A	Rated voltage V	Breaking capacity of rated short-circuit		Instantaneous release type
			Ics(A)	COSΦ	
40	6,10,16,20,25, 32,40,50,63	230	6000	0.65-0.70	C

Table 2

Item No.	Rated current In A	Initial state	Test Current(A)	Test time	Expected result	Ambient temperature	Note
a	≤40A	cold state	1.13In	t≤1h	Non-release	30℃~35℃	
b		hot state	1.45In	t<1h	Release		After Following the test a testing current improve to order value in 5s
c		cold state	2.55In	1s<t<60s ≤32A	Release		Through close auxiliary switch and put through current
				1s<t<120s >32A			
d		cold state	5In	t≤0.1s	Non-release		
e		cold state	10In	t<0.1s	Release		

Fig. 1

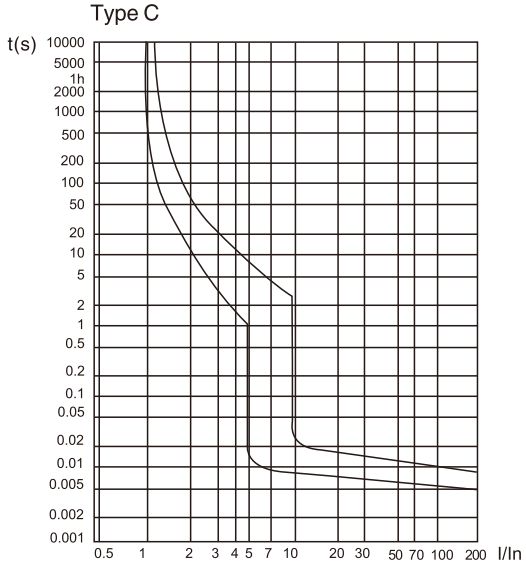


Table 3

In (A)	I△n (A)	Residual current (in) is equal to the breaking time (s) at the following corresponding value		
		I△n	2I△n	250mA
6-40	0.03	0.1	0.05	0.04

Table 4

Rated current In (A)	In≤6	6<In≤13	13<In≤20	20<In≤25	25<In≤32	32<In≤50
Nominal cross-section of wire (mm^2)	1	1.5	2.5	4	6	10

8. Outline & Installation Dimension(mm)

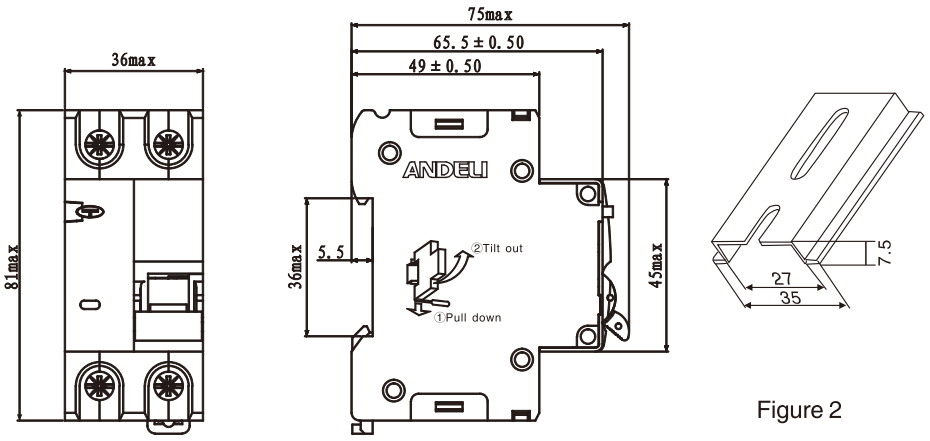


Figure 2

9. Use and Maintenance

a. Push up the handle to the position “ON” to switch on, Pull down the handle to the position“OFF” to switch off.
b. Residual current protection features is tested and adjusted by the manufacturer,users can not adjust the product at random during usage.
c. After running for a period of time, the ELCB should be inspected periodically (Every other month),the test button in power on position to confirm the residual current protective properties is reliable or not.
d. Zero wire must connect to N side to keep its normal work and protective effectively.

10. Attention

a. ELCB must not be wetted of soaked by rain,snow or water during of transportion,storage and usage.
b. The product can’t protect the risk of electric shock that caused by two lines contact protection circuit meantime.
c. The products must not test by short circuit between live wire and ground in case of electric shock hazard .

11. Order Notice

In order you need attention:
- Procuct model and name, Example :DZ59LE-40 residual-current circuit breaker;
- The rated current, Example: :20A;
- Number of pole and wire , Example : single pole two wire;
- Type of instantaneous release, Example: C type
- The rated residual current, Example: :0.03A;
- Order quantity, Example:50pcs ;

AHL30-125 Isolating Switch

AHL30-125 1P

1. Application

AHL30-125 combines the following functions:

- Break and connect the circuit with load
- Isolating function

It's mainly suitable for low voltage terminal electrical distribution in the residential houses, buildings, etc.

2.Standards & Certificates

- Comply with standard IEC60947.3/GB14048.3
- Obtain the certificate of CCC.

3.Type and Meaning

AHL30-125 2P

A HL 30 - 125

- 125 — Case grade rated current
- 30 — Design serial number
- HL — Isolating switch
- A — Enterprise code

AHL30-125 3P

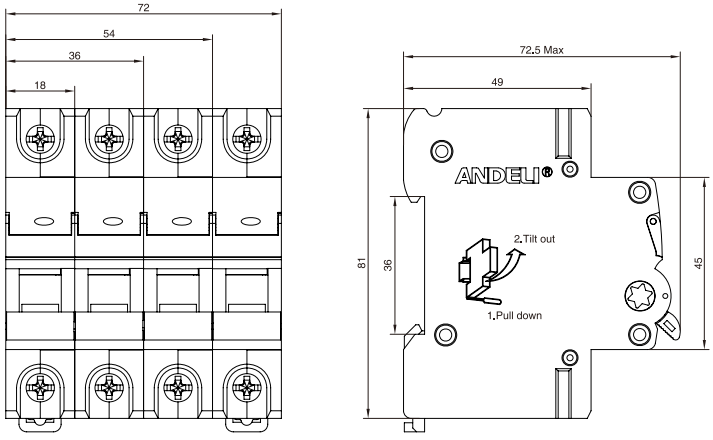
Pole	Rated voltage(V)	Rated current(A)	Product No.
1P	230	20	AHL30-120
		32	AHL30-132
		63	AHL30-163
		100	AHL30-1100
		125	AHL30-1125
2P	400	20	AHL30-220
		32	AHL30-232
		63	AHL30-263
		100	AHL30-2100
		125	AHL30-2125
3P	400	20	AHL30-320
		32	AHL30-332
		63	AHL30-363
		100	AHL30-3100
		125	AHL30-3125
4P	400	20	AHL30-420
		32	AHL30-432
		63	AHL30-463
		100	AHL30-4100
		125	AHL30-4125

AHL30-125 4P

4. Structural Features

- The enclosure is made of special fire resistant and high-strength plastic,so it is featured in high impact resistance and light weight;
- Featured in good contact reliability,it is suitable for din rail installation and it can be used together with other modular terminal apparatus.

5. Outline & Installation Dimension(mm)



6. Main Technical Parameter

Pole		1P 2P 3P 4P
Rated current	In(A)	20 32 63 100 125
Rated operating voltage	Ue	230V(1P) 400V(2P, 3P, 4P)
Rated insulating voltage	Ui	500V
Rated short time withstand current	Icw	12In 1s
Rated short time breaking capability	Icm	20In 0.05s
Usage category		AC-22A
Mechanical life		8500 times
Electrical life		1500 times
Operation frequency		120 time/h
Grade of protection		IP20
Installation mode		Embedded type din rail mounting
Connection type		The terminal block or busbar with clamp
Connection capability		Allow the wire under 50mm^2 to connect with
Tightening torque values		3.5N•m
Weight		1P 0.0678kg
		2P 0.1352kg
		3P 0.203kg
		4P 0.2704kg

7. Working & Installation Conditions

Ambient temperature	-5°C~ +40°C, daily mean temperature ⩽ 35°C
Altitude	⩽ 2,000m
Air condition	No explosive hazard medium, no enough gas and dust to corrode metal and damage insulation
Relative humidity	When the maximum temperature is +40°C, relative humidity of air doesn't exceed 50%. Higher relative humidity may be allowed at lower temperature. For example, relative humidity reaches 90% at 20°C. Special measures should be taken to possible condensation incurred by the change of temperature
Pollution grade	Grade III
Installation category	Category II &III

HL32-100 Isolating Switch

HL32-100 1P

HL32-100 2P

HL32-100 3P

HL32-100 4P

Number of Poles	1P, 2P, 3P, 4P
Rated Current (A)	16, 20, 25, 32, 40, 63, 80, 100
Rated Voltage (V)	AC 230/240, 400/415(4P)
Frequency	≥50/60Hz
Endurance	10000 times
Protection degree	IP20

H7 Isolating Switch

H7-1P

H7-2P

H7-3P

H7-4P

Number of Poles	1P, 2P, 3P, 4P
Rated Current (A)	16, 25, 40, 63, 80, 125
Rated Voltage (V)	AC 230/240, 400/415(4P)
Frequency	50/60Hz
Endurance	≥10000 times
Protection degree	IP20

SF Isolating Switch

SF-140

SF-240

SF-340

SF-440

Number of Poles	1P, 2P, 3P, 4P
Rated Current (A)	16, 20, 25, 32, 40, 63, 80, 100
Rated Voltage (V)	AC 230/240, 400/415(4P)
Frequency	50/60Hz
Endurance	≥10000 times
Protection degree	IP20

Moudlar Indication Lamp

White

Green

Red

Yellow

1. Application

ASD-1 Indication Lamp is suitable for the control system of AC 50Hz/60Hz,AC/DC Voltage up to 230V,used as pilot signal,preset signal, accident signal and other signals to indicate in the circuit of telecommunication,electricity,etc.It conforms with the standards of GB14048.5, IEC60947-5-1.

2.Type and Meaning

A SD - 1 / □ □

- Rated operating voltage
- Color code(g for green,r for red,y for yellow ,b for blue,w for white)
- Design serial number
- Indication lamp
- ANDELI enterprise code

3. Normal Working & Installation Conditions

- Ambient temperature: -5℃~+40℃, daily average temperature≤35℃;
- Altitude: the altitude of the installation place is less than 2000m
- Installation category: Grade II,Grade III
- Pollution grade: Grade 2
- Installation mode:It is installed with mounting rail made of TH35-7.5 steel. And the angle of mounting plane is less than 5° compared with its vertical plane.

