

# ANDELI



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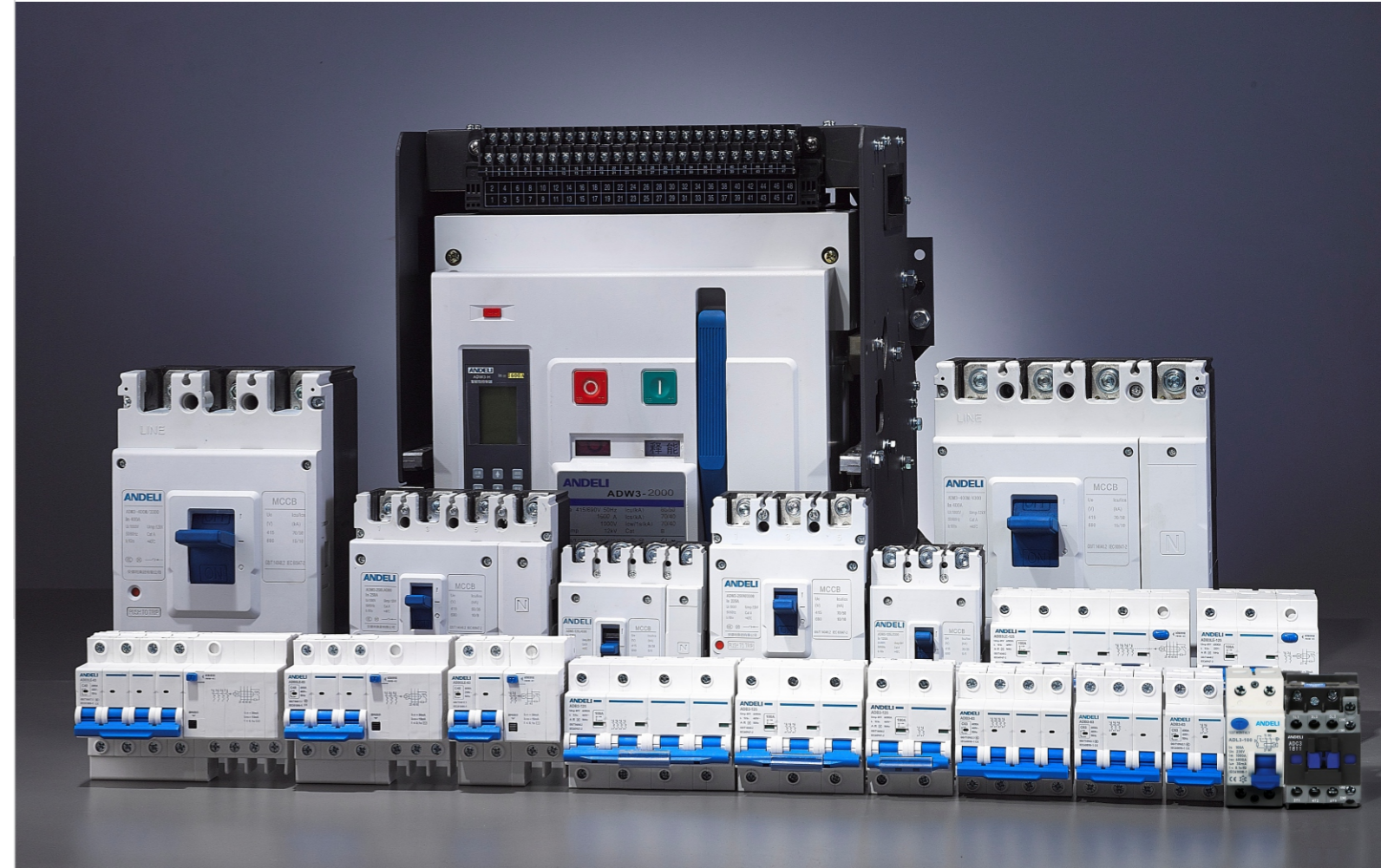
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# ANDELI



## Blue Sky Series

NEW ARRIVAL

### CATALOGUE

ANDELI GROUP CO.,LTD.

**Company Profile**

Andeli Group, founded in 1985, is a large national non-regional enterprise with electrical as its core industry, integrating R&D, production and sales, with 12 subsidiaries in Zhejiang, Shanghai, Hunan and Dubai, Russia, Brazil, Uganda, Pakistan, etc., more than 300 member supporting enterprises, more than 3,000 employees and a registered capital of 101 million yuan. The company has won a number of honors from the state, Zhejiang Province, Wenzhou City, and Yueqing City.

Andeli Group has always insisted on "implementing first-class management, producing first-class products and providing first-class service" as its business tenet, and has passed ISO9001, ISO14001, OHSAS18001 management system certification, measurement and testing system, standardization system certification, CCC certification, TUV of Germany, KEMA of the Netherlands, SEMKO of Sweden, etc. With more than 1,000 domestic sales outlets and 600 overseas customers, Andeli brand has outstanding performance in the state grid bidding projects, and has great influence in the international market, and has become the preferred brand in the Middle East.

The company specializes in the production of high and low voltage electrical appliances, complete sets of transmission and distribution equipment, power transformers, instruments, welding equipment, wire and cable, more than 300 series, more than 10,000 specifications of products by the majority of users praise. A number of intelligent power monitoring, power quality management solutions and intelligent new products with independent intellectual property rights are coming to the market.

The Andeli people, who are honest and conscientious, sincerely join hands with elites from all over the world to create a better tomorrow.

- Top 500 Private Enterprises in China
- Top 500 Chinese Private Enterprises in Manufacturing
- Top 10 China Electrical Industry Growth Power
- National Electricity Industry National Standard Qualified Advanced Enterprise
- National Electricity Industry National Management Qualified Advanced Enterprise
- China Quality Miles Famous Brand
- National Customer Satisfaction Enterprise
- National Key Enterprise of Brand Creation
- National High-tech Enterprise
- Zhejiang Famous Trademark
- Zhejiang Famous Export Brand
- Zhejiang Province contract-keeping and trustworthy AAA enterprise
- Bank credit AAA enterprise
- Tax Credit AAA Enterprise
- Wenzhou Leading Enterprise
- Yueqing Top 10 Yandang Cup Enterprise
- Yueqing Top 10 Export Enterprises



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Application

ADW3 series intelligent circuit breakers (hereinafter referred to as circuit breakers) are suitable for use in AC 50/60Hz, rated voltage AC400V~AC690V, rated current 400A~6300A distribution networks to distribute electrical energy and protect lines and power supply equipment from overload, short circuit, undervoltage, single-phase grounding or residual current faults. The circuit breaker has communicable and intelligent protection functions, which can improve the reliability of the power supply and avoid unnecessary power outages. The circuit breakers conforms to IEC60947-2 standard.



ADW3-2000

Product range

- 2.1 Frame current : 2000A, 3200A, 4000A, 6300A
- 2.2 Breaking capacity : normal/H (40~120kA)
- 2.3 Rated current : 400A~6300A
- 2.4 Rated working voltage : AC400V/AC690V
- 2.5 Frequency : 50Hz/60Hz
- 2.6 Number of poles : 3P、 4P
- 2.7 Installation : drawer type, fixed type
- 2.8 Wiring method : horizontal connection, vertical connection
- 2.9 Operating mode : electrically operated, manually operated
- 2.10 Intelligent controller :
  - M、 3M、 2H、 3H
  - M type controller : Basic protection functions (L/SI&G)
  - 3M type controller : Basic protection functions + basic measurement functions + auxiliary functions
  - 2H type controller : Digital display + advanced protection functions, auxiliary functions, communication functions
  - 3H type controller : Basic + advanced protection functions, auxiliary functions, special functions, communication functions

Normal working and installation conditions

- 3.1 Ambient temperature: Normal operating ambient temperature -5°C to +40°C, average value of 24 hours not exceeding +35°C.If the temperature exceeds 40°C, please use the circuit breaker in accordance with the reduced capacity requirement.
- 3.2 Installation category: Class IV for the main circuit of the circuit breaker and the voltage release coil, primary coil of the power transformer, Class III for the auxiliary circuit, control circuit, vertical slope of the circuit breaker not exceeding 5°.
- 3.3 Pollution class: Class 3.
- 3.4 Altitude: ≤2000m.If the altitude exceeds 2,000m, please use according to the reduced capacity requirement.
- 3.5 Atmospheric conditions: Relative humidity not exceeding 50% at an ambient temperature of +40°C. Higher relative humidity may be permitted at lower temperatures, with an average monthly minimum temperature of +25°C and a relative humidity of 90%, taking into account frost condensation on the product surface due to temperature changes.
- 3.6 Protection class: IP20 on the front, IP00 on the rest of the surface.
- 3.7 Electromagnetic interference: Suitable for electromagnetic environment A.

Types and meanings

AD W 3 - 2000 H / 3P 2000A Drawer Horizontal 3M type  
 1 2 3 4 5 6 7 8 9 10  
 AC220V/230V 1s AC220V/230V 5open+5close  
 11 12 13 14

- 1.Enterprise code      2. Universal circuit breaker      3. Design serial number
- 4. Frame current      5. Breaking capacity code      6 Number of poles
- 7.Rated current      8.Installation method      9. Wiring method
- 10.Controller code      11.Control circuit voltage      12.type of undervoltage release
- 13. Voltage of undervoltage release      14.Auxiliary contact code

Product parameters

Frame current(A)		2000		3200		4000		6300
Breaking class		Normal	H	Normal	H	Normal	H	
Rated ultimate short circuit breaking capacity Icu (kA)	AC400V	85	90	100	100	100	100	120
	AC690V	50	60	65	65	75	75	85
Rated operating short circuit breaking capacity Ics (kA)	AC400V	70	90	80	100	80	100	100
	AC690V	40	60	50	65	60	75	70
Rated short time withstand current Icw(kA)/1s	AC400V	70	75	80	80	80	80	85
	AC690V	40	50	50	55	65	65	75

Working life		2000		3200		4000		6300
Electrical life (times)	AC400V	8000		8000		8000		8000
	AC690V	5000		5000		5000		5000
Mechanical life (times)	Maintenance free	15000		10000		10000		8000
	Maintenance available	30000		20000		20000		15000

Standard accessories	Fixed	Drawer	Fixed	Drawer	Fixed	Drawer	Drawer
Circuit breaker body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drawer seat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intelligent controller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Upper and lower horizontal wiring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Breaking and closing indicator contacts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fault release indicator contact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrically operated mechanism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Closing solenoid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shunt release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Frame rated current	2000		3200		4000		6300
Optional accessories	Fixed	Drawer	Fixed	Drawer	Fixed	Drawer	Drawer
Phase separator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instantaneous undervoltage release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delayed undervoltage release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Breaking and closing button lock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drawer base position lock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drawer seat detached position guas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key locks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Door interlock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Auxiliary contact 6NO+6NC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Auxiliary contact 4NO+4NC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drawer base three position electrical indication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steel cable interlock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rod interlock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dual power supply controller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External neutral transformer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zero sequence transformer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ground current transformers and their accessories	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

: With  : Without

Frame rated current (A)	2000	3200	4000	6300
Rated voltage Ue(V)	AC400V/690V			
Rated insulating voltage Ui(V)	1000V			
Rated impulse withstanding voltage Uimp(kV)	12kV			
Frequency (Hz)	50/60			
Using category	Category B			
Number of poles	3P/4P			
N-pole maximum continuous current (A)	100%In		50%In	
Full segmentation without additional delay time	≤30(ms)			
Closing time	≤70(ms)			
Arcing distance	0			
Rated current In(A)	400/630/800/ 1000/1250/ 1600/2000	2000/2500/2900 /3200	4000	4000/4900/5000 5900/6300

Smart controller panel indication

Panel display	Type	Function
In	Current label	Indicates the rated current of the controller
G	Light / Green	Earth or earth leakage current indicator
L1	Light / Green	Phase A current indicator
L2	Light / Green	Phase B current indicator
L3	Light / Green	Phase C current indicator
MAX	Light / Green	Phase A, B and C maximum current indicator
A	Light / Green	Unit of current: Ampere
kA	Light / Green	Unit of current: kiloamperes
S	Light / Green	Time unit: seconds
TEST	Light / YELLOW	Test indicator/self-diagnostic alarm (slow flash)
Ic1	Light / Red	Load monitoring 1 Protection indicator
Ic2	Light / Red	Load monitoring 2 protection indicator
δ	Light / Red	Current unbalance protection indicator
N	Light / Red	N phase indicator
Ir	Light / Red	Long delay protection indicator
Isd	Light / Red	Short-delay protection indicator (constant on inverse time, flashing on fixed time)
Ii	Light / Red	Instantaneous protection indicator
Ig	Light / Red	Grounding protection indicator
Working	Light / Green	Normal operation slow flashing
Alarm	Light / Red	Fault alarm
Communication	Light / Green	Flashing during communication

Description of key functions

Setting	Enter the protection parameter settings
Up	Adjusts the setting parameter value to increase
Back	Exit the parameter setting interface
Check	Check the fault record
Down	Adjusts the setting parameter value to decrease
Enter	Confirm save when setting parameters
Resting	Simulate the release test action
Reset	Clear the fault display to return to the operating state

6.2 ADW3-2000~6300controller  
6.2.1 ADW3-2M/2Htype (digital tube type)



6.2.2 ADW3-3M/3Htype (LCD type)



Indicator light description.

- The "set" key gives access to the measurement and protection rectification functions. ("Left" key in the password entry screen).
- The "up" key for moving the cursor upwards or for adjusting parameters upwards.
- The "reset" key is used to return to the previous menu level or to cancel the current parameter setting or to return to the main screen.
- The "check" key to cycle through the parameter settings, history and maintenance menus. ("Right" key in the password entry screen).
- The "down" key is used to move the cursor down or to adjust the parameters downwards.
- The "enter" key to go to the next level of the menu to which the current item refers or to make a selection of the current parameter, or to store the parameter.
- The "TEST" key, press and hold for 3-5 seconds, the controller is released once for testing the mechanical fit.
- The "RESET" key to exit the fault display.

Description of the LEDs

The "Ir" lamp is an overload long-delay fault indicator, which lights up after parameter adjustment and fault decoupling.  
 The "Run" green light flashes to indicate that the controller is working normally.  
 The "ISD" lamp is a short-circuit short-delay fault indicator, which lights up after parameter setting and fault decoupling.  
 The "Alarm" red light flashes to indicate fault tripping, long light indicates alarm, red light does not light up during normal operation.  
 The "Ii" lamp is a short-circuit instantaneous fault indicator, it will light up after parameter adjustment and fault release.  
 The "Communication" is off when there is no communication, flashing when there is communication  
 The "Ig" lamp is an earth fault indicator, illuminated after parameterisation and fault decoupling.  
 The "AP" lamp for advanced protection fault indication (e.g. phase break, over-voltage, voltage unbalance, under-frequency, over-frequency, phase sequence, reverse power and other faults tripped, if only the alarm is not debounced then the "Alarm" lamp is on).

Difference of intelligent controllers

Functions	Type of intelligent controller				Remark
	2M	2H	3M	3H	
Current display function	√	√	√	√	①
Overload long delay protection (inverse time limit) curve 3EI (G)	√	√	√	√	
Short-circuit short-delay (fixed time limit + inverse time limit)	√	√	√	√	
Short-circuit instantaneous protection	√	√	√	√	
Single-phase earth protection (default T-type NFPA mode)	√	√	√	√	
Current unbalance protection (phase breaking)	○	√	√	√	
Parameter rectification function	√	√	√	√	
Simulation test function	√	√	√	√	
Enquiry function	√	√	√	√	
Self-diagnostic function	○	√	√	√	
Programming interface function	△	△	△	△	
Communication network function	△	√	△	√	
Contact equivalent record	△	√	√	√	
Number of operations	△	√	√	√	
Clock record	△	○	○	○	
Alarm logging	△	△	√	√	
Position change records	△	△	√	√	
Current history peak record	△	△	√	√	
MCR and HSISC functions	○	○	○	○	
Earth leakage protection	△	○	○	○	
Neutral phase (N phase) protection	○	○	○	○	
Load monitoring function (mode 1 or mode 2)	○	√	○	√	
Voltage measurement display function	○	√	○	√	

Functions	Type of intelligent controller				Remark
	2M	2H	3M	3H	
Frequency measurement display function	△	√	○	√	
Voltage unbalance measurement display	△	△	○	√	
Power measurement display	△	√	○	√	
Energy measurement display	△	√	○	√	
Fault clock function	△	○	○	○	
Historical data logging function	√	√	√	√	
Phase sequence detection	△	△	○	√	
Harmonic measurement function	○	△	○	○	
Harmonic influence factor function	△	△	√	√	
Overvoltage and undervoltage protection	△	△	○	√	
Voltage unbalance protection	△	△	○	√	
Over- and under-frequency protection	△	△	○	√	
Phase sequence protection	△	△	○	√	
Inverse power protection	△	△	○	○	
Demand value protection	△	△	○	○	
Position lock function	△	△	△	△	
Thermal memory function	△	√	√	√	
Relay output function	△	√	○	√	

- Instruction: √ means default configuration function; ○ means optional function; △ means without function.
- Remark: ① ADW3 normally with 2M controller.

**Protection features of intelligent controllers**

The protection characteristics of the intelligent controller are inverse time limit and fixed time limit, when the fault current exceeds the inverse time limit setting value, the controller protects according to the fixed time limit time delay

**7.1 Overload long delay protection feature**

- ≤1.05IR : > 2h Non-tripping
- ≥1.3IR : < 1h Tripping

Range of IR current setting values		(0.4~1.0)In+OFF						
Inverse time action characteristics		$t=(1.5/N)^2 * tR$						
Time setting range tR		15s	30s	60s	120s	240s	480s	OFF
Tripping time s	1.5IR	15s	30s	60s	120s	240s	480s	Alarm
	6IR	0.938s	1.875s	3.75s	7.5s	15s	30s	
	7.2IR	0.651s	1.302s	2.604s	5.208s	10.4s	20.8s	
Thermal memory time		30min(ON)/OFF						

Remark: IR overload long delay protection current setting value, tR overload long delay protection time setting value, I fault current value, N I/IR value. If the controller is 3M or 3H, this is only one of the six available I<sup>2</sup>t curve for one of the six available curves.

**7.2 Short-circuit and short-delay protection features**

- < 0.9I<sub>sd</sub>: Non-tripping;
- > 1.1I<sub>sd</sub>: Tripping

IR Current adjustment range		(0.4~1.0)In+OFF						
Time rectification value range tsd		tsd=0.1s, 0.2s, 0.3s, 0.4s, +OFF						
Tripping time s	I <sub>sd</sub> < I ≤ 8I <sub>R</sub>	Anti-Time Limit	Tripping characteristics				OFF	
			$I^2 t = (8IR)^2 tsd$					
	I > 8I <sub>sd</sub>	Fixed time Limit	Setting time (tsd)	0.1	0.2	0.3	0.4	Alarm
			Setting time s (tsd)	0.1	0.2	0.3	0.4	
Delay time (ms)	60	160	255	340				
Max open time (ms)	140	240	345	460				

Remark: I<sub>sd</sub> short delay current setting  
 I Fault current value  
 I<sub>R</sub> Long delay setting  
 tsd Short-delay inverse time setting  
 I<sub>n</sub> Rated current of the controller

**7.3 Short-circuit transient protection characteristics**

Short-circuit transient protection action threshold  
 ≤ 0.85I<sub>i</sub>: Non-tripping  
 > 1.15I<sub>i</sub>: Tripping

2000A	1.0I <sub>n</sub> ~50kA+OFF (Set the step size1A)
3200A, 4000A	1.0I <sub>n</sub> ~75kA+OFF (Set the step size2A)
6300A	1.0I <sub>n</sub> ~100kA+OFF (Set the step size2A)
Precision	< 100ms (Contains the inherent breaking time of the circuit breaker)

**7.4 Ground fault protection features**

Ground fault protection action threshold  
 < 0.9I<sub>g</sub>: Non-tripping  
 > 1.1I<sub>g</sub>: Tripping

Current setting value	(0.2~1.0)In+OFF minimum 100A						
Time tuning range tg	0.1s 0.2s 0.3s 0.4s OFF						
tg(s)	Action characteristics						
	tg	0.1s	0.2s	0.3s	0.4s	0.4s	OFF
	Delay	60	160	255	340	340	Alarm
	Max disconnect time(ms)	140	240	345	460	460	
The operation time allows for error ±15%							

Remark: I<sub>g</sub> Grounding protection set value, when I<sub>n</sub> ≥ 1250A I<sub>g</sub> = 1200A, when I<sub>n</sub> < 1250A I<sub>g</sub> = I<sub>n</sub>

- I Fault current value
- T Fault action delay time
- tg Set value of grounding inverse time limit
- Allowable error ±20% of the time limit tripping time

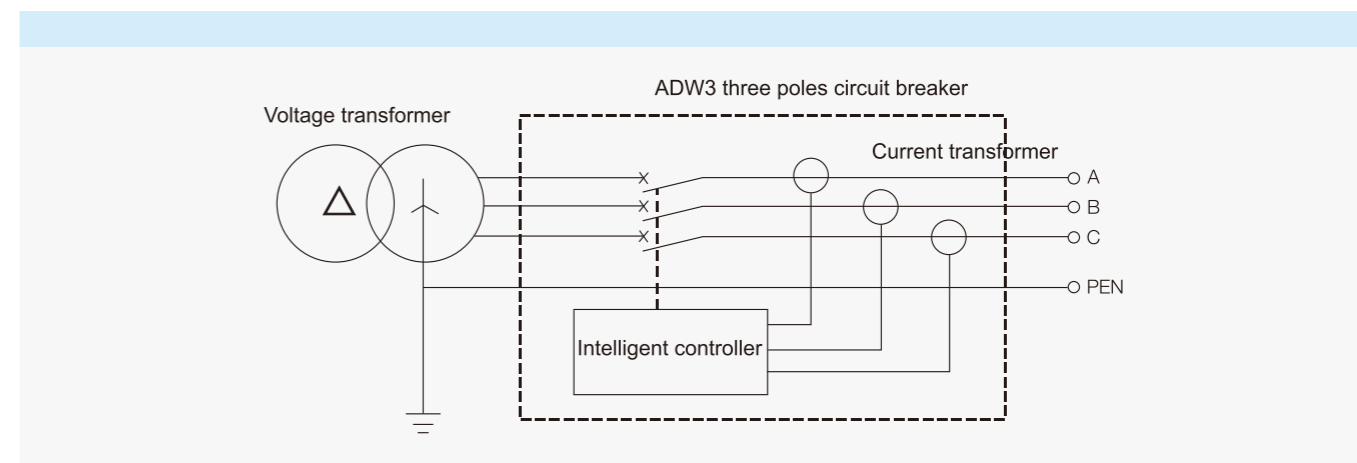
**7.5 Factory set value of intelligent controller**

Tripping curve I <sup>2</sup> t	Long time delay		Short time delay		Instantaneous	Ground fault		Thermal memories
	I <sub>R</sub>	t <sub>R</sub>	I <sub>sd</sub>	t <sub>sd</sub>	I <sub>i</sub>	I <sub>g</sub>	t <sub>g</sub>	
	1.0I <sub>n</sub>	60s	8I <sub>n</sub>	0.2s	12I <sub>n</sub>	0.8I <sub>n</sub>	0.4s	OFF

**Ground current protection**

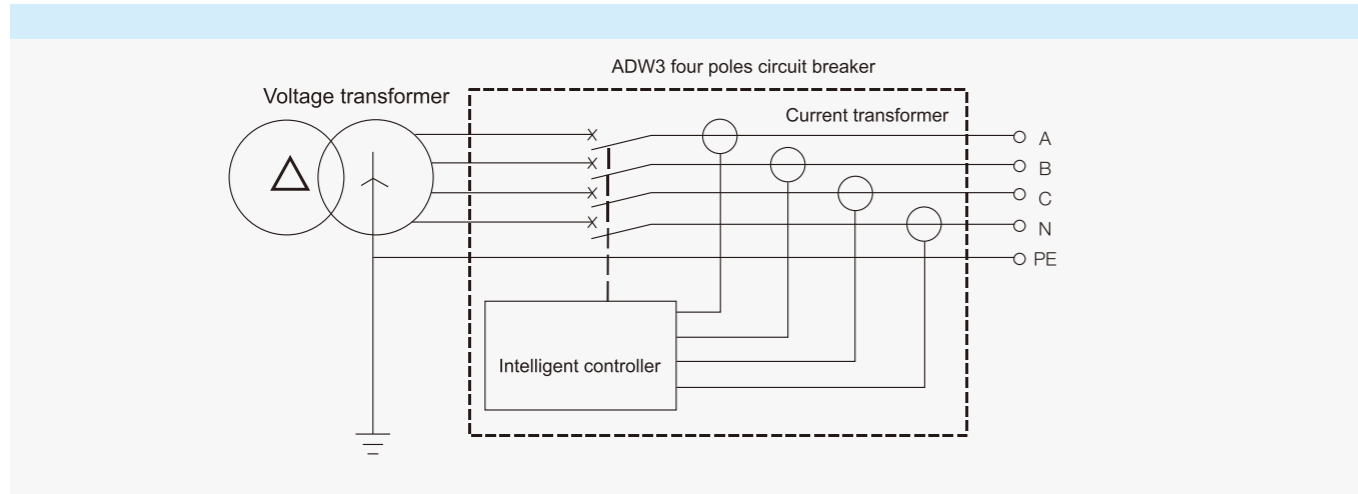
**8.1 3PT type (conventional standard)**

