Selection Guidance Manual

PEOPLE ELECTRIC
PRODUCT SALES MANUAL

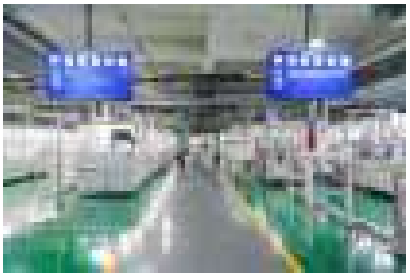
人民电器

Company Profile

As a wholly-owned enterprise of People Electric Appliance Group Co., Ltd. (hereinafter referred to as " People Electric") has been ranked among China's Top 500 Enterprises and China's Top 500 Machinery Enterprises for many years, and has won the National Quality Award and China Quality Prize Nomination Award.

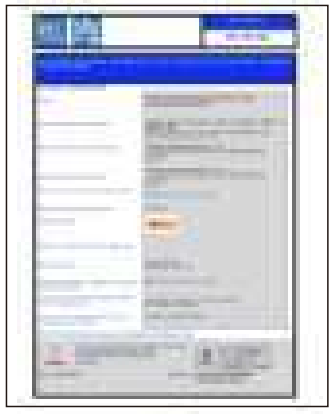
Factory automatic production line



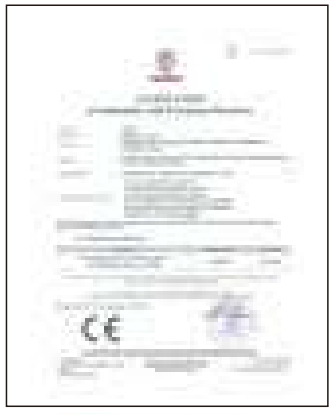



We are also the world's leading provider of system solutions for the whole industry chain of intelligent power equipment. As a customer-focused enterprise, we rely on the People 5.0 Platform Ecosystem and the smart grid ecosystem to develop efficient, reliable, technology-intensive high and low voltage smart electrical equipment, complete sets of smart electrical equipment, ultra-high voltage transformers, smart homes, green energy and other electrical equipment, so that the advantages of the whole industry chain integrating power generation, storage, transmission, transformation, distribution, sales and use can be formed, thus providing comprehensive system solutions for industries such as intelligent power grids, intelligent manufacturing, intelligent buildings, industrial systems, intelligent fire protection, and new energy.

Certificates

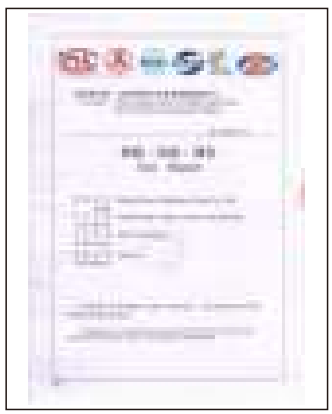












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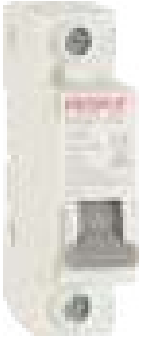
DZ47-63

Miniature Circuit Breaker



Application

DZ47-63 Miniature circuit breaker (MCB) is applicable to a circuit of AC50/60Hz, 230V/240V(1P), 400/415V (2, 3, 4P), for overload and short circuit protection.
Rated current up to 63A, it also can be used as a switch for an infrequent conversion line. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems.
It conforms to IEC/EN60898-1.

Model No.

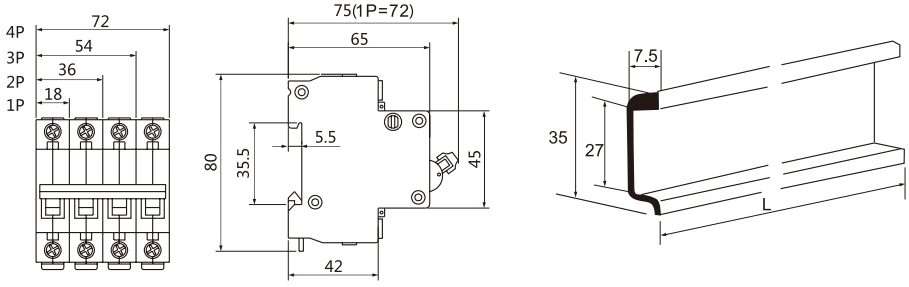
DZ 47 - 63

- 63 — Frame size rated current
- 47 — Design number
- DZ — Miniature circuit breaker

Technical specifications

Pole	1P,2P,3P,4P	
Rated voltage Ue(V)	220/380, 230/400, 240/415 (1P), 380,400,415(2, 3, 4P)	
Insulation voltage Ui(V)	500	
Rated frequency(Hz)	50/60	
Rated current In(A)	2,4,6,10,16,20,25,32,40,50,63A	
Type of instantaneous release	B,C,D	
Protective grade	IP 20	
Breaking capacity(A)	3000	4500
Mechanical life	8000 times	
Electrical life	4000 times	
Ambient temperature(℃)	-25~+40 (with daily average ⩽35)	
Terminal connection type	Cable/pin type busbar/ U type busbar	

Dimension(mm)



RDB5-63

Miniature Circuit Breaker

Application

RDB5-63 Miniature circuit breaker (MCB) is applicable to a circuit of AC50/60Hz, 230V/240V(1P), 400/415V (2, 3, 4P), for overload and short circuit protection.
Rated current up to 63A, it also can be used as a switch for an infrequent conversion line. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems.
It conforms to IEC/EN60898-1.

Model No.

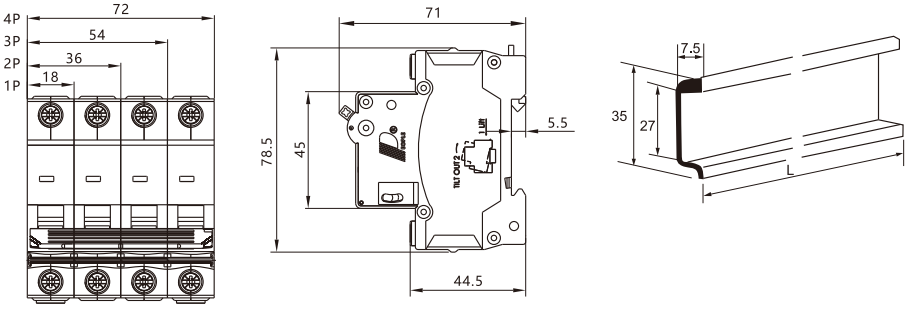
RD B 5 - 63

- Frame size rated current
- Design number
- Miniature circuit breaker
- Company code

Technical specifications

Pole	1P,2P,3P,4P	
Rated voltage Ue(V)	220/380, 230/400, 240/415 (1P), 380,400,415(2, 3, 4P)	
Insulation voltage Ui(V)	500	
Rated frequency(Hz)	50/60	
Rated current In(A)	2,4,6,10,16,20,25,32,40,50,63A	
Type of instantaneous release	B,C,D	
Protective grade	IP 20	
Breaking capacity(A)	4500	6000
Mechanical life	10000 times	
Electrical life	4000 times	
Ambient temperature(℃)	-25~+40 (with daily average ⩽35)	
Terminal connection type	Cable/pin type busbar/ U type busbar	

Dimension(mm)



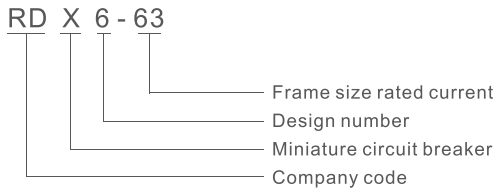
RDX6-63

Miniature Circuit Breaker

Application

RDX6-63 Miniature circuit breaker (MCB) is applicable to a circuit of AC50/60Hz, 230V/240V(1P), 400/415V (2, 3, 4P), for overload and short circuit protection.
Rated current up to 63A, it also can be used as a switch for an infrequent conversion line. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems.
It conforms to IEC/EN60898-1.

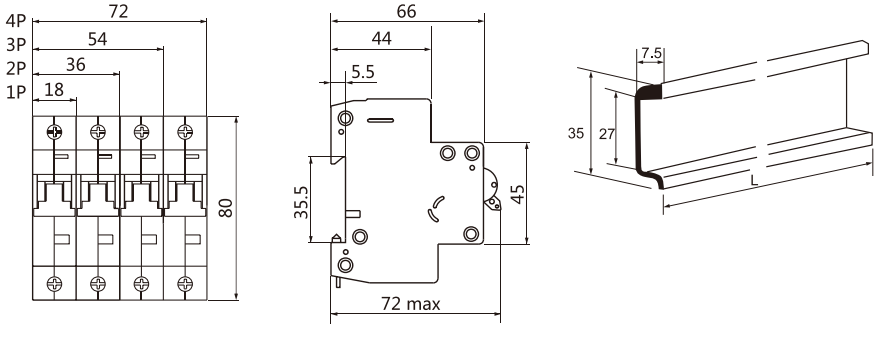
Model No.



Technical specifications

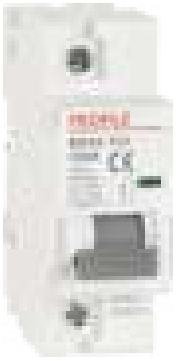
Pole	1P,2P,3P,4P	
Rated voltage Ue(V)	220/380, 230/400, 240/415 (1P), 380,400,415(2, 3, 4P)	
Insulation voltage Ui(V)	500	
Rated frequency(Hz)	50/60	
Rated current In(A)	2,4,6,10,16,20,25,32,40,50,63A	
Type of instantaneous release	B,C,D	
Protective grade	IP 20	
Breaking capacity(A)	Icn=10000, Ics=7500	6000
Mechanical life	10000 times	
Electrical life	4000 times	
Ambient temperature(℃)	-25~+40 (with daily average ⩽35)	
Terminal connection type	Cable, Pin type or U type busbar	

Dimension(mm)



RDX2-125

Miniature Circuit Breaker



Application

RDX2-125 miniature circuit breaker is applicable to a circuit of AC50/60Hz, 230V (single phase), 400V(2,3, 4 phases), for overload and short circuit protection.
Rated current up to 63A. It also can be used as a switch for an infrequent conversion line. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems. It conforms with the standard of IEC/EN60898-1.

Model No.

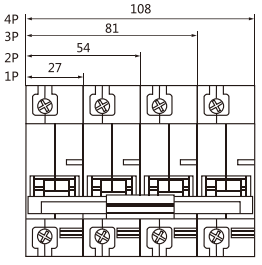
RD X 2 - 125

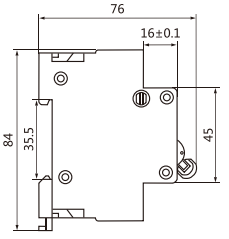
- 125 — Frame size rated current
- 2 — Design number
- X — Miniature circuit breaker
- RD — Company code

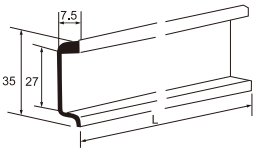
Technical specifications

Pole	1P,2P,3P,4P
Rated voltage Ue(V)	230/400~240/415
Insulation voltage Ui(V)	500
Rated frequency(Hz)	50/60
Rated current In(A)	63,80,100,125
Type of instantaneous release	8-12In
Protective grade	IP 20
Breaking capacity(A)	Icn=10000,Ics=7500
Rated impulse withstand voltage(1.2/50) Uimp(V)	4000
Mechanical life	8000 times
Electrical life	1500 times
Ambient temperature(℃)	-5~+40 (with daily average ⩽35)
Terminal connection type	Cable/Pin type busbar

Dimension(mm)







RDX30-32

Miniature Circuit Breaker

Application

RDX30-32 miniature circuit breaker(DPN) is applicable to a circuit of AC50/60Hz, 230V (single phase), for overload and short circuit protection.
Rated current up to 32A. It also can be used as a switch for an infrequent conversion line. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems. It conforms with the standard of IEC/EN60898-1.

Model No.

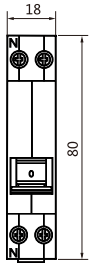
RD X 30 - 32

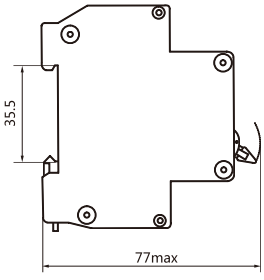
- 32 — Frame size rated current
- 30 — Design number
- X — Miniature circuit breaker
- RD — Company code

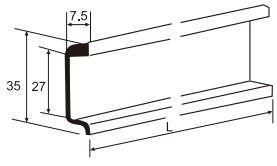
Technical specifications

Pole	1P+N
Rated voltage Ue(V)	230/400
Insulation voltage Ui(V)	500
Rated frequency(Hz)	50/60
Rated current In(A)	1,2,3,4,6,10,16,25,32A
Type of instantaneous release	B,C,D
Protective grade	IP 20
Breaking capacity(A)	4500
Mechanical life	10000 times
Electrical life	4000 times
Ambient temperature(℃)	-5~+40 (with daily average ⩽35)
Terminal connection type	Cable/Pin type busbar

Dimension(mm)







RDX6-40

Miniature Circuit Breaker

Application

RDX6-40 miniature circuit breaker(DPN) is applicable to a circuit of AC50/60Hz, 230V (single phase), for overload and short circuit protection.
Rated current up to 40A. It also can be used as a switch for an infrequent conversion line. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems. It conforms with the standard of IEC/EN60898-1.

Model No.

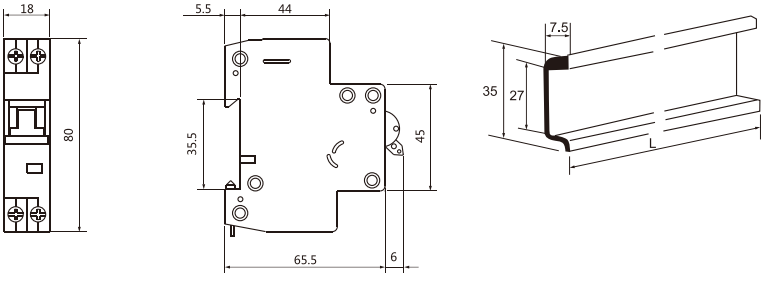
RD X 6 - 40

- 40 — Frame size rated current
- 6 — Design number
- X — Miniature circuit breaker
- RD — Company code

Technical specifications

Pole	1P+N
Rated voltage Ue(V)	230/400
Insulation voltage Ui(V)	500
Rated frequency(Hz)	50/60
Rated current In(A)	1,2,3,4,6,10,16,25,32,40A
Type of instantaneous release	B,C,D
Protective grade	IP 20
Breaking capacity(A)	6000
Electrical life	8000 times
Mechanical life	20000 times
Ambient temperature(℃)	-5~+40 (with daily average ⩽35)
Terminal connection type	Cable/Pin type busbar / U type busbar

Dimension(mm)



RDX65-40

Miniature Circuit Breaker

Application

RDX30N-32 (RDX65-40) miniature circuit breaker(DPN) is applicable to a circuit of AC50/60Hz, 230V (single phase), for overload and short circuit protection.
Rated current up to 40A. It also can be used as a switch for an infrequent conversion line. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems. It conforms with the standard of IEC/EN60898-1.