4. Main Parameter& Technical Characteristic

- Rated insulation voltage(Ui):500V
- Rated operating voltage(Ue):AC/DC 6.3V AC/DC 12V AC/DC 24V AC/DC 110V AC/DC 230V
- Rated operating current: 20mA
- Grade of protection:IP20

5. Others

- Category
  1. Classified as product types: LED type
  2. Classified as colors:
     - A. Green
     - B. Red
     - C. Yellow
     - D. Blue
     - E. White
- Structural Features

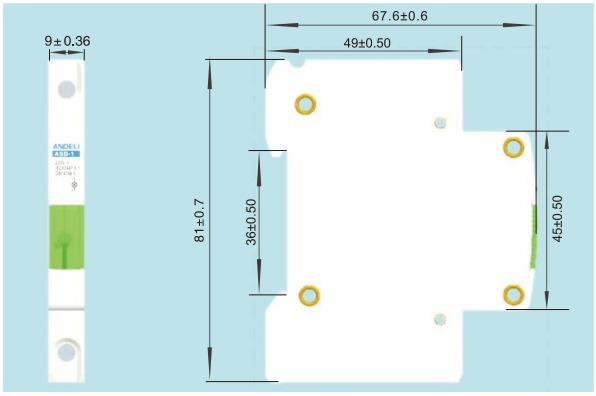
The indication lamp is horizontal layout and is composed of the spare parts such as insulated enclosure, baffle plate, terminal plate, lamp holder, indicator window, lamp cap, and connector base. The indication lamp is an independent loop with two terminal blocks which are installed to the sides of the enclosure, indicating the working state of the loop. One pole of the lamp cap is revolvably fixed into the lamp holder,and the other pole of that is contacted with flaky and resilient contact plate, in order to connect the loop.

- Installation &Operation

1. While installation, check if the rated voltage of the signal lamp meets operating requirements.
2. While installation, the wire should be tightened and prevent from loosing or falling off, and the copper wire can't be bare and stretch out of the terminal.
3. The indication lamp should be protected against rain and water during working.

6. Outline & Installation Dimension(mm)

Blue



7. Ordering Instructions

- Product model and name,such as ASD-1 indication lamp
- The type of lamp : LED
- Color:such as green
- Rated operating voltage,such as 6.3V
- Order quantity,such as 50 pieces.
- Notice if ordering,such as ASD-1/G Indication lamp 6.3V 50Pieces

Modular Indication Lamp

C45D Red | C45D Green | C45D Yellow | C45D Blue | C45D White

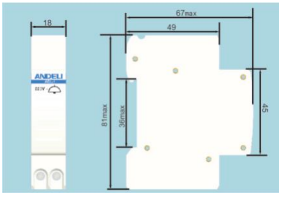
Modular Bell

ADL-1

ADL-1 Bell

Rated voltage	AC230/415V
Rated frequency	50/60Hz
Rated current	1~63A
Power	4.8VA
Sound	65~75dB

Outline & Installation Dimension(mm)



Modular Socket

ADC-1 | ADC-2 | ADC-3 | ADC-4 | ADC-5

ADB1L-63 Residual Current Circuit Breaker

ADB1L-63 2P

Security Warning

- This product must be installed professionally.
- Operation with wet hands is strictly prohibited in case of electric shock hazard
- The products don't have the dust-proof function with protection class IP20, please install in a sealed box when they are used in a dusty environment.
- The product can't protect the risk of electric shock that caused by two lines contact protection circuit meantime.
- Residual current protection features is tested and adjusted by the manufacturer,users can not adjust the product at random during usage.
- When installing according to the position of figure1, inlet wire connect from above side, outlet wire connect from below side. Polyphase circuit wiring should pay attention to the phase sequence. tighten the screws after wires into connection hole, the torque of Tighten the conductor at least 2.5N·m to make the wire shall not loose, pull out, bare copper wire head can't dew outside the terminal.
- RCCB must not be wetted of soaked by rain, snow or water during transportation, storage and usage.

ADB1L-63 4P

1.Application

1.1 Main usage

ADB1L-63 residual current operated circuit-breaker conformity with the standard GB16916.1 and IEC61008-1 It can be used in the circuits of AC 50/60HZ, rated voltage up to 400V, rated current up to 63A for protection of personal electric shock hazard and electric equipment and for unfrequent switchover of circuits under normal conditions.

1.2 Application scope

Suitable for used at industry,commerical building,residential house and other similar place.

2.Normal Operation Conditions

2.1 Ambient Air temperature

Ambient air temperature ranges from −5℃ to 40℃,not exceeding 35℃ averagely in 24 hours.

2.2 Location:Installation location can not exceed 2000 meters above sea level

2.3 Installation Pollution Grade：grade Ⅱ.

2.4 Air conditions

Relative humidity in the installation place can not exceed 50% when the air reaches the highest temperature 40℃, the average minimum temperature when it is the wettest can not exceed 25℃.

Relative humidity not exceed 90%.

2.5 Installing categories: Class Ⅲ

2.6 Installation Conditions

Magnetic field outside the installation place can not exceed 5 times of the site of terrestrial magnetism in all direction.Normally speaking,RCCB should be mounted vetically.There should be no notable impact and vibration in the installation place.

Mounted by TH35-7.5 standard rail track

2.7 Connection

It can be connected with screws, the torque of tighten the conductor is 2.5N·m

2.8 Connecting wire

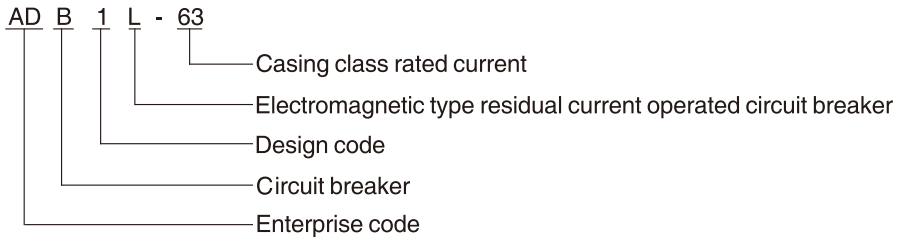
Choose according to table 1

table 1

Rated current In(A)	Nominal cross-section of wire(mm^2)
≤10	1.5
10~20	2.5
20~25	4
25~32	6
32~50	10
50~63	16

3.Main Technical Parameters

3.1 Type and meaning



3.2 Classification

3.2.1 According to number of poles

2 poles, 4 poles

3.2.2 According to type of instantaneous release

AC type, A type

3.3

Poles	2P,4P
Rated voltage Un (V)	2P/230,4P/400
Rated current In (A)	25,40,63
Case class rated current Inm (A)	63
Rated residual action current I△n (A)	0.03,0.05,0.1,0.3
Rated residual non-action current I△no (A)	0.03,0.05,0.1,0.3
Rated making/breaking capacity I△m (A)	In=25,40/500,In=63/630
Rated limited short-circuit current Inc (A)	6000
Rated limited residual short-circuit current I△c (A)	6000
Rated residual current breaking time	See table 2

table 2

In(A)	I△n(A)	Residual current (In) is equal to the switch-off time (s) at the following corresponding value			
25,40,63	0. 03 0. 05 0. 1 0. 3	I△n	2 I△n	5 I△n	10A, 20A, 50A, 100A, 200A, 500A
63		0.1	0.08	0.04	0.04

a : I△n≤0.03A, 0.25A can Instead of 5I△n

3.3.11 Mechanical/Electric lifetime (times)

- electric lifetime (times):2000, cos ϕ =0.85~9
- Mechanical life (times):2000
- Operating frequency:120times/hour

3.3.12 Rated insulation impulse withstand voltage

When poles are connected to each other, the peak value of the impulse withstand-voltage between each poles and the neutral pole is 6000V;

When each pole is connected to the neutral pole, the peak value of the impulse withstand-voltage between poles and the metal support is 8000V;

3.3.13 The product can withstand peak impulse current of 200A and peak surge over-voltage 2.5Un, and under such a situation, the protection switch can act correctly without mis-operation.

4. Outline and Mounting Dimension (mm)

Mounted by TH35-7.5 standard rail track, See fig2 for the size.

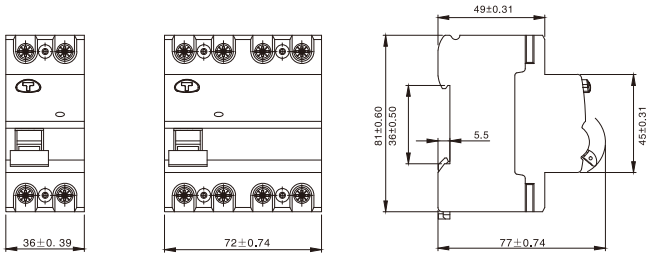


Fig. 1

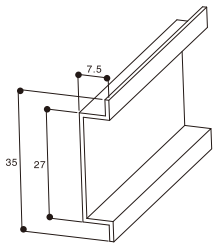


Fig. 2

5.Installation and Maintenance

5.1 Installation

5.1.1 Confirm the marks of the RCCB and the operating conditions is matched before Installation

5.1.2 Mounted on rail track like picture 1, push up the retainer to make the RCCB fixed on the rail track.When need to remove the RCCB, just pull down the retainer.

5.1.3 When the handle moving up and displaying symbol I·ON, the circuit is connected. When the handle moving down and displaying symbol I·OFF, the circuit is disconnected.

5.1.4 Manual operation with the RCCB several times to confirm its flexible and reliable before power on.

5.1.5 Test the button of the RCCB several times to confirm its flexible and reliable after power on.

5.2 Maintenance

5.2.1 After running for a period of time, the RCCB should be inspected monthly, press the test button in power on state to confirm the residual current protective properties is reliable or not.

5.2.2 RCCB must not be wetted of soaked by rain, snow or water during transportation, storage and usage.

6. The Common Faults and Treatment

Common faults	The main reason analysis	Processing
Handle not closed	Big residual current exist in the circuit	Check the circuit,to exclude leakage fault, then run again
Switch action frequency	Residual current among the action scope of the circuit breaker	Check the circuit, to exclude leakage fault, then run again or choose RCCB with bigger rated current
The RCCB no action when press the test button	Terminals with bad contact or quality problem	Tighten the screws or just replace a new one
Terminals overtemperature	Terminals not tightened or the cross-section of wire is small	Tighten the screws or just replace a wire with suitable cross-section

AFIM-1 Residual Current Circuit Breaker

AFIM-1 2P

AFIM-1 4P

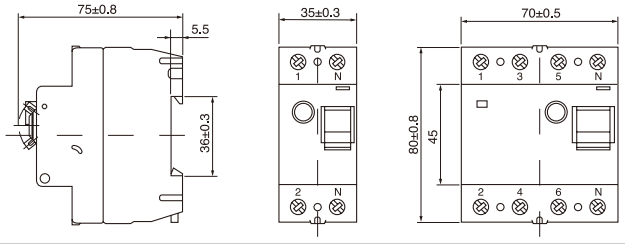
1. Application

The residual current circuit breaker AFIM-1 is in conformity with the standard of IEC61008. It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk line. Thus it is suitable to avoid the shock hazard and fire caused by earth leakage. AFIM-1 RCCB is mainly suitable for using in varieties of plants, enterprises, buildings, constructions, commerce, guesthouses and families. It can be used in circuits of 1 phase 230V and 3 phases 400V 50/60Hz.