Differential type earth fault protection, the signal is only taken as a vector sum of the three phase currents (three phase unbalance)



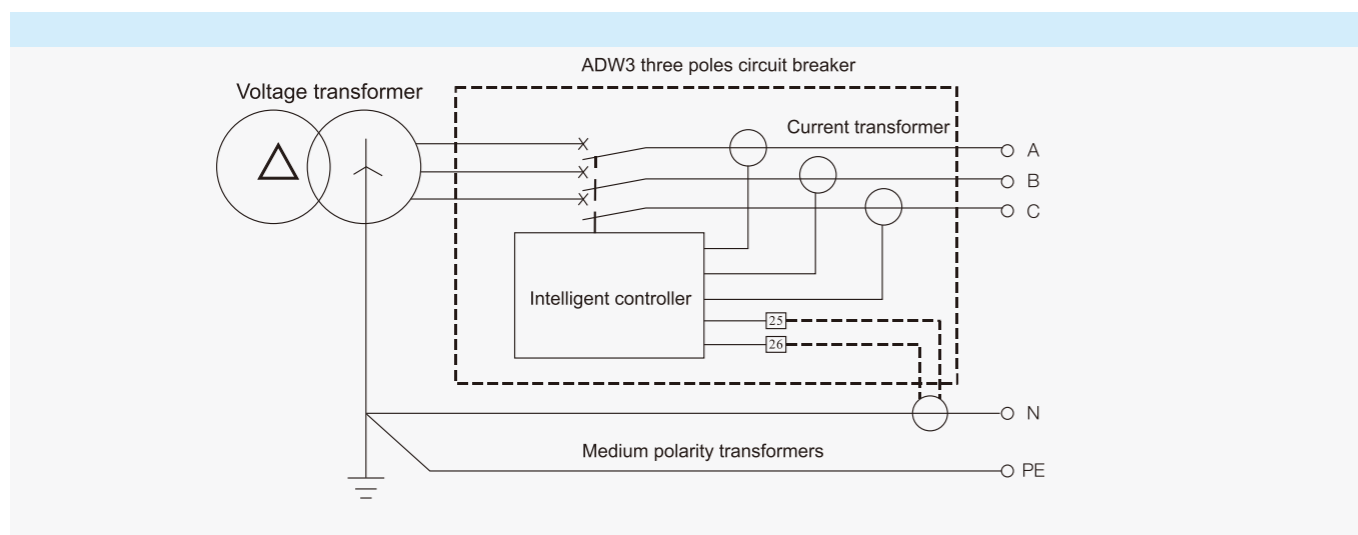
8.2 4PT type

Differential earth fault protection, the signal is taken as a vector sum of the three phase currents and the N-pole current



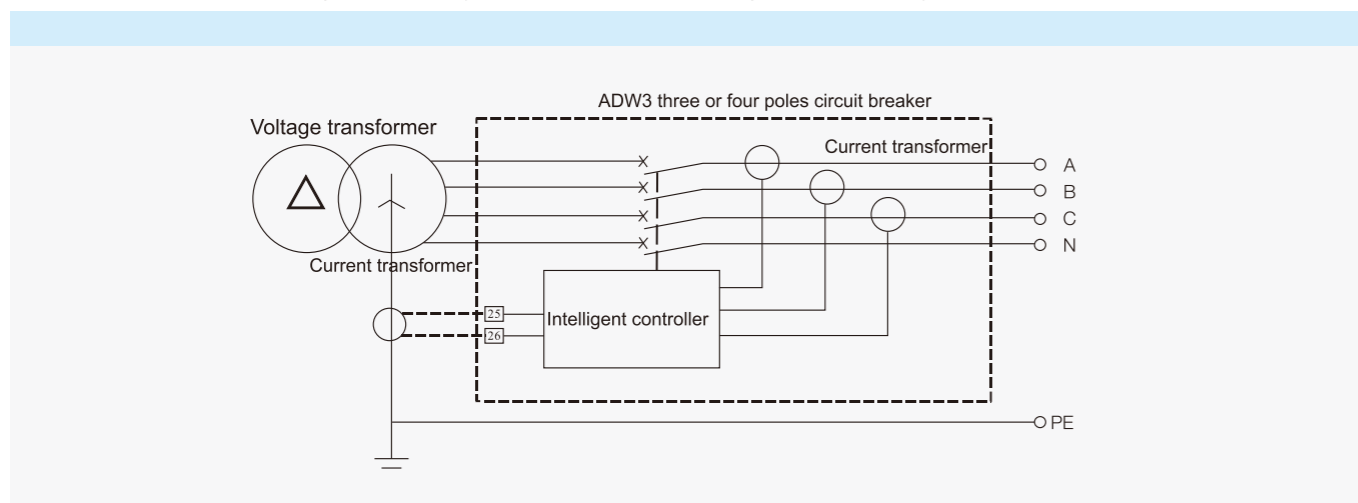
8.3 (3P+N)T type

External neutral transformer differential type earth fault protection, signal is only taken as a vector sum of the three phase currents and the N pole current



8.4 (3P+N)W type

External earth current transformer ground current type earth fault protection, the signal is taken directly between the neutral point of the mains and earth



■ Controller measurement accuracy

Current measurement	
Measurement range	Ia, Ib, Ic and IN less than 15 IN (rated current of the circuit breaker)
Measurement accuracy	Less than 0.1In, inaccurate when measured
	Between 0.1In and 0.4In, error: 2%~5%
	Between 0.4In and 1.5In, error: ±2%
	1.5In or more, error: 2%~15%
Voltage measurement	
Measurement range	Line voltage: (0 to 1200) V Phase voltage: (0 to 690)V
Measurement accuracy	Error: ±1%
Frequency	
Measurement range	40Hz ~ 70Hz
Error	±0.1Hz
Power	
Measurement methods	Valid value
Measurement contents	Split-phase active power, split-phase reactive power, split-phase apparent power, total active power, total reactive power, total apparent power
Measurement range	Active power: -32768KW~+32767KW
	Reactive power: -32768Kvar~+32767Kvar
	Apparent power: 0KVA~65535Kvar
	Error: ±2.5%
Power factor	
Measurement contents	Total Power Factor, Split Phase Power Factor
Measurement range	-1.00~+1.00
Electricity	
Measurement contents	Input reactive energy (Eqin), output reactive energy (Eqout)
	Input active energy (Eqin), output reactive energy (Eqout)
	Eptotal, EQtotal, Estotal
Measurement range	Active power: 0 to 4294967295kWh
	Reactive power: 0 to 4294967295kvarh
	Apparent: 0 to 4294967295kVAh
Measurement accuracy	±2.5%
Measurement of harmonics	
Measurement of fundamental waves	Current : Ia, Ib, Ic Voltage : Uab, Ubc, Uca
Total harmonic distortion	
THD and thd	THD: Total distortion rate of harmonics with respect to the fundamental wave
	thd: Total distortion rate of harmonics with respect to the rms value
Amplitude spectrum of harmonics	The controller can display the FFT amplitude from the 3rd to the 31st odd harmonic in percentages
Measurement accuracy of the control unit	Error: ±2%

Product accessories

Remote operation	Locks	Instructions and protective accessories	Control accessories
Shunt release	Padlocks	Three-position electrical indication	N phase external transformers
Closing solenoid	Key locks	Auxiliary switches	Earth leakage transformers
Undervoltage release	Door interlocks	Door frames	Grounded current transformers
Undervoltage time delay release	Three position locks	Interphase dividers	Power supply modules
Electric motor operating mechanism	Mechanical interlocks		Relay Modules

10.1 Shunt release

After the breaker has stored energy, the sub-excitation coil can disconnect the breaker instantaneously at the specified supply voltage and can be operated remotely.



2000 ~6300 frame

2000~6300 frame

Rated control supply voltage Us(V)	AC380/400、230/220	DC220	DC110
Tripping voltage(v)	(0.7~1.1)Us		
Power consumption	300VA	132W	70W
Breaking time(ms)	30~50		

Remark: Must be pulse mode, pulse width 1s, otherwise easy to cause component burnout

10.2 Closing solenoid

After the circuit breaker has stored energy, the closing solenoid can close the circuit breaker at the specified supply voltage and can be operated remotely.



2000-6300 frame

2000~6300 frame

Rated control supply voltage Us(V)	AC380/400、230/220	DC220	DC110
Tripping voltage(V)	(0.85~1.1)Us		
Power consumption	300VA	132W	70W
Closing time	≤70ms		

Remark: Forbidden for a long time, to avoid damage, especially in the automatic control system, must be pulse mode, the pulse width 1s, otherwise it is easy to cause component burnout.

10.3 Undervoltage release

Under-voltage protection of the circuit breaker, under-voltage time delay release



2000~6300 frame

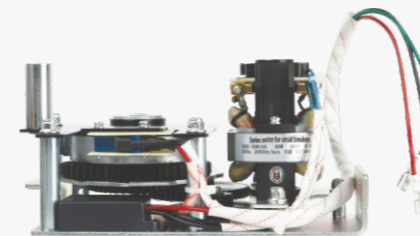
2000~6300 frame

Rated control supply voltage Ue(V)	AC380/400、230/220	DC220、DC110
Tripping voltage(V)	(0.35~0.7) Ue	(0.35~0.7) Ue
Reliable closing voltage(V)	(0.85~1.1) Ue	(0.85~1.1) Ue
Reliable non-closing voltage(V)	≤0.35Ue	≤0.35Ue
Power consumption	48VA	48W

Remark: The undervoltage release must be energised before the circuit breaker can be re-buckled and closed, otherwise the circuit breaker will be damaged.  
When the rated operating voltage is 35% to 70%, the undervoltage release should reliably disengage the circuit breaker.  
When the rated working voltage is lower than 35%, the undervoltage release should prevent the circuit breaker from closing.  
85%~110% of the rated working voltage, the undervoltage release should ensure that the circuit breaker is closed.  
Remark: The undervoltage release must be energised before the circuit breaker can be re-buckled and closed, otherwise the circuit breaker will be damaged.

10.4 Electric motor operating mechanism

Automatic energy storage for the circuit breaker when the breaker is supplied with power; the handle can be used to store energy when no power is supplied



2000~6300 frame

2000~6300 frame

Rated control supply voltage(V)	AC220/230、AC380/400	DC220	DC110
Tripping voltage(V)	(0.85~1.1)Us		
Power consumption(W)	85/110	85	110
Energy storage time	≤5s		

Remark: Do not turn on the power for a long time to avoid damage.

10.5 Auxiliary switches

Can be used to monitor the status of circuit breakers, e.g. connection paragraph position indicator and disconnection indicator



2000~6300 frame

2000~6300 frame

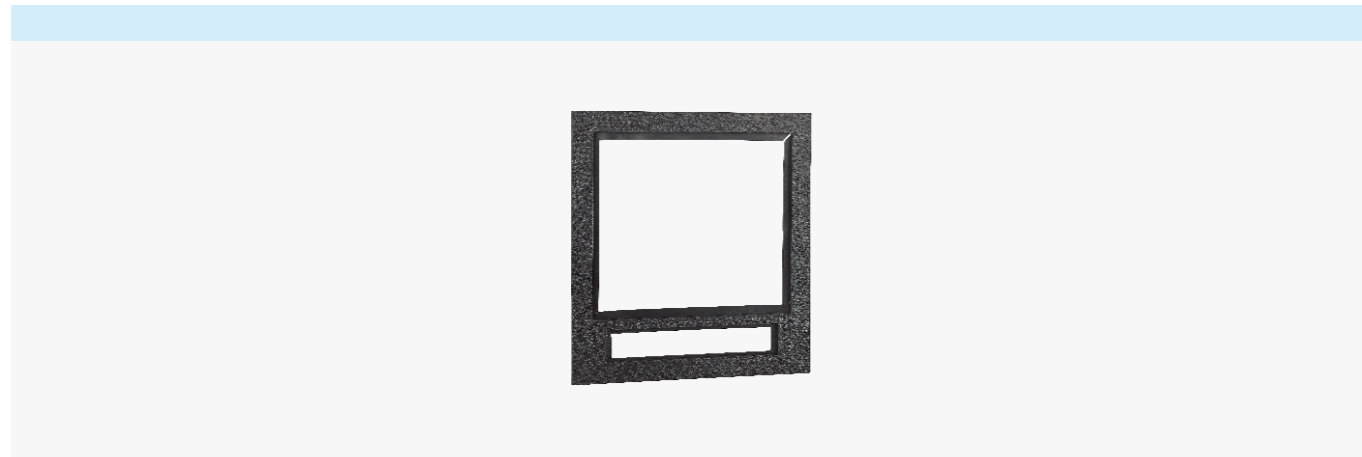
Rated voltage (V)	Rated thermal current Ith(A)	Rated control capacity
AC230	6	300VA
AC415	6	300VA
DC220	6	60W

Standard type:4 open and 4 closed by default (four changeover contacts)

Special type:3 open 3 closed,5 sets of changeover contacts,6 sets of changeover contacts

10.6 Door frames and gaskets

Installed on the door of the power distribution cabinet room to act as a seal, with a protection class of IP40 (available in drawer and fixed versions)



10.7 Dust protection cover

Forbidden on the crossbeam of the drawer block to prevent dust and other debris from falling into the secondary circuit terminals and causing poor contact



10.8 Inter-phase separator

Installed between the phases of a terminal block to increase the inter-phase insulation capacity of the circuit breaker



10.9 N phase external transformers

In the 3P+N earthing method, the external transformer used to measure the neutral phase current is applied by the user to the terminal block



2000 ~6300 frame

10.10 Earth leakage transformers

Special rectangular transformers for earth protection of the earth leakage type



10.11 Power supply module

Output signal unit for communication functions such as zone interlocking, signal processing for functions such as four shakes or for fault alarm indication, etc.





10.12 Relay modules

Output signal units for communication functions such as zone interlocking, signal processing for functions such as four shakes or for fault alarm indication, etc.



10.13 Key lock

The break lock locks the circuit breaker in the off position and the breaker can only be closed if the lock is opened by the key and the key is not removed



Two locks and one key  
Two locks and one key  
Five locks and three keys

10.14 Three-position lock

Output signal unit for communication functions such as zone interlocking, signal processing for functions such as four shakes or for fault alarm indication, etc.



In drawer type circuit breakers, locking device of connection, test and disengaged position of circuit breaker.

■ Mechanical accessories

11.1 Interlocking mechanism

The mechanical interlocking mechanism is mounted on the right-hand panel of the circuit breaker

When one of the circuit breakers is in the closed position, the remaining circuit breakers shall not be closed

The interlocking mechanism can be used for interlocking between drawer type and fixed type circuit breakers

Interlocking mechanism to be installed by the user

The distance between the interlocking circuit breaker and the circuit breaker using a cable must not exceed 2 metres

0.9 m distance between circuit breaker and circuit breaker with hard bar interlock

With cable interlocks, the minimum corner radius of the cable interlock is not less than R120 mm

Mechanical interlocks available

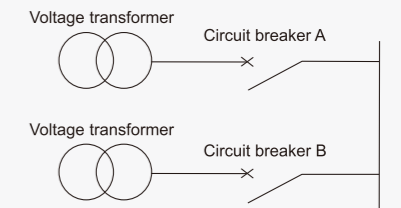
Interlocking type	Between two circuit breakers		Between three circuit breakers	
	Horizontal	Vertical	Horizontal	Vertical
Cable interlock	√	√	√	√
Hard lever interlock	×	√	×	×

11.2 Typical applications of interlocking devices

Interlocking between two circuit breakers

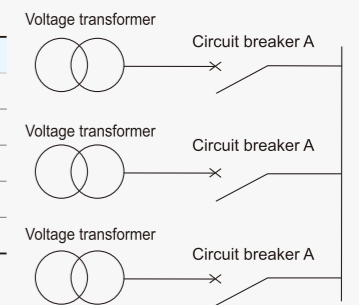
Interlocking between two circuit breakers

Emergency power supply (circuit breaker B)	Normal power supply (circuit breaker A)
0	0
0	1
1	0
Normal power supply (circuit breaker A)	

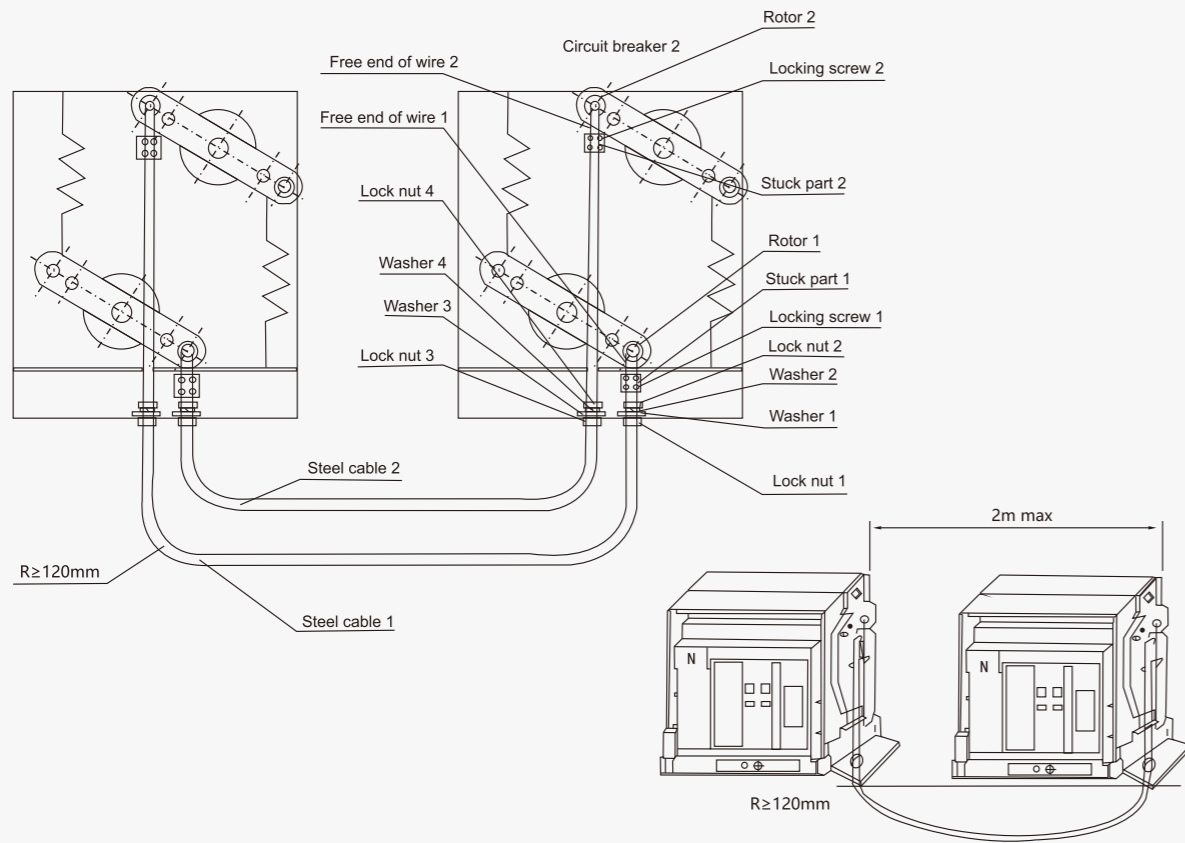


Interlocking between three circuit breakers (only one circuit breaker is allowed to be closed)

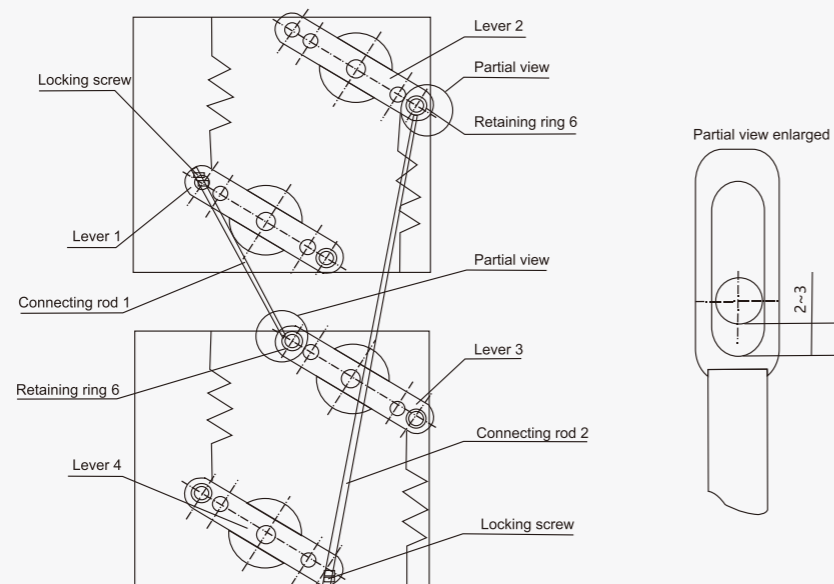
Emergency power supply (circuit breaker)	Emergency power supply (circuit breaker)	Normal power supply (circuit breaker)
0	0	0
0	0	1
0	1	0
1	0	0
1 for a closed circuit breaker, 0 for an open circuit breaker		



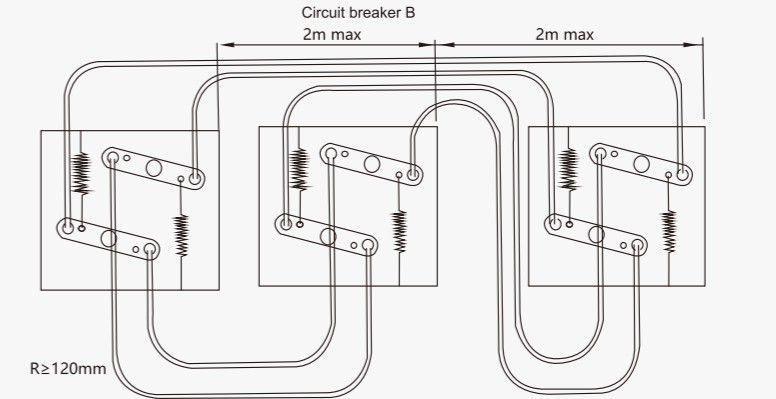
11.3 Diagram of the cable connection between the two circuit breakers



11.4 Diagram of the hard lever interlocking connection between two circuit breakers



11.5 Cable interlock between three circuit breakers

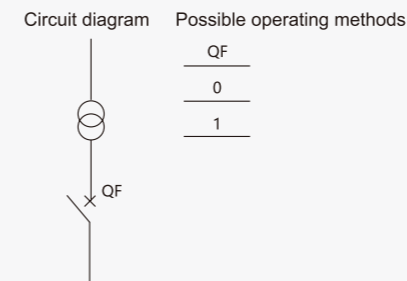


Key lock

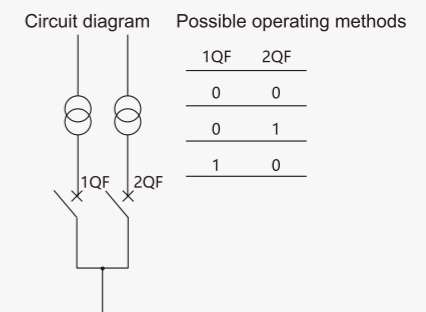
Locks the circuit breaker's break button in the pressed position, at which point the breaker cannot be closed.  
 Lock and key supplied from the factory with user option.  
 When the user purchases the key lock separately, the panel needs to be opened with a hole opener, 28mm diameter, which is supplied by the user.  
 Remark: After locking the circuit breaker with the key lock, the circuit breaker cannot be closed by manual or electric operation.