Model No.

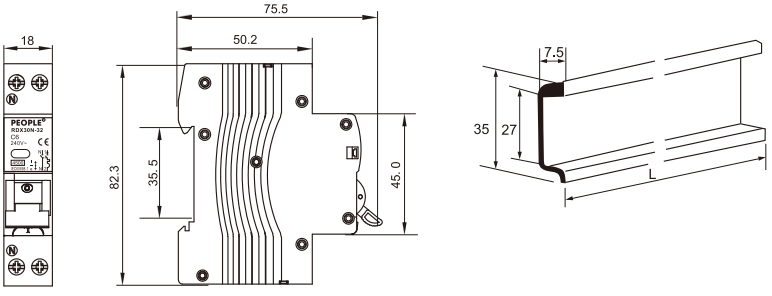
RD X 65 - 40

- 40 — Frame size rated current
- 65 — Design number
- X — Miniature circuit breaker
- RD — Company code

Technical specifications

Pole	1P+N
Rated voltage Ue(V)	230/400
Insulation voltage Ui(V)	500
Rated frequency(Hz)	50/60
Rated current In(A)	1,2,3,4,6,10,16,25,32,40A
Type of instantaneous release	B,C,D
Protective grade	IP 20
Breaking capacity(A)	4500
Mechanical life	20000 times
Electrical life	8000 times
Ambient temperature(℃)	-5~+40 (with daily average ⩽35)
Terminal connection type	Cable/Pin type busbar / U type busbar

Dimension(mm)



RDL6-40(RCBO)

Residual Current Circuit Breaker

Application

RDL6-40 residual current circuit breaker with overload protection is applicable to a circuit of AC50/60Hz, 230V (single phase), for overload, short circuit and residual current protection.
Electromagnetic type RCD.
Rated current up to 40A. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems.It conforms with the standard of IEC/EN61009.

Model No.

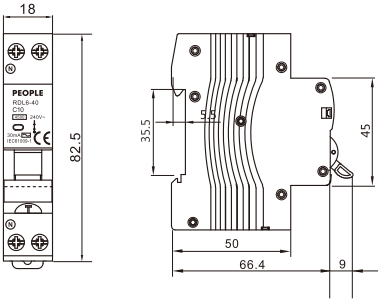
RD L 6 - 40

- Frame size rated current
- Design number
- Residual current circuit breaker
- Company code

Technical specifications

Standard	IEC/EN 61009
Type(wave form of the earth leakage sensed)	AC,A
Thermo-magnetic release characteristic	B,C
Rated current In	6,10,16,20,25,32,40A
Poles	1P+N
Rated voltage Ue	230/400-240/415V
Rated sensitivity I△n	0.03,0.1,0.3A
Rated short-circuit capacity Icn	4500A
Break time under I△n	≤0.1s
Electrical life	2000 times
Mechanical life	2000 times
Mounting	On DIN rail EN60715(35mm)by means of fast clip device
Terminal connection type	Cable/pin type busbar/ U type busbar

Dimension(mm)



RDL8-40(RCBO)

Residual Current Circuit Breaker

Application

RDL8-40 residual current circuit breaker with over-current protection is applicable to a circuit of AC50/60Hz, 230V (single phase), 400V (three phases), for overload, short circuit and residual current protection.
Electromagnetic type RCD.
Rated current up to 40A. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems.It conforms with the standard of IEC/EN61009.

Model No.

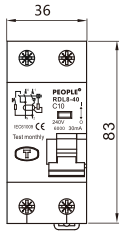
RD L 8 - 40

- 40 — Frame size rated current
- 8 — Design number
- L — Residual current circuit breaker
- RD — Company code

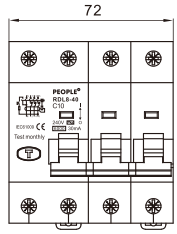
Technical specifications

Standard	IEC/EN 61009
Type(wave form of the earth leakage sensed)	AC,A
Thermo-magnetic release characteristic	B,C
Rated current In	6,10,16,20,25,32,40A
Poles	1P+N,3P+N
Rated voltage Ue	230/400-240/415V
Rated sensitivity I△n	0.03,0.1,0.3A
Rated short-circuit capacity Icn	6000A
Break time under I△n	⩽0.1s
Electrical life	2000 times
Mechanical life	10000 times
Mounting	On DIN rail EN60715(35mm)by means of fast clip device
Terminal connection type	Cable/pin type busbar/ U type busbar

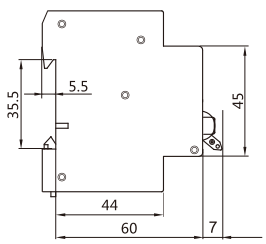
Dimension(mm)



(1P+N)



(3P+N)



RDL9-40(RCBO)

Residual Current Circuit Breaker

Application

RDL9-40 residual current circuit breaker with over-current protection is applicable to a circuit of AC50/60Hz, 230V (single phase), for overload, short circuit and residual current protection.
Electromagnetic type RCD.
Rated current up to 40A. It is mainly used in domestic installation, as well as in commercial and industrial electrical distribution systems.It conforms with the standard of IEC/EN61009.

Model No.

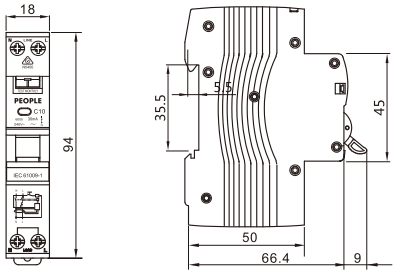
RD L 6 - 40

- 40 — Frame size rated current
- 6 — Design number
- L — Residual current circuit breaker
- RD — Company code

Technical specifications

Standard	IEC/EN 61009
Type(wave form of the earth leakage sensed)	AC,A
Thermo-magnetic release characteristic	B,C
Rated current In	6,10,16,20,25,32,40A
Poles	1P+N
Rated voltage Ue	230/400-240/415V
Rated sensitivity I△n	0.03,0.1,0.3A
Rated short-circuit capacity Icn	6000A
Break time under I△n	⩽0.1s
Electrical life	2000 times
Mechanical life	2000 times
Mounting	On DIN rail EN60715(35mm)by means of fast clip device
Terminal connection type	Cable/pin type busbar/ U type busbar

Dimension(mm)



DZ47LE-63(RCBO)

Residual Current Circuit Breaker

Application

The DZ47LE-63 RCBO is designed to ensure the protection of low-voltage electrical applications up to 63A
Line protection against earthleakage, overload and short-circuits
1P+N, 2P, 3P, 3P+N, 4P breakers with rating current from 2A to 63A
DIN-35 rail type mounting in the distribution board or cabinet
Electronic type RCD
Comply with IEC61009

Model No.

DZ 47 LE - □/□□

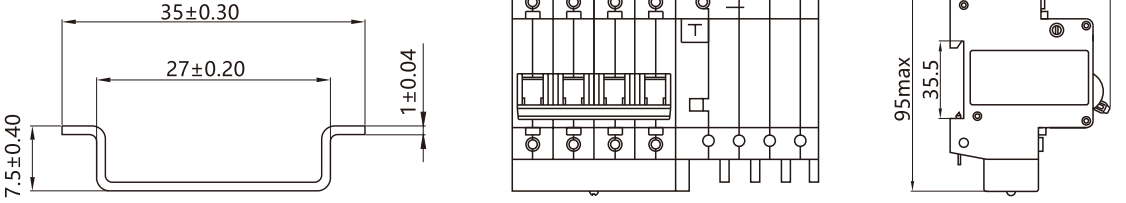
- N: with non-breakable Neutral
- Poles
- Rated frame current (A)
- Electronic type RCBO
- Design number
- Miniature circuit breaker

Specification

	Standard	IEC/EN 61009
Electrical features	Thermo-magnetic release characteristic	C, D
	Rated current In	6, 10, 16, 20, 25, 32, 40, 50, 63A
	Poles	1P+N,2P,3P,3P+N,4P
	Rated voltage Ue	230/400V
	Rated sensitivity I△n	0.03, 0.1, 0.3A
	Rated residual making and breaking capacity I△m	500A
	Rated short-circuit capacity Icn	4.500/6,000A
	Break time under I△n	≤0.1s
	Rated frequency	50/60Hz
	Rated impulse withstand voltage Uimp	4,000V
	Dielectric TEST voltage at ind. Freq. for 1min	2kV
	Insulation voltage Ui	500
	Pollution degree	2

	Standard		IEC/EN 61009
Mechanical features	Electrical life		4,000
	Mechanical life		10,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature(with daily average≤35℃)	℃	-5~+40
	Storage temperature	℃	-25~+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top for cable	mm²	25
	Terminal size top for busbar	mm²	25
	Tightening torque	N*m	2
		In-lbs	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top

Overall and Mounting Dimensions (mm)



	A	B	C	D	1P+N	2P	3P	3P+N	4P
DZ47LE-32	39	30	21	6	18+27	36+27	54+36	54+45	72+45
DZ47LE-63	56	42	28	8	18+36	36+36	54+50	54+64	72+64

RDB5LE-63(RCBO)

Residual Current Circuit Breaker

Application

The RDB5LE-63 RCBO is designed to ensure the protection of low-voltage electrical applications up to 63A rated voltage 230/400V, AC 50/60Hz
Line protection against earthleakage, overload and short-circuits
Electronic type RCD
Rated short-circuit breaking capacity Icn= 6kA
With indication window
Sensitivity range: 30mA, 100mA , 300mA
Comply with IEC61009/GB16917.1

Model No.

RD B5 LE - 63(G/Q/GQ)/□□

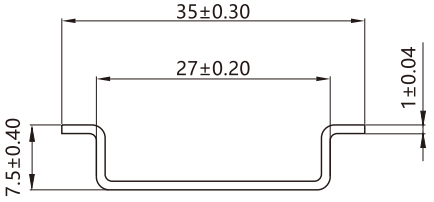
- N: with non-breakable Neutral
- Poles
- Protection against over/under/over&under voltage (option)
- Rated frame current (A)
- Electronic type RCBO
- Design number
- Miniature circuit breaker

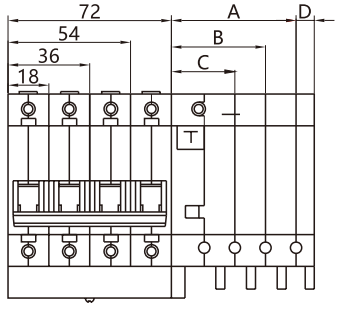
Specification

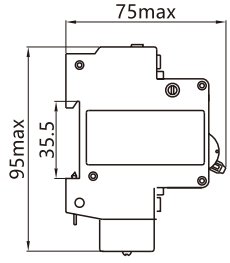
	Standard	IEC/EN 61009
Electrical features	Thermo-magnetic release characteristic	C, D
	Rated current In	6, 10, 16, 20, 25, 32, 40, 50, 63A
	Poles	1P+N,2P,3P,3P+N,4P
	Rated voltage Ue	230/400V
	Rated sensitivity I△n	0.03, 0.1, 0.3A
	Rated residual making and breaking capacity I△m	2000A
	Rated short-circuit capacity Icn	6,000A
	Break time under I△n	≤0.1s
	Rated frequency	50/60Hz
	Rated impulse withstand voltage Uimp	4,000V
	Dielectric TEST voltage at ind. Freq. for 1min	2kV
	Insulation voltage Ui	600
	Pollution degree	2

	Standard		IEC/EN 61009
Mechanical features	Electrical life		4,000
	Mechanical life		10,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature(with daily average≤35℃)	℃	-5~+40
	Storage temperature	℃	-25~+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top for cable	mm²	25
	Terminal size top for busbar	mm²	25
	Tightening torque	N*m	2
		In-lbs	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top

Overall and Mounting Dimensions (mm)







	A	B	C	D	1P+N	2P	3P	3P+N	4P
RDB5LE-63	55	42	28	8	18+36	36+36	54+50	54+63	72+63

RDX6LE-63(RCBO)

Residual Current Circuit Breaker

Application

The RDX6LE-63 RCBO is designed to ensure the protection of low-voltage electrical applications up to 63A
rated voltage 230/400V, AC 50/60Hz
Line protection against earthleakage, overload and short-circuits
Electronic type RCD
Rated short-circuit breaking capacity Icn= 10kA
With indication window
Sensitivity range: 30mA, 100mA , 300mA
Comply with IEC61009/GB16917.1

Model No.

RD X 6 LE - 63

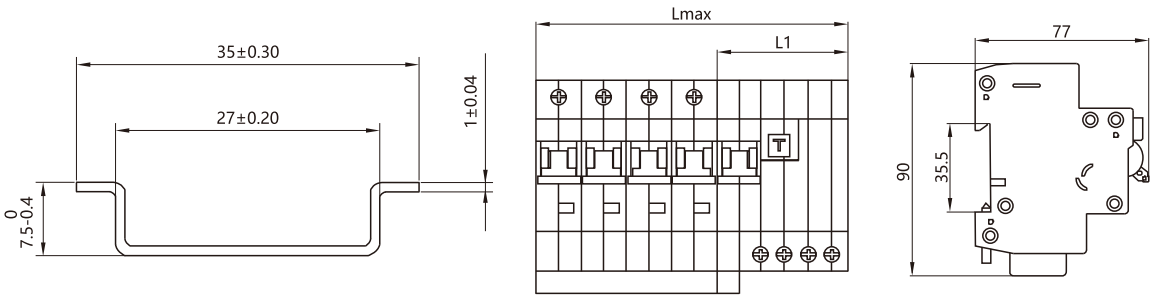
- 63 — Rated frame current (A)
- LE — Electronic type RCBO
- 6 — Design number
- X — Miniature circuit breaker
- RD — People electric

Specification

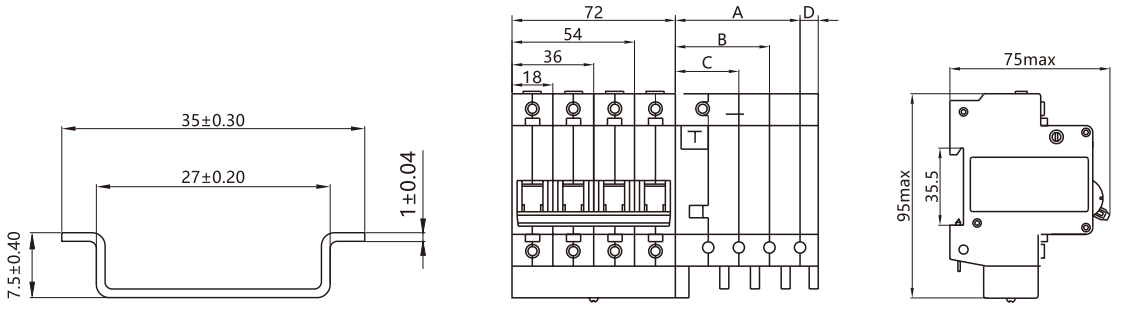
	Standard	IEC/EN 61009
Electrical features	Thermo-magnetic release characteristic	C, D
	Rated current In	6, 10, 16, 20, 25, 32, 40, 50, 63A
	Poles	1P+N,2P,3P,3P+N,4P
	Rated voltage Ue	230/400V
	Rated sensitivity I△n	0.03, 0.1, 0.3A
	Rated residual making and breaking capacity I△m	2,000A
	Rated short-circuit capacity Icn	10,000
	Break time under I△n	⩽0.1s
	Rated frequency	50/60Hz
	Rated impulse withstand voltage Uimp	4,000V
	Dielectric TEST voltage at ind. Freq. for 1min	2kV
	Insulation voltage Ui	600
	Pollution degree	2

	Standard		IEC/EN 61009
Mechanical features	Electrical life		6,000
	Mechanical life		20,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature(with daily average≤35℃)	℃	-5~+40
	Storage temperature	℃	-25~+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top for cable	mm²	25
	Terminal size top for busbar	mm²	25
	Tightening torque	N*m	2
		In-lbs	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top

Overall and Mounting Dimensions (mm)



	1P+N	2P	3P	3P+N	4P
L1	36±0.5	36±0.5	46.5±0.5	60±0.5	60±0.5
Lmax	54	72	102	124	132



RDX30LE-32(RCBO)

Residual Current Circuit Breaker

Application

The RDX30LE-32 RCBO is designed to ensure the protection of low-voltage electrical applications up to 32A
rated voltage 220/230V, AC 50/60Hz
Line protection against earthleakage, overload and short-circuits
DPN-VIGI, Electronic type RCD
Rated short-circuit breaking capacity Icn=4.5kA
With indication window
Sensitivity range: 30mA
Comply with IEC61009-1 / GB16917.1

Model No.