2. Specification

Number of Poles	2P, 4P
Rated current (A)	16, 20, 25, 40, 50, 63
Rated residual operating current (IΔn)(mA)	30, 100, 300, 500
Rated residual non-operation current (IΔno)(mA)	⩽ 0.5IΔn
Rated voltage (V)	AC 230/400
Residual current off-time	⩽ 0.1S
Rated breaking capacity (Icu)	3000A
Endurance(times)	⩾ 4000
Protection degree	IP20

3. Outline and Mounting Dimension (mm)



AFIM-2 Residual Current Circuit Breaker

AFIM-2 2P

AFIM-2 4P

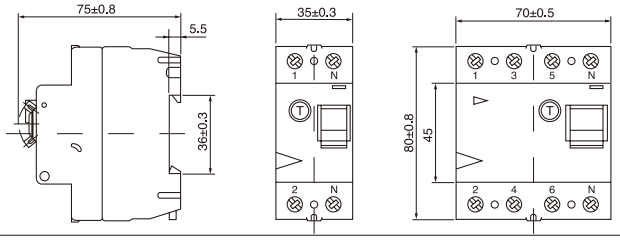
1. Application

The residual current circuit breaker AFIM-2 is in conformity with the standard of IEC61008. It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk line. Thus it is suitable to avoid the shock hazard and fire caused by earth leakage. AFIM-2 RCCB is mainly suitable for using in varieties of plants, enterprises, buildings, constructions, commerce, guesthouses and families. It can be used in circuits of 1 phase 230V and 3 phases 400V 50/60Hz.

2. Specification

Number of Poles	2P, 4P
Rated current (A)	25, 40, 63
Rated residual operating current (IΔn)(mA)	30, 100, 300, 500
Rated residual non-operation current (IΔno)(mA)	⩽ 0.5IΔn
Rated voltage (V)	AC 230/400
Residual current off-time	⩽ 0.1S
Rated breaking capacity (Icu)	3000A
Endurance(times)	⩾ 4000
Protection degree	IP20

3. Outline and Mounting Dimension (mm)



DZL3 Residual Current Circuit Breaker

DZL3 2P

DZL3 4P

1. Application

DZL3 residual current circuit breaker is in conformity with the standards of IEC61008. It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk line. Thus it is suitable to avoid the shock hazard and fire caused by earth leakage. It can be used in circuits up to single phase 240V,three phases 415V, 50/60Hz.

2. Construction Features

2.1 Measuring component and buckling component of products is located between enter line end and entrance line end;
2.2 Movement characteristic of products can not be changed with outside mechanical tool;
2.3 The operating organization has the free function to take off and buckle;
2.4 Operate part can not be taken down from the shell outer of products,the shell can not influence the operating organization to work,the accessory group which replace the feelers pressure,should guarantee the feelers pressure does not change while running.

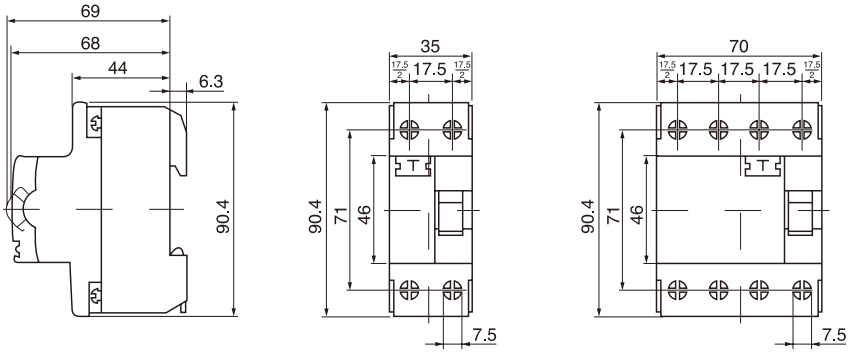
3. Normal Operation And Mounting Requirement

·Circumstance temperature -5°C ~ +40°C,average temperature within 24h not exceeding +35°C.
·Altitude above sea level less than 2000 m.
·Humidity not exceeding 50% at 40°C and not exceeding 90% at 25°C.
·Installation class II or III.
·Pollution class 2.
·Installation method DIN Rail mounting type.
·The external magnetism shall not be more than 5 times of terrestrial one.
·Product shall be installed at the place where there shall be no severe impact and vibration.
·Product shall be vertically mounted onto standard Din rail 35mm.

4. Main Technical Parameter

Type	DZL3	
Pole	2P	4P
Rated current In(A)	10, 16, 25,32,40,63	10, 16, 25,32,40,63
Rated residual operating current IΔn(mA)	10,30,100,300	30,100,300
Rated residual non-operating current IΔno(mA)	0.5IΔn	
Rated voltage Un(V)	240(220), 415(380)	
Tripping time	<0.1s	
Ambient temperature	-5˚C~+40˚C	
Vibration resistance	Minimum 5g 30min, 0~8Hz	

5. Outline and Mounting Dimension (mm)



DZL4 Residual Current Circuit Breaker

DZL4 2P

DZL4 4P

1. Application

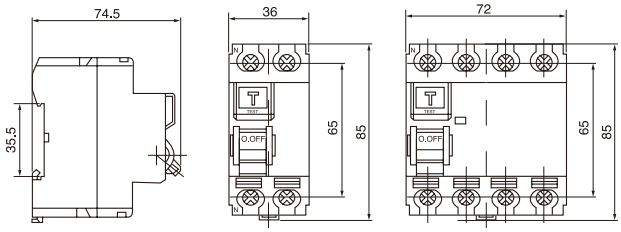
DZL4 RCCB is in conformity with the standard of IEC61008. The RCCB can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk. Thus, it is suitable to avoid the shock hazard and fire caused by earth leakage.

The RCCB is mainly suitable for use in varieties of plants and enterprises, building construction 1 phase 230V and 3 phase 400V 50/60Hz. RCCB is not suitable for use on DC pulse system.

2. Specification

Number of Poles	2P, 4P
Rated current (A)	16, 20, 25, 40, 50, 63
Rated residual operating current (IΔn)(mA)	30, 100, 300, 500
Rated voltage (V)	AC 230/240
	AC 400/415
Residual operating current scope	0.5IΔn~IΔn
Residual current off-time	⩽ 0.3S
Rated breaking capacity (Icu)	6000A
Endurance(times)	4000
Protection degree	IP20

3. Outline and Mounting Dimension (mm)



DZL5 Residual Current Circuit Breaker

DZL5 2P

DZL5 4P

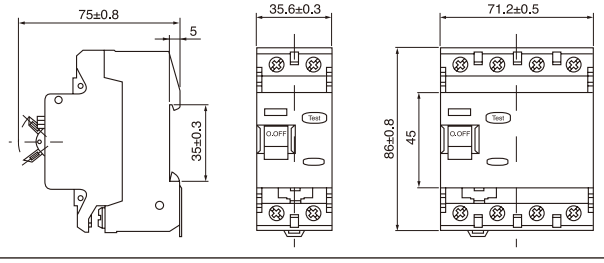
1. Application

DZL5 residual current breaker is used in circuits up to single phase 230V, three phase 400V 50/60 Hz. RCCB is not suitable for use on DC pulse system. The RCCB can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk Thus it is suitable to avoid the shock hazard and fire caused by earth leakage. The RCCB is mainly suitable for use in variety of plants and enterprises,building construction, commerce, guesthouses and families. It conforms with the standards of IEC61008.

2. Main Technical Parameter

Type	DZL5
Pole	2P, 4P
Rated current In(A)	25,40,63
Rated residual operating current (IΔnA)	10,30,100,300,500
Rated non-operating current for earth leakage IΔn(A)	0.5IΔn
Rated voltage Un(V)	240(220) 415(380)
Residual current off-time:	<0.1s
Minimum value of rated making and breaking capacity	1kA
Rated conditional short-circuit current (Inc)	In=25,40A Inc=1500A In=63A Inc=3000A

3. Outline and Mounting Dimension (mm)



DZL6 Residual Current Device

DZL6 2P

1. Application

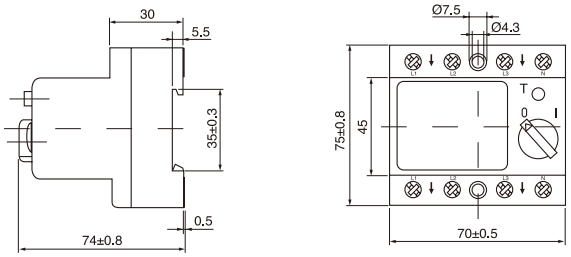
DZL6 Residual Current Device(RCD) is in conformity with the standard of IEC61008. It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk line. Thus it is suitable to avoid the shock hazard and fire caused by earth leakage. DZL6 type RCD is mainly suitable for varieties of plants and enterprises, buildings, construction, commerce, hotels and families. It can be used in circuits of 1 phase 230V and 3 phase 400V 50/60Hz.

2. Specification

Number of Poles	2P, 4P
Rated current (A)	16, 20, 25, 32, 40, 50, 63
Rated residual operating current (IΔn)(mA)	30, 100, 300, 500
Rated residual non-operation current (IΔno)(mA)	⩽ 0.5IΔn
Rated voltage (V)	AC 230/400
Residual current off-time	⩽ 0.1S
Rated breaking capacity (Icu)	3000A
Endurance(times)	⩾ 4000
Protection degree	IP20

DZL6 4P

3. Outline and Mounting Dimension (mm)



DZL6N Residual Current Circuit Breaker

DZL6N 2P

1. Application

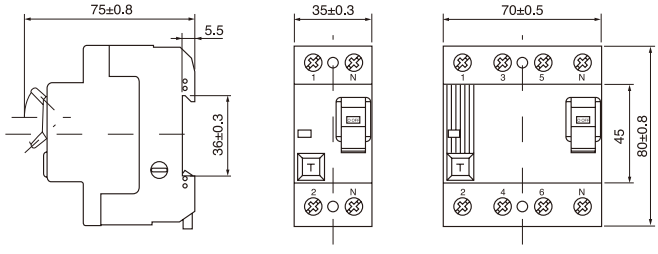
DZL6N residual current circuit breaker is in conformity with the standards of IEC61008. It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk line. Thus it is suitable to avoid the shock hazard and fire caused by earth leakage. It can be used in circuits up to single phase 240V,threephase 415V, 50/60Hz.