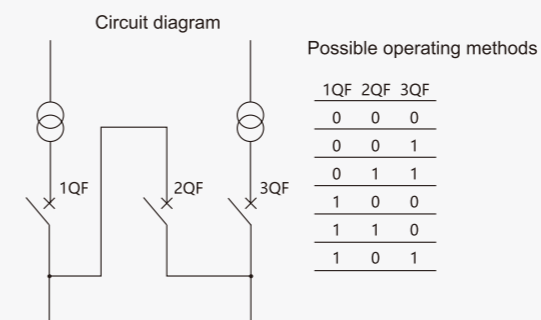
a. One lock, one key: one circuit breaker with separate lock and one key



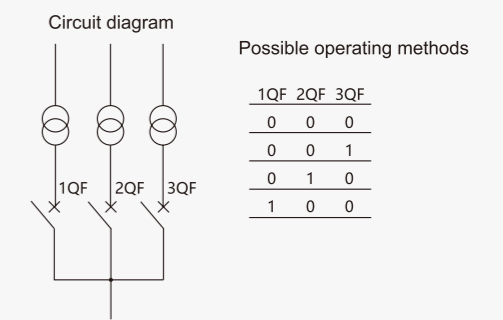
b. Two locks and a key: two breakers with two identical locks and a key



c. Three locks and two keys: three circuit breakers with three identical locks and two identical keys



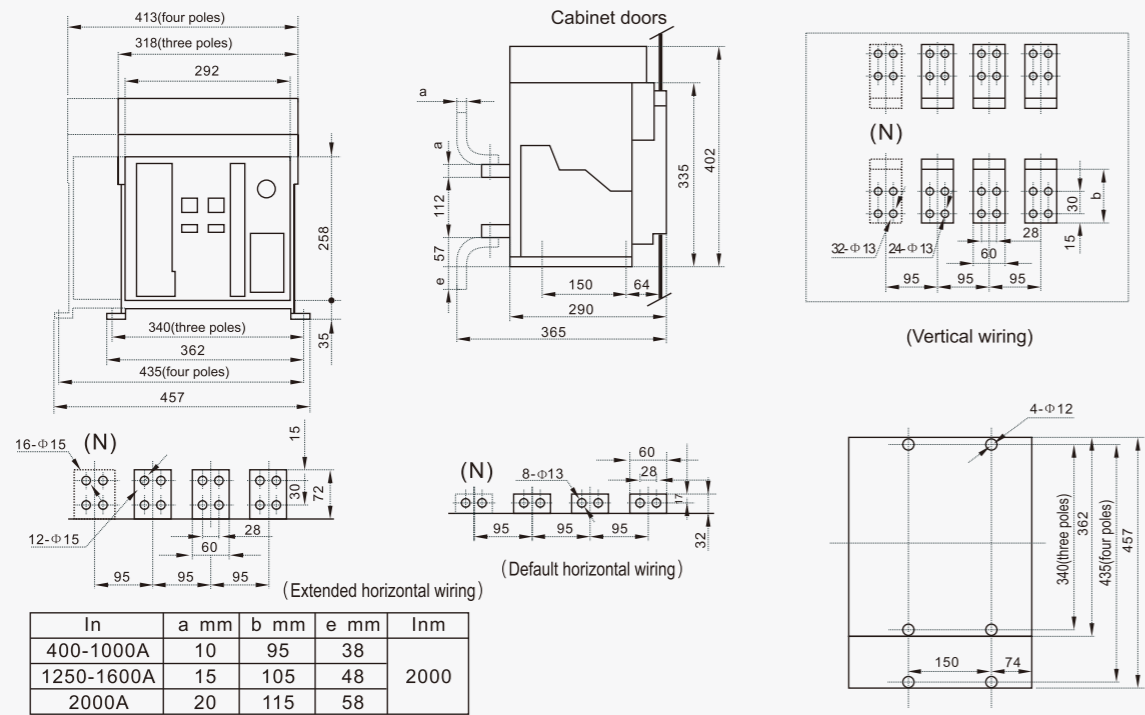
d. Three locks and one key: three breakers with three identical locks and one identical key



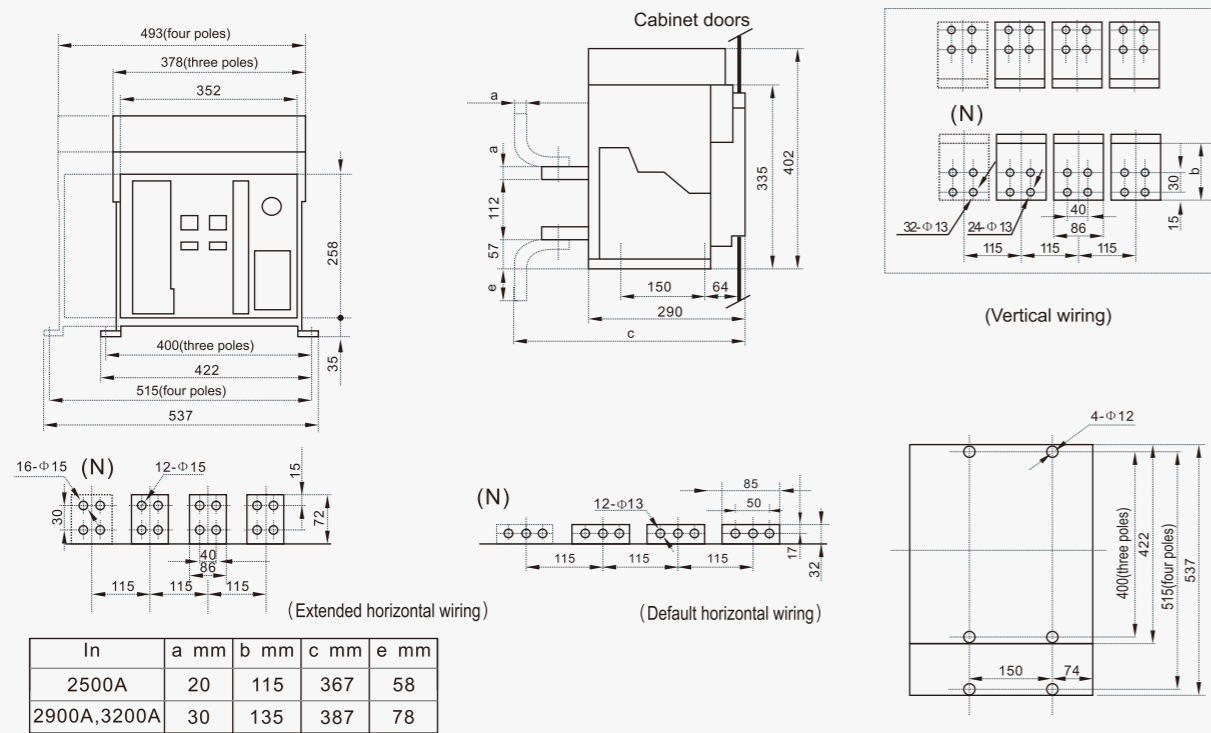
Remark: When a key-linked universal circuit breaker needs to be pulled out, you must first press and hold the break button, turn the key counterclockwise, and then pull out the key.

■ Outline and installation dimensions

12.1 Outline and installation dimensions of ADW3-2000/ADW3-2000H fixed type

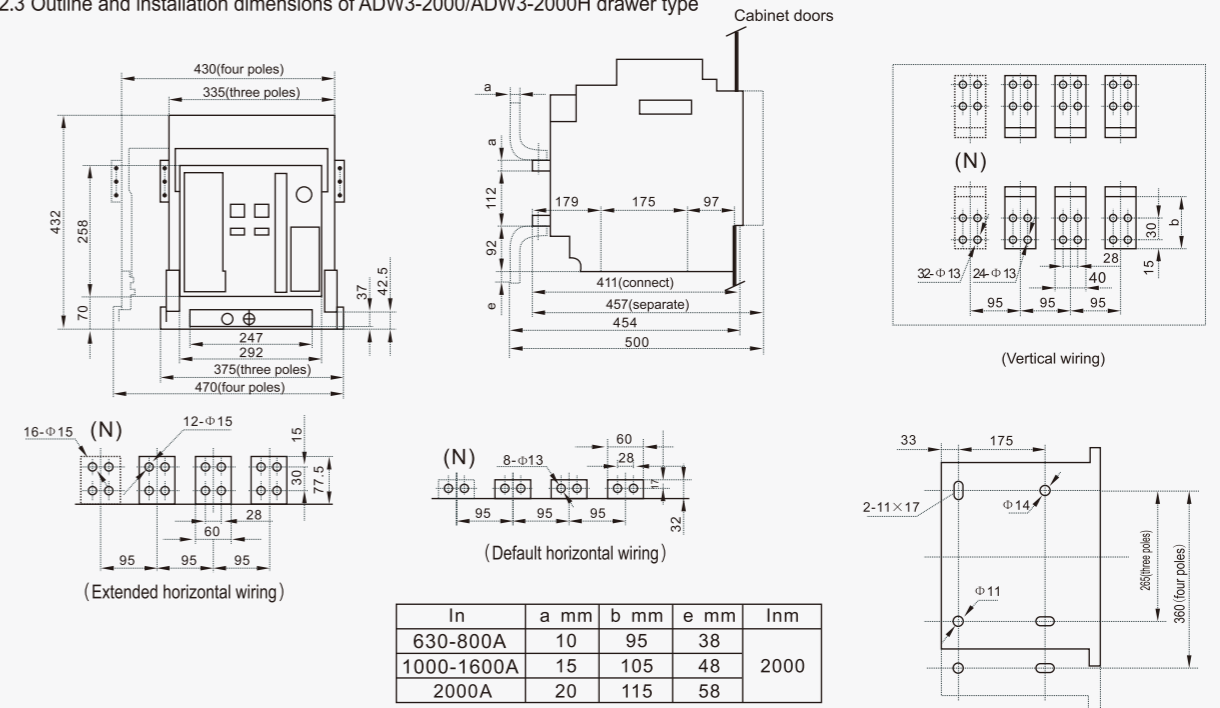


12.2 Outline and installation dimensions of ADW3-3200/ADW3-3200H fixed type

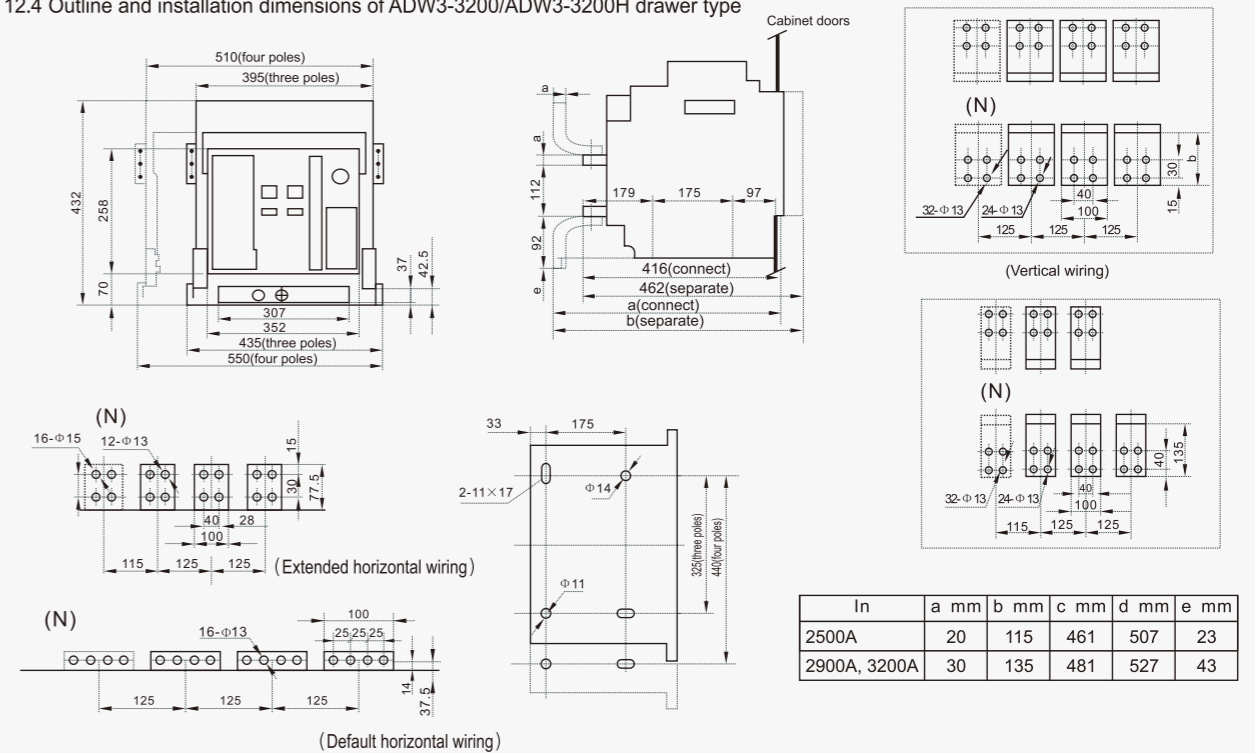


■ Outline and installation dimensions

12.3 Outline and installation dimensions of ADW3-2000/ADW3-2000H drawer type

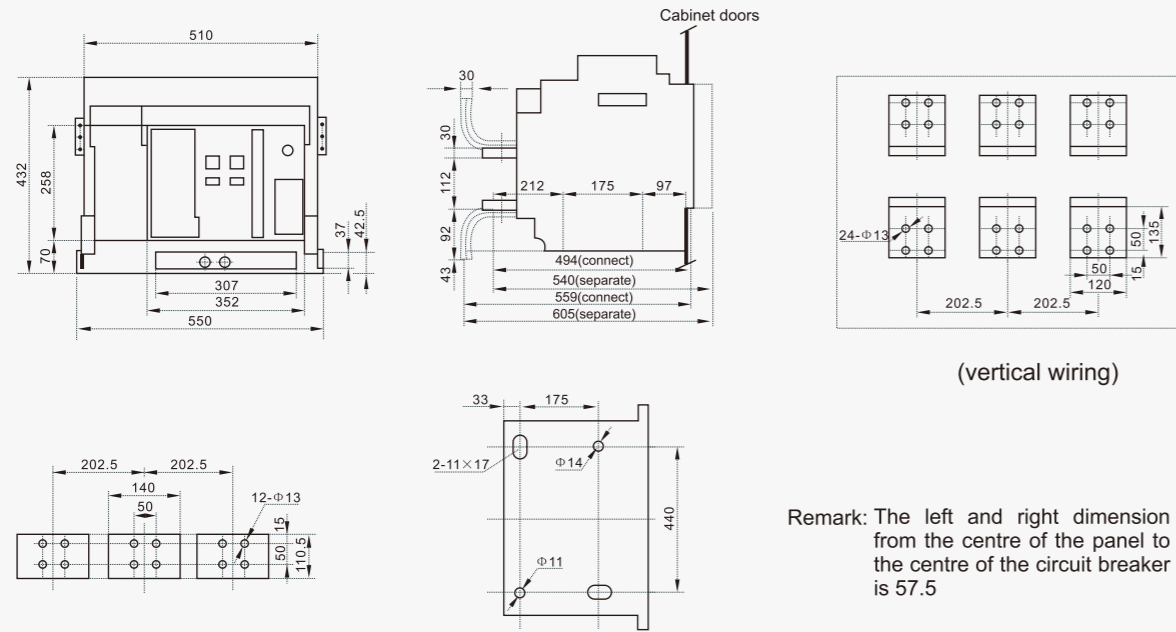


12.4 Outline and installation dimensions of ADW3-3200/ADW3-3200H drawer type



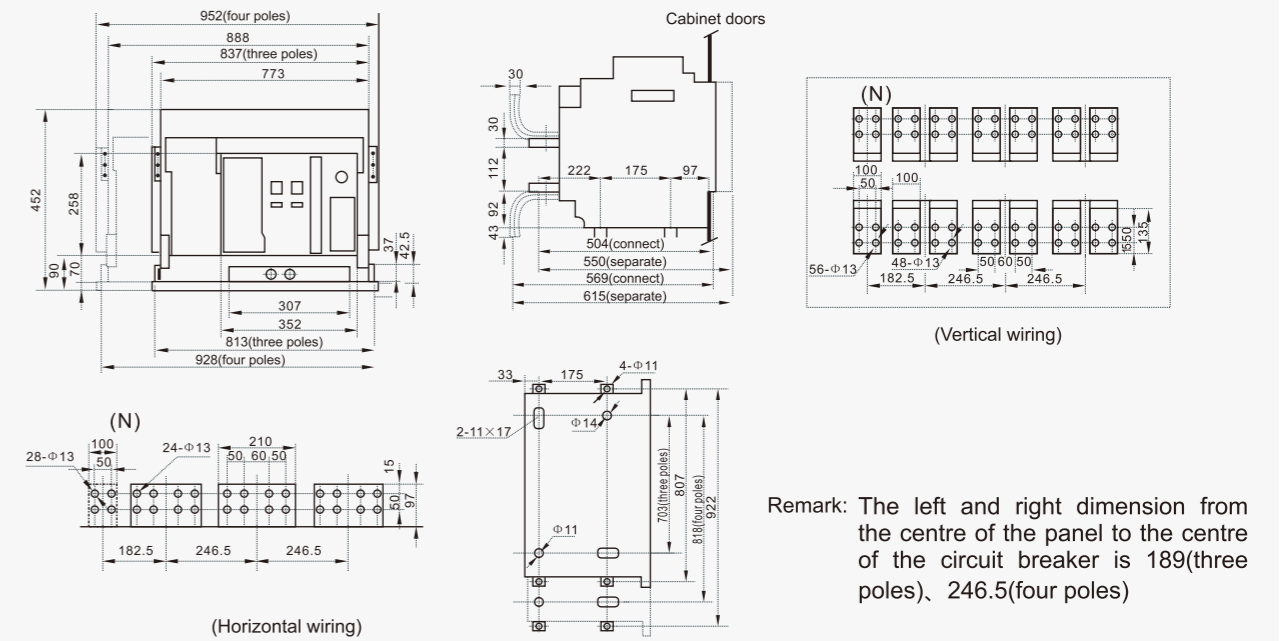
■ Outline and installation dimensions

12.5 Outline and installation dimensions of ADW3-4000/ADW3-4000H three poles drawer type

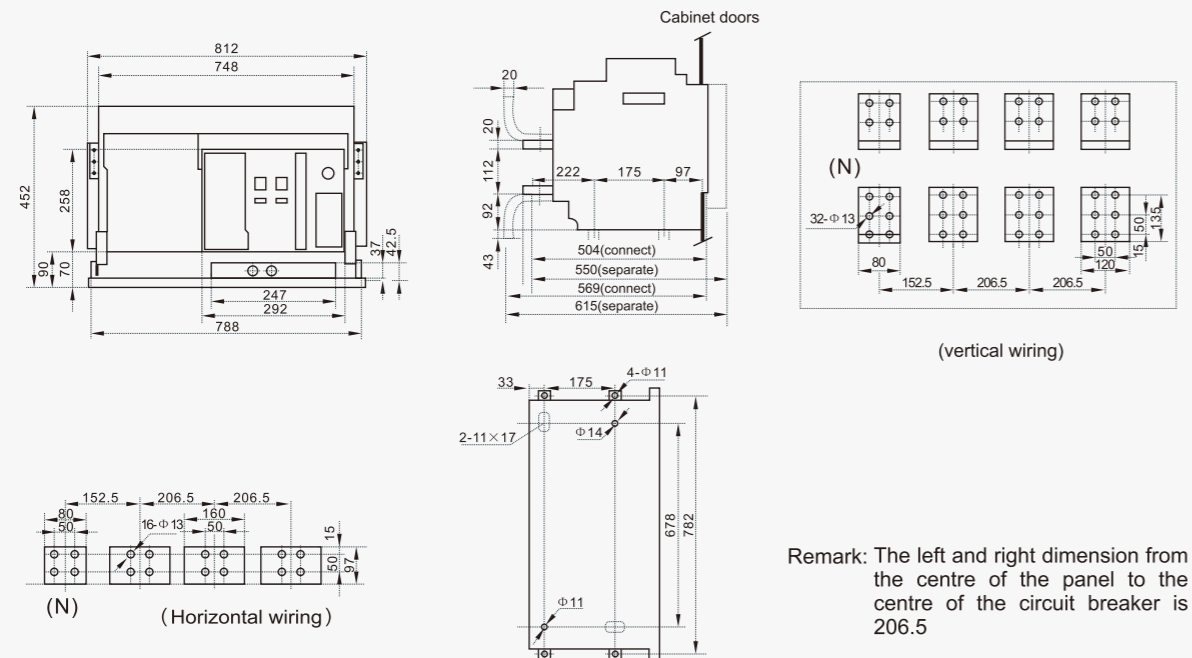


■ Outline and installation dimensions

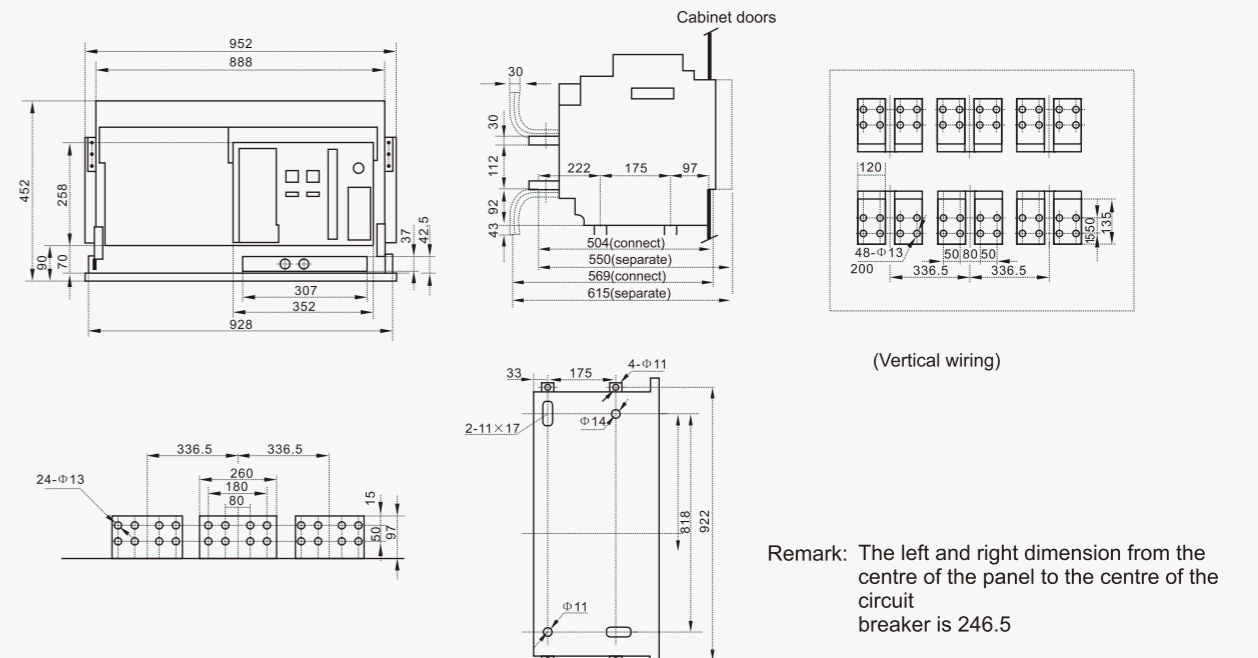
12.7 Outline and installation dimensions of ADW3-6300(In=4000~5000A) drawer type



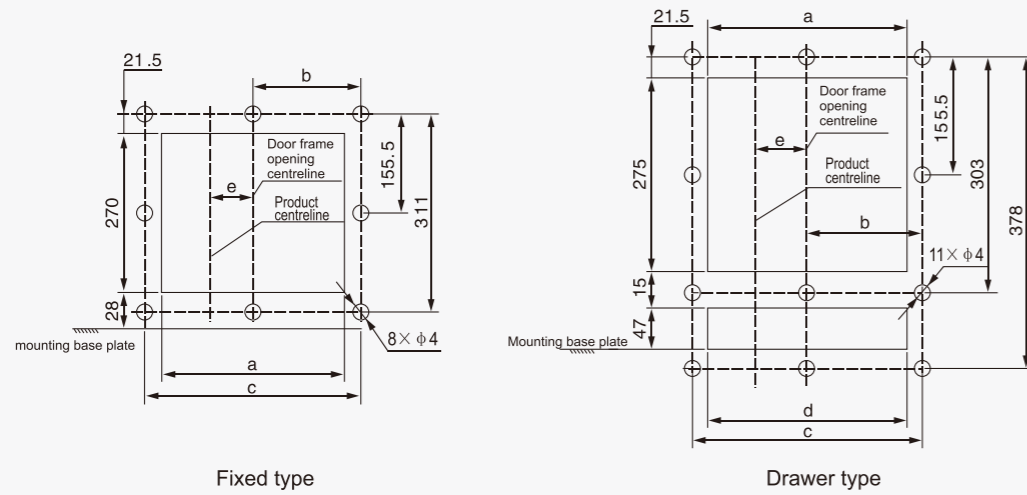
12.6 Outline and installation dimensions of ADW3-4000/ADW3-4000H four poles drawer type



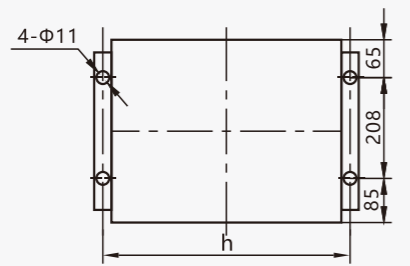
12.7 Outline and installation dimensions of ADW3-6300(In=6300A) drawer type