RD X 30 LE - 32

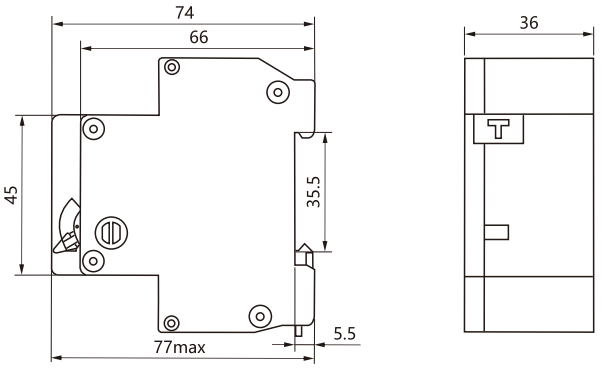
- 32 — Rated frame current (A)
- LE — Electronic type RCBO
- 30 — Design number
- X — Miniature circuit breaker
- RD — People electric

Specification

	Standard	IEC/EN 61009
Electrical features	Thermo-magnetic release characteristic	C, D
	Rated current In	4,6, 10, 16, 20, 25, 32A
	Poles	1P+N
	Rated voltage Ue	230/400V
	Rated sensitivity I△n	0.03
	Rated residual making and breaking capacity I△m	1,500A
	Rated short-circuit capacity Icn	45,000
	Break time under I△n	⩽0.1s
	Rated frequency	50/60Hz
	Rated impulse withstand voltage Uimp	4,000V
	Dielectric TEST voltage at ind. Freq. for 1min	2kV
	Insulation voltage Ui	600
	Pollution degree	2

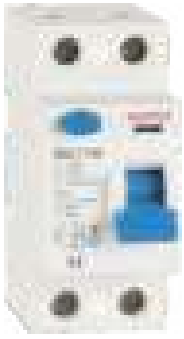
	Standard		IEC/EN 61009
Mechanical features	Electrical life		4,000
	Mechanical life		6,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature(with daily average≤35℃)	℃	-5~+40
	Storage temperature	℃	-25~+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top for cable	mm²	25
	Terminal size top for busbar	mm²	25
	Tightening torque	N*m	2
		In-lbs	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top

Overall and Mounting Dimensions (mm)



RDL7-100

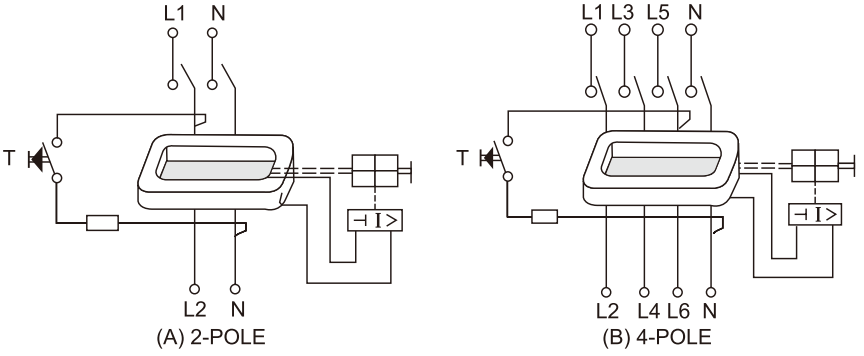
Residual Current Circuit Breaker



Application

The item is in comply with standard of IEC61008-1,applying to the circuit of AC 50/60Hz,230V single phase,400V three phases or below it for industrial and mining enterprise, trade building, commerce and family. It is mainly used for preventing electric fire and personal casual accident caused by personal electric shock or leakage of electrified wire net. This is a current operated fast leakage protector of pure electromagnetic type, which can break off fault circuit rapidly in order to avoid occurrence of accident. The Item Is precise in structure, less elements, without auxiliary power and high working reliability. The function of the switch won't be influenced by ambient temperature and lightning. The mutual inductor of the item is used to test vector differential value of passing current, and produces a relevant output power and add it to the tripper In secondary winding, If the current of vector differential value of protected circuit of personal electric shock is up to or over leakage operating current, the tripper will act and cut off so that the Item will take effect of protection.

Working Principle

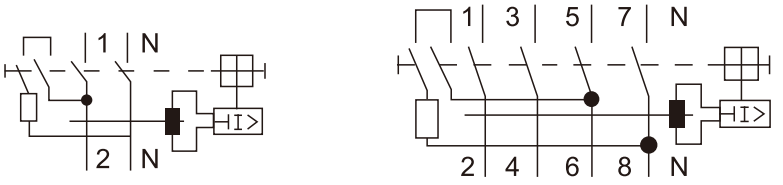


Specification

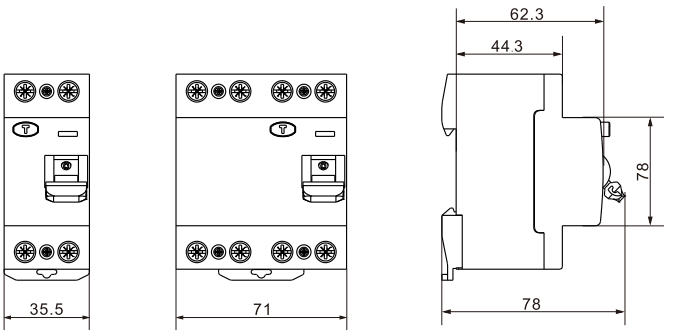
	Standard	IEC/EN 61008
Electrical features	Mode	Electro-magnetic type, electronic type
	Type(wave form of the earth leakage sensed)	A,AC
	Rated current In	16,25,32,40,63,80,100A
	Poles	2P,4P
	Rated voltage Ue	AC 230/400V
	Rated sensitivity I△n	0.01,0.03,0.1,0.3,0.5A
	Insulation voltage Ui	500V
	Rated residual making and breaking capacity I△m	1000A
	Short-circuit current I△c	6000A
	SCPD fuse	6000A
	Rated frequency	50/60Hz
	Pollution degree	2

	Standard		IEC/EN 61009
Mechanical features	Electrical life		4,000
	Mechanical life		10,000
	Protection degree		IP20
	Ambient temperature(with daily average≤35℃)	℃	-25~+40
	Storage temperature	℃	-25~+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top for cable	mm²	35
		AWG	18-3
	Terminal size top for busbar	mm²	35
		AWG	18-3
	Tightening torque	N*m	2
		In-lbs	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top and bottom

Wiring Diagram



Overall and Mounting Dimensions (mm)



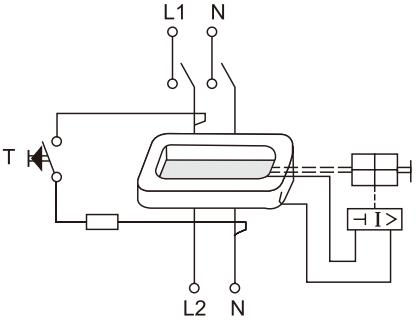
PID-125

Residual Current Circuit Breaker

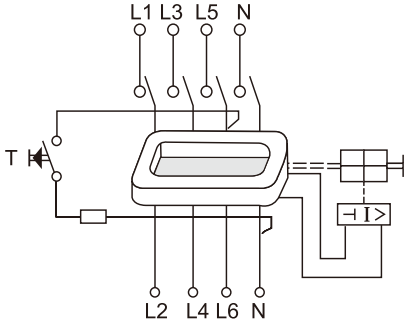
Application

The items is in comply with standard of IEC61008-1,applying to the circuit of AC 50/60Hz,230V single phase,400V three phases or below it for industrial and mining enterprise, trade building, commerce and family. It is mainly used for preventing electric fire and personal casual accident caused by personal electric shock or leakage of electrified wire net, this is a current operated, fast leakage protector of pure electromagnetic type, which can break off fault circuit rapidly in order to avoid occurrence of accident. The item is precise in structure, less elements, without auxiliary power and high working reliability. The function of the switch won't be influenced by ambient temperature and lightning. The mutual inductor of the item is used to test vector differential value of passing current, and produces a relevant output power and add it to the tripper in secondary winding, if the current of vector differential value of protected circuit of personal electric shock is up to or over leakage operating current, the tripper will act and cut off so that the item will take effect of protection.

Working Principle



(A) 2-POLE



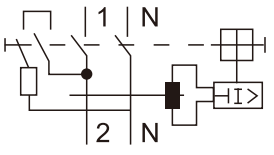
(B) 4-POLE

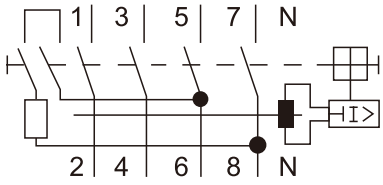
Specification

	Standard	IEC/EN 61008
Electrical features	Mode	Electro-magnetic type, electronic type
	Type(wave form of the earth leakage sensed)	A,AC
	Rated current In	16,25,32,40,63,80,100,125A
	Poles	2P,4P
	Rated voltage Ue	AC 230/400V
	Rated sensitivity I△n	0.01,0.03,0.1,0.3,0.5A
	Insulation voltage Ui	500V
	Rated residual making and breaking capacity I□ m	1250A
	Short-circuit current I□ c	6000A
	SCPD fuse	6000A
	Rated frequency	50/60Hz
	Pollution degree	2

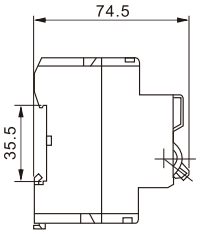
	Standard		IEC/EN 61009
Mechanical features	Electrical life		4,000
	Mechanical life		10,000
	Protection degree		IP20
	Ambient temperature(with daily average≤35℃)	℃	-25~+40
	Storage temperature	℃	-25~+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top for cable	mm²	35
		AWG	18-3
	Terminal size top for busbar	mm²	35
		AWG	18-3
	Tightening torque	N*m	2.5
		In-lbs	22
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top and bottom

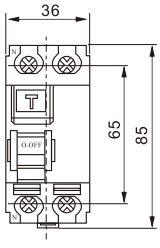
Wiring Diagram

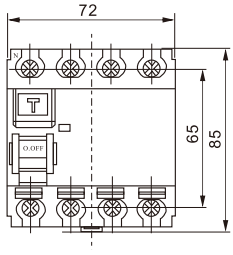




Overall and Mounting Dimensions (mm)







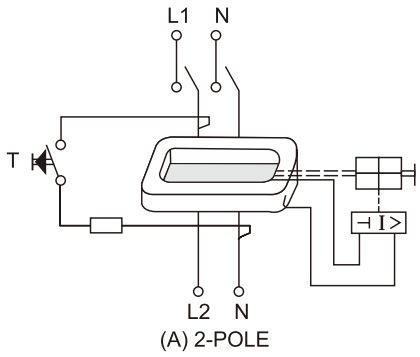
PID-125N

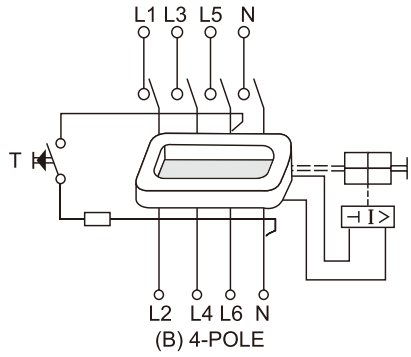
Residual Current Circuit Breaker

Application

The items is in comply with standard of IEC61008-1,applying to the circuit of AC 50/60Hz,230V single phase,400V three phases or below it for industrial and mining enterprise, trade building, commerce and family. It is mainly used for preventing electric fire and personal casual accident caused by personal electric shock or leakage of electrified wire net, this is a current operated, fast leakage protector of pure electromagnetic type, which can break off fault circuit rapidly in order to avoid occurrence of accident. The item is precise in structure, less elements, without auxiliary power and high working reliability. The function of the switch won't be influenced by ambient temperature and lightning. The mutual inductor of the item is used to test vector differential value of passing current, and produces a relevant output power and add it to the tripper in secondary winding, if the current of vector differential value of protected circuit of personal electric shock is up to or over leakage operating current, the tripper will act and cut off so that the item will take effect of protection.