2. Main Technical Parameter

Type	DZL6N
Number of poles	2P, 4P
Rated current In(A)	10, 16, 20, 25,32, 40, 50, 63
Rated residual operating current IΔn(mA)	30,100,300
Rated residual non-operating current IΔno(mA)	0.5IΔn
Rated voltage Un(V)	240(220)/415(380)
Residual current off-time	<0.1s
Rated breaking capacity Inc (A)	3000A

DZL6N 4P

3. Outline and Mounting Dimension (mm)



DZL7 Residual Current Circuit Breaker

DZL7 2P

DZL7 4P

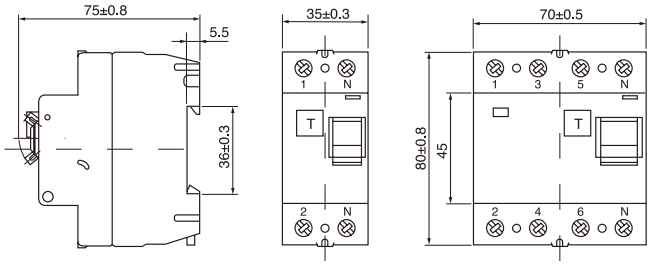
1. Application

DZL7 residual current device is in conformity with the standards of IEC61008. It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk line. Thus it is suitable to avoid the shock hazard and fire caused by earth leakage. It can be used in circuits up to single phase 240V,three phase 415V, 50/60Hz.

2. Main Technical Parameter

Type	DZL7
Pole	2P, 4P
Rated current In(A)	25,40,63
Rated residual operating current (IΔnA)	10,30,100,300,500
Rated non-operating current for earth leakage IΔn(A)	0.5IΔn
Rated voltage Un(V)	240(220) 415(380)
Residual current off-time:	<0.1s
Minimum value of rated making and breaking capacity	1kA
Rated conditional short-circuit current (Inc)	In=25,40A Inc=1500A In=63A Inc=3000A

3. Outline and Mounting Dimension (mm)



DZL7N Residual Current Circuit Breaker

DZL7N 2P

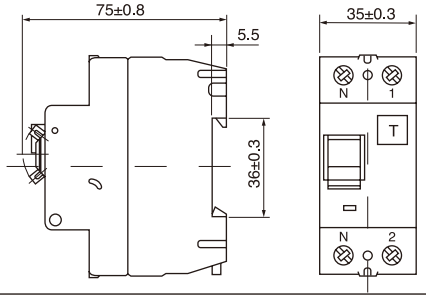
1. Application

DZL7N residual current device is in conformity with the standards of IEC61008. It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk line. Thus it is suitable to avoid the shock hazard and fire caused by earth leakage. It can be used in circuits up to single phase 240V,threephase 415V, 50/60Hz.

2. Main Technical Parameter

Type	DZL7N
Pole	2P
Rated current In(A)	25,40
Rated residual operating current (IΔnA)	10,30,100,300,500
Rated non-operating current for earth leakage IΔn(A)	0.5IΔn
Rated voltage Un(V)	240(220) 415(380)
Residual current off-time:	<0.1s
Minimum value of rated making and breaking capacity	1kA
Rated conditional short-circuit current (Inc)	In=25,40A Inc=1500A In=63A Inc=3000A

3. Outline and Mounting Dimension (mm)



DZL8 Residual Current Circuit Breaker

DZL8 2P

DZL8 4P

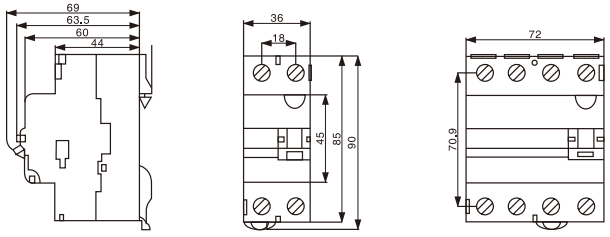
1. Application

The residual current circuit breaker DZL8 is in conformity with the standard of IEC61008. It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk line. Thus it is suitable to avoid the shock hazard and fire caused by earth leakage.

2. Specification

Type	DZL8
Number of Poles	2P, 4P
Rated current (A)	16, 20, 25, 40, 50, 63
Rated residual operating current (IΔn)(mA)	30, 100, 300
Rated residual non-operation current (IΔno)(mA)	⩽ 0.5IΔn
Rated voltage (V)	AC230/415
Residual current off-time	⩽ 0.1S
Rated breaking capacity (Icu)	3000A
Endurance(times)	⩾ 4000
Protection degree	IP20

3. Outline and Mounting Dimension (mm)



DZL9-100 Residual Current Circuit Breaker

DZL9-100 4P

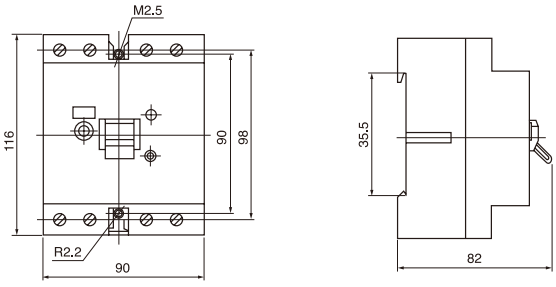
1. Application

DZL9-100 RCCB is in conformity with the standard of IEC61008. The RCCB can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage of trunk. Thus, it is suitable to avoid the shock hazard and fire caused by earth leakage.

2. Specification

Type	DZL9-100
Number of Poles	2P, 4P
Rated current (A)	25, 32, 40, 63, 80, 100
Rated residual operating current (IΔn)(mA)	100, 300, 500
Rated residual non-operation current (IΔno)(mA)	⩽ 0.5IΔn
Rated voltage (V)	AC 230/400
Residual current off-time	⩽ 0.1S
Rated breaking capacity (Icu)	3000A
Endurance(times)	⩾ 4000
Protection degree	IP20

3. Outline and Mounting Dimension (mm)



APG Residual Current Circuit Breaker

APG 2P

APG 4P

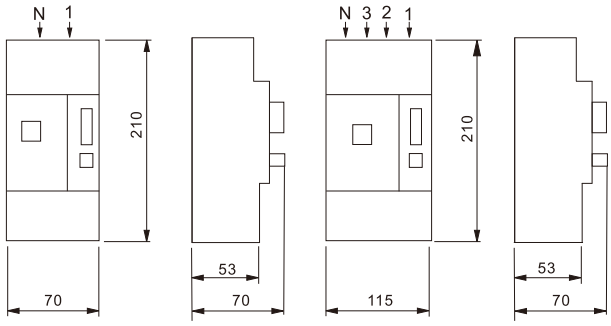
1.Application

APG is adjustable from 10A up to 60A. It can protect against overload and short circuit.
The products comply with IEC61008.

2. Specification

Type	Poles	Rated voltage	Leakage operating current(A)	Leakage non-operating current (A)
APG215 5-15A	2P	230/400V	300mA 500mA	150mA 250mA
APG230 10-30A				
APG260 30-60A				
APG415 5-15A	4P			
APG430 10-30A				
APG460 30-60A				

3. Outline and Mounting Dimension (mm)



ATG Residual Current Circuit Breaker

ATG 2P

ATG 4P

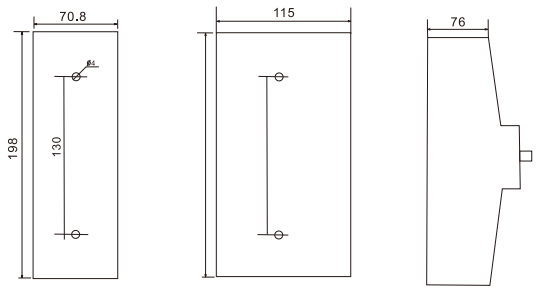
1.Application

ATG is adjustable from 10A up to 60A. It can protect against overload and short circuit.
The products comply with IEC61008.

2. Specification

Type	Poles	Rated voltage	Leakage operating current(A)	Leakage non-operating current (A)
ATG215 5-15A	2P	230/400V	300mA 500mA	150mA 250mA
ATG230 10-30A				
ATG260 30-60A				
ATG415 5-15A	4P			
ATG430 10-30A				
ATG460 30-60A				

3. Outline and Mounting Dimension (mm)



AQC45 Dual Power Automatic Transfer Switch

AQC45

1. Application

AQC45 automatic transfer switch is suitable for the dual power supply system of AC50/60Hz , rated operational voltage 400V/230V, rated operational current up to 63A. Automatically transfer one or multi-load circuits from one power to the other power, to protect power supplied normally to load circuit.

The device is mainly used for industry, shopping center, bank, high building and so on.

The device comply with IEC60947-6-1.

2. Environment Conditions for Operation

Temperature condition: -5°C~+40°C; the average value within 24h not exceed +35°C.

Elevation: altitude of installation place shall not exceed 2000m.

Atmosphere condition: relative humidity at +40°C shall not exceed 50%. Higher humidity is permissible at lower temperature condition. When the higher monthly average relative humidity is 90% in the humiddest month , the lowest monthly average temperature of this month is +25°C. And consider the influence of dew on product surface due to temperature changes.

Pollution grade: grade III

Apparatus grade: grade CB.

3. Structure

AQC45 automatic transfer switch is made up of MCB(DZ47)single motor mechanism、control circuit, all parts are installed on a backplate. Control power voltage of automatic transfer switch is AC230V, mechanical life is 5000 times.

4. Performance

AQC45 automatic transfer switch(only R type that is automatically entry and automatically reset) monitor phase voltage of double power supply(is named common power supply and standby power supply) at the same time. When common power supply is malfunction ,that is to say ,A phase of MCB is voltage failure or phase failure, automatic transfer switch automatically transfer standby power supply with non-time delay; when common power supply returns to normal , automatically transfer common power supply with non-time delay. Both power supply are malfunction are not allowed.

5. Main Specifications and Table for Choosing of Settled Breakers

Type	Settled breakers	Number of poles	Type of instantaneuos release	Rated current of breakers In (A)	Rated operational voltage of breakers Ue	Operational voltage of control circuit
AQC45	DZ47	3P 4P	Type C:for distribution Tripping current range:5In~10In Type D:for motor protection Tripping current range:10In~14In	6,10,16,25, 32,40,50,63	AC400V/AC230	AC230

6. Matters Need Attention

1. Phase sequence of the input terminals of one MCB must be same as the other, N-pole of double power supply can not be connected wrongly.