■ Panel opening installation dimensions



Inm	a	b	C	d	e (three poles)	e (four poles)
2000	302	172.5	345	263	0	47.5
3200	366	202.5	405	323	0	57.5
4000	366	202.5	405	323		
6300	366	202.5	405	323	189 (4000、5000 three poles)	
					246.5 (4000、5000 four poles and 6300)	

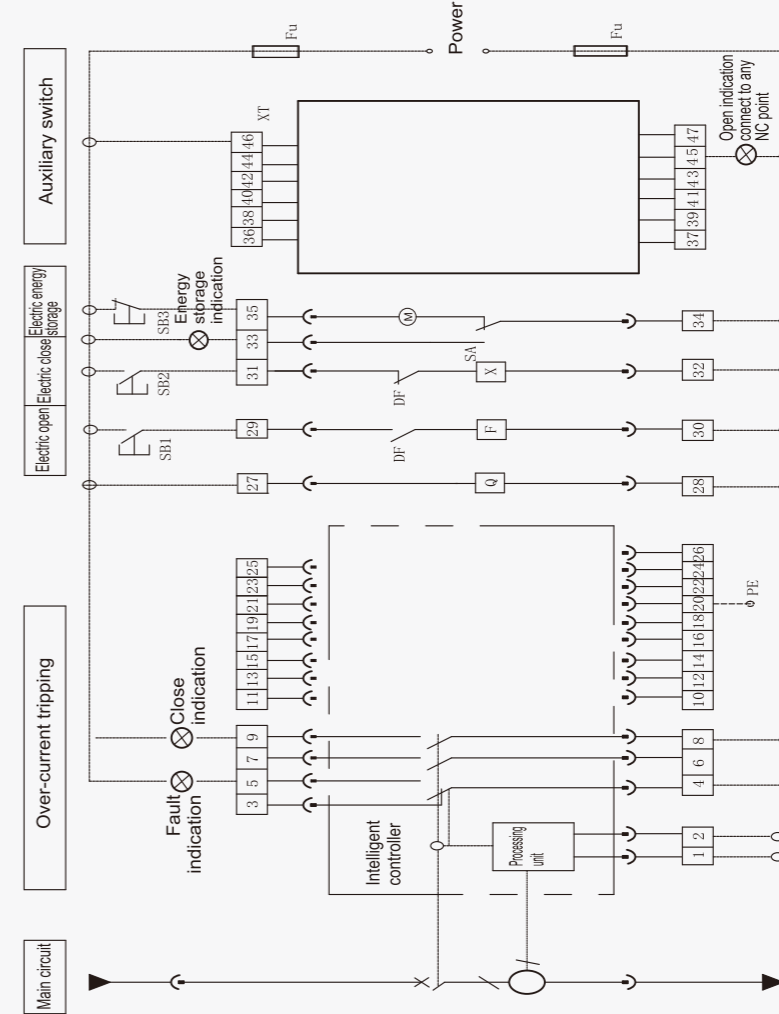
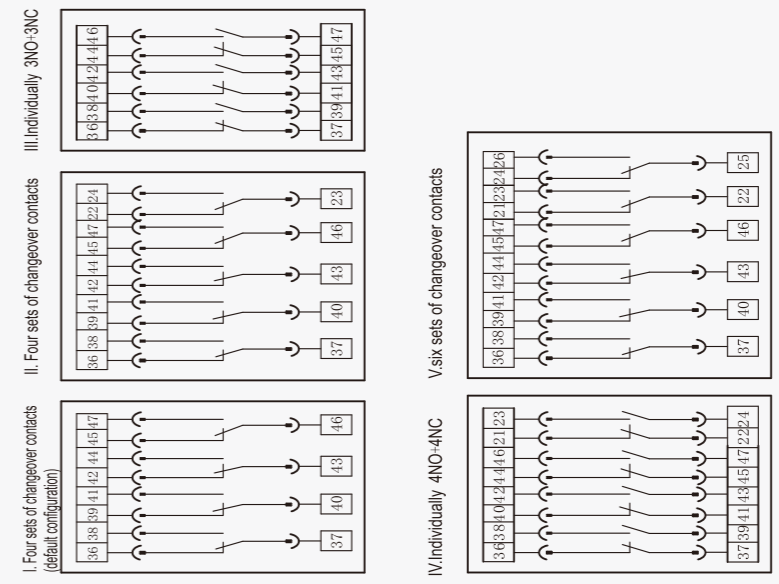


Installation dimensions of drawer base

Inm	2000/3	2000/4	3200/3	3200/4	4000/3
h(mm)	378	471	438	551	551

■ Wiring diagram

ADW3-2000~6300 with (2M, 3M type) controller circuit breaker 47 circuit wiring diagram (48 circuits for drawer type, 48# for empty)

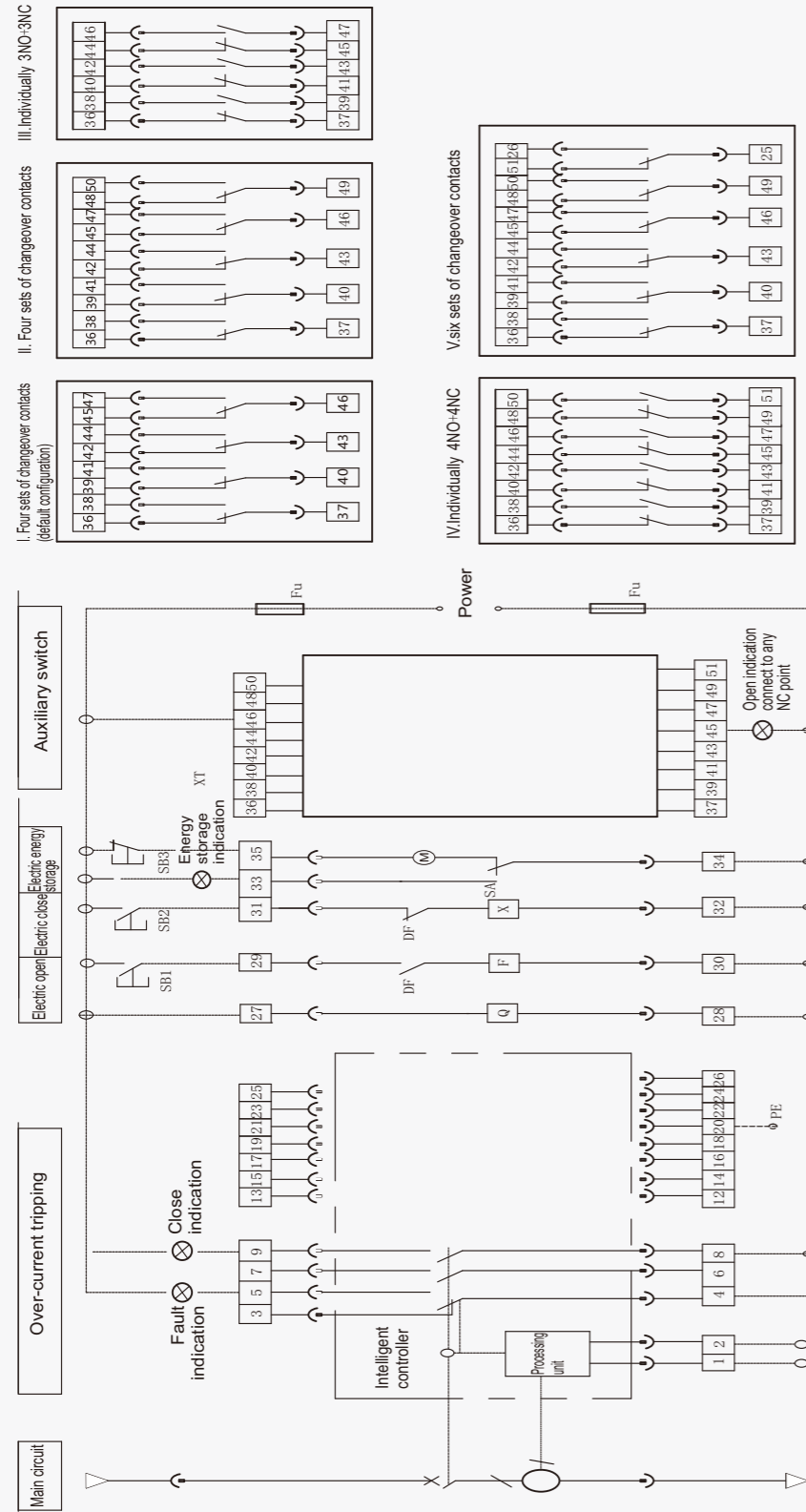


- 1. Auxiliary power input
- 2. 13 First set of signal contact outputs
- 3. 4. 5 Fault trip contact output (4-wire for common)
- 4. 15 Second set of signal contact outputs
- 5. 7 Fault breaker status first set of auxiliary contact outputs
- 6. 16. 17 Third set of signal contact outputs
- 7. 18. 19 Fourth set of signal contact outputs
- 8. 9 Circuit breaker status second set of auxiliary contact outputs
- 9. 10. 11 Empty
- 10. 11 Empty
- 12. 13 First set of signal contact outputs
- 14. 15 Second set of signal contact outputs
- 16. 17 Third set of signal contact outputs
- 18. 19 Fourth set of signal contact outputs
- 12-19 Available with contact output function
- 20 Protective earth wire
- 21 N phase voltage input
- 22 A phase voltage input
- 23 B phase voltage input
- 24 C phase voltage input
- 25. 26 External transformer input (empty if without external transformer)
- 27-29 Available with voltage measurement
- SB1: Electric open
- SB2: Electric close
- SB3: Electric energy storage
- SB2: Closing button
- SB3: Electric energy storage buttons
- SA: Motor limit switch
- M: Energy storage motor
- XT: Wiring terminals
- Q: Under-voltage (instantaneous or time-delayed) release
- F: Shunt release
- X: Closing solenoid
- FU: Fuse (user provided)
- The dotted lines are to be connected by the user

Remark : Terminal 35# must be connected to the power supply after connecting the indicator in series, otherwise it will cause damage to the micro switch in the motor.

■ 接线图

ADW3-2000~6300 with (2M, 3M type) controller circuit breaker 51 circuit wiring diagram (52 circuits for drawer type, 52# for empty)

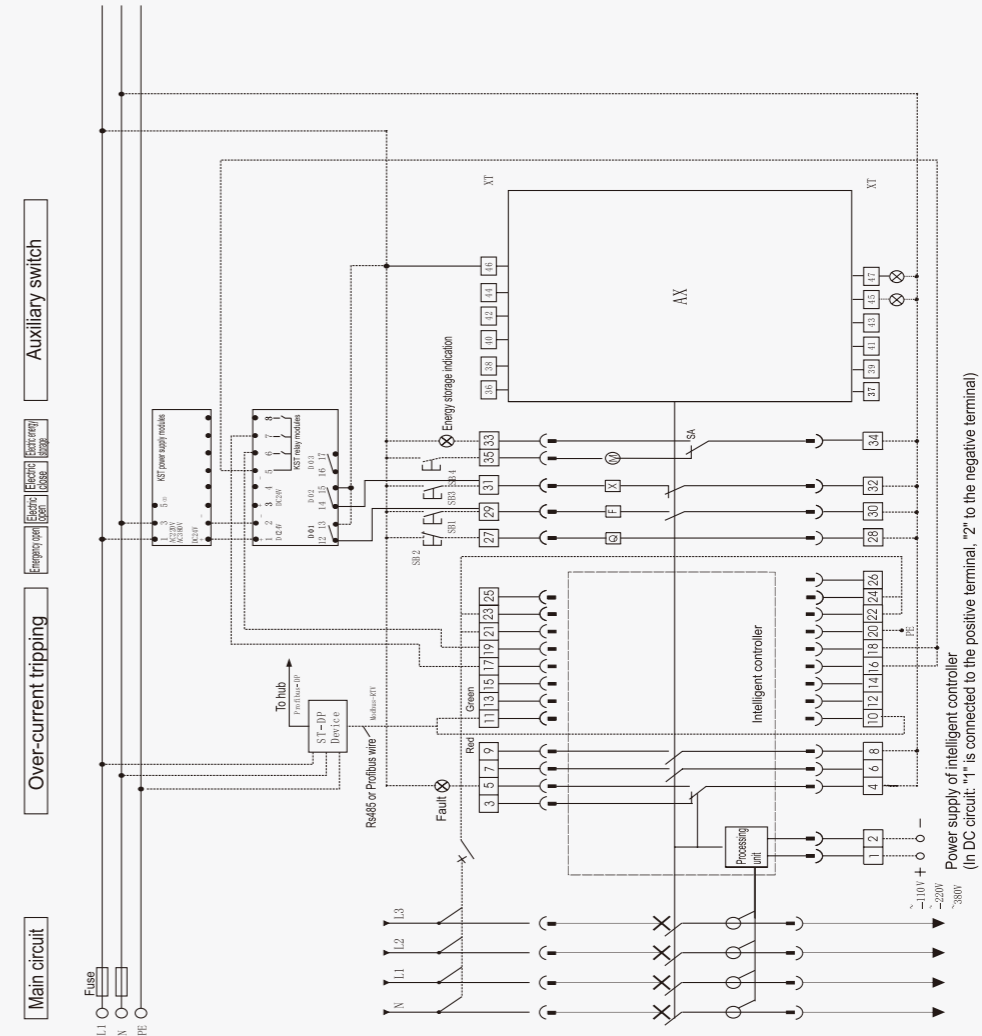


- 1: 2:Auxiliary power input
- 3: 4: 5:Fault trip contact output (4-wire for common)
- 6: 7: Circuit breaker status first set of auxiliary contact outputs
- 8: 9:Circuit breaker status second set of auxiliary contact outputs
- 10: 11:Communication interface outputs
- 12: 13:First set of signal contact outputs
- 14: 15:Second set of signal contact outputs
- 16: 17:Third set of signal contact outputs
- 18: 19:Fourth set of signal contact outputs
- 12-19:Available with contact output function
- 20:Protective earth wire
- 21:N phase voltage input
- 22:A phase voltage input
- 23:B phase voltage input
- 24:C phase voltage input
- 25: 26: External transformer input (empty if without external transformer)
- 21-24:Available with voltage measurement
- Sb1: break button
- Sb2: Closing button
- Sb3: Electric energy storage buttons
- SA: Motor limit switch
- M: Energy storage motor
- XT: Wiring terminals
- Q: Under-voltage (instantaneous or time-delayed) release
- F: Shunt release
- X: Closing solenoid
- FU: Fuse (user provided)

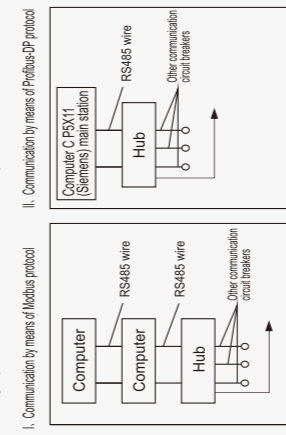
Remark : Terminal 35# must be connected to the power supply after connecting the indicator in series, otherwise it will cause damage to the micro switch in the motor.

■ Wiring diagram

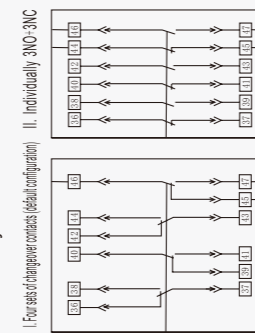
Wiring diagram for circuit breaker 47 secondary circuit with (type 2H/3H) intelligent controller



Wiring options for user communication protocols



AX auxiliary switch form for users



- 1:2:power supply of intelligent controller
- 3:4:5:Fault trip contact outputs (4 for common)
- 6: 7: Circuit breaker status first set of auxiliary contact outputs
- 8:9: Circuit breaker status second set of auxiliary contact outputs
- 10:11:Communication interface outputs
- 12: 13: First set of signal contact outputs
- 14:15: Second set of signal contact outputs
- 16:17: Third set of signal contact outputs
- 18:19: Fourth set of signal contact outputs
- 20:Protective earth wire
- 21:N phase voltage input
- 22:A phase voltage input
- 23:B phase voltage input
- 24:C phase voltage input
- 25:26: External transformer input (W type or (3P+N) T type)
- 36-47: Terminal of auxiliary contact (45: open indication, 47: close indication)
- SB1: Shunt button
- Sb2: Closing button
- Sb3: Electric energy storage button
- Q: Under-voltage (instantaneous or time-delayed) release
- F: Shunt release
- X: Closing solenoid
- M: Energy storage motor
- SA: Motor limit switch
- XT: Terminals
- DF: Auxiliary switches

Power supply of intelligent controller (in DC circuit: "1" is connected to the positive terminal, "2" to the negative terminal)

Special environments

17.1 Capacity reduction at different temperatures.

Ambient temperature		+40°C	+45°C	+50°C	+55°C	+60°C
Permissible continuous operating current	ADW3-2000/2000H	1In	0.95In	0.9In	0.85In	0.80In
	ADW3-3200(H)/4000(H)	1In	0.92In	0.86In	0.81In	0.74In
	ADW3-6300	1In	0.93In	0.87In	0.81In	0.75In

Capacity reduction requirements at different altitudes

When the altitude exceeds 2000 m, the insulation properties, cooling properties and pressure in the atmosphere change and the performance can be corrected by referring to the following table

a.Voltage

Altitude (m)	Withstand voltage(V)	Insulating voltage (V)	Rated voltage (V)
2000	2200	1000	1000
3000	1955	800	800
4000	1760	700	700
5000	1600	600	600

b.Current

Altitude (m)	Withstand voltage (V)
2000	le
2500	0.93le
3000	0.88le
3500	0.83le
4000	0.78le
4500	0.73le
5000	Manufacturer must be contacted

If the ambient temperature is +40°C~-5°C, le=In. If the ambient temperature is higher than 40°C, the capacity must be reduced for use in strict accordance with the requirements of the instruction manual, at this time le≠In, le according to the current and temperature correspond to find out.

Maintenance and overhaul of circuit breakers

Prior to operation and maintenance and servicing operations. The following procedures must be carried out:

- a.This should be done with the main circuit of the circuit breaker and the secondary circuit powered off.
  - b.Make the circuit breaker break. Check that the energy storage spring of the operating mechanism is released.
  - c.For drawer type circuit breakers. The body should first be withdrawn from the drawer block and for fixed circuit breakers, isolation should first be carried out (pull down the isolating cutter or rock the isolating switch to the disconnected position).
- Maintenance of the circuit breaker (at least once every six months).The surroundings of the circuit breaker should be checked to ensure that the requirements of the general regulations are met.
- All friction, rotating parts should be lubricated on a regular basis.
- Check that the bolts at the connection between the circuit breaker and the busbar are tightened. The contact is good.
- The state of dust accumulation between the circuit breaker body and drawer block insulation should be checked and should be cleaned regularly.
- The circuit breaker secondary circuit terminal connection should be checked for reliability.
- The circuit breaker intelligent controller should be checked for normal display.
- The intelligent controller should be checked to see if the protection characteristics are correctly set.
- The circuit breaker should be checked for correct and reliable break-open and break-close indication.
- Overhaul of the circuit breaker (at least once a year)
- Check that all parts of the circuit breaker are complete and tidy, e.g. shell, base and other insulated parts.
- Check that the circuit breaker base (connected to the base plate) is secure and should be vibration-free during operation.
- The manual dividing and closing mechanism should be flexible and free from jamming, and the secondary circuit auxiliary switch should be reliable and correct.
- The manual drawer block should be shaken in and out, separated, tested and connected in the correct position, and the interlock should act reliably.
- When the secondary circuit is energised, the sub-excitation decoupler, the closing solenoid and the undervoltage decoupler shall act in accordance with the technical provisions of the product, and the electric operating mechanism shall be able to act normally.
- The contact system of the circuit breaker, the contacts should be complete, the position accurate, the silver plating layer should be intact, and the interrupting chamber should be cleaned (note that the operating mechanism should not be closed and divided when cleaning the interrupting chamber).
- The connection between the circuit breaker and the connecting busbar should be reliable and the bolts should be tightened.
- The surface of the contact parts connected between the body and the drawer block is clean and tidy, and should be cleaned to remove dust and oxides from the surface of the busbar to ensure reliable connection.

After the inspection is completed, check the insulation resistance of the circuit breaker with 500V megohm meter, in the surrounding medium temperature 20°C ±5°C , relative humidity (50~70)% should not be less than 20 megohm. Intelligent controller protection characteristics of the rectification value check control connected to the power supply, check the method as follows:

(a) For intelligent controller M type or H type: press the "set" key, LED display shows the protection characteristics of the rectification value, such as to modify the rectification value, then press "▲ / ▼" key to adjust and press "ENTER" key to save the modified value. Before putting into operation again, check whether the parameters set by the controller are correct, and in the test position, energize the secondary circuit or use 24V DC power to carry out a simulated tripping test. The various simulated actions are correct before the controller is put into normal operation.

(b) For the Controller M type or H type:

- ① Press the "Set" key and select the test current.
- ② Press the "▲ / ▼" key to the appropriate test current
- ③ Press the "test" key to carry out the tripping test

The test light will be on and the controller will enter the test state of the tripping device. According to the value of the test current, it will enter the four section protection action range and the circuit breaker will be "tripping" or "non-tripping" only in the panel display according to the protection curve.

(c) M or H type controller tripping test methods:

There are three test methods for testing the release of the three stage protection, earth/leakage fault and mechanism action time. Three-stage protection test : Input simulated fault current to simulate the protection of the controller when overload, short circuit and transient fault occur.

Earth/Leakage fault test : Input of simulated earth/leakage fault current to simulate the protection of the controller in the event of an earth/leakage fault. Used to check the set value of the operating characteristics.

Mechanism action time test : Forced flux converter action to test the intrinsic mechanical time of a circuit breaker trip.

Type of test	Three stage protection	Ground/earth leakage fault	Tripping time
Test parameters	0A~131.0kA(Remar1)	0A~131.0kA(Remar2)	None
Test control	Start+stop		

Remark 1: For In≤2000A, 0~65.5kA, step 1A (for >10kA, step 0.1kA). for In>2000A, 0~131kA, step 2A (for >10kA, step 0.2kA).

2:For earth fault test, same as Note 1, for leakage fault test, 0~655A in 0.01A steps (for >100A, 1A steps).0~655A,

Problems	Reasons	Solutions
Breaker tripping	Overload fault tripping (Ir digital indicator always on, LCD indicator flashing)	1. Check the breaking current value action time on the intelligent controller. 2. Analyse the load and grid conditions. 3. If the load, please exclude the overload load. 4. If the actual operating current and long delay action current setting value does not match, then modify the long delay action current setting value according to the actual operating current to properly match the protection. 5. Press the "reset" button and close the circuit breaker again.
	Short circuit fault tripping (Isd or li digital indicator always on, LCD indicator flashing)	1. Check the breaking current value and action time on the intelligent controller. 2. If short circuit, please find and eliminate the short circuit fault. 3. Check the adjustment value of the intelligent controller. 4. Check the intact status of the circuit breaker. 5. Press the "reset" button to reset the button, and re-close the circuit breaker.
	Ground fault tripping (Ig digital indicator always on, LCD indicator flashing)	1. Check the breaking current value and action time on the intelligent controller. 2. If there is a ground fault, please find and eliminate the ground fault. 3. Modify the grounding fault current setting value of the intelligent controller. 4. If there is no ground fault, please check whether the fault current setting value matches with the actual protection. 5. Press the "reset" button to reset the button and close the circuit breaker again.
	Mechanical interlocking action	Checking the operating status of two circuit breakers equipped with mechanical interlocks.
	Undervoltage release fault rated operating voltage less than 70% Ue Fault in undervoltage release control unit	1. Check whether the under-voltage release power supply is connected. 2. Check the under-voltage release power supply voltage must be ≥ 85% Ue 3. Replace the under-voltage release control unit
Circuit breaker does not close	The "reset" button on the intelligent controller is not reset (beyond the panel)	Press the "reset" button to reset the circuit breaker and close it again.
	Poor contact in the secondary circuit of drawer type circuit breakers	Crank the drawer breaker to the "on" position (hear the "click" twice).
	Breaker not storing energy	Check whether the secondary circuit is connected. 1. Check the motor control power supply voltage must be ≥85%Ue. 2. Check the motor energy storage mechanism, if there is any fault, please contact with the manufacturer to replace the motor operating mechanism.
	Mechanical interlocking action,the circuit breaker has been locked to close the solenoid Rated control voltage less than 85% Us closed solenoid fault damaged	Check the working status of the two circuit breakers equipped with mechanical interlocks. 1. check the closing solenoid power supply voltage must be ≥ 85% Us 2, replace the closing solenoid.