Working Principle



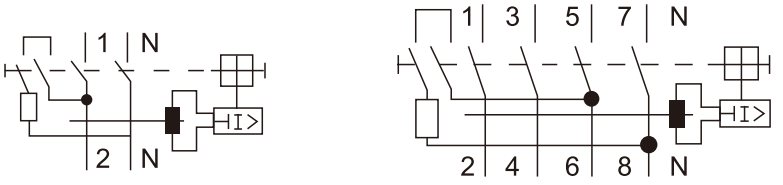


Specification

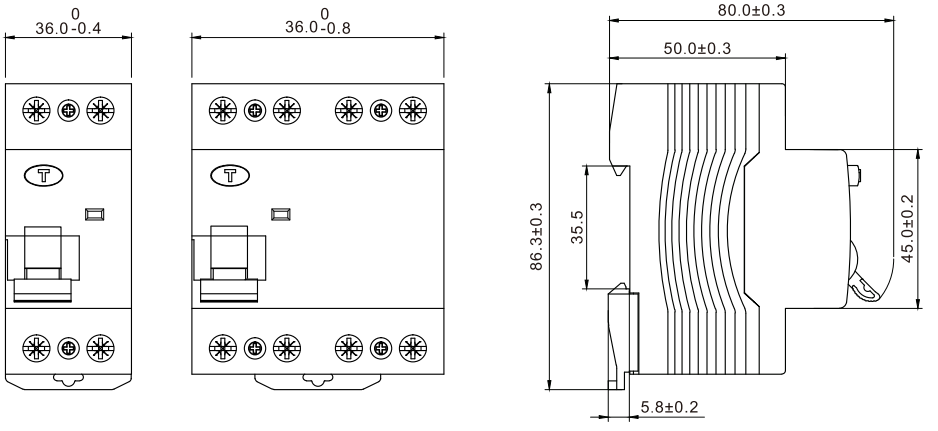
	Standard	IEC/EN 61008
Electrical features	Mode	Electro-magnetic type, electronic type
	Type(wave form of the earth leakage sensed)	A,AC
	Rated current In	16,25,32,40,63,80,100,125A
	Poles	2P,4P
	Rated voltage Ue	AC 230/400V
	Rated sensitivity I□ n	0.01,0.03,0.1,0.3,0.5A
	Insulation voltage Ui	500V
	Rated residual making and breaking capacity I□ m	1250A
	Short-circuit current I□ c	10000A
	SCPD fuse	10000A
	Rated frequency	50/60Hz
	Pollution degree	2

	Standard		IEC/EN 61009
Mechanical features	Electrical life		4,000
	Mechanical life		10,000
	Protection degree		IP20
	Ambient temperature(with daily average≤35℃)	℃	-25~+40
	Storage temperature	℃	-25~+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top for cable	mm²	35
		AWG	18-3
	Terminal size top for busbar	mm²	35
		AWG	18-3
	Tightening torque	N*m	2.5
		In-lbs	22
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top and bottom

Wiring Diagram



Overall and Mounting Dimensions (mm)



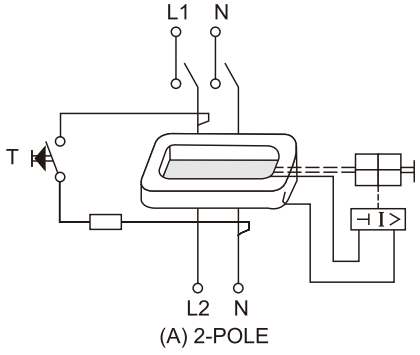
PF360

Residual Current Circuit Breaker

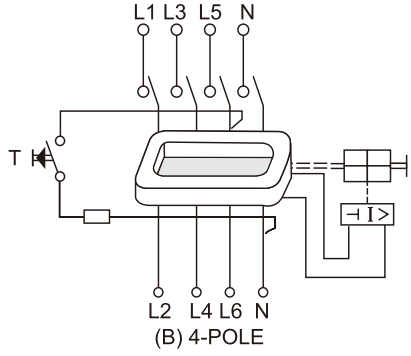
Application

The items is in comply with standard of IEC61008-1,applying to the circuit of AC 50/60Hz,230V single phase,400V three phases or below it for industrial and mining enterprise, trade building, commerce and family. It is mainly used for preventing electric fire and personal casual accident caused by personal electric shock or leakage of electrified wire net, this is a current operated, fast leakage protector of pure electromagnetic type, which can break off fault circuit rapidly in order to avoid occurrence of accident. The item is precise in structure, less elements, without auxiliary power and high working reliability. The function of the switch won't be influenced by ambient temperature and lightning. The mutual inductor of the item is used to test vector differential value of passing current, and produces a relevant output power and add it to the tripper in secondary winding, if the current of vector differential value of protected circuit of personal electric shock is up to or over leakage operating current, the tripper will act and cut off so that the item will take effect of protection.

Working Principle



(A) 2-POLE



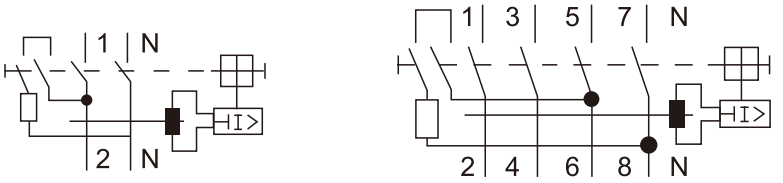
(B) 4-POLE

Specification

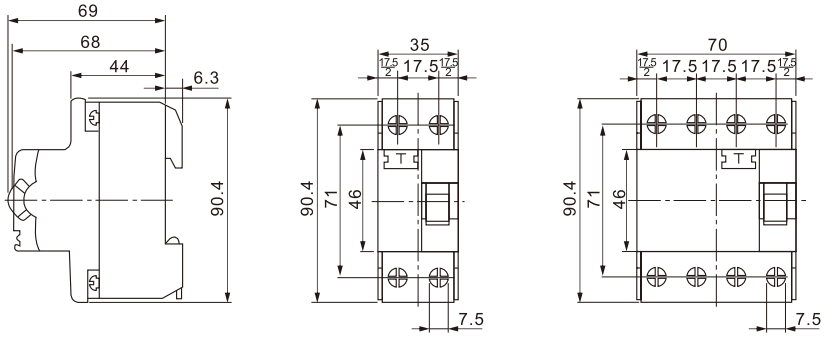
	Standard	IEC/EN 61008
Electrical features	Mode	Electro-magnetic type, electronic type
	Type(wave form of the earth leakage sensed)	A,AC
	Rated current In	16,25,32,40,63A
	Poles	2P,4P
	Rated voltage Ue	AC 230/400V
	Rated sensitivity I△n	0.01,0.03,0.1,0.3,0.5A
	Insulation voltage Ui	500V
	Rated residual making and breaking capacity I△m	630A
	Short-circuit current I△c	6000A
	SCPD fuse	6000A
	Rated frequency	50/60Hz
	Pollution degree	2

	Standard		IEC/EN 61009
Mechanical features	Electrical life		4,000
	Mechanical life		10,000
	Protection degree		IP20
	Ambient temperature(with daily average≤35℃)	℃	-25~+40
	Storage temperature	℃	-25~+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top for cable	mm²	35
		AWG	18-3
	Terminal size top for busbar	mm²	35
		AWG	18-3
	Tightening torque	N*m	2.5
		In-lbs	22
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top and bottom

Wiring Diagram

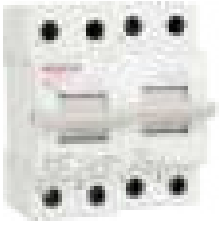


Overall and Mounting Dimensions (mm)



PHSF

Changeover Switch



Application

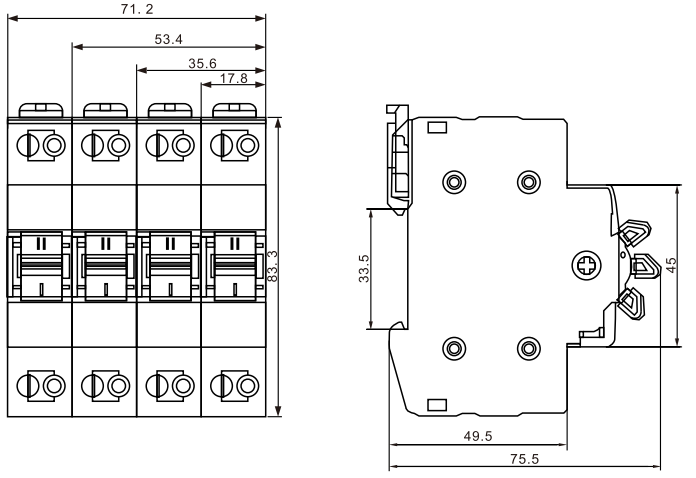
PHSF Series changeover switch is applicable for the circuits with 240/415VAC, rated current up to 125A, it can switch on, load and break the circuit under normal conditions, it can be also used as switch disconnector.

Specification

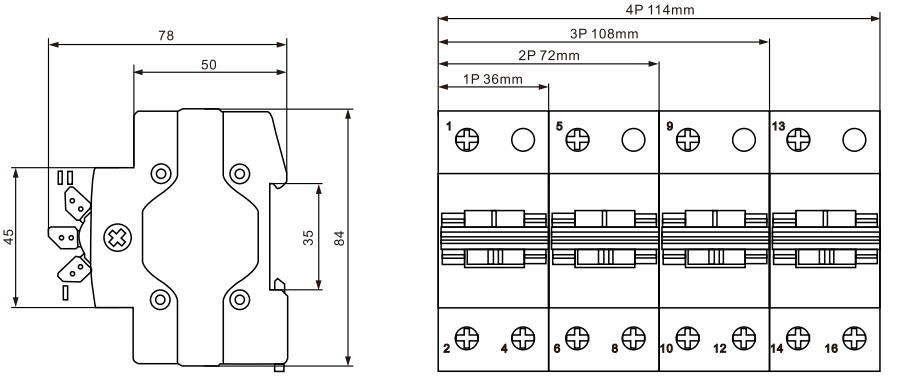
		PHSF-40	PHSF-125
Electrical features	Rated voltage	240~415V~	
	Rated current	16, 25, 32, 40A	63, 80, 100, 125A
	Rated frequency	50/60Hz	
	Poles	1, 2, 3, 4P	
	Contact forms	1-0-2	
	Electrical life	1500 cycles	
	Mechanical life	8500 cycles	
	Protection degree	Ip20	
	Ambient temperature	-25℃~+40℃	
	Terminal/cable size	16mm²	
	Mounting	On DIN rail EN60715(35mm) by means of fast clip device	

Overall dimension

PHSF-40

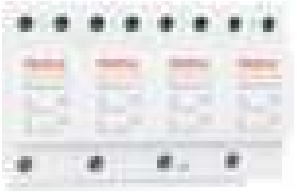


PHSF-125



RDU5

Surge Protection Device



Grade I protection

Grade II protection

Description

RDU5 Series SPD is mainly used for TN-C, TN-S, TT, IT and other power supply systems with AC50Hz/60Hz, nominal discharge current of 5kA~60kA, max. discharge current 10kA~100kA, rated operating voltage 220V/380V and below, has the limit protection on the grid lightning overvoltage and surge overvoltage.

Selection guidance

RDU5	A	15	2P	UC420
Code	Protection grade	Max. discharge current	Poles	Maximum sustainable operating voltage
Surge protection Device	A: Grade I B: Grade II	A: 15、25 、50 B: 10、20、40、60、80、100	1P 2P 3P 4P	UC420

Technical characteristics

☐ RDU5 Series SPD uses a very good nonlinear pistristor, connected between the phase line and zero line (L-N), phase line and ground line (L-PE), zero line and ground line (N-PE). Under the normal state, the SPD is in a very high resistance state, and the leakage current is almost zero, to ensure the normal power supply of the power supply system, When the overvoltage of the above situation occurs, the surge protector immediately conducts it quickly in the nanosecond level time, to limit the amplitude of the overvoltage in the safe working range of the equipment, and leading the energy of overvoltage into the ground, so as to protect the equipments. Afterward, the SPD is quickly changed to high resistance state, therefore, the normal power supply of the power supply system is not affected.

☐ The primary lightning protection device is a composite lightning protection device designed according to the requirements of SPD level I classification test, which can be used for the first and second level protection of the load equipment of the power lines, to prevent the low-voltage equipment from overvoltage interference or even direct lightning damage, and is applied to the lightning protection zone LPZ0A-2 interface.

☐ Switch-type composite lightning protection device is designed and manufactured according to IEC61643-1 and GB/T 18802.1 standards, with a high lightning flow and discharge capacity, a single module impact current up to 25KA (s). It can be widely used in the first stage of lightning protection of the equipment system in areas with high lightning risk, and can be combined for single / three-phase power supply lines.

☐ With internal wiring, the overall structure is compact, convenient installation wiring.

☐ High-speed response, fast action time.

☐ Working status is obvious, green (normal), red (Fault).

☐ Additional functions, such as acoustic and optical alarm (B), fault remote contact (X).

SURGE PROTECTION DEVICE

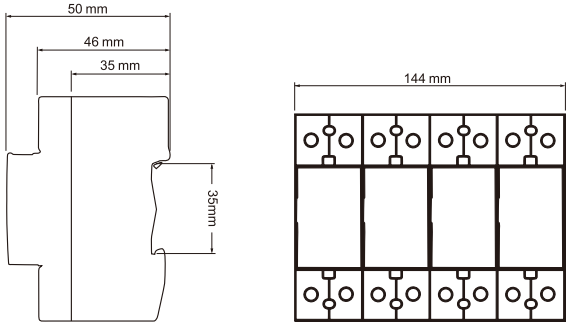
Main technical parameter

T1 Grade testing					
Model No. and specification	Maximum continuous operating voltage UC	Lightning impulse current limp (10/350μs)	Protection level up(kV)	Responding time ns	Working environment temperature °C
RDU5-A15	420V	15	2.0	⩽100	-40℃ ~ +85℃
RDU5-A25		25	2.5		
RDU5-A50		50	2.5		

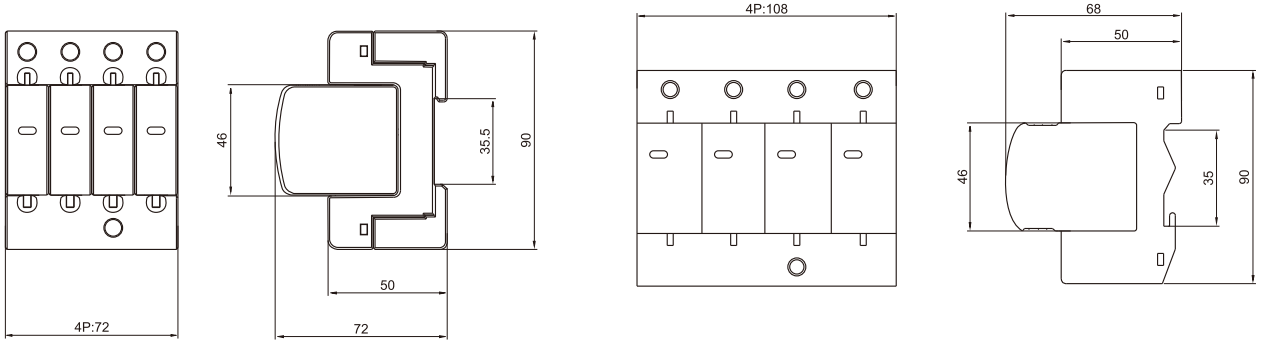
T2 Grade testing							
Model No. and specification	Rated working voltage	Maximum continuous operating voltage UC	Protection level up(kV)	Max. discharge current Imax(KA)	Norminal current In(KA)	Responding time ns	Working environment temperature □
RDU5-B10	220V / 380V	420V	1.2	10	5	⩽25	-40℃ ~ +85℃
RDU5-B20			1.5	20	10		
RDU5-B40			1.8	40	20		
RDU5-B60			2.2	60	30		
RDU5-B80			2.4	80	40		
RDU5-B100			2.5	100	60		

Note: The RDU5-B100 surge protector is of CITEL structure, and the rest of the RDU5-B series surge protectors are OBO structure products.