2. Earthing protection should be reliable, assure service safe.

3. When checks load circuit normally or malfunction maintenance, must close automatic control function.

AQC45N Dual Power Automatic Transfer Switch

AQC45N

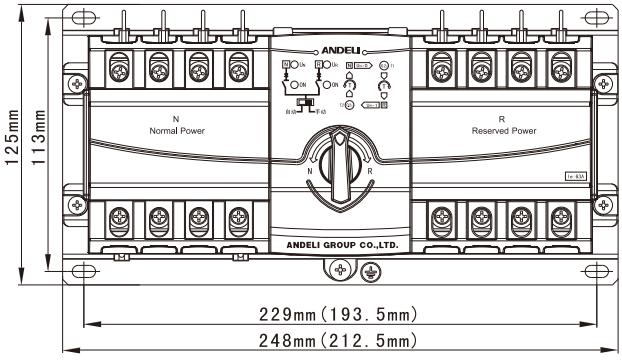
1. Application

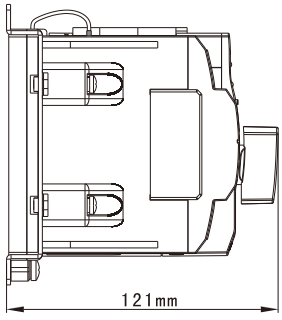
AQC45N series automatic transfer switch is suitable for the dual power supply of AC 50/60Hz, rated voltage AC85-280V, up to 63A. It works from one main power to another reserved power to protect power supplied normally . Its function depends on its configuration of the controller.

2. Main specification

Type	AQC45N-A	AQC45N-B	AQC45N-C	AQC45N-D
Poles	3,4			
Current	6A,10A,16A,20A,25A,32A,40A,50A,63A			
Operating voltage range	AC150-265V 50/60HZ			
Installation	All in 1			
Operating method	Automatic, Manual			
Motor control	No	1×5A relay	No	1×5A relay
Fire engine service control	No	Passive contact input,1NO passive contact feedback contact	No	Passive contact input,1NO passive contact feedback contact
Conversion delay time	0.2s fixed	0.2-30s adjustable	0.2s fixed	0.2-30s adjustable
Returning delay time	0.2s fixed	0.2-30s adjustable	0.2s fixed	0.2-30s adjustable
Circuit inspection	A,N	A,N	A,B,C,N	A,B,C,N
Under-voltage test	Yes			
Phase release	A,N	A,N	A,B,C,N	A,B,C,N

3. Outline and Mounting Dimension (mm)





Note: The data meets 3Pole. A,B,C,D measure are the same.

AMQ2 Dual Power Automatic Transfer Switch

1. Application

AMQ2-100-4P

AMQ2 series automatic transfer switch is one new ATS of our company developed by the microcomputer control technology . This series ATS is settled AM1 circuit breaker as the executive element, and along with the mechanotrons, the new control mechanism with electromechanical double interlock, which is especially applied in the important places not allowed power off. To meet actual demand, three different operation methods are available such as automatic entry automatic reset, automatic entry non automatic reset and commutative standby.

The device conforms to IEC60947-6-1.The whole series have past CCC certification.

2. Environment Conditions for Operation

Temperature condition: -5°C~+55°C; relative humidity<95% at 55°C.

Elevation: altitude of installation place shall not exceed 2000m.

Pollution grade: grade III.

AMQ2-100-4P-D1

3. Type and Meaning

Standard product　　Non-standard product

AMQ2 □—□/□ CB □—□

- X: with fire protection linkage function
- Operation methods: R: automatic entry automatic reset; S: automatic entry non automatic reset; I: commutative standby
- CB type ATS, with short circuit, overload protection
- Switching poles: 3P, 4P
- Current Grade: 100, 160, 250, 400, 630
- Controller model: A type, B type, No controller no mark
- ANDELI GROUP CO.,LTD.

Note: To the nonstandard products, the specific type of fire protection signal should be noted. Without note, the default be considered DC24V.

4. Main Features

Three available operation methods

1. Automatically entry and automatically reset
2. Automatically entry and non automatically reset
3. Commutative standby

Three steady operating positions

1. The grid power supply is making, the standby power supply is breaking.
2. The grid power supply is breaking, the standby power supply is making.
3. The grid power supply is breaking, the standby power supply is breaking.

Compact size, single structure, beautiful outlook , 12.5~630A available, convenient operation and long operating life,3P,4P can be supplied.

The transfer is drived by single motor, single structure, reliable transfer, no noise and small wallop.

The device is with electromechanical interlock protection, which can ensure the two power supplies working normally, no disturbance.

The device can be along with load automatic transfer , on urgent situation, it can be transferred by handle.

Advantages comparative to other products:

1. The breaking capacity of the control protecting fuse is 50kA, which increases the distribution safety.

2. There is interlock between manual and automatic operation, this can avoid the manual operation on the automatic operation.

3. When the executive handle of circuit breaker is broken, the contact is felted or the load is in problem(overload, short circuit), the ATS do not transfer, that is called the real electromechanical interlock.

4. The wrong wire connection indication can be supplied. When the phase wire and zero wire are connected wrong, the sound-photo device will alarm, it ensures the reliability.

5. Function of Controller in HATS Automatic Transfer Switch

Contrller	Type A (built-in)	Type B (panel)
Operational voltage	AC230V	AC230V
Frequency	50/60Hz	50/60Hz
Three operational positions		
Common power supply making	◆	◆
Standby power supply making	◆	◆
Both common power supply and standby power supply breaking	◆	◆
Automatic operation	◆	◆
Manual remote control		
Handle operation	◆	◆
Automatic operation		
To monitor common power supply and automatic transfer	◆ Check phase lacking, voltage losing	◆ Check phase lacking,undervoltage, overvoltage and voltage losing
To monitor standby power supply and automatic transfer		◆ Check phase lacking,undervoltage, overvoltage and voltage losing
To control generator		◆
Fire fighting linkage	□	□
Automatic entry automatic reset	◆	◆
Automatic entry non automatic reset	◆	◆
Commutative standby	◆	◆
Manually remote control		
Compel it to work at common power supply		◆
Compel it to work at standby power supply		◆
Compel it to word at ”0” position		◆
Test		
By test pushbutton on panel or control pushbutton	◆	◆
Indications		
Operation status indication: making or breaking	◆	◆
Common power supply indication and standby power supply indication	◆	◆
Malfunction tripping indication		
Parameters setting indication		
Other functions		
Transfer time delay	0s,5s,15s,30s inaccuracy ⩽ 5%	0-255s
Recovery time delay	0s,5s,15s,30s inaccuracy ⩽ 5%	0-255s
Protective function when neutral line is wrong connection (sound and light alarm)	◆	◆
Overtime malfunction-breaking function after transfer signal sent out	◆	◆

◆ Standard configuration □ Selective function

Note:

1. If operational voltage is the same as power voltage, the common power supply and standby power supply can supply power directly. If not ,it must use equivalent isolation transformer.

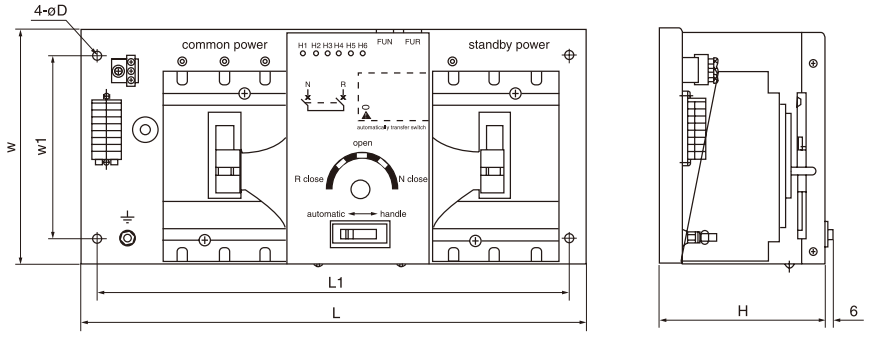
2. Under the situation of handle operation, if the control of electrical manipulating device is open, automatic controlling function will be invalid.

3. On conditions both common power supply and standby power supply are normal, if common power supply is malfunction and automatically transfer to standby power supply (transfer time delay adjustable), when the common power supply returns to normal, it will automatically return(return time delay adjustable).

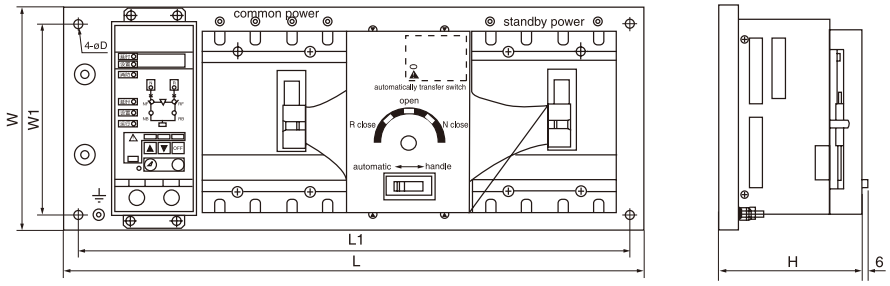
4. Under the situation both common power supply and standby power supply are normal and common power supply is working, if common power supply is malfunction and automatically transfer to standby power supply. Controller will stop transferring. Even if common power supply return to normal, switch will not return. Please press reset pushbutton, controller returns to normal.

5. Under the situation both common power supply and standby power supply are normal, to get through electricity(or reset), the common power supply will work prior. If the working power has some malfunction during operation and automatically transfer to another power supply(type B switching transfer time delay adjustable), both power supply will have the same priority and will be standby power supply of each other.

6. Outline and Mounting Dimension (mm)



AMQ2A-100-250



AMQ2B-100-630

Type	Outline dimensions(mm)			Installation dimensions(mm)		
	L(3P/4P)	W(3P/4P)	H(3P/4P)	L1(3P/4P)	W1(3P/4P)	H1(3P/4P)
AMQ2A-100	430/500	200	140	400/470	155	6.5
AMQ2A-160	430/500	200	140	400/470	155	6.5
AMQ2A-250	430/500	200	140	400/470	155	6.5
AMQ2B-100	500/570	200	140	470/540	170	6.5
AMQ2B-160	500/570	200	140	470/540	170	6.5
AMQ2B-250	500/570	200	140	470/540	170	6.5
AMQ2B-400	620/710	275	190	590/680	245	9
AMQ2B-630	620/710	275	190	590/680	245	9

AMQ5 Dual Power Automatic Transfer Switch

1. Application

AMQ5-100/4P

AMQ5 Series automatic transfer switch (transfer switch) is developed successfully with the most advanced ATS technology in the world. This kind of transfer switch and intelligent display mated with it are mainly applied in the occasions required uninterrupted power supply like building, posts and telecommunications, mine industry, shipping and military industry. Under the necessary trend of urban power service increasing, it can meet the higher requirements of the reliable power service. This product has many features like reliable performance, small volume and simple operating etc.

2. Main Function

With safe and reliable interlocking function, when the breaker is under closing state, the breaker cannot be glugged in or drawn out, you must open the breaker first to plug in or pull out. With function of reliable making and breaking main circuit and secondary circuit, besides, the device possesses self-locking function.

When you draw out the breaker, the device has safe insulating isolation (your finger will not touch with the charged parts).