Problems	Reasons	Solutions
Circuit breaker closes and then trips (Fault indicator light on)	Immediate tripping Delayed tripping Closed short-circuit current Overload current closed	1、 Check the breaking current value and action time on the intelligent controller 2、 If it is a short circuit, please find and eliminate the short circuit fault 3、 If it is overload, please find and eliminate the overload fault 4、 Check the intact status of the circuit breaker 5、 Modify the current setting value of the intelligent controller 6、 Press the "reset" button to reset the button and close the circuit breaker again
Circuit breaker cannot be disconnected	Inability to manually disconnect the circuit breaker locally Failure of the mechanical operating mechanism Failure to electrically disconnect the circuit breaker from a distance Failure of the mechanical operating mechanism Supply voltage to the shunt release less than 70% Us Damage to the shunt release	Check the mechanical operating mechanism, if there is a fault such as jamming, please contact the manufacturer 1、 Check the mechanical operation mechanism, if there is a jam or other fault, please contact the manufacturer 2、 Check whether the supply voltage of the shunt release is less than 70%Us 3、 Replace the shunt release device
Breaker cannot store energy	No manual energy storage Cannot be stored electrically Rated control electric energy storage device control supply voltage less than 85% Us Mechanical failure of the energy storage device	Mechanical failure of the energy storage device, and manufacturing production contact 1、 Check the electric energy storage device control power supply voltage $\geq 85\%$ Us 2、 Check the energy storage device mechanical, contact with the manufacturer
Drawer type circuit breaker's crank can't insert to swing in and out circuit breaker	Padlock in disconnected position Insertion guide or circuit breaker body not fully pushed in	To remove the padlock. Push the rail or breaker body to the bottom
Drawer type circuit breakers cannot be withdrawn in the "OFF" position	Handle not pulled out Circuit breaker not fully in the "OFF" position	Pull out the crank handle Crank the circuit breaker fully into the "OFF" position
Drawer type circuit breakers cannot be swung to "on" position	Foreign objects fall into the drawer seat and jam the rocking mechanism or failure of the rocking mechanism such as jumping teeth	Check and exclude foreign objects, if the throw cannot be shaken in. Then contact with the manufacturer
	Mismatch between the body of the circuit breaker and the shell frame rating of the drawer block	Optional circuit breaker bodies and drawer blocks of the same case frame rating
Intelligent controller no screen display	Intelligent controller not connected to power	Please check whether the intelligent controller is connected to the power supply, if not, please connect the power supply immediately
	Faulty intelligent controller	Cut off the power supply to the intelligent controller control, then send the power supply again. If the fault still exists, please contact the manufacturer
	Rated control supply voltage less than 85% Us. Faulty closing solenoid has been damaged	Check the intelligent controller power supply voltage must be $\geq 85\%$ Us, replace the closing solenoid
Intelligent controller fault indicator lights up, remains on when button is pressed	Faulty intelligent controller	Cut off the power supply to the intelligent controller control, then send the power supply again. If the fault still exists, please contact the manufacturer

■ ADW3 series universal circuit breaker order specification (Please type  $\sqrt$  in the  or fill in the number on the \_\_\_)

Customer		Quantity		Date	
Type	<input type="checkbox"/> Fixed <input type="checkbox"/> Drawer	<input type="checkbox"/> Three poles <input type="checkbox"/> Four poles	<input type="checkbox"/> Rated current In=	A	
Intelligent controller	Protection	<input type="checkbox"/> Overload long delay protection default 3EJ(G) <input type="checkbox"/> Short circuit short delay protection <input type="checkbox"/> Ground fault (default T type) <input type="checkbox"/> Short-circuit transient protection			
	2M type (conventional)	Basic functions	Optional functions		
		1. Various status indicators and digital displays 2. Ampere meter 3. Fault memory 4. Check 5. Test 6. Individual earth fault protection	<input type="checkbox"/> Load monitoring <input type="checkbox"/> Pre-alerting <input type="checkbox"/> Neutral phase (N phase) protection <input type="checkbox"/> MCR and HSISC <input type="checkbox"/> Self-diagnostics <input type="checkbox"/> Current unbalance protection		
Power supply	<input type="checkbox"/> AC220V / 230V <input type="checkbox"/> AC400V / 380V <input type="checkbox"/> DC200V <input type="checkbox"/> DC110V <input type="checkbox"/> DC24V				
Standard accessories	<input type="checkbox"/> Shunt release	<input type="checkbox"/> AC220V / 230V <input type="checkbox"/> AC400V / 380V <input type="checkbox"/> DC220V <input type="checkbox"/> DC 110V			
	<input type="checkbox"/> Closing solenoid	<input type="checkbox"/> AC220V / 230V <input type="checkbox"/> AC400V / 380V <input type="checkbox"/> DC220V <input type="checkbox"/> DC 110V			
	<input type="checkbox"/> Electrically operated mechanism	<input type="checkbox"/> AC220V / 230V <input type="checkbox"/> AC400V / 380V <input type="checkbox"/> DC220V <input type="checkbox"/> DC 110V			
	<input type="checkbox"/> Auxiliary contacts	<input type="checkbox"/> Four sets of changeover contacts (conventional) <input type="checkbox"/> Five sets of changeover contacts <input type="checkbox"/> Six sets of changeover contacts <input type="checkbox"/> Individual 3NO+3NC <input type="checkbox"/> Individual 4NO+4NC			
	Other	<input checked="" type="checkbox"/> Door frames and mounting screws <input type="checkbox"/> Inter-phase partition <input checked="" type="checkbox"/> Wiring bolts			
Optional accessories	<input type="checkbox"/> Under-voltage release	<input type="checkbox"/> AC220V <input type="checkbox"/> AC230V <input type="checkbox"/> AC400V / 380V <input type="checkbox"/> Undervoltage instantaneous release <input type="checkbox"/> Undervoltage time delay decoupler, time delay ____s			
	<input type="checkbox"/> Mechanical interlocks	<input type="checkbox"/> Zero voltage delay release, delay time ____s <input type="checkbox"/> Cable interlocks <input type="checkbox"/> Rigid rod interlocks			
	Connection	Methods <input type="checkbox"/> 3 locks and 2 keys <input type="checkbox"/> 2 locks and 1 key <input type="checkbox"/> 1 lock and 1 key			
Remark	If you have other special requirements, such as with 2H, 3M, 3H LCD controller, etc., please write in the notes, or consult with us <input type="checkbox"/> Horizontal wiring (conventional) <input type="checkbox"/> Vertical connection (requires drawings from the user)				





ADM3-125L 3P

Application

ADM3 series moulded case circuit breaker (hereinafter referred to as circuit breaker) is a new circuit breaker product developed by our company, with a new industrial appearance design, the product shows the fashionable, atmospheric sense of quality; product specifications can be covered from 125A to 800A case frame current; compact product volume, as well as the detachable design of the cover brings accessories independent installation function, greatly improving the convenience of the product; the product has a small size, high breaking, short flying arc. its rated insulation voltage up to 1000V, suitable for AC 50Hz or 60Hz, rated working voltage up to 690V, rated working current from 10A to 800A in the power distribution network, used to distribute power and protect the line and power supply equipment from overload, short circuit and under voltage fault damage; at the same time as the line infrequent The circuit breaker has an isolation function and its corresponding function is to protect the circuit and power supply equipment from overload, short-circuit and under-voltage faults. This circuit breaker has an isolation function, the corresponding symbols of which are  $\square/\blacktriangle$ .

The circuit breaker can be installed vertically or horizontally.  
The product meets the requirements of IEC60947-2 and GB/T14048.2.

Product range

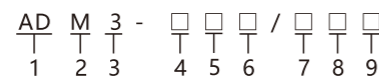
2.1 Normal working conditions:

- (1) The product has protection class IP30 and pollution class 3.
- (2) The ambient air temperature should not be higher than +40°C and not lower than -5°C, and the 24h average temperature should not exceed +35°C.
- (3)The altitude of the installation site should not exceed 2000m.
- (4) The relative humidity of the atmosphere does not exceed 50% at an ambient temperature of +40°C, with higher relative humidity possible at lower temperatures,e.g. 90% at 20°C. Special measures should be taken for occasional condensation due to temperature changes.
- (5) Where there is no risk of explosion and where the medium is free from gases and conductive dusts sufficient to corrode metals and destroy insulation.
- (6) Where there is no rain or snow intrusion.
- (7) Installation: for fixed plate front, fixed plate rear, inserted plate front, inserted plate rear or extracted.



ADM3-250M 3P

Breaker types and specifications

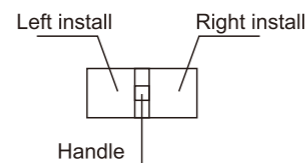


- |                                                                     |                                                        |
|---------------------------------------------------------------------|--------------------------------------------------------|
| 1. Company code                                                     | 6. Operating mode (see remark 2)                       |
| 2. Moulded case circuit breaker                                     | 7. Number of poles: 3 pole, 4 pole                     |
| 3. Design code                                                      | 8. Code for release type and accessories (see Table 1) |
| 4. Case frame rated current                                         | 9. Application code (see remark 1)                     |
| 5. rated limit short circuit breaking capacity level (see remark 3) |                                                        |

Remark: (1) Use code: 1 is used for distribution protection and may not be written out; 2 is used for motor protection.  
(2) Operation mode: no code for manual operation, P for electric operation, Z for rotating handle operating mechanism.  
(3) Short circuit breaking capacity level:  
125, 250 type: S-economic, L-standard, M-higher, H-high breaking type.  
400, 630, 800 type: L-standard type, M-higher type, H-high breaking type.  
(4) N-pole form:  
A: N-pole without overcurrent release, and N-pole is always connected, not combined with other three poles.  
B: N pole is not installed with overcurrent release, and N pole is combined with other three poles.  
C: N pole is fitted with an overcurrent release and the N pole is combined with the other three poles.  
D: N pole is fitted with an overcurrent release and N pole is always connected, not combined with the other three poles.



ADM3-800M 3P



- Auxiliary contacts
- Alarm contacts
- Shunt release
- ▲ Undervoltage release
- Prepayment meter release

Table1-1

Accessories	Code		ADM3-125S、L		ADM3-125M、H		ADM3-250S、L		ADM3-250M、H	
	Electromagnetic release	Thermomagnetic release	3P	4P	3P	4P	3P	4P	3P	4P
Without inside accessories	200	300								
Alarm contact	208	308	●	●	●	●	●	●	●	●
Shunt release	210	310	■	■	■	■	■	■	■	■
Prepayment meter release	210Y	300Y	□	□	□	□	□	□	□	□
Auxiliary contact (1NO1NC)	220	320	○	○	○	○	○	○	○	○
Auxiliary contact (2NO2NC)										
Undervoltage release	230	330	▲	▲	▲	▲	▲	▲	▲	▲
Shunt release Auxiliary contact (1NO1NC)	240	340	■	○	■	○	■	○	■	○
Shunt release Auxiliary contact (2NO2NC)										
Prepayment meter release Auxiliary contact (1NO1NC)	240Y	340Y	□	○	□	○	□	○	□	○
Shunt release Undervoltage release	250	350	▲	■	▲	■	▲	■	▲	■
Two sets of auxiliary contact (2NO2NC)	260	360	○	○	○	○	○	○	○	○
Undervoltage release Auxiliary contact (1NO1NC)	270	370	▲	○	▲	○	▲	○	▲	○
Undervoltage release Auxiliary contact (2NO2NC)										
Shunt release Alarm contact	218	318	■	●	■	●	■	●	■	●
Prepayment meter release Alarm contact	218Y	318Y	□	●	□	●	□	●	□	●
Auxiliary contact (1NO1NC) Alarm contact	228	338	○	●	○	●	○	●	○	●
Auxiliary contact (2NO2NC) Alarm contact										
Undervoltage release Alarm contact	228	338	▲	●	▲	●	▲	●	▲	●
Shunt release Auxiliary contact (1NO1NC) Alarm contact	248	348	■	○	■	○	■	○	■	○
Prepayment meter release Auxiliary (1NO1NC) Alarm contact	248Y	348Y	□	○	□	○	□	○	□	○
Two sets of auxiliary contact (2NO2NC) Alarm contact	268	368	○	○	○	○	○	○	○	○
Undervoltage release Auxiliary contact (1NO1NC) Alarm contact	278	378	▲	○	▲	○	▲	○	▲	○

Table1-2

附件名称	Code		ADM3-400L、M、H		ADM3-630L、M、H		ADM3-800L、M、H	
	Electromagnetic release	Thermomagnetic release	3P	4P	3P	4P	3P	4P
Without inside accessories	200	300						
Alarm contact	208	308						
Shunt release	210	310						
Prepayment meter release	210Y	300Y						
Auxiliary contact (1NO1NC)	220	320						
Auxiliary contact (2NO2NC)								
Undervoltage release	230	330						
Shunt release Auxiliary contact (1NO1NC)	240	340						
Shunt release Auxiliary contact (2NO2NC)								
Prepayment meter release Auxiliary contact (1NO1NC)	240Y	340Y						
Shunt release Undervoltage release	250	350						
Two sets of auxiliary contact	260	360						
Undervoltage release Auxiliary contact (1NO1NC)	270	370						
Undervoltage release Auxiliary contact (2NO2NC)								
Shunt release Alarm contact	218	318						
Prepayment meter release Alarm contact	218Y	318Y						
Auxiliary contact (1NO1NC) Alarm contact	228	338						
Auxiliary contact (2NO2NC) Alarm contact								
Undervoltage release Alarm contact	228	338						
Shunt release Auxiliary contact (1NO1NC) Alarm contact	248	348						
Prepayment meter release Auxiliary contact (1NO1NC) Alarm contact	248Y	348Y						
Two sets of auxiliary contact Alarm contact	268	368						
Undervoltage release Auxiliary contact (1NO1NC) Alarm contact	278	378						

■ Main technical parameters and performance

4.1 Main technical parameters (see Table 2)

Table2-1

Type	ADM3-125				ADM3-250					
Frame rated current Inm(A)	125				250					
Rated current In(A)	10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125				100, 125, 140, 160, 180, 200, 225, 250					
Rated frequency Hz	AC 50/60									
Rated insulating voltage Ui(V)	800				1000					
Rated impulse withstand voltage Uimp(kV)	8				12					
Rated voltage Ue(V)	400(415)/690				400(415)/690					
Number of poles	3/4				3/4					
Breaking Class	S	L	M	H	S	L	M	H		
Limit short circuit breaker capacity Icu(kA)	AC400/415V	25	35	50	70	35	50	70	85	
	AC690V	5	5	8	10	10	10	10	20	
Operating short circuit breaking capacity Ics(kA)	AC400/415V	18	25	35	50	25	35	50	65	
	AC690V	5	5	8	10	8	8	10	10	
Standard	IEC60947-2 GB/T 14048.2									
Using category	A				A					
Isolating	■				■					
Working ambient temperature	-5°C ~ +40°C									
Arcing distance (mm)	≤50				≤50					
Electrical life (times) AC400V/415V	10000				10000					
Mechanical life (times)	No maintenance	20000				20000				
	Maintenance	40000				40000				
Release and protect type	Single magnetic trip	Distribution protection	■				■			
		Motor protection	■				■			
	Thermally magnetic trip	Distribution protection	■				■			
		Motor protection	■				■			
Accessories	Auxiliary contact	■				■				
	Alarm contact	■				■				
	Shunt release	■				■				
	Undervoltage release	■				■				
	Manual operating mechanism	■				■				
	Electric operating mechanism	■				■				
	Wiring behind the board	■				■				
	Insert type	■				■				
Interphase dividers	■				■					
Outline dimensions fixed front plate Width(W)*Height(H)*Depth(D)	3P(mm)	75*130*68	92*150*93.5	107*165*76	107*165*88					
	4P(mm)	100*130*68	122*150*93.5	142*165*76	142*165*88					

■ Main technical parameters and performance

Table2-2

Type	ADM3-400			ADM3-630			ADM3-800				
Frame rated current Inm(A)	400			630			800				
Rated current In(A)	200, 225, 250, 315, 350, 400			500, 630			630, 700, 800				
Rated frequency Hz	AC 50/60										
Rated insulating voltage Ui(V)	1000										
Rated impulse withstand voltage Uimp(kV)	12										
Rated voltage Ue(V)	400(415)/690										
Number of poles	3/4										
Breaking Class	L	M	H	L	M	H	L	M	H		
Limit short circuit breaker capacity Icu(kA)	AC400/415V	50	70	100	50	70	100	50	70	100	
	AC690V	10	15	20	10	15	20	15	20	20	
Operating short circuit breaking capacity Ics(kA)	AC400/415V	35	50	75	35	50	75	35	50	75	
	AC690V	10	10	10	10	10	10	15	15	15	
Standard	IEC60947-2 GB/T 14048.2										
Using category	A			A			A				
Isolating	■			■			■				
Working ambient temperature	-5°C - +40°C										
Arcing distance (mm)	≤100			≤100			≤100				
Electrical life (times) AC400V/415V	8000			8000			8000				
Mechanical life (times)	No maintenance	15000			15000			10000			
	Maintenance available	25000			25000			20000			
Release and protect type	Single magnetic release	Distribution protection	■			■			■		
		Motor protection	■			■			■		
	Thermomagnetic release	Distribution protection	■			■			■		
		Motor protection	■			■			■		
Accessories	Auxiliary contact	■			■			■			
	Alarm contact	■			■			■			
	Shunt release	■			■			■			
	Under-voltage release	■			■			■			
	Manual operating mechanism	■			■			■			
	Electric operating mechanism	■			■			■			
	Wiring behind the board	■			■			■			
	Insert type	■			■			■			
Outline dimensions fixed front plate Width(W)*Height(H)*Depth(D)	3P(mm)	150*257*107.5			150*257*107.5			210*280*100			
	4P(mm)	198*257*107.5			198*257*107.5			280*280*100			

4.2 Breaker overcurrent release form: thermomagnetic type. The thermomagnetic release has an inverse time limit characteristic, the electromagnetic release is instantaneous, see Table 3 (for power distribution) and Table 4 (for electric motors) for characteristics.

Table3

Rated current of release	Thermally activated release device (ambient temperature +40°C)		Tripping current of electromagnetic release (A)
	1.05In(Cold state) Non-tripping time(h)	1.3In(thermal state) Tripping time (h)	
In≤63A	≤1h	< 1h	≤32A: 400A±20% > 32A: 10In±20% (Tripping time≤0.2s)
In > 63A	≤2h	< 2h	

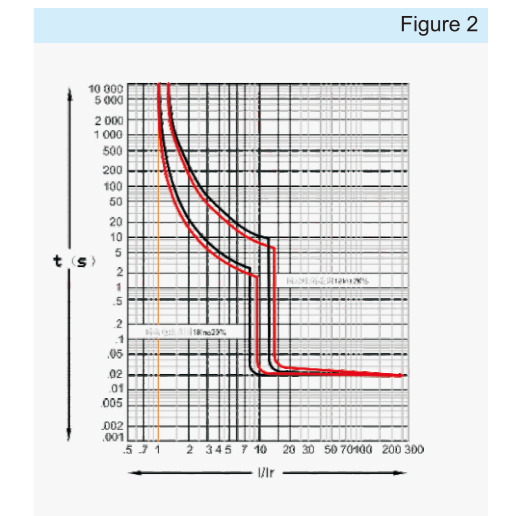
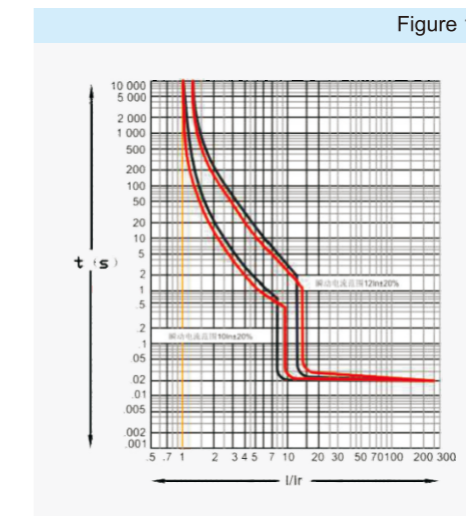
Table4

Thermally activated release device (ambient temperature +40°C)		Tripping current of electromagnetic release (A)
1.0In(Cold state) non-tripping time(h)	1.2In(thermal state) tripping time(h)	
≥ 2h	< 2h	≥40A: 12In±20% (Tripping time≤0.2s)

■ Tripping curve

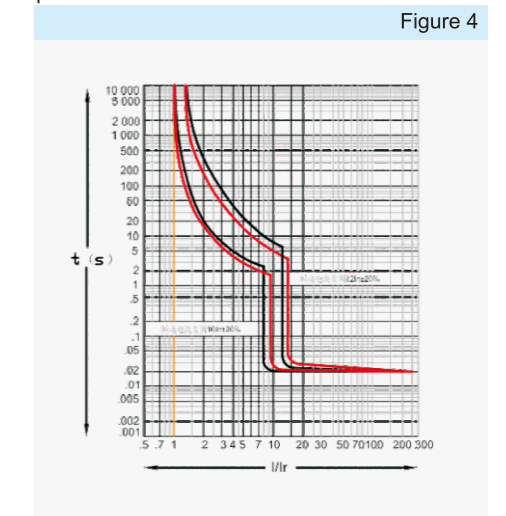
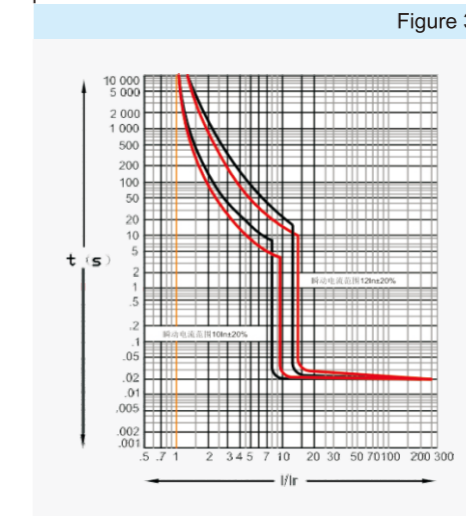
ADM3-125S/L (See Figure 1 below):  
40A-125A black for distribution protection, red for motor protection, 10A-32A instantaneous action current of 400A±20%

ADM3-125M/H (see figure 2 below):  
Black for distribution protection, red for motor protection

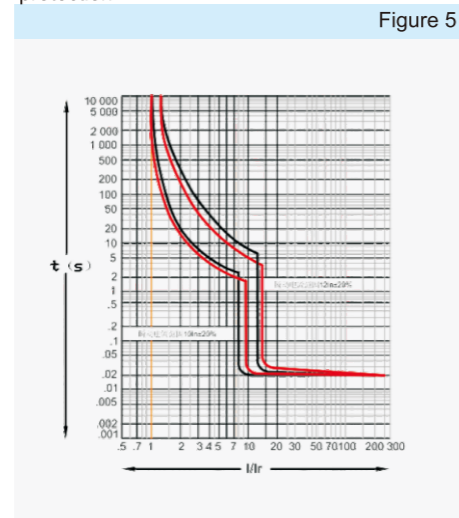


ADM3-250 (see figure 3 below):  
Black for distribution protection, red for motor protection

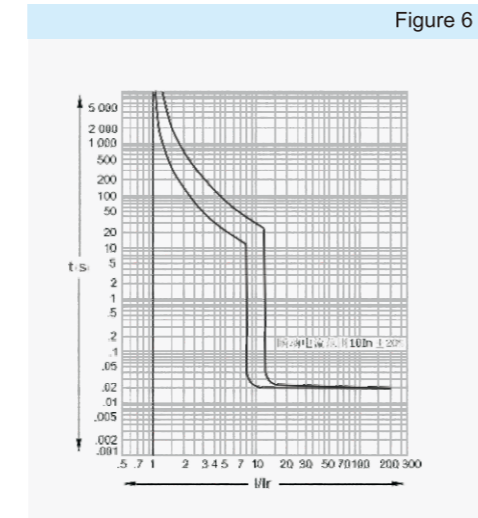
ADM3-400 (see figure 4 below):  
Black for distribution protection, red for motor protection



ADM3-630 (see figure 5 below).  
Black for distribution protection, red for motor protection



ADM3-800 (see figure 6 below).