Appearance and installation dimensions



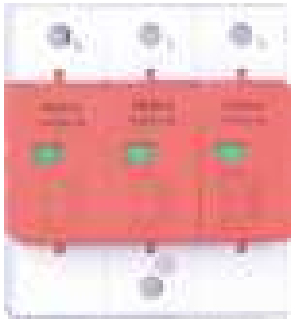
Grade I protection



Grade II protection

RDSP6

Surge Protection Device



Application

RDSP6 series surge protection device, is mainly applied to the TN-C, TN-S, TT, IT power system of AC50Hz or 60Hz, nominal discharge current 5KA~60kA, Maximum discharge current 10KA~100KA, Rated operational voltage 220V or380 to protect the power grid from thunder shock overload and surge overload voltage. It is Widely applied to residential, transportation, electric power, the third industry and the industrial field of surge protection requirements.

Model No.

RD SP 6 - □

- Category code. Ⅰ:In30kA-60kA, Ⅱ:In20kA, Ⅲ:In5kA-10kA
- Design No.
- Surge protection device
- Company code.

Normal working condition and Installation environment

3.1 Frequency: AC power frequency from 48Hz to 62Hz.
3.2 Voltage: Continuous voltage on the terminal should
not exceed the maximum continuous operational voltage
3.3 Altitude: should not exceed 2000m
3.4 Using and storage Temperature:
Normal range: -5℃ ~+40℃
Limit temperature:-40℃~+70℃
3.5 Humidity: relative humidity should from 30% to 90%.Under the indoor humidity
3.6 Installation location without obvious impact and vibration, and the angle between the prodouct and vertical plane
should not exceed 5°.

Main Technical Parameter

4.1 Surge main technical Parameter see Table1, Table2
4.2 Protective class: IP20
4.3 This product confrms to standard of IEC61643-1.
4.4 Testing type: Ⅱ class Test.

SURGE PROTECTION DEVICE

Table1

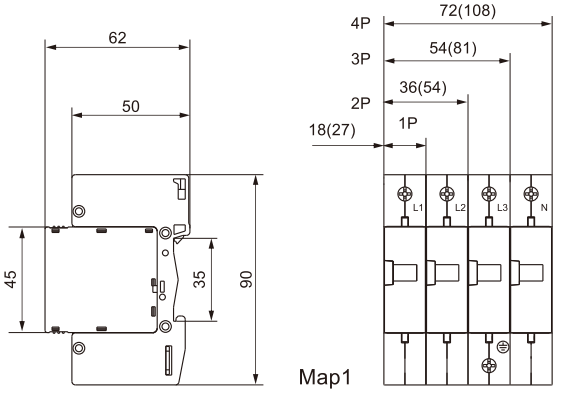
Model No.						Fuse (A)	Wire diameter		Respond time (ns)
							Phases, neutral wire mm²	Grounding wire mm²	
RDSP6-III	220 380	420	10	5	White	10-16	Hard wire 25-10	Two color 25-10	＜25
RDSP6-III			20	10					
RDSP6-II			40	20	Yellow	16-20	Hard wire 4-16	Two color 4-16	
RDSP6-II									
RDSP6-I			60	30	Red	40-63	Hard wire 6-25	Two color 6-25	
RDSP6-I			80	40					
RDSP6-I			100	60					

Table2

Production type	Power grid operational voltage Ue	Maximum continous operational voltage Uc	Voltage protection class Up(kV)				Ground system
			In=20/10/5kA		In=60/40/30kA		
1P	220V	420V	1.8				TN-C/IT
2P							TN/TN-S/IT
3P	380V	420V					TN-C/IT
4P							TT/TN-S/IT
1P+N	220V	420V	2.0	1.8	2.4	2.2	TT/TN-S/IT
2P+N	380V	420V					
3P+N							

Overall and Installation Dimensions:

Overall and installation dimensions, see Fig 1.



Map1

RDCH8

AC contactor

Description

RDCH8 series AC contactor, is mainly applied to circuit of 50Hz or 60Hz, rated operational volteage up to 400V, Rated operational current up to 63A, to control the household appliance and the low induction load, and also can control the household motor load, the control power should decreased accordingly. This production can be used in the household, hotel, apartment those place to realize automation, and also can used in the other appliances.
This production conforms to the standard of IEC61095.

Model No.

RD C H 8- □/□□

- Normal close contact poles
- Normal open contact poles
- Frame size
- Design code.
- Household
- AC contactor
- Company code.

Normal working condition and Installation environment

3.1 Temperature: -5°+40°, the average temperature of 24 hours should not exceed 35°C.
3.2 Altitude : should not exceed 2000m.
3.3 The relative humidity: no more than 50%, when Temperature is +40°C. The product can withstand the higher humidity under lower temperature, for instance, when temperature at +20°C, the product can withstand 90% relative humidity.
3.4 Pollution class: 2 class
3.5 Installation type: II class
3.6 Installation codition: the angle between the prodouct and vertical plane should not exceed 5º.
3.7 Installation methods: adopt 35mm DIN-Rail
3.8 Protection class: IP20.

Main Technical parameter

4.1 Poles: 1P, 2P, 3P, 4P
4.2 The specification see Table 1, Table 2

AC CONTACTOR

Table 1

Model No.	Rated current (pole)	Using type	Rated operational current(A)	Rated insulation voltage (V)	Control power (kW)	Connection type
RDCH8-25	16 (1P/2P)	AC-7a	16	500	3.5	With soft-cable: 2×2. 5mm² With hard-cable: 6mm²
		AC-7b	7	500	1.0	
	20 (1P/2P)	AC-7a	20	500	4	
		AC-7b	8.5	500	1.2	
	25 (1P/2P)	AC-7a	25	500	5.4	
		AC-7b	9	500	1.4	
	25 (3P/4P)	AC-7a	40	500	16	
RDCH8-63	32 (2P)	AC-7a	32	500	7.2	With soft-cable: 2×10mm² With hard-cable: 25mm²
	32 (3P/4P)	AC-7a	32	500	21	
	40 (2P)	AC-7a	40	500	8.6	
	40 (3P/4P)	AC-7a	40	500	26	
	63 (2P)	AC-7a	63	500	14	
	63 (3P/4P)	AC-7a	63	500	40	

Table 2

Pole	Rated current (A)	Rated voltage (V)	NO NC
1P	16~25	220/230	10
2P	16~25	220/230	20
	40~63		02
3P	25	380/400	30
	40~63		
4P	25	380/400	40
	40~63		04

4.3 Operation performance: Under the condition of the ambient temperature is in the range of -5°C~+40°C, charge the contactor attract coil with rated control power voltage Us and warm it to the stable state, the contactor should attract stably in any value between the 85% and 100% of rated control power voltage Us;

it should release and break between 75% and 20%(2P) or 10%(1P) of the rated control power voltage Us.

4.4 Mechanical life: no less than 1 million times.

4.5 Electrical life: no less than 100 thousands times.

4.6 Wiring diagram: see FIg1 to Fig5

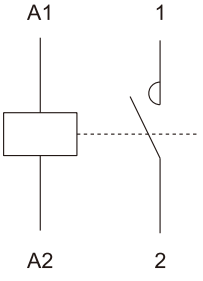


Fig1 16/10~25/10

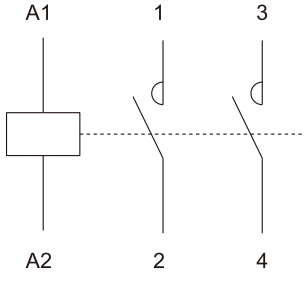


Fig2 16/20~25/20

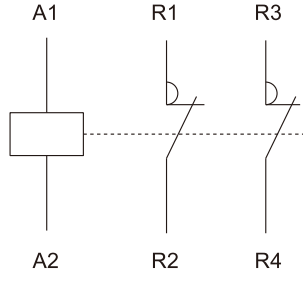


Fig3 16/02~25/02

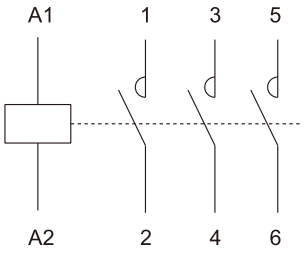


Fig3 16/30~63/30

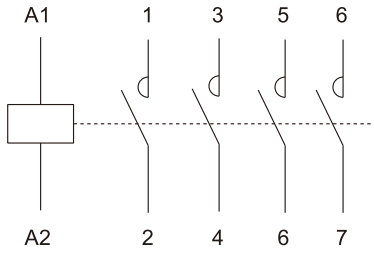


Fig4 25/40~63/40

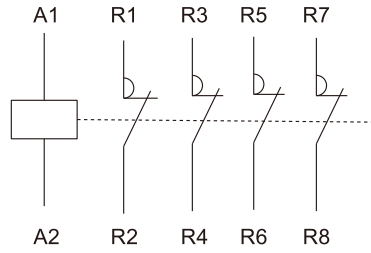
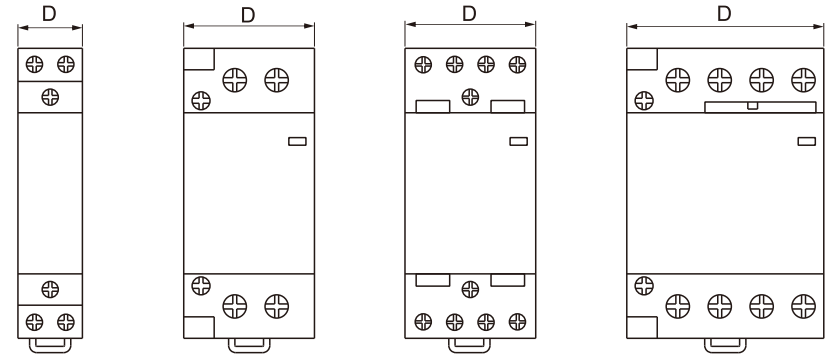
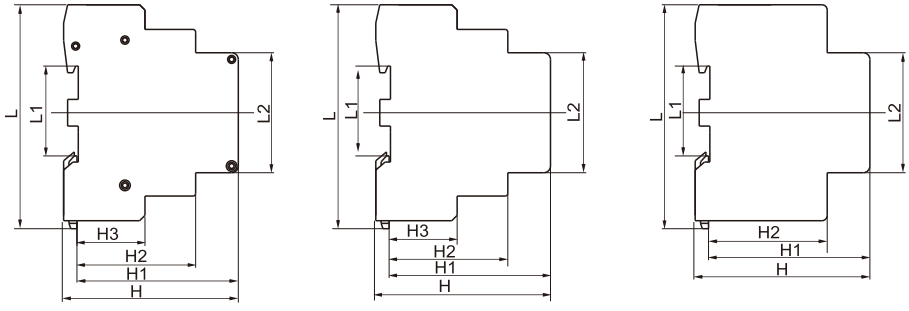


Fig3 25/04~63/04

Overall and Installation Dimensions:



16/25 2P　　40/63 2P　　16/25 3P、4P　　40/63 4P



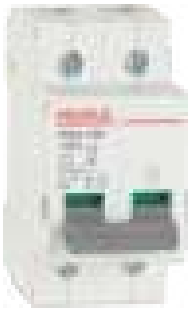
16/25 2P　　16/25 3P、4P　　40/63 2P
40/63 3P、4P

Table 3

Model No.	Rated current(Poles)	D	L	L1	L2	H	H1	H2	H3
RDCH8-25	16/25 1P,2P	18	85	35.5	45.5	66	61	45	23
	16/25 3P,4P	36	85	35.5	45.5	66	61	45	23
RDCH8-63	40/63 2P	36	85	35.5	45.5	66	61	45	-
	40/63 3P,4P	54	85	35.5	45.5	66	61	45	-

HL32-100(PH2-100)

Isolating Switch



General

HL32-100(PH2-100) series isolating switch is applicable to the power distribution and control circuit with an alternating current of 50HZ/60HZ, rated voltage of 230/400V, and rated current up to 100A as master switch of terminal electrical equipment. It can be used to control various motors, small powor electric appliance and illumination etc. It is widely used for industrial and mining enterprises, high buildings, commercial places, home and so on.
The product meets the standards of IEC60947.3.

Model No.

HL(PH) 32(2)-100/□

- Poles(Single pole, Two poles, Three poles, Four poles)
- Frame size Inm(A)
- Design Number
- Isolating switch

Product category

3.1 Rated current In: 32A, 63A, 100A;
3.2 Number of poles: Single pole, Two poles, Three poles, Four poles.

Technical parameter

	Standard		IEC/EN 60947-3
Electrical features	Rated voltage Ue	V	230/400
	Rated current Ie	A	32, 63, 100
	Rated frequency	Hz	50/60
	Rated impulse withstand voltage Uimp	V	4000
	Rated short-time withstand current Icw		12Ie, 1s
	Rated making and breaking capacity		3Ie, 1.05Ue, cosΦ=0.65
	Rated short circuit making capacity		20Ie, t=0.1s
	Insulation voltage Ui	V	500
	Pollution degree		2
	Use category		AC-22A
Mechanical features	Electrical life		1500
	Mechanical life		8500
	Protection degree		IP20
	Ambient temperature (with daily average≤35°C)	°C	-5…+40
	Storage temperature	°C	-25…+70

	Standard		IEC/EN 60947-3
Electrical features	Terminal connection type		Cable/Pin-type busbar
	Terminal size top/bottom for cable	mm2	50
		AWG	18-1/0
	Terminal size top/bottom for busbar	mm2	25
		AWG	18-3
	Tightening torque	N*m	2.5
		In-lbs	22
	Connection		From top and bottom

Main specifications

4.1 Rated short-time withstand current: 12In, electrifying time 1s;

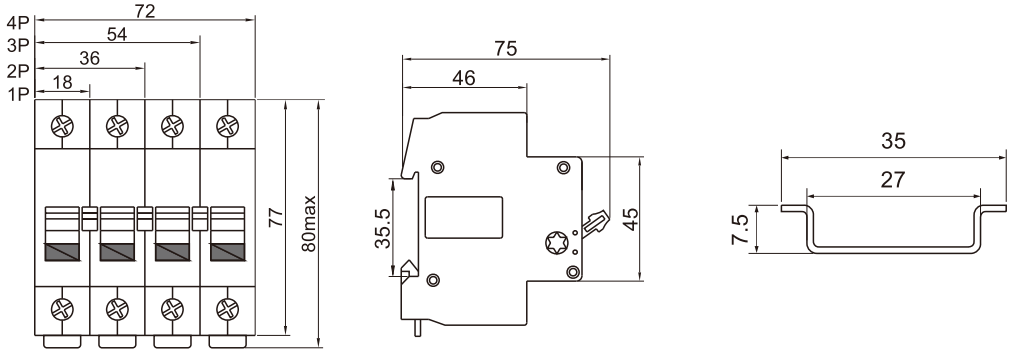
4.2 Rated short-time making capacity: 20In, electrifying time 0.1s;

4.3 Rated making and breaking capacity: 1.05Ue, 3In, cos ϕ =0.65

4.4 Rated limited short-circuit current:20KA

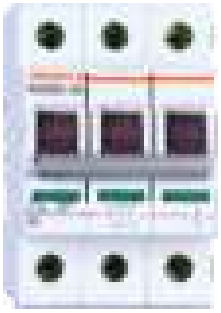
4.5 Operating performance: No load 8500 times, On load 1500 times, 10000 in total. cos ϕ =0.8,
Operation frequency is 120 times/hour.