The breaker can be mounted with various rotaring manual operating mechanism and motor operating mechanism.

AMQ5-250/4P

3. Specification

Type				AMQ5										
Type AMQ5(Three-step type)				AMQ5-100			AMQ5-250			AMQ5-400			AMQ5-630	AMQ5-800
Rated voltage				AC690V DC125V										
Rated current				100A			250A			400A			630A	800A
Number of cut-in				Double cut-in										
Connecting mode				In front of panel and at back of panel (Non standard product)										
Operating current	DC110V (A)			3	3	4	3	4	5	5	5	7	6	6	6
	AC100V/110V (A)			3	3	4	3	4	5	5	5	7	6	6	6
	AC200V/220V (A)			1.5	1.5	2	1.5	2	2.5	2.5	2.5	3.5	3	3	3
Trip current	DC110V			1A						1.5A			2A	
	AC100V/110V			1A						1.5A			2A	
	AC200V/220V			0.5A						0.7A			1A	
Performance	Short-time withstanding current			5kA			10kA			12kA			15kA	
	Rated conditional short-circuit current			12.5kA			25kA			30kA			37.5kA	
	Making and breaking capacity			AC-33B(10Ie making 8Ie opening) cosØ=0.35 DC-33B 1.1Ie making 1.1Ie opening L/R=1ms										
	Changeover time	A power side	Cut in	55ms			55ms			60ms			100ms	
			Cut off	20ms			20ms			25ms			30ms	
		B power side	Cut in	80ms			80ms			90ms			135ms	
			Cut off	20ms			20ms			25ms			30ms	
	Service life			With 2500 times of electric life with 10000 times(120 times/hour) of mechanical life										
	Operation circle time			120 time/hour										
Auxiliary switch				A source 1C B source 1C switch capacity AC100V5A AC200V2.5A DC100V0.5A										
Accessory				Protective cover breakthough absorber manual handle										

Type				AMQ5													
Tyep AMQ5 (Three-step type)				AMQ5-1000			AMQ5-1250			AMQ5-1600			AMQ5-2000		AMQ5-3150		AMQ5-4000
Rated voltage				AC690V DC125V									AC690V				
Rated current				1000A			1250A			1600A			2000A		3150A		4000A
Number of cut-in				Double cut-in													
Connecting mode				At the back of panel in the front of panel									At the back of panel				
Number of pole				2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	3P
Weight(kg)				30(40)	39(54)	49(64)	31(45)	40(56)	51(66)	36(50)	47(62)	59(74)	95	115	135	110	150	190	207
Operating current	DC110V (A)			6	6	8	6	6	8	7	8	9	8	10	12	10	12	14	16
	AC100V/110V (A)			6	6	8	6	6	8	7	8	9	8	10	12	10	12	14	16
	AC200V/220V (A)			3	3	4	3	3	4	3.5	4	4.5	4	5	6	7	8	7	8
Trip current	DC110V			2A									4A						
	AC100V/110			2A									4A						
	AC200V/220V			1A									1A						
Performance	Short-time withstanding current			22kA						25kA			35kA		50kA			50kA	
	Rated conditional short-circuit current			50kA						55kA			55kA		80kA			100kA	
	Making and breaking capacity			AC-33B(10Ie making 8Ie opening) cosØ=0.35 DC-33B 1.1Ie making 1.1Ie openingL/R=1ms									AC2(Ie making Ie opening) cosØ=0.65						
	Changeover time	A power side	Cut in	115ms						115ms			180ms		140ms			200ms(190)	
			Cut off	25ms						25ms			25ms		30ms			30ms(30)	
		B power side	Cut in	145ms						150ms			220ms		190ms			220ms(240)	
			Cut off	25ms						25ms			25ms		30ms			30ms(30)	
	Operation circle time			120 times/hour									30 times/hour						
Auxiliary switch				A source 1C B source 1C switch capacity AC100V5A AC200V2.5A DC100V0.5A															
Accessory				Protective cover breakthough absorber manual handle															

Note: At DC operating occasion, the construction of circuit is almost same. Please operate according to DC operating order.

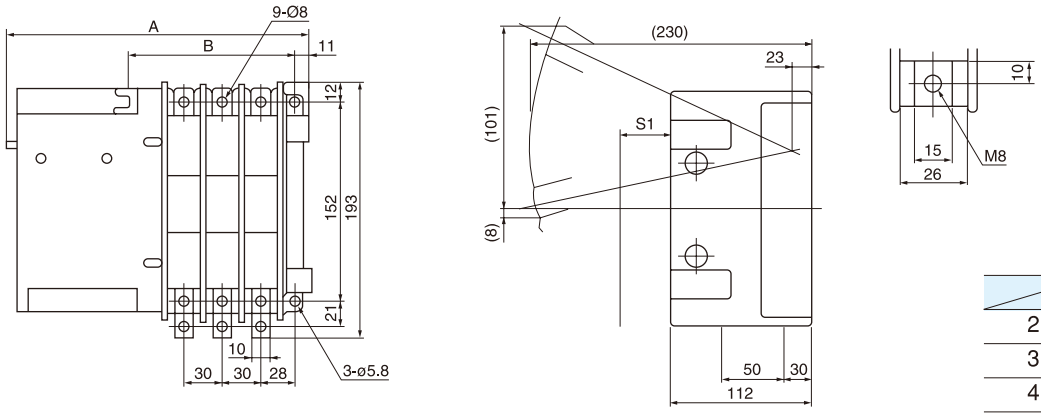
1. The weight in the bracket is stuck on the product surface.
2. The capacity of N pole contact is 2000A for product with 4000A and 4P.

Main technical index of AMQ5 with two steps

Type				AMQ5								
Tyep AMQ5 (Two-step type)				AMQ5-125			AMQ5-250			AMQ5-400		
Rated voltage				AC690V DC125V								
Rated current				40A,63A,100A,125A			160A,200A,225A,250A			350A,400A		
Number of cut-in				Double cut-in								
Connecting mode				In front of panel and at back of panel								
Operating current	DC110V (A)			3	3	4	3	4	5	5	5	7
	AC100V/110V (A)			3	3	4	3	4	5	5	5	7
	AC200V/220V (A)			1.5	1.5	2	1.5	2	2.5	2.5	2.5	3.5
Trip current	DC110V			1A						1.5A		
	AC100V/110V			1A						1.5A		
	AC200V/220V			0.5A						0.7A		
Performance	Short-time withstanding current			5kA			10kA			12kA		
	Rated conditional short-circuit current			12.5kA			25kA			30kA		
	Making and breaking capacity			AC-33B(10Ie making 8Ie opening) cosØ=0.35 DC-33B 1.1Ie making 1.1Ie openingL/R=1ms								
	Changeover time	A power side	Cut in	55ms			55ms			60ms		
			Cut off	20ms			20ms			25ms		
		B power side	Cut in	80ms			80ms			90ms		
			Cut off	20ms			20ms			25ms		
	Service life											
	Operation circle time			120 times/hour								
Auxiliary switch				A source 1C B source 1C switch capacity AC100V5A AC200V2.5A DC100V0.5A								
Accessory												

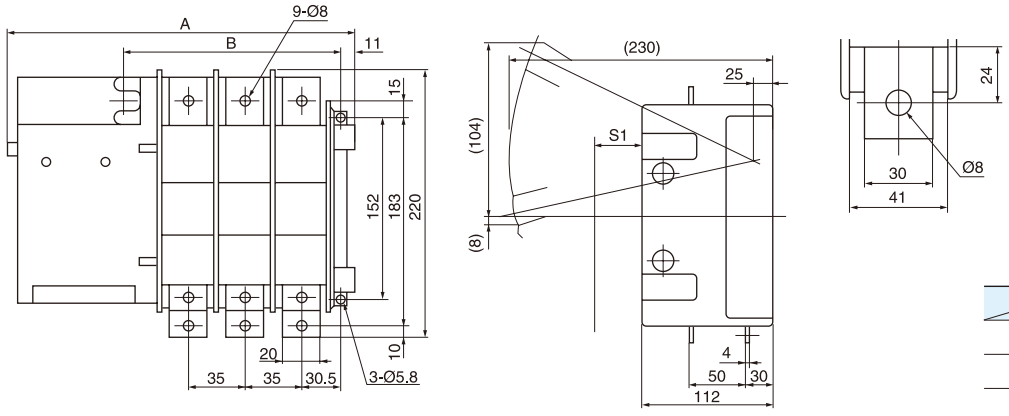
Note: The occasion for DC operation has the same circuit, only little different. Please operate it according to DC operation direction.
The two-step type belongs to an economic type, and
The outline size of 100A and 125A grades has the same size with three-step.
The outline size of 160A,200A,225A and 250A grades has the same size with three-step.
The outline size of 350A and 400A grades has the same size with three-step.

4. Outline and Mounting Dimension (mm)



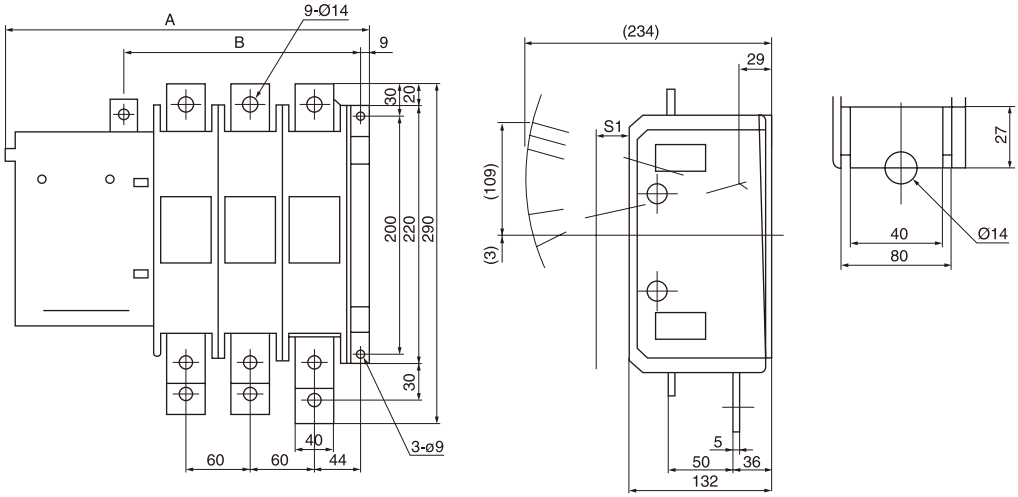
	A	B
2P	209	103
3P	239	133
4P	269	163

AMQ5-100A



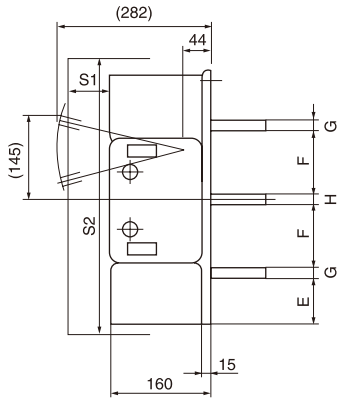
	A	B
2P	219	113
3P	254	148
4P	289	183

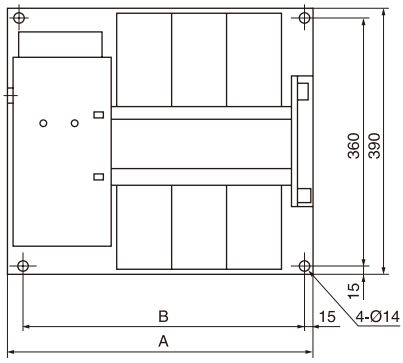
AMQ5-250A



	A	B
2P	280	164
3P	340	224
4P	400	284

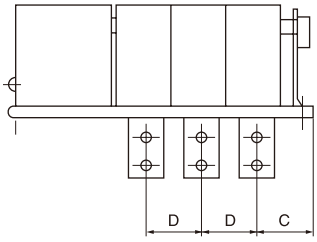
AMQ5-400A

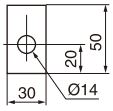




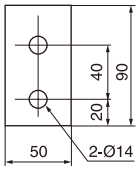
S1: 45mm(400V), 90mm(690V)
A2: 430mm(400V), 450mm(690V)