■ Outline and installation dimensions

6.1 Breaker fixed front panel wiring outline and installation dimensions (see Figure 7 and Tables 5-1,5-2)

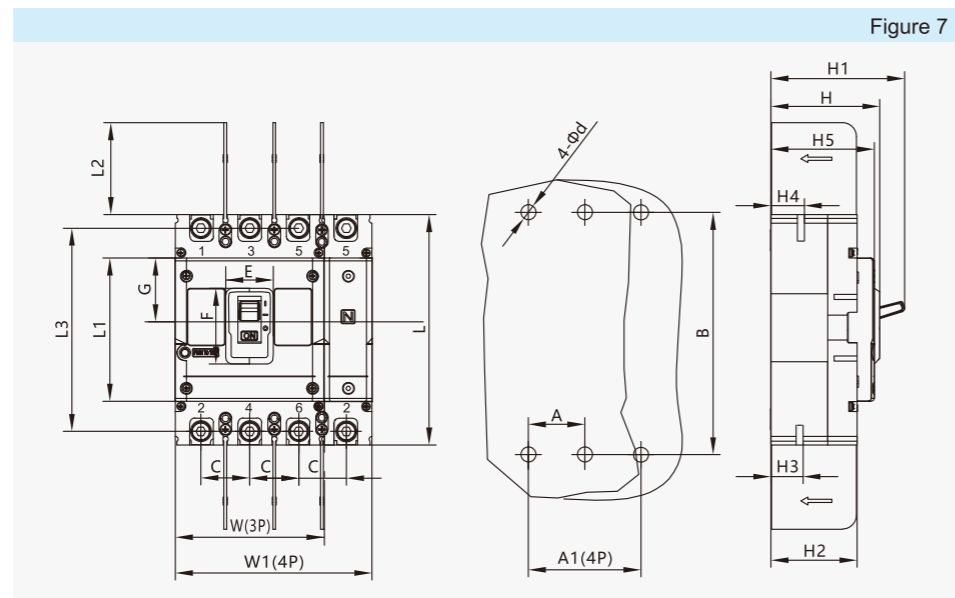


Table5-1

Type	Outline dimensions										
	W	W1	L	L1	L2	L3	H	H1	H2	H3	H4
ADM3-125S L	75	100	130	83	50	111	70.5	81.5	56	24	24
ADM3-125MH											
ADM3-250S L	107	142	165	102	80	145	77.5	94.5	62	23	23
ADM3-250MH	107	142	165	102	80	145	99.5	112.5	80	23	23
ADM3-400L/M/H	150	198	257	150	96.2	225	107.5	145.9	96.2	38	39
ADM3-630L/M/H	150	198	257	150	96.2	225	107.5	145.9	96.2	38	39
ADM3-800L/M/H	210	280	280	102	97.5	245	100	146.5	97.5	32.5	35.5

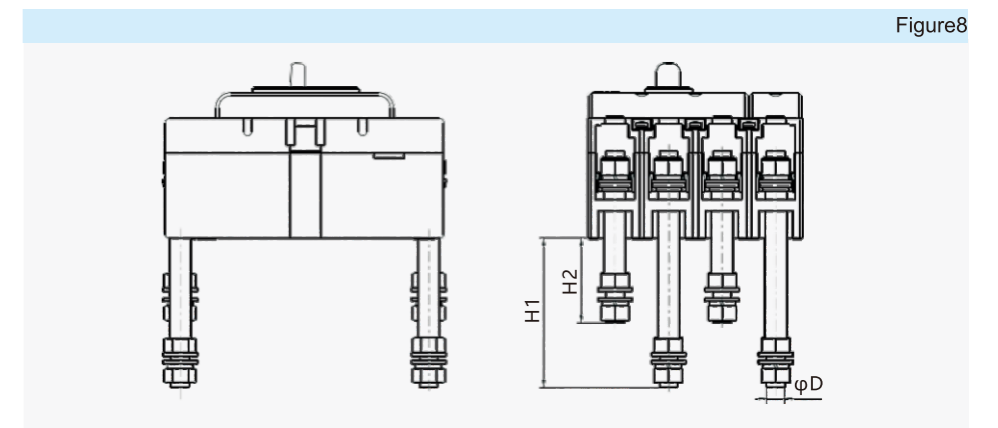
Table5-2

Type	Outline dimensions					Installation dimensions			
	H5	E	F	G	C	A	A1	B	d
ADM3-125S L	66	22	50	41.5	25	25	50	111	4
ADM3-125M H									4
ADM3-250S L	73	26	54	51	35	35	70	126	5
ADM3-250M H	92	26	54	51	35	35	70	126	5
ADM3-400L/M/H	111	52.5	75.5	75	48	44	88	215	7
ADM3-630L/M/H	111	52.5	75.5	75	48	44	88	215	7
ADM3-800L/M/H	108	65	102	61	70	70	140	243	7.5

6.2 Wiring behind the circuit breaker board

ADM3 series circuit breaker behind the board wiring (three poles four poles) shape and size and opening dimensions, X-X, Y-Y for three pole breaker centre

6.2.1 ADM3-125~250 behind-plate wiring dimensions and mounting dimensions (see Figure 8 and Table 6)

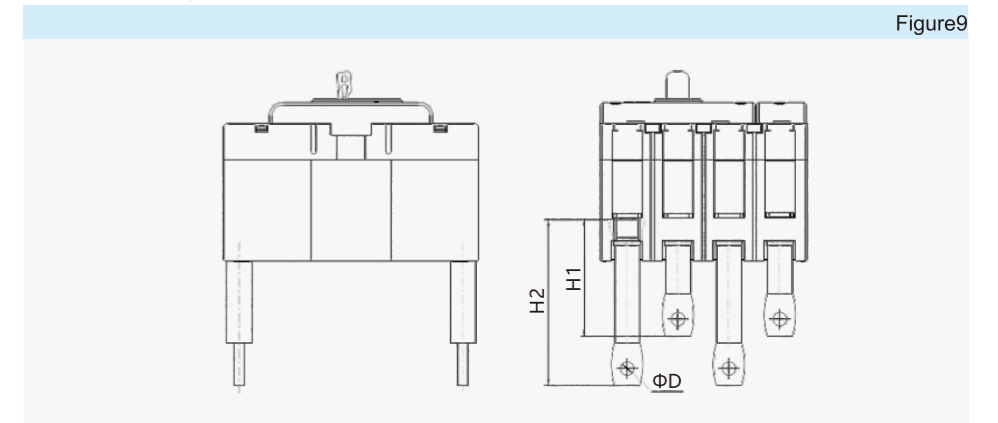


Behind-board wiring outline dimensions

Table6

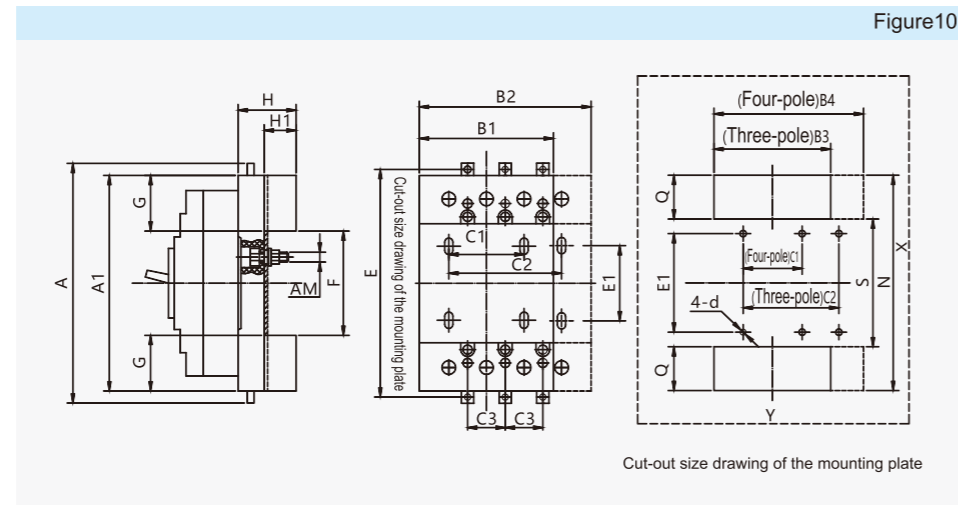
Type	H1	H2	φD
ADM3-125S/L	80	67	8
ADM3-125M/H	97	47	8
ADM3-250	102	72	10
ADM3-400/630	92	128	12.5
ADM3-800	103	137	13

6.2.2 Outline and installation dimensions of the ADM3-400-800 behind-board wiring (see Figure 9 and Table 6)



6.3 Circuit breaker plug-in wiring

ADM3 series circuit breaker plug-in wiring (three-pole four-pole) outline and hole dimensions (see Figure 10 and Tables 7-1,7-2) X-X, Y-Y is the centre of the three-pole circuit breaker



The outline and installation dimensions of the ADM3 plug-in type sea table: (for plug-in type) Table7-1

Applicable type	A	A1	B1	B2	C1	C2	C3	E	E1	E1
ADM3-125 S/L type	155	136.5	75	100	50	75	25	145	55	91.5
ADM3-125 M/H type	180	162	90.5	120	60	90	30	170	61	101.5
ADM3-250 type	204	181	105	140	70	70	35	192	65	110
ADM3-400/630 type	/	278	152	200	88	88	44	/	146	171
ADM3-800 type	/	305	210	280	90	90	70	/	146	181

Table7-2

Applicable type	G	H	H1	N	S	Q	B3	B4	AM	4-d
ADM3-125 S/L type	22.2	48	31	146.5	81.5	32.2	85	110	M4	φ4.5
ADM3-125 M/H type	30.2	55	36	172	91.5	40.2	100.5	130	M5	φ5.5
ADM3-250 type	35.2	72	46	191	100	45.2	115	150	M6	φ6.5
ADM3-400/630 type	54	80	60	288	161	64	162	210	M8	φ8.5
ADM3-800 type	62	87	60	315	171	72	220	290	M10	φ11

6.4 Wiring behind the circuit breaker board

6.4.1 ADM3-125/250 circuit breaker behind board wiring (three poles four poles) outline and hole dimensions (see Figure 11 and Table 8) X-X, Y-Y Y-Y is the centre of the three-pole circuit breaker

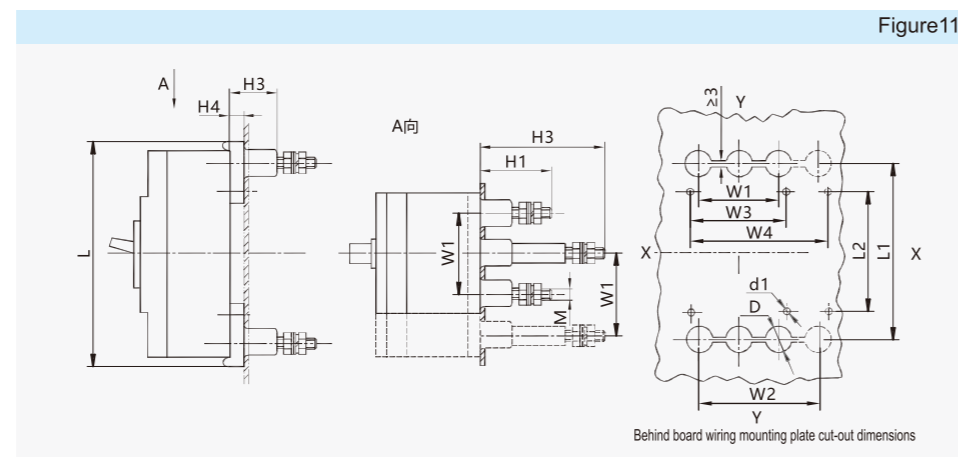


Table8

Type	Behind board wiring														
	L	L1	L2	W1	W2	W3	W4	H1	H2	H3	H4	ΦD	Φd1	Φd2	M
ADM3-125 <sup>M</sup> <sub>H</sub>	164	132	90	60	90	72	102	53	93	35	10	22	5.5	8.5	8
ADM3-250 <sup>M</sup> <sub>H</sub>	173	144	93	70	105	87	122	55	100	35	10	24	5.5	8.5	8

6.4.2 ADM3-400/800 circuit breaker behind board wiring (three poles four poles)outline and hole dimensions (see Figure 12 and Table 9) X-X, Y-Y Y-Y is the centre of the three-pole circuit breaker

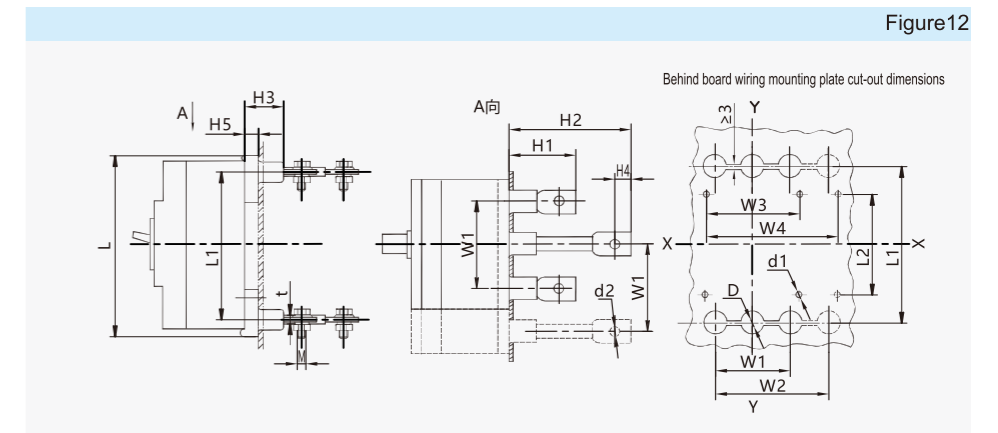


Table9

Type	Behind board wiring									
	L	L1	L2	W1	W2	W3	W4	H1	H2	
ADM3-400 <sup>M</sup> <sub>H</sub>	267	224	164	96	144	124	172	68	127.5	
ADM3-800 <sup>M</sup> <sub>H</sub>	295	243	158	140	210	178	248	84	84	

Type	Behind board wiring								
	H3	H4	H5	ΦD	Φd1	Φd2	t	M	
ADM3-400 <sup>M</sup> <sub>H</sub>	37	18	10	32	6.5	10.5	8.5	10	
ADM3-800 <sup>M</sup> <sub>H</sub>	37	22	10	48	7.0	13	16	12	

Internal accessories for circuit breakers

7.1 Axuliary contacts

7.1.1 Function: Accessory for remote indication of the closed (ON) or split/free release (OFF) status of the circuit breaker, connected to the in the auxiliary circuit.

7.1.2 Indication of the breaking and closing status of the circuit breaker

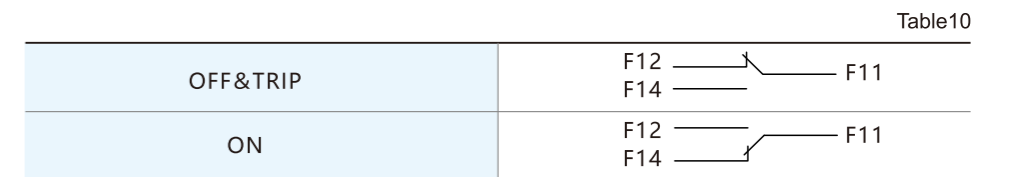


Table10

7.1.3 Electrical characteristics

Working voltage		AC-15		DC-13	
		AC380/400/415		DC110	DC220
Working current	125A-250A	0.26		0.14	0.14
	400A-800A	0.4		0.2	0.2

Table11

7.1.4 Wiring diagrams

The auxiliary contacts can form a control circuit with the indicator light. The state of the circuit breaker can be determined by the indicator light when the switchboard is not opened.

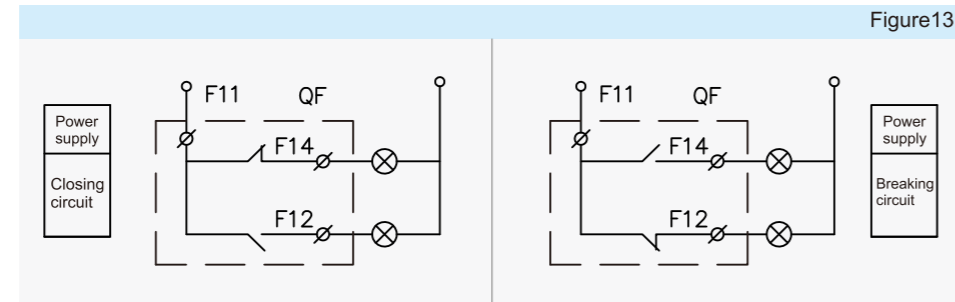


Figure13

7.2 Alarm contact

7.2.1 Function: Mainly used to provide a signal to the circuit breaker when a fault has occurred or when the circuit breaker is free to trip. Alarm contact occurs fault indication signal  
 Causes are: 1、 Overload or short circuit trip 2、 Under voltage trip 3、 Residual current trip 4、 Manual trip

7.2.2 Indication of circuit breaker breaking and closing status. Table12

OFF&ON	B12 ——— B11 B14 ——— B11
TRIP	B12 ——— B11 B14 ——— B11

7.2.3 Electrical characteristics Table13

Working voltage		AC-15		DC-13	
		AC380/400/415	DC110	DC220	
Working current	125A-250A	0.26	0.14	0.14	
	400A-800A	0.4	0.2	0.2	

7.2.4 Wiring diagrams

The alarm contacts can form a control circuit with the indicator light. The status of the circuit breaker can be determined by the indicator light when the switchboard is not opened.

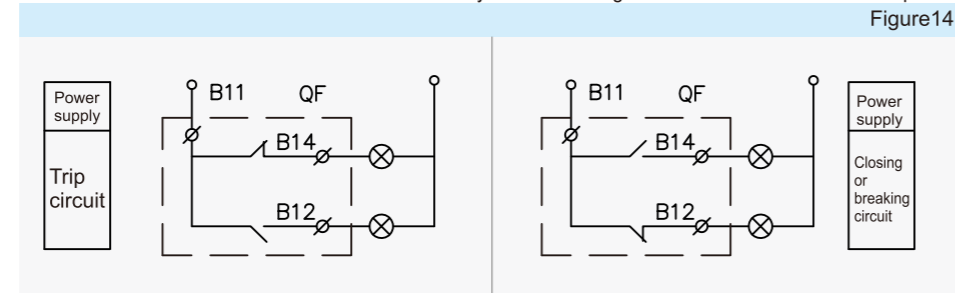


Figure14

7.3 Undervoltage release

7.3.1 Function: Realizes the function of under-voltage protection of the circuit breaker, disconnects the circuit breaker when the power supply voltage is too low and protects the power-using equipment.  
 1、 When the power supply voltage drops (even slowly) to the range of 70%~35% of the rated voltage, the undervoltage release should make the circuit breaker trip reliably.  
 2、 When the power supply voltage is lower than 35% of the rated control voltage of the release, the undervoltage release shall be able to prevent the circuit breaker from closing.  
 3、 When the power supply voltage is equal to or greater than 85% of the rated control voltage of the release, the undervoltage release should be able to ensure that the circuit breaker can reliable close.

7.3.2 Action characteristics Table14

Conditions of release	Reliable open	35%-70%
	Preventing close	≤35%
	Reliable close	≥85%
Response time		1S
Operation times		1000

7.3.3 Wiring diagrams

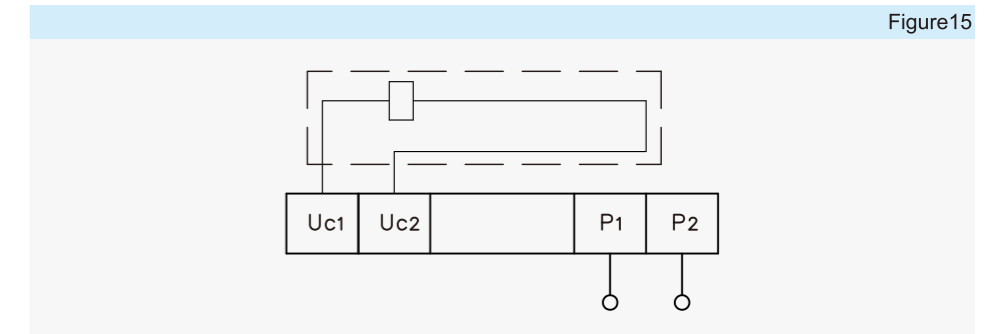


Figure15

7.4 Shunt release

7.4.1 Function: It is an accessory for remote breaking

1. When the power supply voltage is equal to any voltage between 70% and 110% of the rated control voltage the shunt release should make the the circuit breaker operate reliably.

7.4.2 Action characteristics Table15

Reliable operating voltage		35%-70%
Power on time (pulse type)	Maximum value	≤35%
	Minimum value	≥85%
Reliable operating voltage		1S
Operating times		1000

7.4.3 Wiring diagrams

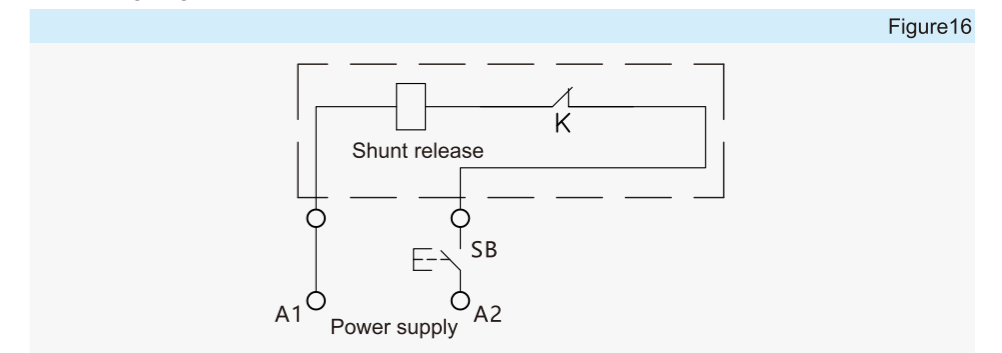


Figure16

External accessories for circuit breakers

8.1 LCD electric operating mechanism

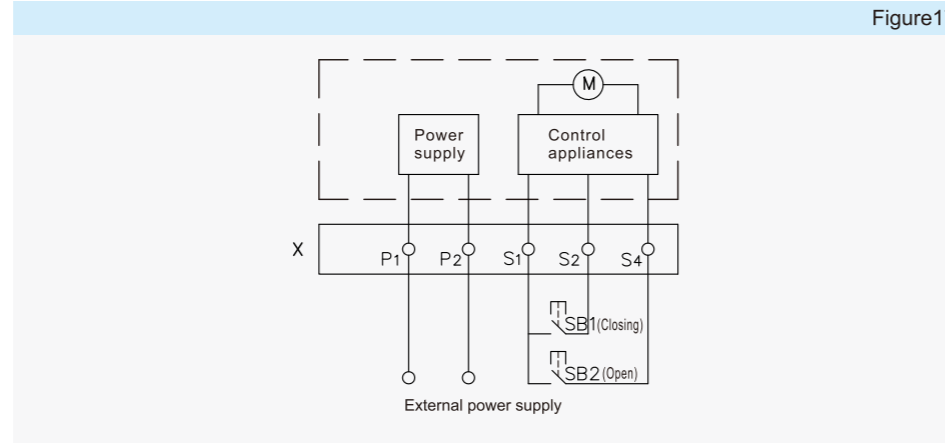
8.1.1 Function: Suitable for remote closing, breaking and re-buckling of circuit breakers, and for automation applications.

8.1.2 Electrical characteristics Table16

Category / Type	Full range
Structure type	AC/DC dual use
Voltage	AC220V/230V/240V AC380V/400V/415V DC110V/DC220V
Rated frequency	50Hz/60Hz

8.1.3 Wiring diagrams

Figure17



Remark: SB1 and SB2 are the closing and dividing buttons (user provided). P1 and P2 are external power terminals, when the external power supply is DC power, P1 is connected to "+" and P2 is connected to "-".

8.1.4 Installation diagram and dimensions of the electrically operated mechanism (see Figure18, Table 17)

Figure18

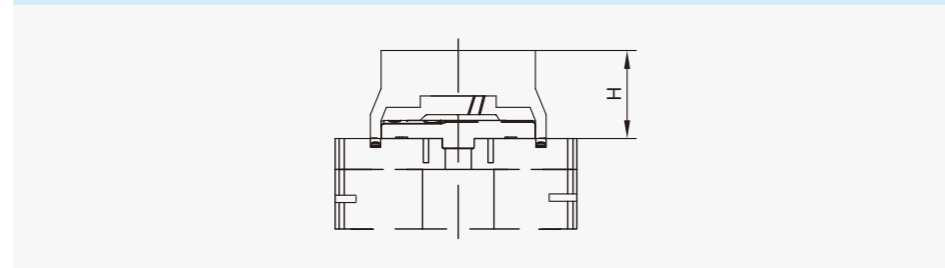


Table17

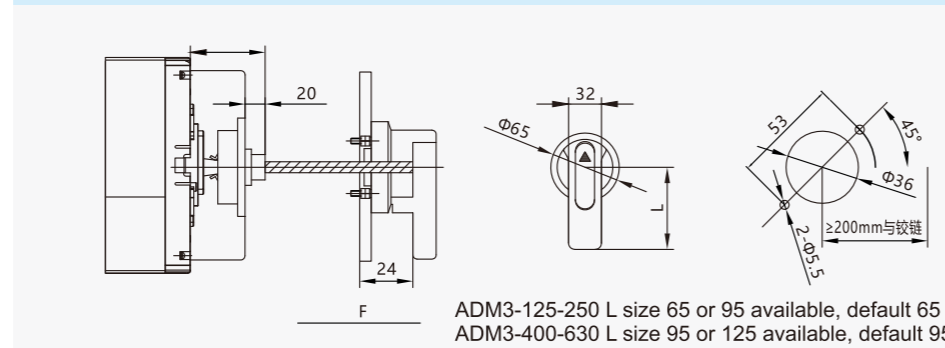
Type	125S L	125M H	250	400/630	800
Installation dimension H(mm)	93	97	97.5	154	154

8.2 Manually operated mechanisms

8.2.1 Function: A unique design and drive mechanism is used to achieve closing, breaking and re-buckling operation of the circuit breaker by rotation.