Overall and mounting dimensions(mm)



RDX6SD-100

Isolating Switch



General

RDX6SD-100 series isolating switch is applicable to the circuit with an alternating current of 50HZ/60HZ, rated voltage to 400V, and rated current up to 100A for isolator or making and breaking function.

The product meets the standards of IEC60947.3.

Model No.

RD X 6 SD- 40

- 40 — Frame size Inm(A)
- SD — Isolating switch
- 6 — Design Number
- X — Miniature circuit breaker
- RD — Company code

Product category

3.1 Rated current In: 32A, 63A, 100A;

3.2 Number of poles: Single pole, Two poles, Three poles, Four poles.

Technical parameter

	Standard		IEC/EN 60947-3
Electrical features	Rated voltage Ue	V	230/400
	Rated current Ie	A	32, 63, 100
	Rated frequency	Hz	50/60
	Rated impulse withstand voltage Uimp	V	4000
	Rated short-time withstand current Icw		12Ie, 1s
	Rated making and breaking capacity		3Ie, 1.05Ue, cosΦ=0.65
	Rated short circuit making capacity		20Ie, t=0.1s
	Insulation voltage Ui	V	500
	Pollution degree		2
	Use category		AC-22A
Mechanical features	Electrical life		1500
	Mechanical life		8500
	Protection degree		IP20
	Ambient temperature (with daily average≤35℃)	℃	-5…+40
	Storage temperature	℃	-25…+70

	Standard		IEC/EN 60947-3
Electrical features	Terminal connection type		Cable/Pin-type busbar
	Terminal size top/bottom for cable	mm2	50
		AWG	18-1/0
	Terminal size top/bottom for busbar	mm2	25
		AWG	18-3
	Tightening torque	N*m	2.5
		In-lbs	22
	connection		From top and bottom

Main specifications

4.1 Rated short-time withstand current: 12In, electrifying time 1s;

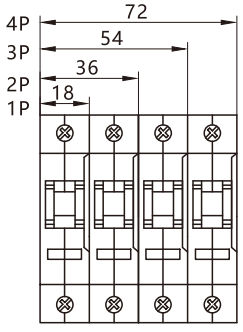
4.2 Rated short-time making capacity: 20In, electrifying time 0.1s;

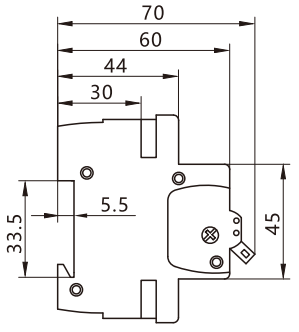
4.3 Rated making and breaking capacity: 1.05Ue, 3In, cos ϕ =0.65

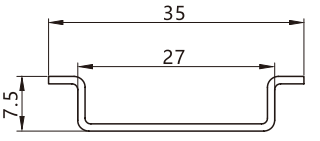
4.4 Rated limited short-circuit current:20KA

4.5 Operating performance: No load 8500 times, On load 1500 times, 10000 in total. cos ϕ =0.8,
Operation frequency is 120 times/hour.

Overall and mounting dimensions(mm)







DIN-Rail dimensioned drawing

RDM1

Moulded Case Circuit Breaker

Application

RDM1 series product has small volume, high breaking capacity, short arc, anti vibration advantages, whichis the ideal product for land and marine use. Breaker rated insulation voltage 800V (RDM1-63 insulation voltage is 500V), is applied to distribution network of AC 50Hz/ AC60Hz, Rated working voltage up to 690V, rated current up to 1250A to distribe the power and protect the circuit and power source against overload, short-circuit and under-voltage damage, and it also can be used to transfer circuit, motor-start unfrequently and overload, short-circuit and under-voltage protection.The product can be installed vertically and horizontally.

This production is appiled to insulation, Sign: ⟋ ⊢×

Normal working condition and Installation environment

Moulded Case Circuit Breaker3.1 Temperature: no higher than +40 ºC, and no lower than -5 ºC ,and the average temperature no higher than +35ºC.

3.2 Installation location no more than 2000m.

3.3 The relative humidity: no more than 50%, when Temperature is +40ºC. The product can withstand the higher humidity under lower temperature, for instance, when temperature at +20ºC, the product can withstand 90% relative humidity. The condensation that happened because of temperature changes should be taken care in special measurements

3.4 Class of pollution : 3 Class

3.5 Maximum install inclined Angle : 22.5°

3.6 Auxiliary circuit and control circuit installation type : II Class; Main circuit breaker installation type : III Class;

3.7 It can stand the normal vierbation and operate stably under marine condition.

Main technical parameter

4.1 Main technical parameter

Model No.	Frame size rated current Inm A	Rated current In(A)	Rated working voltage Ue(V)	Poles	Rated short-circuit circuit breaker (kA)				Arc distance (mm)
					Icu/cos ϕ		Ics/cos ϕ		
					400V	690V	400V	690V	
RDM1-80L	80	(6),10,16,20,25, 32,40,50,63,80	400	3	25	-	12.5	-	⩽50
RDM1-80M			400	3,4	50	-	25	-	
RDM1-125L	125	(10),16,20,25,32, 40,50,63,80,100, 125	400	2,3,4	35	-	20	-	⩽50
RDM1-125M			400/690	2,3,4	50	10	35	5	
RDM1-125H			400/690	3,4	85	20	50	10	
RDM1-250L	250	100,125,160, 180,200,225,250	400	2,3,4	35	-	25	-	⩽50
RDM1-250M			400/690	2,3,4	50	10	35	5	
RDM1-250H			400/690	3,4	85	10	50	5	
RDM1-400L	400	250,315, 350,400	400/690	3,4	50	10	35	5	⩽100
RDM1-400M			400/690	3,4	65	10	42	5	
RDM1-400H			400/690	3,4	85	10	50	5	
RDM1-630L	630	400,500,630	400	3,4	35	-	25	-	⩽100
RDM1-630M			400/690	3,4	50	10	35	5	
RDM1-630H			400	3,4	85	-	50	-	
RDM1-800M	800	630,700,800	400/690	3,4	50	20	35	10	⩽100
RDM1-800H			400	3,4	85	-	50	-	
RDM1-1250M	1250	800,1000,1250	400/690	3,4	65	20	45	10	⩽100
RDM1-1600M	1600	1250,1600	400/690	3,4	65	20	45	10	⩽100

4P with N-pole type.	
Code	Structure description(Production without indicated is B type)
A type	N-pole without overload tripping, and N-pole is always connected
B type	N-pole without overload tripping, and connecting, breaking with other poles.

Table 4

Distribution circuit breaker				Motor-protection circuit breaker			
Rated current In(A)	Thermal relay release		Electromagnetic release operational current(A)	Rated current In(A)	Thermal relay release		Electromagnetic release operationa current(A)
	1.05In Conventional non tripping time H(cold state)	1.30In Conventional tripping time H(Heat state)			1.0In Conventional non-tripping time H (cold state)	1.2In Conventional tripping time H (heat state)	
10⩽In⩽80	1	1	10In±20%	10⩽In⩽630	2	2	12In±20%
80＜In⩽125	2	2					
125＜In⩽800	2	2	5In±20%,10In±20%				

Circuit breaker accessory

5.1 Internal accessory

5.1.1 Shunt release

Connection diagram, see Fig 1 an Fig 2.

Rated voltage of control power supply: AC 50/60Hz, 230V, 400V; DC24V, circuit breaker can operate reliably under 85% to 110% of the rated control power supply voltage.

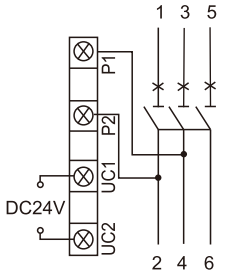


Fig 1 DC 24V wiring diagram

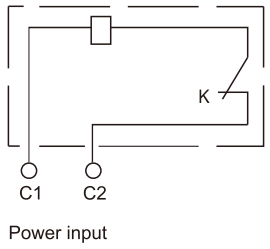


Fig 2 AC 50/60Hz, 230V, 400V Wiring diagram

K: Shunt release

The micro switch connected in series with the internal coil is a normally closed contact. When the circuit breaker is opened, the contact opens itself and closes when it is closed.

5.12 Under-voltage release

When the voltage is below 35% of the rated control power voltage, this release can prevent circuit breaker against closing. Wiring diagram, see Fig 3.

When the voltage decrease to the range of 70% to 35% of rated control power voltage, the under-voltage release would trip.

When the voltage is in the range of 85% to 110% of the rated control power voltage, this release can ensure the circuit closing reliably.

Notice: The circuit breaker with under-voltage release could trip and close, only supplied the circuit breaker with rated voltage.

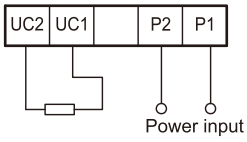


Fig 3 Under-voltage release connection diagram

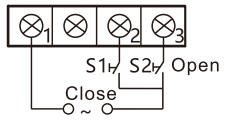


Fig 4 Motor operation mechanism connection diagram

5.13 Auxiliary contact

The auxiliary contact details, see Table 5.

Circuit breaker "open" position	F14 F12 — F11 F24 F22 — F21	Frame rated current 400A and above
	F14 F12 — F11	Frame rated current 250A and below
Circuit breaker "open" positon	“open”, contact which is close state turns to open state, contact which is open state turns to close state.	

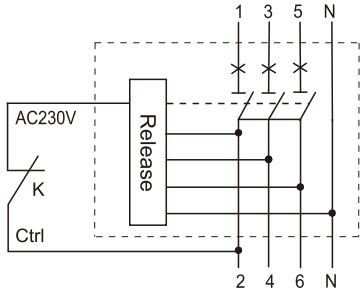
5.14 Alarm contact
Rated operational voltage's parameter, see Table 5.

When circuit breaker is at "open" and "close" position.	B14 B12 B11
When circuit breaker is at "trip free" alarm position	B11,B12 close state turns to open state B11,B14 open state turns to close state B14 B12 B11

Table 5.

Type	Frame size rated current	Conventional heating current A	AC-15		DC-13		
			Rated operational voltage V	Rated frequency Hz	Rated current A	Rated operational voltage V	Rated current A
Auxiliary contact	Inm≤250	3	400	50	0.3	230	0.15
	Inm≥400	3			0.4		0.15
Alarm contact	80≤Inm≤800	3			0.3		0.15

5.15 Special circuit breaker accessories Fee-controlled meter
Rated operational voltage of the shunt release of Fee-controlled meter is AC230V 50Hz, Operate in the range of 65% to 110% Ue, when the NC contacts K of the fee controlled meter is disconnected due to arrears, the circuit breaker will be delayed by 0.5~2s. The wiring diagram is as follows:



Note: Normally closed contact of K-prepaid electric energy meter
Wiring diagram of circuit breaker for fee-controlled electric energy meter

5.16 Over-voltage circuit breaker
Over-voltage circuit breaker should be tripping under following conditions:
a) When the rated operational voltage(phase voltage) Ue lower than 262V
b) When the neutral line of three phases and four wires is breaking
c) When the neutral line misconnecting phase lines.

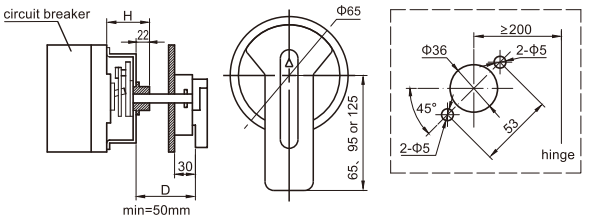
5.2 circuit breaker external accessory
5.21 Electric operation mechanism structure see Table 6

Table6

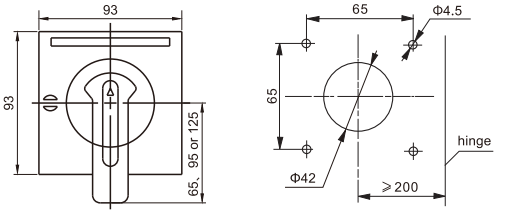
Type \ Model	RDM1-80,125,250	RDM1-400,630,800
Structure	Electromagnet	Motor
Specification	50Hz,230V,400V	50Hz,AC110~230V,DC110~230V

Remark: After the circuit breaker with electric operating mechanism trips, the electric operating mechanism must make the circuit breaker buckle again before it can be closed.

5.22 Manual operating mechanism should be installed after drilling the hole according to the diagram.
Rotary handle "OFF" indicated to horizontal position, keep the handle position, and try to operating the handle, the rotation should flexible, and the breaker should be open when the handle at horizontal position; and breaker should be closed when the handle at vertical position.