Type		630A,800A	1000A,1250A	1600A
A	2P	340	370	410
	3P	405	450	510
	4P	470	530	610
B	2P	310	340	380
	3P	375	420	480
	4P	440	500	580
C		80	88	97.5
D		65	80	100
E		60	60	57
F			117.5	
G		10/15	12/15	15
H			15	

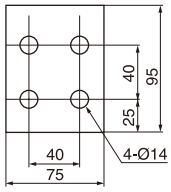




630A
800A

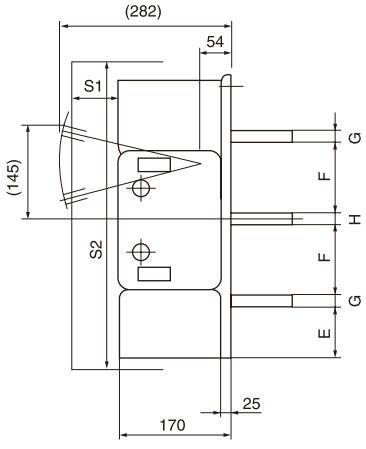


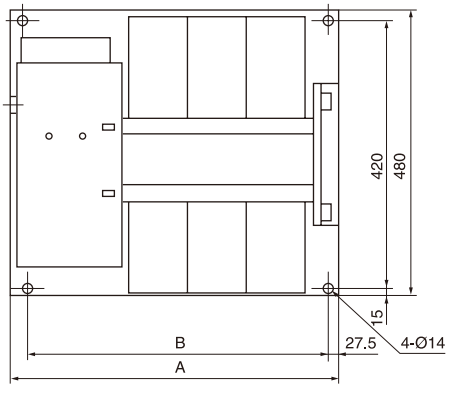
1000A
1250A



1600A

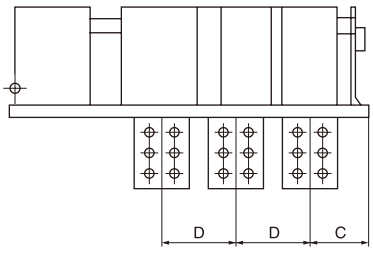
AMQ5-630~1600A

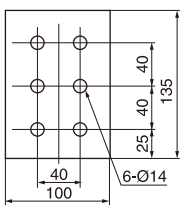




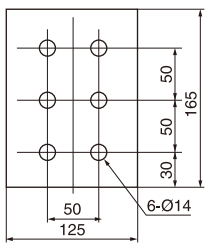
S1: 50mm(400V), 100mm(690V)
A2: 560mm(400V), 600mm(690V)

Type		2000A	2500A	3150A	4000A
A	2P	540	540	640	
	3P	650	650	915	915
	4P	845	850	1155	1155
B	2P	500	500	600	
	3P	595	585	860	860
	4P	790	790	1100	1100
C		130	130	135	135
D		135	135	240	240
E		75	75	75	75
F		117.5	117.5	117.5	117.5
G		15	20	20	20
H		15	20	20	20

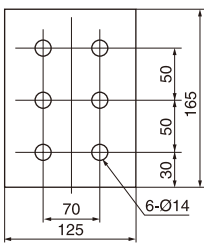




2000A



3150A



4000A

AMQ5-2000~4000A

SGLD Series Automatic Change-over Switch

1. Application

SGLD-100A

SGLD automatic change-over switch(ATSE) integrates switch and logic control, thus it is not necessary to provide external controller. This truly electromechanically integrated automatic change-over switch has the following functions such as voltage detection, frequency detection, communication interface, electrical and mechanical interlocking etc.,so, automatic control, electrical remote control and emergency manual control can be performed.

The operation is carried out through the logic control board, which gives various commands to control the motor and gear-box. the motor drives the accelerator which can take switch-spring power accmulating and instantaneous release, swiftly turns making and breaking the circuit or makes circuit switching, the visible operation status can help you to perform safe separation, increasing extremely the various electrical and mechanical performance.

Which the shell of switch SGLD is made of different materials: the control section is made of metal, but the switching section is made of glass-fiber unsaturated polyester resin, having stronger dielectric property and protective capacity as well as safe operation performance.

This kind of switch is suitable for the automatic changeover of the main power source and the secondary power source of the power supply system of the automatic change-over and safe separation of the 2 sets of load-equipment.

SGLD-160~1600A

This kind of switch has a beautiful, novel and simple structure, a small volume but complete functions, being the best choice among congeneric of products.

SGLD series had been already passed the detection of EMC.

2. Main Technical Parameters

Conventional thermal current Ith(A)			100A					160A	
Rated current In(A)			20A	40A	63A	80A	100A	125A	160A
Rated impulse withstand voltage Ui(V)			500	500	500	500	500	500	500
Dielectric strength(V)			5000	5000	5000	5000	5000	5000	5000
Rated surge-resistant voltage Uimp kV(installed category IV)			8	8	8	8	8	8	8
Rated working current	380V	AC-31	20	40	63	80	100	125	160
		AC-33	20	32	40	63	80	125	160
		AC-35	20	40	63	80	100	125	160
	220V	DC-31	20	40	63	80	100	125	160
		DC-33	20	32	40	63	80	100	125
		DC-35	20	40	63	80	100	125	160
Motor power P(380V) kW			10	20	25	30	32	63	80
Rated short-time withstand current(kA Rms)0.1S/1.0S			9/5	9/5	9/5	9/5	9/5	20/10	20/10
Rated breaking capacity(A Rms)AC3 380V			160	320	500	640	800	1000	1000
Rated making capacity (A Rms)AC3 380V			200	400	630	800	1000	1250	1250
Rated short-current making capability Icm(kA peak value)			8	8	10	10	10	12	12
Mechanical durability(number of cyclic operation)			8000	8000	8000	8000	8000	5000	5000
Electric durability	COSØ=0.65 AC33		1500	1500	1500	1500	1500	1000	1000
Change-over time	I-0-II or II-0-1(s)		0.5	0.5	0.5	0.5	0.5	1.0	1.0
	I-0 or II-0(s)		0.3	0.3	0.3	0.3	0.3	0.6	0.6
Power consumption of electrical control	24V(DC)(w)		50	50	50	50	50	75	75
	220V(AC)(w)		50	50	50	50	50	75	75
Moment of operation(Nm)			15	15	15	15	15	22	22
Weight(kg)	3 Poles							8.2	8.2
	4 Poles		4.2	4.3	4.4	4.5	4.5	8.7	8.7

GV Motor Protection Circuit Breaker

GV series motor protection circuit breaker are mainly used for the overload and short circuit protection of the motor in AC 50/60Hz, up to 660V, 0.1-80A power circuit, as a full-voltage starter to start and cut off the motor, under the AC3 load or for the overload and short circuit protection of the circuit and power equipment in the power distribution network.

GV2-M

GV2-ME

GV2-PM

GV3-M

GV3-ME

Specification

Type	Standard power ratings of 3-phase motors 50/60Hz in category AC-3						Current setting range (A)
	220V	380V	415V	440V	500V	660V	
	kW	kW	kW	kW	kW	kW	
GV2-MM/ME/PM01	--	--	--	--	--	--	0.1-0.16
GV2-MM/ME/PM02	--	--	--	--	--	--	0.16-0.25
GV2-MM/ME/PM03	--	--	--	--	--	--	0.25-0.4
GV2-MM/ME/PM04	--	--	--	--	--	0.37	0.4-0.63
GV2-MM/ME/PM05	--	--	--	0.37	0.37	0.55	0.63-1
GV2-MM/ME/PM06	--	0.37	--	0.55	0.75	1.1	1-1.6
GV2-MM/ME/PM07	0.37	0.75	0.75	1.1	1.1	1.5	1.6-2.5
GV2-MM/ME/PM08	0.75	1.5	1.5	1.5	2.2	3	2.5-4
GV2-MM/ME/PM10	1.1	2.2	2.2	3	3.7	4	4-6.3
GV2-MM/ME/PM14	2.2	4	4	4	5.5	7.5	6-10
GV2-MM/ME/PM16	3	5.5	5.5	7.5	7.5	9	9-14
GV2-MM/ME/PM20	4	7.5	9	9	9	11	13-18
GV2-MM/ME/PM21	5.5	11	11	11	11	15	17-23
GV2-MM/ME/PM22	5.5	11	11	11	15	18.5	20-25
GV2-MM/ME/PM32	7.5	15	15	15	18.5	26	24-32
GV3-M/ME06	--	0.37	--	0.55	0.75	1.1	1-1.6
GV3-M/ME07	0.37	0.75	1.1	1.1	1.1	1.5	1.6-2.5
GV3-M/ME08	0.75	1.5	1.5	1.5	2.2	3	2.5-4
GV3-M/ME10	1.1	2.2	2.2	3	3.7	4	4-6
GV3-M/ME14	2.2	4	4	4	5.5	7.5	6-10
GV3-M/ME20	4	7.5	7.5	7.5	10	11	10-16
GV3-M/ME25	5.5	11	11	11	15	18.5	16-25
GV3-M/ME40	11	18.5	22	22	25	33	25-40
GV3-M/ME63	15	30	33	33	40	55	40-63
GV3-M/ME80	22	40	45	45	55	63	56-80

GV2-AE11

GV2-AN11

GV2-MC

DZ108-20

DZ108-32

DZ108-63

DZ208-13

DZ208-16

DZ108 Motor Protection Circuit Breaker

DZ108 is suitable in the AC circuit of 50/60Hz, voltage up to 660V and current of 0.1-63A and used to prevent small capacity motor and circuit from overload and short circuit and also used as direct starter for starting the motor and a switch for changeover the circuit under normal conditions.