8.2.2 Installation diagram and dimensions of the manual operating mechanism (see Figure 19, Table 18)

Figure19



Remark: The connection bar at F is 150mm as standard, if you need special customisation, please contact the manufacturer.

Table18

Type	125SL	125MH	250SL	250MH	400/630LMH	800LMH
Installation dimension D(mm)	54	57	54	78	78	76

■ The cross-sectional area of the connecting conductor is matched to the rated current of the decoupler

9.1 Rated current of not more than 400 A and matching cross-sectional area of the connecting conductor (see Table 19) Table 19

Rated current (A)	16 20	25	32	40 50	63	80	100	125 140	160	180 200 225	250	315 350	400
Cross-sectional area mm <sup>2</sup>	2.5	4.0	6.0	6.0	16	25	35	50	70	50	120	185	240

9.2 Rated current greater than 400 A and matching cross-sectional area of the connecting conductor (see Table 20) Table 20

Rated current (A)	Cable		Copper busbar	
	Cross-sectional area mm <sup>2</sup>	Quantity	Dimensions mmxmm	Quantity
500	150	2	30×5	2
630	185	2	40×5	2
800	240	2	50×5	2

■ Transport and storage

10.1 Transport

The transport of the product should be protected from water, rain, snow or other harmful liquids such as chemical solvents and corrosive liquids and from mixing. Prevent strong impact and extrusion between liquids; yard in the direction indicated by the packaging, with no more than 4 layers.

10.2 Storage

Storage environmental conditions: ambient temperature -10°C~+45°C.

Relative humidity ≤ 90% (at an ambient temperature of +20°C).

The storage site should be free of dust and free of conductive dust.

Free from corrosive, flammable and explosive gases and free from rain and snow.

Dry and well ventilated.

Yarded in the direction indicated by the packaging, not higher than 4 layers.

■ Cautions

11.1 After normal operation, the product should be tested once a month and test records should be made.

11.2 The company will not be responsible for any non-quality problems caused by improper installation and use, or for the burning of terminals due to improper wiring.

11.3 If there is any problem in the use of the product, please contact the local distributor or our customer centre.



ADB3-63 1P



ADB3-63 2P



ADB3-63 3P



ADB3-63 4P

**■ Application**

ADB3-63 miniature circuit breaker is suitable for AC 50/60Hz rated voltage 230V/400V, rated current up to 63A lines for overload and short circuit protection, also under normal conditions as infrequent operation conversion of lines.

The circuit breakers are suitable for use in various places such as industrial, commercial, high-rise and civil housing.

Standards: GB/T 10963.1, IEC60898-1.

**■ Types and meanings**

AD B 3 - 63  
1 2 3 4

- 1. Enterprise code
- 2. Miniature circuit breaker
- 3. Design serial number
- 4. Frame class rated current

**■ Main parameters and technical performance**

**3.1 Main specifications**

3.1.1 According to the rated current  $I_n$  is divided into:

1A, 2A, 3A, 4A, 5A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A;

3.1.2 According to the type of instantaneous decoupler:

Type B (3~5)  $I_n$ ; Type C (5~10)  $I_n$ ; Type D (10~20)  $I_n$ ,

3.1.3 Divided by the number of poles. Single-pole circuit breakers.

- a. One pole circuit breaker.
- b. Two poles circuit breaker.
- c. Three poles circuit breaker.
- d. Four poles circuit breaker.

**3.2 Main technical parameters.**

3.2.1 Rated short-circuit capacity (see Table 1).

Table 1

Rated current	Number of poles	Rated voltage (V)	Rated short circuit current (A)	Operating short circuit current (A)
1~63A	1	230/400	6000	6000
	2, 3, 4	400		

3.2.2 Mechanical and electrical life (see Table 2)

Table 2

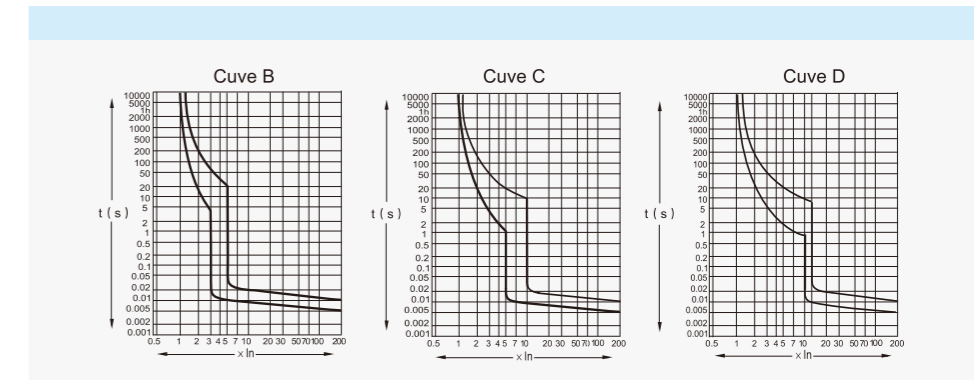
Category	Times	Operation frequency (Times/hour)	Rated current
Electrical life	10000	240	1~32
		120	40~63
Mechanical life	20000	240	1~63

3.2.3 Overcurrent protection characteristics (at 30°C to 35°C) (see Table 3)

Table 3

No.	Rated current of release (A)	Initial state	Test current	Rated time	Expected results	Remark
1	1~63	Cold state	1.13 $I_n$	$t \leq 1h$	Non-trip	Current rises steadily to the specified value within 5s
2	1~63	Performed immediately after the previous test	1.45 $I_n$	$t < 1h$	Trip	
3	$I_n \leq 32$ $I_n > 32$	Cold state	2.55 $I_n$	$1s < t < 60s$ $1s < t < 120s$	Trip	
4	1~63	Cold state	3 $I_n$	$t \leq 0.1s$	Non-trip	Curve B
			5 $I_n$	$t < 0.1s$	Trip	Curve C
			5 $I_n$	$t \leq 0.1s$	Non-trip	
			10 $I_n$	$t < 0.1s$	Trip	
			10 $I_n$	$t \leq 0.1s$	Non-trip	Curve D
20 $I_n$	$t < 0.1s$	Trip				

**3.2.4 Release characteristic curve**



3.2.5 Wiring: for wire connections up to 25mm<sup>2</sup> (see Table 4), wiring method with screws, torque 2N·m.

Table 4

Rated current $I_n$ (A)	1~6	10	16, 20	25	32	40, 50	63
Nominal cross-sectional area of copper conductors (mm <sup>2</sup> )	1	1.5	2.5	4	6	10	16

**■ Main parameters and technical performance**

**4.1 Structural features**

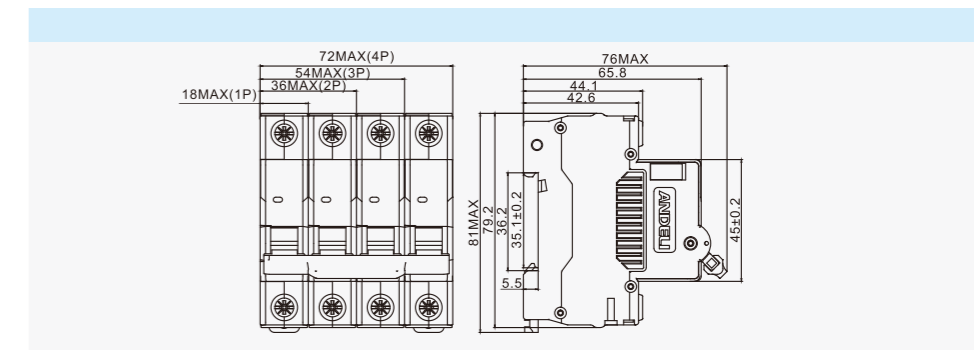
- 4.1.1 High rated short-circuit breaking capacity, all rated short-circuit current levels can reach 6kA.
- 4.1.2 Combined terminal block with finger touch protection and red and green safety indication, higher safety.
- 4.1.3 The shell and some functional parts are made of highly flame-retardant, high-temperature and impact-resistant plastics imported from abroad.
- 4.1.4 Applicable working conditions and working environment.
  - a. Ambient temperature: Ambient temperature -25°C ~ +60°C, when the ambient temperature is not the benchmark of 30°C, refer to the coefficient correction of (Table 5).
  - b. Altitude: The altitude of the installation site should not exceed 2000m.c.

**4.2 With isolation function**

Table 5

Ambient temperature °C	-30	-20	-10	0	10	20	30	40	50	60
Current correction factor	1.30	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85

**■ Outline and installation dimensions**



**■ Ordering specifications**

- 6.1 Product type and name, e.g. ADB3-63 miniature circuit breaker.
- 6.2 Number of poles, e.g. 2P.
- 6.3 Type of instantaneous release and rated current, e.g. C20.
- 6.4 Example of an order: ADB3-63 miniature circuit breaker, 2P, C20, 500 units.





ADB3-125 1P



ADB3-125 2P



ADB3-125 3P



ADB3-125 4P

**Application**

ADB3-125 series miniature circuit breakers (hereinafter referred to as circuit breakers) are mainly used in AC 50Hz, rated working voltage up to 400V, rated current 63A to 125A in power distribution lines for overload and short circuit protection, and also for infrequent on/off operation and conversion of lines.

The performance of this product conforms to GB/T14048. 2 and IEC60947-2 standards.

**Types and meanings**

AD B 3 - 125 (H)  
1 2 3 4 5

- 1. Company code
- 2. Miniature Circuit Breaker
- 3. Design serial number
- 4. Frame class rated current
- 5. Breaking capacity level code: high breaking for H type, general type without code

**Main parameters and technical performance**

- 3.1 Main types
  - 3.1.1 Type C is mainly used for line protection;
  - 3.1.2 Type D is mainly used for motor protection;
- 3.2 The rated currents of circuit breakers are 63A, 80A, 100A and 125A;
- 3.3 The number of poles of the circuit breaker is divided into: single-pole, two-pole, three-pole and four-pole;
- 3.4 The circuit breaker is for embedded installation (can be installed on the mounting rail);
- 3.5 The rated working voltage of the circuit breaker and its associated rated current short-circuit breaking capacity (see Table 1).

Table 1

Rated current (A)	Number of poles (P)	Rated voltage(V)	Rated limit short circuit breaking capacity I <sub>cu</sub> (kA)	Rated operating short circuit breaking capacity I <sub>cs</sub> (kA)	Test line power factor (COSΦ)
63, 80, 100, 125	1	230	6(H type 10)	6(H type 7.5)	0.65~0.7
	2, 3, 4	400	6(H type 10)	6(H type 7.5)	0.65~0.7

3.6 Overcurrent release characteristics (see Table 2)

Table 2

No.	Rated current I <sub>n</sub>	Initial state	Test current	Rated time	Expected results
a	I <sub>n</sub> ≤63A	Cold state	1.05I <sub>n</sub>	t≤1h	Non-trip
	I <sub>n</sub> >63A			t≤2h	
b	I <sub>n</sub> ≤63A	Immediately after the previous test	1.3I <sub>n</sub>	t<1h	Trip
	I <sub>n</sub> >63A			t<2h	
c	All values	Cold state	C	8I <sub>n</sub>	Non-trip
			D	10I <sub>n</sub>	
d	All values	Cold state	C	12I <sub>n</sub>	Trip
			D	14I <sub>n</sub>	

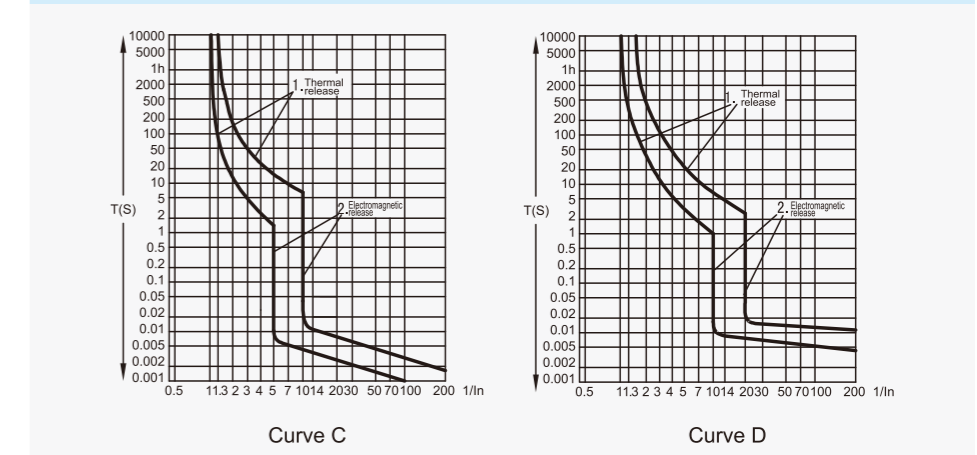
3.7 Mechanical life

The circuit breaker turns on and breaks the rated current at the specified rated voltage with a power factor of 0.65 to 0.7 and a mechanical and electrical life of 15,000 cycles.

**Thermal/electromagnetic release characteristics**

4.1 Value of release characteristics (see Figure 1)

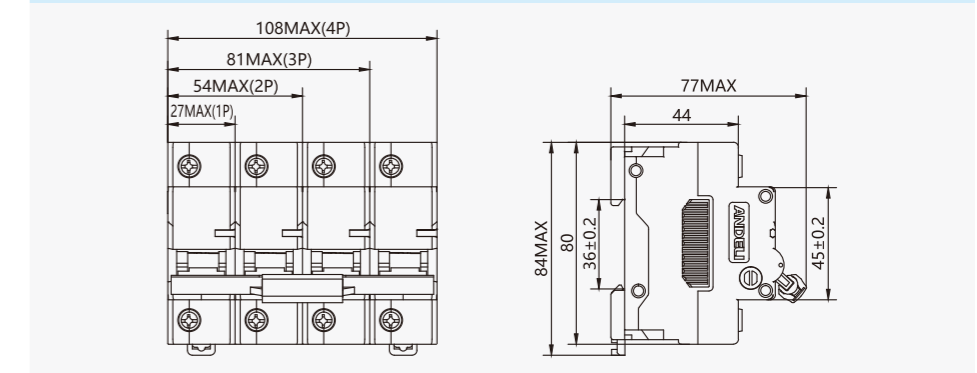
Figure 1



**ADB3-125 Outline and installation dimensions**

ADB3-125 Outline and installation dimensions (see figure 2)

Figure 2



**Instructions for use**

- 6.1 Before installing the circuit breaker, it must be confirmed that:
  - a. The circuit breaker is in good condition and the handle is flexible in operation.
  - b. The installation site is free from harmful gases, splashing water and rain, and serious dust. The temperature should be no higher than 40 °C and no lower than -5 °C. The altitude should not exceed 2000m.
- 6.2 The handle should be below the installation so that the upward movement of the handle is for closing and the downward movement is for breaking.
- 6.3 Depending on the situation, dust, condensation and dirt should be cleaned from the circuit breaker and the screws tightened in time. Note that... The cleaning operation should be carried out in the event of a power failure.
- 6.4 The release characteristics of the circuit breaker have been set in the production of the enterprise and cannot be adjusted by the user.
- 6.5 The base temperature of the protection characteristics of this series of circuit breakers is 30°C. If more than one circuit breaker is installed into the sealed box at the same time, the temperature inside the box will rise accordingly and the current value will be 0.8 I<sub>n</sub>.
- 6.6 Inlet and outlet copper conductor cross-sectional area selection (see Table 3)

Table 3

Rated current A	63	80	100	125
Cross-sectional area of conductors mm <sup>2</sup>	16	25	35	50

**Ordering Instructions**

For use in ordering, should specify the type, specification and quantity of the circuit breaker, for example: ADB3-125, C type 80A, 3P circuit breaker 40 units.



ADB3LE-63 1P+N



ADB3LE-63 2P



ADB3LE-63 3P



ADB3LE-63 3P+N



ADB3LE-63 4P

**Application**

ADB3LE-63 series earth leakage circuit breakers (hereinafter referred to as earth leakage circuit breakers) are suitable for use in circuits with rated voltage 230 or 400V, frequency 50/60Hz, rated current up to 63A and below, as protection against personal electric shock, as well as protection against leakage, overload and short-circuit of electrical circuits and equipment in houses and similar buildings, and for infrequent operation and conversion of circuits.

The product complies with GB/T16917.1, GB/T169 17.22 and IEC61009- 1 standards.

**Normal working and installation conditions**

**2.1 Normal operating conditions**

- 2.1.1 Ambient air temperature -5 °C to 40 °C, not exceeding 35 °C on average within 24 h.
- 2.1.2 The altitude of the installation site does not exceed 2000 m.
- 2.1.3 The relative humidity of the air at the installation site shall not exceed 50% at a maximum temperature of 40 °C and 90 % at a monthly average minimum temperature of 25°C in the wettest month.
- 2.1.4 Pollution level 2 at the installation site.

2.2 Installation category: Installation category III.

2.3 The installation shall be free from significant shocks and vibrations.  
 2.4 The installation position should be vertical, with an inclination of no more than ±5° in all directions.

**Structure and working principle**

The earth leakage circuit breaker consists of an ADB3 mini circuit breaker and an earth leakage release assembled together.

When there is leakage or personal electric shock in the protected circuit, the vector sum of the current through the zero sequence current transformer is not equal to zero, the secondary coil of the transformer generates a voltage signal and is amplified by the integrated circuit. When the rectification value is reached, the leakage release actuates, so that the circuit breaker cuts off the power within 0.1 seconds, thus playing the role of electric shock and leakage protection.

When an overload and short circuit occurs in the line or equipment, the overload release or instantaneous release in the circuit breaker acts to cut off the power supply and protect the line and equipment from damage.

**Types and meanings, technical parameters**

AD B 3 LE - □ / □ □ □ □  
 1 2 3 4 5 6 7 8 9

- 1. Company code
- 2. Circuit breaker
- 3. Design serial number
- 4. Earth leakage circuit breaker
- 5. Frame class rated current (A)
- 6. L is for integrated modules, not marked as discrete components
- 7. Number of poles
- 8. When with a non-disconnectable neutral, denoted by N
- 9. Instantaneous release type B, C or D

Main technical parameters (see Table 1)

Table 1

Frame class rated current Inm (A)	Number of poles	With neutral wire	Rated current In (A)	Rated short circuit capacity			Overcurrent instantaneous release type	Rated earth leakage trip current I <sub>Δn</sub> (mA)	Rated earth leakage non-trip current (mA)	Rated earth leakage breaking time (s)	Rated impulse withstand voltage(kV)
				Voltage (V)	Breaking capacity Icn(A)	cosφ					
32	1	N	6, 10 16, 20 25, 32	230	6000	0.8	B C D	30 50	15 25	≤0.1	4
	2										
	3										
	3	N									
63	1		6, 10 16, 20 25, 32 40, 50 63	230	6000	0.8	B C D	30 50	15 25	≤0.1	4
	2										
	3										
	3	N									

4.2.2 Overcurrent tripping characteristics (see Table 2)

Table 2

No.	Overcurrent instantaneous release type	Rated current In A	Initial state	Test current A	Rated time t	Expected results	Remark
a	B, C, D	≤63	Cold state	1.13In	t≤1h	Non-trip	-
b	B, C, D	≤63	Hot state	1.45In	t<1h	Trip	Ramp up to the specified current within 5s immediately after the test in item a)
c	B, C, D	≤32	Cold state	2.55In	1s<t<60s	Trip	-
		>32	Cold state		1s<t<120s		
d	B	≤63	Cold state	3In	t≤0.1s	Non-trip	Close the auxiliary switch and turn on the power
	C		Cold state	5In			
	D		Cold state	10In			
e	B	≤63	Cold state	5In	t<0.1s	Trip	
	C		Cold state	10In			
	D		Cold state	20In			

4.2.3 Rated residual breaking capacity (I<sub>Δm</sub>) 2000A, mechanical and electrical life: 15000 cycles (on - off).

4.2.4 The circuit breaker with overvoltage protection has an action range of 280V ± 5 %.

**Outline and installation dimensions**

5. 1 Outline and installation dimensions (see table 3, figure 1)

Figure 1

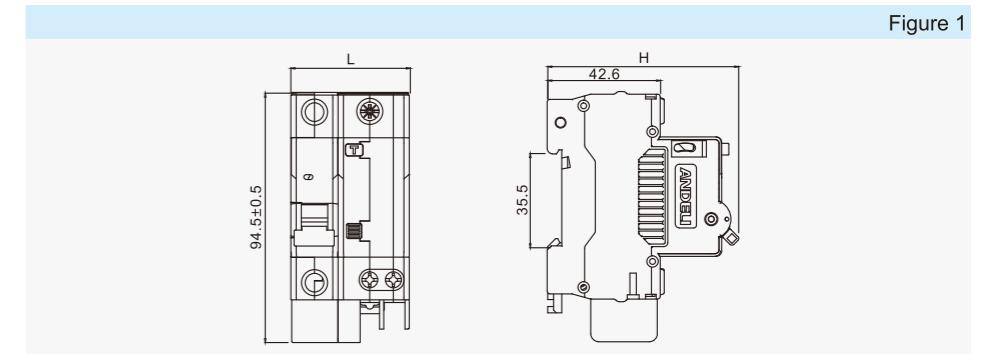


Table 3

No.of poles	1P+N	2P	3P	3P+N	4P	Remark
L mm	54±0.50	72±0.50	104±0.50	117±0.50	135±0.50	ADB3LE-63
L mm	45±0.50	63±0.50	90±0.50	99±0.50	117±0.50	ADB3LE-32
H mm	72±0.50	74.5±0.50	74.5±0.50	74.5±0.50	74.5±0.50	

**Use and maintenance**

6.1 The overcurrent release characteristics and leakage characteristics of the earth leakage circuit breaker are rectified by the manufacturer. users should not adjust them at will during installation and use to avoid affecting the performance.

6.2 The incoming power supply line must be connected directly above the earth leakage circuit breaker and the outgoing line should be connected below, not upside down, otherwise it will cause damage to the product.

6.3 When the earth leakage circuit breaker is installed, the handle in the "OFF" position means "break" and in the "ON" position means "close", the circuit is switched on.

6.4 After a new installation or after a certain period of operation (generally every month), the circuit breaker should be switched on and off and the test button should be pressed to check whether the leakage protection performance is normal and reliable.

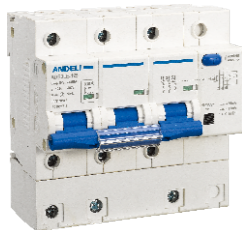
6.5 In the event of a fault in the circuit breaker, if the leakage indicator button is protruding, it will indicate a leakage fault,press the earth leakage indicator button once the fault has been removed. If the leakage indicator button is not protruding, it indicates an overload or short-circuit fault, which must be removed before the switch can be closed.



ADB3LE-125 1P+N



ADB3LE-125 2P



ADB3LE-125 3P



ADB3LE-125 3P+N



ADB3LE-125 4P

**Application**

ADB3LE-125 earth leakage circuit breaker (hereinafter referred to as circuit breaker) is mainly used for AC 50/60Hz, rated working voltage up to 380(400)V and below in the distribution line, rated current from 63A to 125A, for leakage, overload and short circuit protection in the distribution line, and also as infrequent on/off operation and conversion of the line.

The performance of the product conforms to GB/T14048.2 and IEC60947-2 standards.

**Types and meanings**

AD B 3 LE - 125 / □  
 1 2 3 4 5 6

- 1. Company code
- 2. Circuit breaker
- 4. Design serial number
- 4. Earth leakage circuit breaker
- 5. Frame class rated current (A)
- 6. None: breaking capacity 6kA; H: breaking capacity 10kA

**Product Categories**

- 3.1 By number of poles: a. 1P+N, b. 2P, c. 3P, d. 3P+N, e. 4P.
- 3.2 By rated current: 63, 80, 100, 125(A).
- 3.3 Rated working voltage: 230V/400V.
- 3.4 According to the wiring method: the circuit breaker is with screw fixed connection wiring terminal.
- 3.5 According to the instantaneous release: The circuit breaker decoupling type is motor protection type.
- 3.6 According to the installation mode: The circuit breaker is embedded in the installation rail.
- 3.7 According to the operation mode: this circuit breaker is manually operated.
- 3.8 According to the protection function: this circuit breaker in addition to leakage protection performance also has overload long delay and instantaneous short circuit protection.