Round extansion rotary handle hole size diagram



Square extansion rotary handle hole size diagram

Table7(mm)

Model No.	RDM1-80	RDM1-125	RDM1-250	RDM1-400	RDM1-630	RDM1-800
Installation dimension	50	52	54	97	97	90
Y value of the operating handle relative to the breaker Center	0	0	0	0	0	0

5.23 Installation dimension of Mechanical interlock of two circuit breakers, see Table 6 Fig 6 and Table 8.

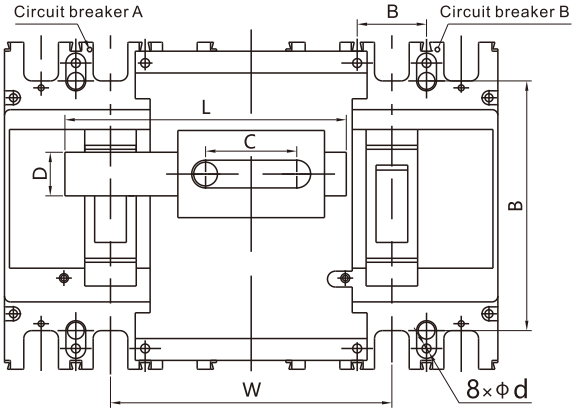


Fig 6 Mechanical interlock dimension diagarm

Table8(mm)

Model No.	A	B	W	C	D	L	ϕd
RDM1-80	25	117	105	35	22	117	3.5
RDM1-125	30	129	120	46	22	140	4.5
RDM1-250	35	126	138	46	22	132	5.5
RDM1-400L,M,H	44	194	178.5	56	28	188	7
RDM1-630	58	200	230	56	28	240	7
RDM1-800	70	243	250	56	28	252	7.5

RDM1-80~800A Front wiring overall and installation board hole-opening dimension, see Fig. 12, Fig. 8 and table9

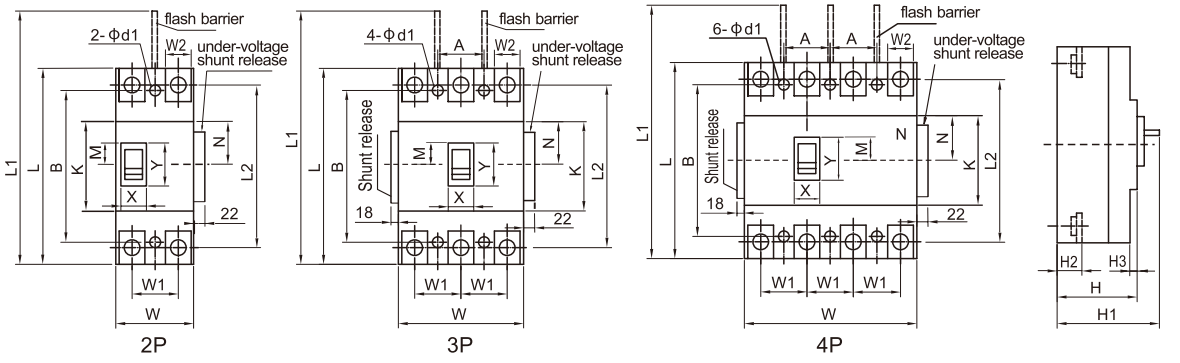


Fig 7 RDM1-80~800 Front wiring overall and installation dimension

Table9

Model No.	Front wiring overall																		Installation dimension		
	W		L	H	H1	H2	H3	W1	L1	L2	W2	K	N	M		X		Y		A	B	ϕd
	3P	4P												3P	4P	3P	4P	3P	4P			
RDM1-80L	78	-	135	73	90.5	20	6.5	25	170	117	14	86.5	42.5	35	-	25	-	69	-	25	117	4
RDM1-80M RDM1-80H	78	102	135	82	98.5	28	6.5	25	170	117	14	86.5	41.5	35	26.5	25	23	69	49	25	117	4
RDM1-125L	92	122	150	68	86	24	7.5	30	200	132	17	89	43	32	27	27	23	67	51	30	129	4
RDM1-125M RDM1-125H	92	122	150	86	104	24	7.5	30	200	132	17	89	43	32	27	27	23	67	51	30	129	4
RDM1-250L	107	142	165	86	110	24	6	35	230	144	24	98	51	39	27	27	23	80	54	35	126	5
RDM1-250M RDM1-250H	107	142	165	103	127	24	6	35	230	144	24	102	51	39	27	27	23	80	54	35	126	5
RDM1-400L	150	198	257	107	155	38	5	48	357	224	31	128	64.5	48	48	66	66	90	90	44	194	7
RDM1-400M RDM1-400H	150	198	257	107	155	38	5	48	357	224	31	128	64.5	48	48	66	66	90	90	44	194	7
RDM1-630L	182	240	270	112	160	45	3.5	58	370	234	41	135	67.5	45	45	66	66	90	90	58	200	7
RDM1-630M RDM1-630H	182	240	270	112	160	45	3.5	58	370	234	41	138	67.5	45	45	66	66	90	90	58	200	7
RDM1-800M RDM1-800H	210	280	280	117	160	42	5	70	380	243	44	136	65.5	48	48	67	67	82	82	70	243	7.5

6.2 Rear wiring overall dimension, see Fig 8 and Table 10.

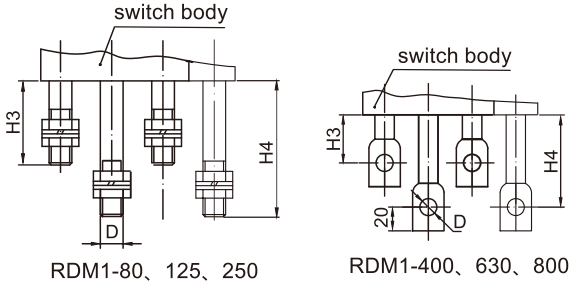


Fig 8 RDM1 Rear wiring installation dimension

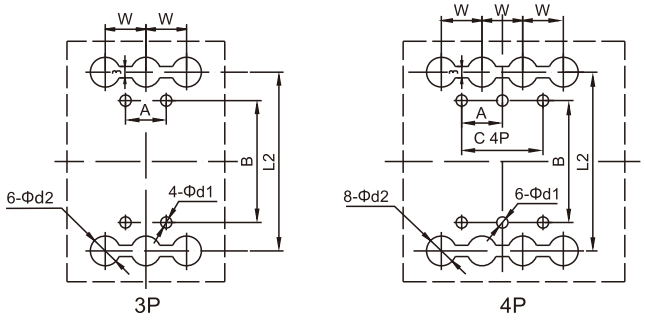


Fig. 9 RDM1 Rear wiring hole-opening dimension

6.3 Rear wiring installation hole-opening dimension, see Fig. 9

Table10

Model No.	Dimension code.									
	H3	H4	D	W	L2	ϕd2	A	B	C	ϕd1
RDM1-80	28	46	M5	25	117	8	25	117	50	5.5
RDM1-125	64	100	M8	30	132	24	30	108	60	5.5
RDM1-250	70	100	M10	35	144	26	35	122	70	5.5
RDM1-400	46	83	ϕ12	48	224	32	44	194	94	7
RDM1-630	45	85	ϕ16	58	234	37	58	200	116	7
RDM1-800	47	87	ϕ16	70	243	48	70	243	70	7.5

6.4 RDM1 Plug-in type overall and installation hole-opening dimension, see Fig 10, Fig 11 and Table 11

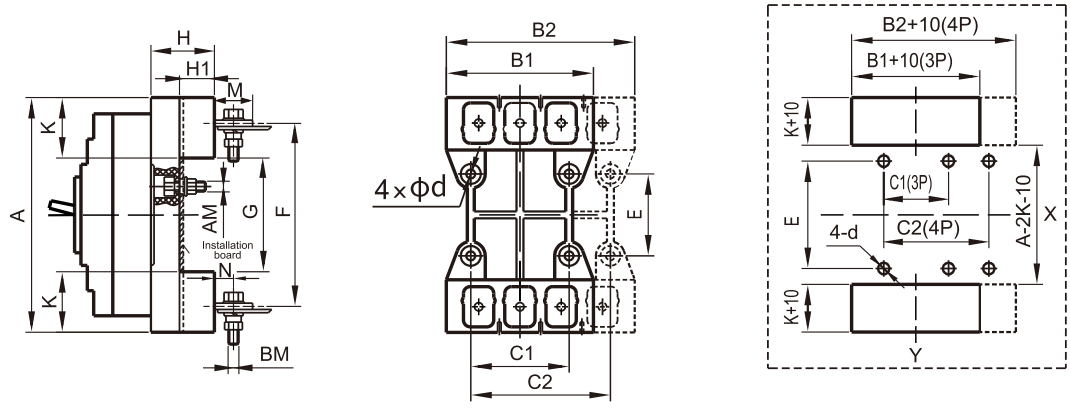


Fig10 RDM1 Plug-in type overall and installation hole-opening diagram

RDM1-80~630 Plug-in type circuit breaker overall dimension and installation board hole-opening dimension

Table11

Suited MCCB	Dimension conde															
	A	B1	B2	C1	C2	E	F	G	K	M	N	H	H1	AM	BM	4-d
RDM1-80	135	75	100	50	75	60	117	100	17.5	16	9	27.5	17.5	M5	M5	φ5.5
RDM1-125	168	91	125	60	90	56	132	92	38	32.5	18	48	32.5	M6	M8	φ6.5
RDM1-250	186	107	145	70	105	54	144	94	45.5	34	15	49.5	33.5	M6	M8	φ6.5
RDM1-400	280	149	200	60	108	129	224	170	55	44	23.5	59.5	40	M8	M12	φ8.5
RDM1-630	300	182	242	100	158	123	234	170	65	50	30.5	60	40	M8	M12	φ8.5
RDM1-800	305	210	280	90	162	146	242	181	62	—	—	87	60	M10	M14	φ11

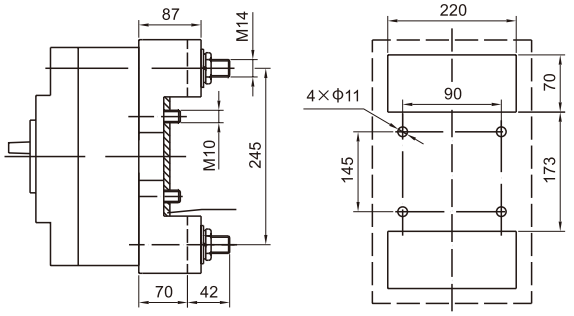


Fig 11 RDM1-800 3P Plug-in type overall and installation open hole diagram

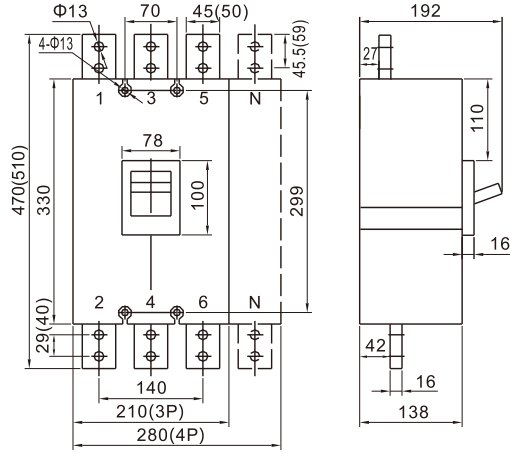


Fig 12 RDM1-1250/1600 circuit breaker overall and installation dimension
(Figure in brackets is the dimension of 1600A circuit breaker)

6.5 RDM1 circuit breaker's height after installing motor operating mechanism, see Table 12.

Table12

Model No. / Height	RDM1-80L	RDM1-80M	RDM1-125L	RDM1-125M RDM1-125H	RDM1-250L	RDM1-250M RDM1-250H
AC	155	164	152	170	182	199
DC	160	171	153	171	177	194

Model No. / Height	RDM1-400L, M, H	RDM1-630L	RDM1-630M RDM1-630H	RDM1-800M RDM1-800H
DC	246	262	262	252

RDM11

Moulded Case Circuit Breaker

Application

RDM11 series Moulded Case circuit breaker, mainly applied to the circuit of AC50Hz, rated insulation voltage 750V, rated operating voltage 690V or below, rated current up to 630A. In the regular situation, this production is used for transiting the circuit and starting the motor unfrequently, And it has the function of overload, short-circuit and under-voltage protection.
This production is applied to ioslation, the symbol is "—⟋ ⊢✕—".
This production confirmed to standard of IEC60947-2 and GB14048.2-2008.

Normal working condition and Installation environment

2.1 Temperature: not exceed +40C, and the day average value not exceed +35ºC, not below -5ºC.
2.2 Altitude: not exceed 2000m.
2.3 Humidity: the relative humidity shall not exceed 50% when it at +40C. And it has the lower temperature, the higher humidity is accepted, Like 90% humidity is accepted when the temperature is +20C. And the special measurement should be taken for condensation caused by temperature change.
2.4 Pollution calss: 3 class.
2. 5 Installation type: III type. The vertical install and horizontal installation.

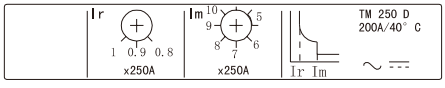
3. Main parameter and main performance index, see Table 1

Table1

Type	Pole	Rated insulating voltage (V)	Rated operating voltage (V)	Rated ultimate short circuit breaking capacity Icu (kA) at 380/415V	Rated service short circuit breaking capacity Ics at 380/415V(kA)	Operation life (times)		Utilization category
						Load	No load	
RDM11-100N	3, 4 poles	800	690 or below	36	36	1500	8500	A
RDM11-100H				70	70			
RDM11-160N				36	36	1000	7000	
RDM11-160H				70	70			
RDM11-250N				36	36	1000	7000	
RDM11-250H				70	70			
RDM11-400N				45	45	1000	4000	
RDM11-400H				70	70			
RDM11-630N				45	45	1000	4000	
RDM11-630H				70	70			
RDM11-1250N	3 poles			50	50	1000	4000	
RDM11-1600N				50	50			

4. Trip Units Main Technical Parameter

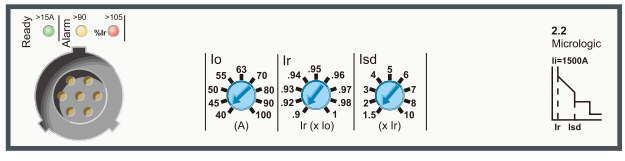
Thermal magnetic release



Type	Rated current In(A)	Note
RDM11-100	12.5,16,20,25,32,40,50,63,80,100	T adjustable (0.8~1In) M fixed
RDM11-160	16,20,25,32,40,50,63,80,100,125,160	
RDM11-250	160 180 200 225 250	T adjustable (0.8~1In) M adjustable (5~10In)
RDM11-400	315 350 400	
RDM11-630	400 500 630	

Electronic release

RDM11 22SE: protection of low-voltage distribution networks for RDM11-100\160\250



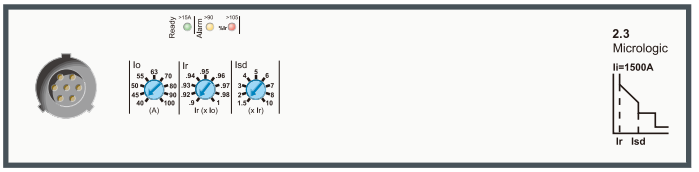
1) Overload protection with adjustable threshold

2) Short-circuit protection with adjustable threshold

3) Load indication : light at 90% of Ir setting threshold; Flashing at 105% or more of Ir setting threshold

Type	Rated current In(A)	Note
RDM11-100	40 100	Ir=0.4~1 In(adjustable 48 setting),Tripping between 1.05~1.3 Ir (IEC60947-2) (Long-time overload protection) Im=2-3-4-5-6-7-8-10 Ir (Short-circuit protection)
RDM11-160	40 100 160	
RDM11-250	40 100 160 250	

RDM11 23SE: protection of low-voltage distribution networks for RDM11-400\630



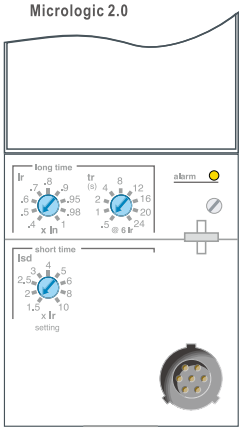
1. Overload protection with adjustable threshold

2. Short-circuit protection with adjustable threshold

3. Load indication : light at 90% of Ir setting threshold; Flashing at 105% or more of Ir setting threshold

Type	Rated current In(A)	Note
RDM11-400	250 315 350 400	Ir=0.4~1 In(adjustable 48 setting),Tripping between 1.05~1.3 Ir (IEC60947-2) (Long-time overload protection) Im=2-3-4-5-6-7-8-10 Ir (Short-circuit protection)
RDM11-630	400 500 630	