Specification

Type		DZ108-20	DZ108-32	DZ108-63
Poles		3	3	3
Rated current (A)		20	32	63
Rated voltage (V)		660	660	660
Rated insulation voltage (V)		660	750	750
Current setting voltage (V)		0.1~0.16 0.16~0.25 0.25~0.4 0.4~0.63 0.63~1 1~1.6 1.6~2.5 2~3.2 2.5~4 3.2~5 4~6.3 5~8 6.3~10 8~12.5 10 ~16 14~20	1~1.6 1.6~2.5 2.5~4 4~6.3 6.3~10 8~12.5 10~16 12.5~20 16~25 22~32	6.3~10 10~16 16~25 22~32 28~40 36~50 45~63 45~56
Power of controlled motor (kW)	220V	5.5	9	18
	380V	10	16	32
	660V	13	26	58
Mechanical life(1×10^4)		10	10	3
Protective feature	1.05Ie	Not act within 2hrs		
	1.2Ie	Act within 2hrs		
	12Ie	Action snap		

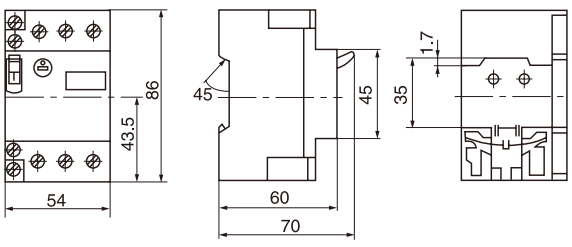
DZ208 Motor Protection Circuit Breaker

The product is suitable to be used in the circuit of rated voltage up to AC 660V 50/60Hz, rated current from 0.1A to 63A. It is applicable for protection of overload & short circuit of 3 phase squirrel-cage motors. It also can be used as direct starter to start the motor and a switch for changeover the circuit under normal conditions.

1.Specification

DZ208-13			DZ208-16		
Current setting range (A)	Power of controlled motor (kW)	Rated current (A)	Current setting range (A)	Power of controlled motor (kW)	Rated current (A)
0.1-0.16		0.16	1-1.6	0.37/0.55	1.6
0.16-0.24	0.06	0.24	1.6-2.4	0.75	2.4
0.24-0.4	0.09/0.12	0.4	2.4-4	1.1/1.5	4
0.4-0.6	0.12/0.18	0.6	4-6	2.2	6
0.6-1	0.25	1	6-10	3/4	10
1-1.6	0.37/0.55	1.6	10-16	5.5/7.5	16
1.6-2.4	0.75	2.4	16-25	11	25
2-3.2	1.1	3.2	22-23	15	32
2.4-4	1.1/1.5	4	28-40	18.5	40
3.2-5	1.5/2.2	5	36-52	22	52
4-6	2.2	6	45-63	-	63
5-8	3	8			
6-10	3/4	10			
8-13	4/4.5	13			
10-16	7.5	16			
14-20	7.5	20			
18-25	11	25			

2. Dimension (mm)



ANDELI

BY1-B

Surge Proctect Device

1. Application:

Expensive electronic equipment is being increasingly used in all kinds of business, industry, government and enterprise and domestic households. Electronic discharge, over voltage caused by switching or by lightning often cause these highly sensitive units to fail.

Electronic equipment is especially prone up to 1.5km way from lightning strikes due to the electromagnetic fields and cable-bome over voltages. However, effective protection is now available.

Over voltage protective devices for TN-S,TN-C,TN-C-S,TT and IT power systems and plants are subdivided into Classes A,B,C and D depending on their application area, accordingly to DIN VDE 0675-6 (11.89). Compex offers over voltage protective devices for Classes B to D, which cover the complete installation on the low voltage side.

2. Feature:

- Metal-oxide varistor Arresters still work after frequent operation
- An arrester module can be changed with the mains voltage on
- 1-4 pole Pre-wired arrester blocks Simple installation via the marked terminals
- Thermal isolating device with optical indication, permanent check of arrester service ability
- An extremely short response time, a low protection level and a high current diversion capacity combined with long life.
- No follow-up current can be registered after the surge has decayed.
- If the surge arrester is damaged by overloading, the integral isolating device breaks the connection to the mains.This is signalled by a red fault indicator.

3. Mounting:

The surge arrestor can easily be installed in any distribution box or switchgear cabinet by snap-fitting to any commercial 35 mm tophat rail. The multi-pole arresters are connected together by an earthing bridge at the factory, so that there is only one earth (PE) connection to make on site.

BY1-B/1P

BY1-B/2P

4. BY1-B

Type	BY1-B 30-60KA	BY1-B 40-80KA
Class	B	B
Rated voltage Un(V)	220/380	220/380
Maximum continuous operating voltage Us (V)	385	385
Protection level Up(kV)	≤2.0	≤2.0
Nominal discharge current (8/20uS) In (kA)	30	40
Max discharge current (8/20uS) Imax (kA)	60	80
Response time T (ns)	<25	<25
Temperature range	-40°C~+80°C	-40°C~+80°C
Color (module/base)	Orange red/gray	Orange red/gray
Material	PBT	PBT
Back up fuse	63A gl	63A gl
With alarm model	BY1-B/4-380-30B	BY1-B/4-380-40B
With remote control contact model	BY1-B/4-380-30X	BY1-B/4-380-40X

5. BY2-30 & BY2-60

BY2-30

BY4-80/1P

Type	BY2-30	BY2-60
Test class	I	I
class	B	B
Rated voltage Un (V)	220/380	220/380
Max continuous operating voltage Uc (V)	420	420
Insulated resistance Riso (Ω)	≥10^{10}	≥10^{10}
Protection level Up (kV)	≤4.0	≤4.0
Nominal DC spark voltage Un (kA)	2.95KV (+25%/-40%)	2.95KV (+25%/-40%)
Nominal discharge current (8/20uS) In (kA)	30	60
Charge Q (As)	15	30
Power W/R (kJ/ Ω)	225	900
Response time T (ns)	<100	<100
Air humidity	≤95%	≤95%
Temperature range	-40°C~+80°C	-40°C~+80°C
Protection grade	IP20	IP20
Max back up fuse	205A gl	205A gl

6. BY4-60 & BY4-80,BY4-100

BY4-80/2P

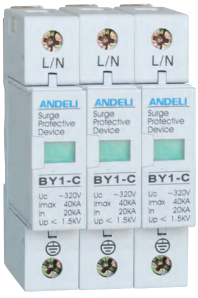
BY4-80/3P

Model	BY4-60	BY4-80	BY4-100
Test to	IEC61643-1	IEC61643-1	IEC61643-1
class	B	B	B
Rated voltage Un (V)	220/380	220/380	220/380
Max continuous operating voltage Uc (V)	385	385	385
Shock current limp (10/35uS) (kA)	7.5	12	15
Charge Q (As)	2.5	3.75	5
Protection level Up (kV)	≤2.0	≤2.5	≤3.0
Maximum discharge current Imax (8/20uS) (kA)	60	80	100
Nominal discharge current (8/20uS) In (kA)	30	40	60
Response time T (ns)	<25	<25	<25
Color (module/base)	Orange red/gray	Orange red/gray	Orange red/gray
Temperature range	-40°C~+80°C	-40°C~+80°C	-40°C~+80°C
Protection grade	IP20	IP20	IP20
Max back up fuse	63~100A gl	63~100A gl	63~100A gl

7. BY1-C

BY1-C/1P

BY1-C/2P



BY1-C/3P

BY1-C/4P

Type	BY1-C					
Class	C					
Rated voltage Un (V)	110	220/380				
Max continuous operating voltage Uc (V)	140	275	320	385	420	550
Protection level Up (kV)	≤0.8	≤1	≤1.5	≤2.0		≤2.5
Max discharge current Imax (8/20uS) (kA)	40					
Nominal discharge current (8/20uS) In (kA)	20					
Response time T (ns)	<25					
Temperature range	-40°C~+80°C					
Material	PBT					
Color (module/ base)	Grey/gray					
Max back up fuse	32A gl					
Normal model	BY1-C/4-420-20,BY1-C/4-385-20					
With alarm model	BY1-C/4-420-20B					
With remote control contact model	BY1-C/4-420-20X					
Single phase 2P combined to single phase system	BY1-C/2-320-20					

8. BY1-C & BY1-C

Type	BY1-C				BY1-C
Test to	IEC61643-1				IEC61643-1
class	C				C
Rated voltage Un (V)	380				220
Max continuous operating voltage Uc (V)	320	385	420	550	320
Protection level Up (kV)	≤1.5	≤2.0	≤2.0	≤2.5	≤1.5
Max continuous operating current (A)	300				20
Nominal discharge current (8/20uS) In (kA)	N-PE20		N-PE40		20
Response time T (ns)	<100				<100
Color (module/N-PE)	Gray/blue				Gray/blue
Protection grade	IP20				IP20
Max back up fuse	32A gl				32A gl

9. BY1-D/2 & BY1-D/4

BY1-D/1P

BY1-D/3P

Type	BY1-D/2	BY1-D/4
Class	D	D
Rated voltage Un (V)	220	380
Max continuous operating voltage Uc (V)	320	220
Protection level Up (kV)	≤1.0	≤1.0
Max discharge current Imax (8/20uS) (kA)	10	10
Nominal discharge current (8/20uS) In (kA)	5	5
Response time T (ms)	<25	<25
Temperature range	-40°C~+80°C	-40°C~+80°C
Max back up fuse	16A gl	16A gl
Material	PBT	PBT
Color (module/base)	Yellow/gray	Yellow/gray
Normal model	BY1-D/2-320	BY1-D/4-320
With alarm model	BY1-D/2-320B	BY1-D/4-320B
With remote control contact model	BY1-D/2-320X	BY1-D/4-320X

10. BY3-2.5/150,BY3-4.0/320,BY3-6.0/420

BY3-4.0/1P

BY3-4.0/2P

Type	BY3-2.5/150	BY3-4.0/320	BY3-6.0/420
Class	D	D	D
Rated voltage Un (V)	110	220	220
Max continuous operating voltage Uc (V)	150	320	420
Insulated resistance risol (M Ω)	>100	>100	>100
Protection level Up (kV)	≤0.8	≤1.0	≤1.5
Max discharge current Imax (8/20uS) (kA)	10	10	0
Nominal discharge current (8/20uS) In (KA)	5	5	5
Response time T (ns)	<100	<100	<100
Open voltage (1.2/50uS) Uoc (kV)	2.5	4.0	6.0
Temperature range	-40°C~+80°C	-40°C~+80°C	-40°C~+80°C
Protection grade	IP20	IP20	IP20
Color	Yellow	Yellow	Yellow
Material	PBT	PBT	PBT