**Conditions of use**

- 4.1 Ambient air temperature: a. Upper limit not exceeding +40 °C. b. Lower limit not less than -5°C. c. Average value of 24h not exceeding +35 °C.
- 4.2 The altitude of the installation site shall not exceed 2000 m.
- 4.3 The relative humidity of the atmosphere shall not exceed 50 % at a maximum temperature of +40 °C and may be higher at lower temperatures, e.g. up to 90 % at an average monthly temperature of +25 °C, taking into account condensation on the surface of the product due to temperature changes.
- 4.4 The pollution level of the location where the circuit breaker is used is class 3.
- 4.5 The installation category of the circuit breaker is normally class A.

**Technical specifications**

- 5.1 Leakage current protection characteristics.
  - a. Rated leakage current action value:  $I_{\Delta n}=30\text{mA}$  or  $50\text{mA}$ ;  $100\text{mA}$  or  $300\text{mA}$ ;
  - b. Rated leakage current inoperative value:  $15\text{mA}$  or  $25\text{mA}$ ;  $50\text{mA}$  or  $150\text{mA}$ ;
  - c. Maximum breaking time of rated leakage current: 0.1s;
  - d. Rated leakage current breaking capacity: 2000A;
- 5.2 Overcurrent release characteristics.
  - 5.2.1 The overcurrent release characteristics of circuit breakers for power distribution under normal installation conditions and at a reference ambient temperature of  $30\pm 2^\circ\text{C}$  shall conform to the provisions of (Table 1).

Table 1

Test	Set current	Rated time		Ambient temperature
		$I_n \leq 63\text{A}$	$63 < I_n < 630\text{A}$	$30 \pm 2^\circ\text{C}$
Non-trip	$1.05I_n$	$\leq 1\text{h}$	$\leq 2\text{h}$	$\leq 2\text{h}$
Trip	$1.3I_n$	$< 1\text{h}$	$< 2\text{h}$	$< 2\text{h}$

5.2.2 The action time of the circuit breaker inverse time release shall be in accordance with the "Table of Equivalent Test Parameters for ADB3 Circuit Breakers".

5.2.3 The instantaneous tripping characteristics shall be in accordance with (Table 2). Table 2

Test	Set current	Rated time	Ambient temperature: room temperature
Instantaneous release	$12I_n \pm 20\%$	T	Cold state

Instantaneous release test current is equal to 80% of the short-circuit rated current, the detonator should not operate, the current duration is  $t \leq 0.2\text{ s}$ , the test current is equal to short-circuit. The test current is equal to 120% of the short-circuit rated current, and the duration of the current is  $t < 0.2\text{ s}$ . Remark: Instantaneous release can be carried out at any room temperature.

5.3 Rated short-circuit breaking capacity and flying arc distance of the circuit breaker (see Table 3) Table 3

Rated current (A)	Rated ultimate short circuit breaking capacity $I_{cu}(\text{kA})$	Rated operating short circuit breaking capacity $I_{cs}(\text{kA})$	$\text{COS}\Phi$	Flying arc distance
$63 \leq I_n \leq 125$	6(H type 10)	6(H type 7.5)	0.65-0.70	50mm

5.4 Refer to (Table 4) for selection of wire cross-sectional area when using earth leakage circuit breakers. Table 4

Rated current (A)	63	80	100	125
Cross-sectional area of conductors( $\text{mm}^2$ )	16	25	35	50

5.5 Mechanical and electrical life

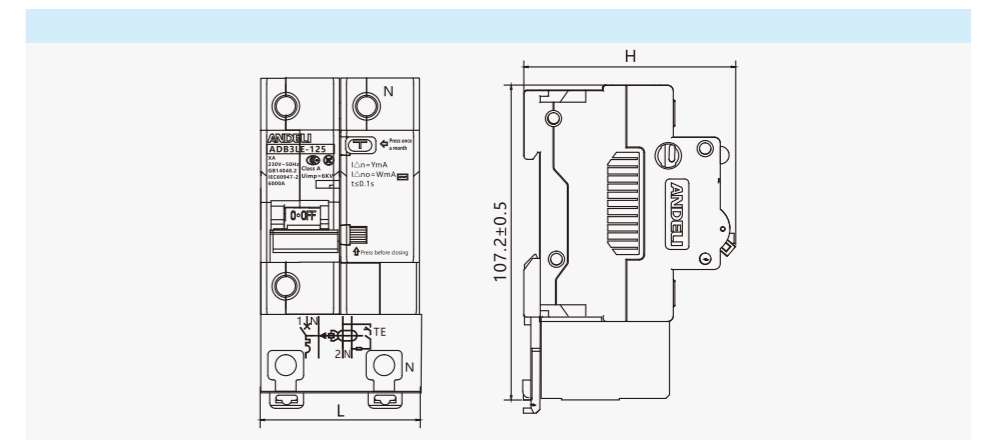
The circuit breaker turns on and breaks the rated current at the specified rated voltage with a power factor of 0.65-0.7 and a mechanical and electrical life is 15,000 times.

**Structural characteristics and operating principle**

6.1 This circuit breaker consists of contact and arc extinguishing system, electromagnetic release system, operating mechanism, zero sequence current transformer, electronic amplification line, leakage release device and other components. The electromagnetic system adopts precision type and resistance type thermal bimetal materials, the contacts adopt silver-graphite alloy contacts, and in addition, new materials such as enhanced wear-resistant plastics are selected to ensure product performance.

6.2 Working principle of the circuit breaker: Under the normal working condition of the circuit breaker, the operating mechanism is pressed to turn on the power supply, at this time the release mechanism is blocked and the contacts cannot be operated, when the current is too large, the bimetal sheet of the electromagnetic system is deformed and the latch is pushed, so that the iron core is sucked and the contacts are disconnected under the force of the release spring to complete the breaking protection of the circuit breaker. When the line leakage and electric shock accident occurs, the zero sequence current transformer output signal, so that the silicon controlled conductor, the leakage release iron core action, push rod to push the release action, so that the leakage circuit breaker in a short period of time to cut off power, so as to achieve the leakage protection function.

**Outline and installation dimensions**

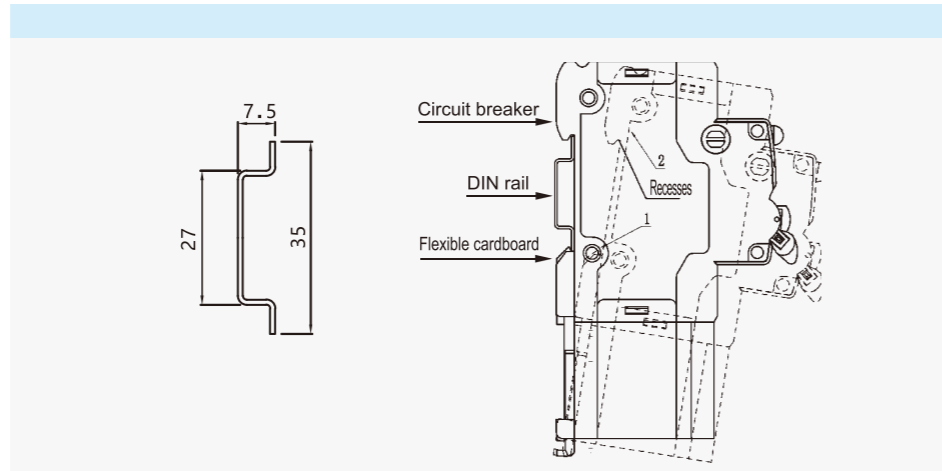


No. of poles	1P+N	2P	3P	3P+N	4P
L mm	$54 \pm 0.37$	$81 \pm 0.435$	$108 \pm 0.435$	$108 \pm 0.435$	$135 \pm 0.50$
H mm	$71.7 \pm 0.37$	$74 \pm 0.37$	$74 \pm 0.37$	$74 \pm 0.37$	$74 \pm 0.37$

**Installation and adjustment**

- 8.1 The following should be observed before the circuit breaker is installed.
  - a: Check the circuit breaker to ensure that it is in good condition and that it operates flexibly.
  - b: Check that the markings on the circuit breaker correspond to those of the product in normal conditions being used.
- 8.2 The circuit breaker should be installed with attention to the marking of the terminal block.
- 8.3 This circuit breaker can be used separately in addition to being installed in the distribution box. When installed, an earthed metal (or insulating material) protective panel should be installed to prevent electric shock.
- 8.4 The rectified current cannot be adjusted by yourself and should not be maintained by yourself.
- 8.5 Installation and dismantling method (see Figure 2)

Figure 2



8.5.1 Align the circuit breaker into the rail with the mounting catch rail (slightly angled to the right, see dotted line in Figure 2) so that the circuit breaker goes up in the direction of arrow 1. Push the foot and push the recess in the direction of arrow 2 to the upper end of the mounting rail and release the hand.

8.5.2 In the opposite direction to the installation process, remove the circuit breaker by pushing the foot upwards in the direction of arrow 1 and turning arrow 2 in the opposite direction.

**■ Custody and maintenance**

9.1 Circuit breakers (including products in packing lists) shall not be exposed to rain during transport and storage, and shall be placed in a warehouse free of rain and snow, with air circulation, monthly average relative humidity of not more than 90% (at 20±5°C) and air temperature of not more than +40°C and not less than -25°C.

9.2 The circuit breaker should be checked regularly during operation to remove dust and dirt from incoming and outgoing lines and product surfaces.

9.3 Under the condition that the user observes the rules of storage and use, the factory will replace the product free of charge for the user if the product does not work properly due to poor manufacturing within 12 months from the date of installation, but not more than 18 months from the date of shipment from the factory.

**■ Ordering specifications**

When ordering circuit breakers, specify the following:

- a. Model number and name, e.g.: ADB3LE-125 series earth leakage circuit breaker.
- b. Number of poles of the circuit breaker, e.g. 2-pole, 3-pole, 4-pole.
- c. Rated current of the circuit breaker, e.g. 63A, 125A.
- d. Quantity ordered.



ADB3Z-63 1P

**■ Application**

ADB3Z-63 type DC circuit breaker are used for the line with DC rated voltage up to 1200V and rated currents up to 63A, for overload and short-circuit protection and infrequent operation.

Standards: GT/T14048.2, IEC60947-2.

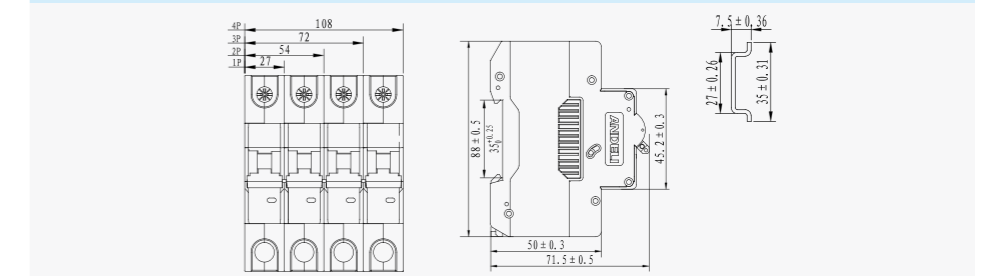
**■ Main parameters and technical performance**

Rated current In (A)	Poles	Rated voltage (V)	Ultimate breaking capacity <sub>cu</sub> (kA)	Operating breaking capacity <sub>ics</sub> (kA)	Release type	Rated impulse voltage(ms)
6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A	1P	250	10	7.5	DCB/ DCC/ DCK	6kV
		300	6	6		
	2P	500	10	7.5		
		600	6	6		
	3P	750	10	7.5		
		900	6	6		
	4P	1000	10	7.5		
		1200	6	6		

Mechanical life: 10000 times, Electric life: 1000 times, according to GT/T14048.2, IEC60947-2 standard.

**■ Outline and installation dimensions**

Figure 1



ADB3-63DC DC Miniature Circuit Breaker



ADB3-63DC 1P

**■ Application**

ADB3-63DC type DC circuit breaker are used for the line with DC rated voltage up to 1000V and rated currents up to 63A, for overload and short-circuit protection and infrequent operation.

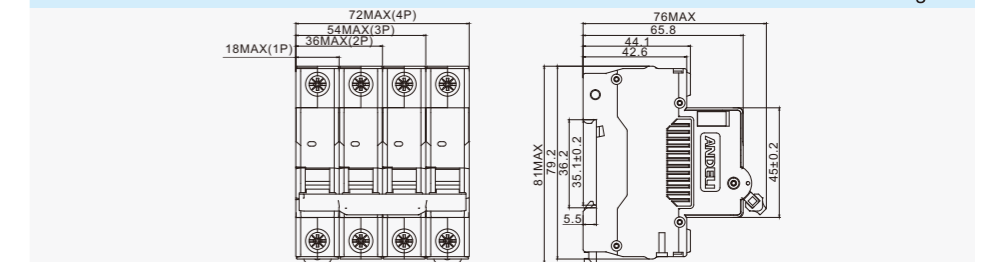
Standards: GB/T10963.2, IEC60898-2

**■ Main parameters and technical performance**

Rated current In (A)	Poles	Rated voltage (V)	Ultimate breaking capacity <sub>cu</sub> (kA)	Operating breaking capacity <sub>ics</sub> (kA)	Release type	Rated impulse voltage(ms)
1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A	1P	250	6	4.5	B/C/D	4kV
	2P	500	6	4.5		
	3P	750	6	4.5		
	4P	1000	6	4.5		

**■ Outline and installation dimensions**

Figure 1





ADL3 2P

**Application**

ADL3 type residual current circuit breaker is comply with the standard of IEC61008.It can cut off the fault circuit immediately on the occasion of shock hazard or earth leakage.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.

**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.



ADL3 4P

**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.

**Main parameters and technical performance**

Type	ADL3	
Pole	2P	4P
Rated current In(A)	10,16,25,32,40,63,80,100	10,16,25,32,40,63,80,100
Rated residual operating current I <sub>Δn</sub> (mA)	10,30,100,300	30,100,300
Rated residual non-operating current I <sub>Δno</sub> (mA)	0.5I <sub>Δn</sub>	
Rated voltage Un(V)	230(240),400(415)	
Tripping time	<0.1s	
Ambient temperature	-5°C~+40°C	
Vibration resistance	Minimum 5g 30min, 0~8Hz	

**Outline and installation dimensions**

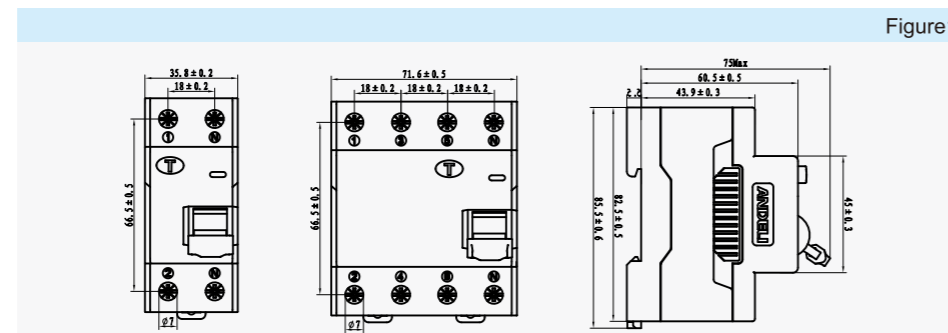


Figure1



ADC3-1811

**Application**

ADC3 series AC contactors (hereinafter referred to as contactors) are mainly used in circuits with a rated operating voltage of up to 690V at 50Hz/60Hz and a rated operating current of up to 95A at a rated operating voltage of 380V (or 400V) under the AC-3 use category, for remote switching and breaking of circuits, and can be combined with suitable thermal overload relays to form electromagnetic starters to protect The contactors are suitable for the frequent starting and control of AC motors.

ADC3 series contactors comply with IEC60947.4 and GB/T 14048.4 standards.

**Types and meaning**

AD	C	3	-	□	-	11
1	2	3	4	5		

- 1.Company code
- 2.AC Contactor
- 3.Design serial number
- 4.Basic specification code in 380V (or 400V), AC-3 in rated operating current values
- 5.Auxiliary contact:1NO+1NC

**Normal operating conditions and installation conditions**

- 3.1 Ambient air temperature: -5°C to +40°C, with an average value not exceeding +35°C over a 24-hour period.
- 3.2 Altitude: not more than 2000m.
- 3.3 Atmospheric conditions: Atmospheric relative humidity not exceeding 50% at +40°C, higher relative humidity at lower temperatures, monthly average minimum temperature not exceeding +25°C in the wettest month, monthly average maximum relative humidity not exceeding 90% in that month, and taking into account condensation on the product surface due to temperature changes.
- 3.4 Pollution class: Class 3.
- 3.5 Installation category: Class III.
- 3.6 Installation conditions: the inclination of the installation surface to the vertical surface is not greater than ±5°; 3.7 Shock and vibration: The product should be installed and used in a place free from significant shaking, shock and vibration.

**Main parameters and technical performance**

Table 1

Type		ADC3-06	ADC3-09	ADC3-12	ADC3-18	ADC3-25	ADC3-32	
Rated working current A	380V (400V)	AC-3	6	9	12	18	25	32
		AC-4	2.6	3.5	5	7.7	8.5	12
660V (690V)	AC-3	3.8	6.6	8.9	12	18	22	
	AC-4	1	1.5	2	3.8	4.4	7.5	
Rated thermal current A		16	20	20	25	32	40	
Max connection current A	380/400V	72	108	144	216	300	384	
	660/690V	60	90	120	180	250	320	
Max disconnection current A	380/400V	60	90	120	180	250	320	
	660/690V	48	72	96	144	200	256	
Controlled three-phase squirrel-cage motor power kW	220/230V	1.4	2.2	3	4	5.5	7.5	
	380/400V	2.2	4	5.5	7.5	11	15	
	660/690V	3	5.5	7.5	10	15	18.5	
Operating frequency times/hour	Electrical life	AC-3					1200	
		AC-4					300	
Mechanical life	3600 or 7200							
	Electrical life (10 <sup>4</sup> times)	AC-3					120	
	AC-4					25		
Mechanical life (10 <sup>4</sup> times)	1600					1000		
Type of fuse to be used	NT00-16	NT00-20	NT00-20	NT00-25	NT00-32	NT00-40		
Rate impulse withstand voltage kV	6							
Rated insulation voltage V	690							



ADC3-2511



ADC3-9511

Table 1 continued

Type		ADC3-38	ADC3-40	ADC3-50	ADC3-65	ADC3-80	ADC3-95	
Rated working current A	380V (400V)	AC-3	38	40	50	65	80	95
		AC-4	14	18.5	24	28	37	44
	660V (690V)	AC-3	22	34	39	42	49	49
		AC-4	8.9	9	12	14	17.3	21.3
Rated thermal current A		50	50	60	80	110	110	
Max connection current A	380/400V	456	480	600	780	960	1140	
	660/690V	380	400	500	650	800	950	
Max disconnection current A	380/400V	380	400	500	650	800	950	
	660/690V	304	320	400	520	640	760	
Controlled three-phase squirrel-cage motor power kW	220/230V	8.8	11	15	18.5	22	25	
	380/400V	18.5	18.5	22	30	37	45	
	660/690V	18.5	30	33	37	45	45	
Operating frequency times/hour	Electrical life	AC-3	600					
	AC-4	300						
Mechanical life		3600or7200						
Electrical life (10 <sup>4</sup> times)	AC-3	100					80	
	AC-4	25	20			13		
Mechanical life (10 <sup>4</sup> times)		1000	900			650		
Type of fuse to be used		NT00-50	NT00-50	NT00-63	NT00-80	NT00-100	NT00-125	
Rate impulse withstand voltage kV		6					8	
Rated insulation voltage V		690						

4.1 The protection type of the contactor is a "2" coordinated fit, the contactor should not be hazardous to people and equipment under short circuit conditions. The contacts should be welded but should be able to continue to be used.

4.2 Basic parameters for auxiliary contacts (see Table 2)

4.3 Contactor rated limit short circuit current (see table 3), "q" current is equal to "r" current.

4.4 Contactor coil working voltage Us is AC 24V, 36V, 48V, 110V, 127V, 220(230V), 380V(400V).

4.5 Operation characteristics: The suction voltage is 85%~110%Us; the release voltage is 20%~75%Us.

Table 2

Using category	Rated voltage V	Rated insulation voltage V	Rated thermal voltage A	Rated current A	Control capacity		Rated impulse withstand voltage kV	Fuse to be used
					Turn on	Off		
AC-15	380/400	690	10	0.95	3600VA	360VA	4	RT14-10
DC-13	220/230			0.15	33W	33W		

Table 3

AC-3 380/400V rated current Ie (A)	Expected current r (kA)	Power factor COSφ
Ie≤16	1	0.95
16<Ie≤63	3	0.90
63<Ie≤125	5	0.70

■ Structural features

5.1 Complete function, the whole series of products can have one normally open and one normally closed auxiliary function at the same time.

5.2 The contactors are characterised by small size, low power consumption, high life expectancy, safety and reliability.

5.3 Auxiliary contact sets, air delay heads, thermal relays and other accessories can be added in a modular installation to form a wide range of derivative products.

5.4 In addition to screw mounting, the contactors can also be mounted on 35mm and 75mm standard rails.

■ Outline and installation dimensions

Outline and installation dimensions see figure 1,figure,2 and table 4)

Figure 1 ADC3-06~38 series outline and installation dimensions

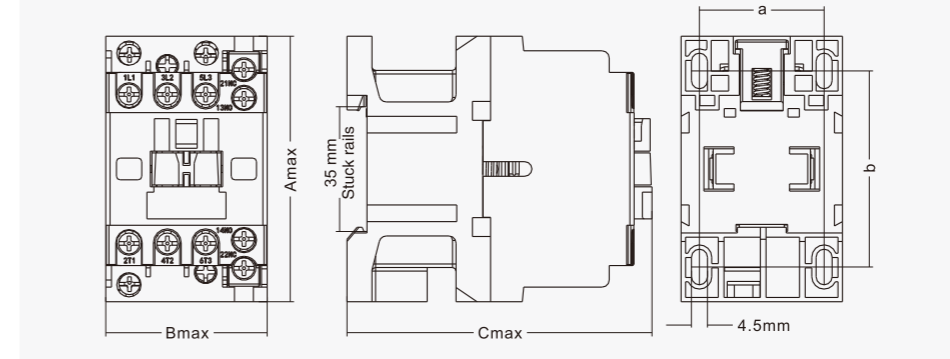


Figure 2 ADC3-40~95 series outline and installation dimensions

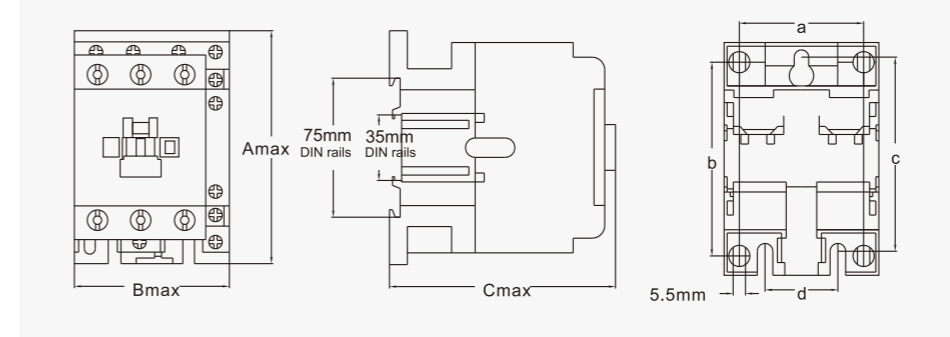


Table 4

Type	Amax	Bmax	Cmax	a	b	c	c
ADC3-06~18	74.5	45.5	86	35	50/60	-	-
ADC3-25~38	83	56.5	97	38/42	50/70	-	-
ADC3-40~65	127.5	74.5	117	59	100/110	105	40
ADC3-80~95	127.5	85.5	125.5	67	100/110	105	40

■ Installation,use and maintenance

6.1 Before installation, please recognize the company's trademark mark.

6.2 and shall check that the rated voltage, current, frequency and auxiliary contacts of the coil are in accordance with the design requirements.

6.3 When installing, it should be installed according to the specified installation conditions, the A1 symbol of the contactor coil terminals should face upwards, in line with human visual habits; the cross-sectional area of the wire connecting the main circuit should be in line with the size of the rated working current.

6.4 The wiring screws should be tightened, and after checking that the wiring is correct, the main contactor should be put into use only after the main contactor is not charged and the attractor coil is first energised and divided several times to test reliable operation.

6.5 If any abnormal noise is found during use, it may be due to dirt on the pole surface of the iron core, please wipe the pole surface.

6.6 In use, the parts of the product should be checked regularly, the movable part should not be stuck, the fasteners should not be loose, and the parts should be replaced in time if they are damaged.

■ Ordering Instructions

When ordering, it must be indicated that:

7.1 The complete type of the contactor.

7.2 The rated operating voltage and frequency of the coil.

7.3 Quantity to be ordered.

7.4 If standard rails are to be ordered, this should be indicated separately; example: ADC3 - 0611 Coil voltage 24V, 50Hz, 16 units.