Micrologic 2.0: for RDM11-800\1000\1250\1600



1. Overload protection with adjustable threshold

2. Short-circuit protection with adjustable threshold

3. Load indication : light at 90% of Ir setting threshold; Flashing at 105% or more of Ir setting threshold

Type	Rated current In(A)	Note
RDM11-1000	800 1000	Ir=0.4~1 In(adjustable 48 setting) Tripping between 1.05~1.3 Ir (IEC60947-2) (Long-time overload protection) Im=2-3-4-5-6-7-8-10 (Short-circuit protection)
RDM11-1250	1000 1250	
RDM11-1600	1250 1600	

4. Fault indication

LEDs indicates the type of fault that caused tripping

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

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

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

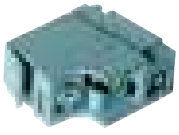
Microprocessor malfunction (both (>Ir) and (>Im) LEDs go on ,plus the (Ig) LEDs if earth fault protection option is present)

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

5. Accessories

Under-voltage release
Shunt release

Accessories	Rated operating voltage	Consumption		For type
		Pick-up	Seal-in	
Shunt release (MX)	24V 100V 220/230V 380/400V	<10VA	<5VA	RDM11-100~630
Under-voltage release(UN)	220/230V 380/400V	<10VA	<5VA	



Auxiliary contact
Alarm contact

Accessories	Rated operating voltage	Rated operating current		For type
		AC12	AC15	
Auxiliary contact (OF)	380/400V	6	3	RDM11-100~630
Alarm contact(AL)	380/400V	6	3	

Rotary handle

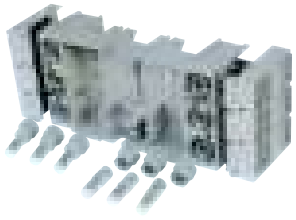
Rotary handle
- Direct rotary handle

Degree of protection:IP40
Function: 1) suitability for isolation
2) indication of three positions 0(off) I(on) and tripped
3) press “push to trip" button, can trip-free
4) visibility of and access to trip unit settings
5) the circuit breaker can be locked in the off position by one to three padlocks , diameter 5 to 8mm(not supplied)

- Extended rotary handle

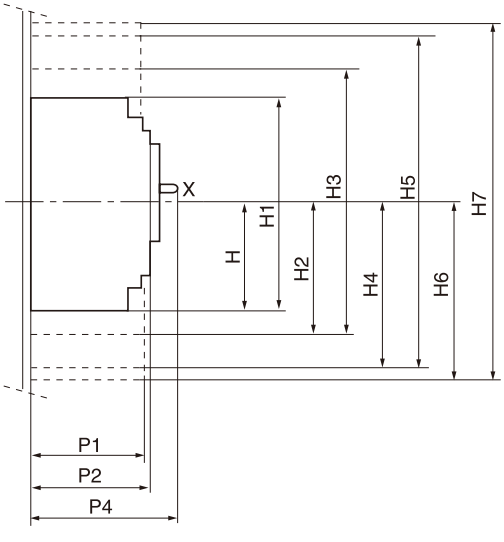
Degree of protection:IP55
Function: 1) Suitability for isolation
2) Indication of three positions 0(off) I(on) and tripped
3) Visibility of and access to trip unit settings when the door is open
4) Door opening prevented when circuit breaker is on
5) The circuit breaker can be locked in the off position by one to three padlocks , diameter 5 to 8mm(not supplied).Locking prevents opening of the switchboard door

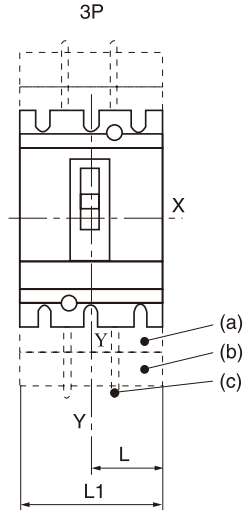
- Installation: Circuit breaker may be mounted vertically, horizontally or flat on their back without any derating of characteristics.
- Fix: Mounting on backplate , mounting on rails
- Connection: Front panel connection , back panel connection , plug-in connection

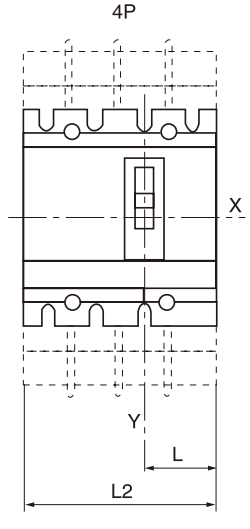


Plug-in base

6. Outline and Installation Dimension

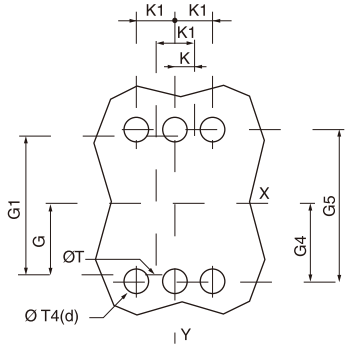




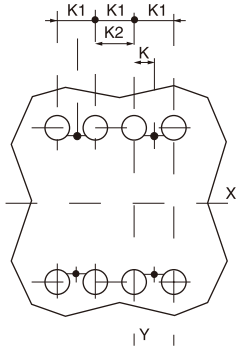


Mounting on backplate

3P

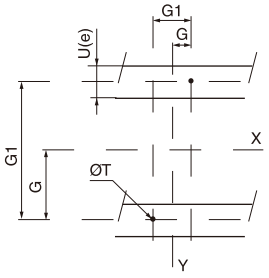


4P



Mounting on rails

3P



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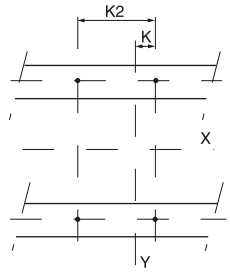
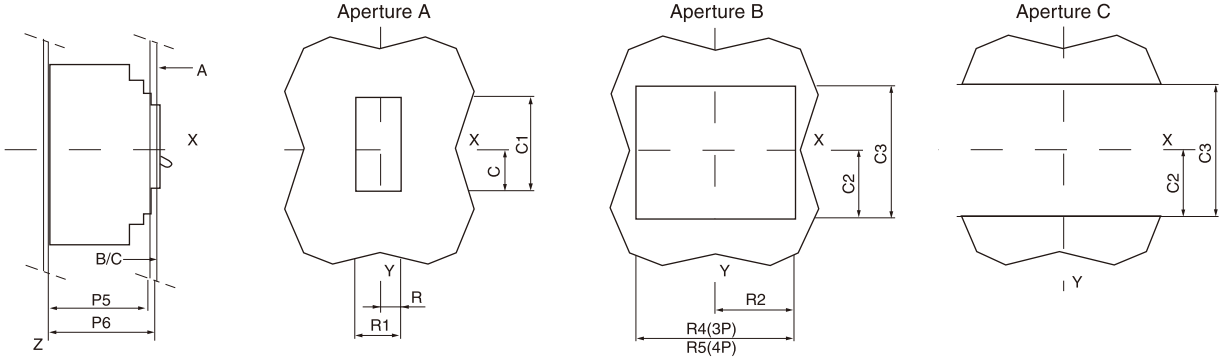


Aperture on a front panel

Fitting to fixed and plug-in circuit breaker



RDM11-100~630

mm	C	C1	C2	C3	G	G1	G4	G5	H	H1	H2
RDM11-100/160/250N/H/L	29	76	54	108	62.5	125	70	140	80.5	161	94
RDM11-400/630N/H/L	41.5	116	92.5	184	100	200	113.5	227	127.5	255	142.5
RDM11-1250/1600N									100	255	

mm	H3	H4	H5	H6	H7	K	K1	K2	L	L1	L2	P1	P2	P4	P5
RDM11-100/160/250N/H/L	188	160.5	321	178.5	357	17.5	35	70	52.5	105	140	81	86	111*	83
RDM11-400/630N/H/L	285	240	480	237	474	22.5	45	90	70	140	185	95.5	110	168	107
RDM11-1250/1600N						99.5	199	209	99.5	199	269	107.5		205	

mm	P6	R	R1	R2	R4	R5	ØT	ØT4	(Ue)
RDM11-100/160/250N/H/L	88	14.5	29	54	108	143	6	22	32
RDM11-400/630N/H/L	112	31.5	63	71.5	143	188	6	32	32
RDM11-1250/1600N							6.5		

P4=126 is suitable for=RDM11-250N/H/L

RDM1E

Electronic Moulded Case Circuit Breaker

Application

RDM1E series RDM1E series electronic Moulded case circuit breaker is a new designed MCCB developed and manufactured by adopting international advanced technology. Its rated insulation voltage is 800V, is applied to the circuit of AC 50HZ, rated working voltage 400V, rated current up to 1250A as infrequently switch and starting of motor. MCCB has the functions of overload long delay inverse time limit, short-circuit short delay inverse time limit, short-circuit short delay definite time limit, short-circuit instantaneous and under-voltage protection, to protect the circuit and power equipment against being damage.
It has the characteristics of small volume, high breaking capacity, short arcing distance, and anti-vibration.
It cannot be inverted wiring, only can be 1, 3, 5 connect to the power line, 2, 4, 6 connect to the load line.
MCCB has the isolation function, its symbol is: "—⟋ ⊢×⟵"

Normal working condition and Installation environment

1.Altitude of installation location no more than 2000m

2.Temperature: -5°C~+40°C, and the average temperature within 24h no higher than +35°C

3.The relative humidity: no more than 50%, when temperature is +40°C. The product can allow the higher humidity under lower temperature, for instance, when the humidity reaches to 90% when it is at +20°C.

4. Class of pollution: class 3

5. Installation type of main circuit: class III, installation type of auxiliary circuit and control circuit: class II.

6. Using category: A or B.

Main function characteristics

The intelligent controller is the key component of the MCCB, it is used in motor or power distribution protection to realize the integration of measurement, protection, control and communication functions, so that the circuit and power supply equipment are protected from overload, short circuit, grounding and other fault hazards. Using intelligent MCU micro-processing controller, stable and reliable, can provide power, as long as one phase is connected, when the current is not lower than 20% of its rated value, it can ensure the normal operation of the protection function. Selective cooperation with three-stage protection:1) The circuit breaker of category B has the selective cooperation if it is connected with other short-circuit protection device in the same circuit under short-circuit conditions;
2) Adjustment of protection function parameters such as overload delay, reverse delay, short circuit delay (reverse delay, fixed delay), short circuit instantaneous, etc.;
3) It has three parameter settings of operating current and operating time, and can be adjusted in 4-10 gears: the user can set and adjust the controller according to the load current requirements, and the corresponding function can be turned off according to the user's requirements (customized). Instantaneous tripping function of high current, when the circuit breaker is closed and running, if a short circuit and high current (≥20Inm) are encountered, the magnetic tripping mechanism of the circuit breaker can be tripped directly, and the double protection is more reliable and safe. Has the function of tripping test, input DC12V voltage to test the operating characteristics of the circuit breaker; Fault self-diagnosis function: protect and detect the working status and operating conditions of the intelligent controller itself; Fault self-diagnosis function: to ensure the working status and operating conditions of the intelligent controller itself, with pre-warning indication and overload indication: when the load current reaches or exceeds the set value, the light source of the luminous column is exported; protection and detection; Dual air gap technology of magnetic flux converter: more reliable and stable operation, eliminating malfunction, reliable tripping, and low power; High protection accuracy: overload protection, short circuit, short delay protection, action accuracy of ±10%; short circuit instantaneous protection value accuracy of ±15% depends on the operating current; The installation is interchangeable: the dimensions and installation dimensions are the same as the RDM1 series MCCB with the same specifications and dimensions.

Optional functions:
1) There is a temperature monitoring and protection function: when the ambient temperature exceeds the set value (the default setting is 85°C), the controller will output an alarm photoelectric signal or make the circuit breaker switch off;
2) Dual passive signal output function: for signaling (or alarm), capacity AC230V5A;
3) It has overload thermal memory function: overload thermal memory function, short circuit (short delay) thermal memory function;
4) With fire-fighting excitation function: overload alarm is not tripped (a pair of passive contacts are provided) and the excitation tripping function or communication function is provided;
5) With communication functions: standard RS232, RS485, Modbus fieldbus protocols;

Protection:

☐ Overload long delay action ammeter IR adjustment, depending on different rated current of the circuit breaker, can be adjusted from 4 to 10 steps;
☐ Long delay action time TR adjustment, adjustable in 4 steps;
☐ Short-circuit short delay action current Isd adjustment, adjustable in 10 steps;
☐ Short delay action time tsd adjustment, adjustable in 4 steps;
☐ Short-circuit instantaneous action ammeter Ii adjustment, adjustable in 8, 9, or 10 steps
☐ Pre-alarm action current Ip adjustment, adjustable in 7 steps.

Other functions:

☐ A test terminal for checking the current setting value of the electronic release (or release test).
☐ Running indication;
☐ Pre-alarming indication;
☐ Release button

Main Technical Specification

Model	RDM1E-125		RDM1E-250		RDM1E-400		RDM1E-630		RDM1E-800	
Frame current Inm(A)	125		250		400		630		800	
Breaking capacity class	M	H	M	H	M	H	M	H	M	H
Rated current In(A)	32、63、100		250		400		630		630、800	
Pole	3、4		3、4		3、4		3		3、4	
Rated voltage Ue(V)	AC400									
Rated insulated voltage Ui(V)	800									
	8000									
Rated limited short-circuit breaking capacity Icu(kA)	35	50	35	50	50	70	50	70	50	70
Rated working short-circuit breaking capacity Ics(kA)	25	35	25	35	35	50	35	50	35	50
Rated short time withstand current Icw 1S(kA)	5		5		5		10		10	
Using category	B		B		B		B		B	
Arc distance(mm)	⩽50		⩽50		≤100		≤100		≤100	
Operation performance — Power on(Times)	1500		1000		1000		1000		500	
Operation performance — Power off(Times)	8500		7000		4000		4000		3000	
Front plate wiring	○		○		○		○		○	
Back plate wiring	○		○		○		○		○	
Plug-in wiring	○		○		○		○		○	
Drawer wiring	–		–		○		○		○	
Under voltage release	○		○		○		○		○	
Shunt release	○		○		○		○		○	
Auxiliary contact	○		○		○		○		○	
Alarm contact	○		○		○		○		○	
Motor operation mechanism	○		○		○		○		○	
Manual operation mechanism	○		○		○		○		○	
Hand test device	○		○		○		○		○	
Intelligent control module	○		○		○		○		○	
Test power module	○		○		○		○		○	
LCD display module	○		○		○		○		○	

Characteristics of release

□ Characteristic of the electronic release

Breaker is installed current sensor with effective value sampling. MCCB is with the functions of overload long delay inverse time, short-circuit short delay inverse time, short-circuit short delay definite time, short-circuit instantaneous action and so on, the user can set the protection characteristic they need.

Release characteristic as Fig. 1

□ Overload long delay inverse time protection action characteristic are shown in table 3

□ Short-circuit short delay protection action characteristic are shown in table 4

□ Short-circuit instantaneous protection action characteristic are shown in table 5

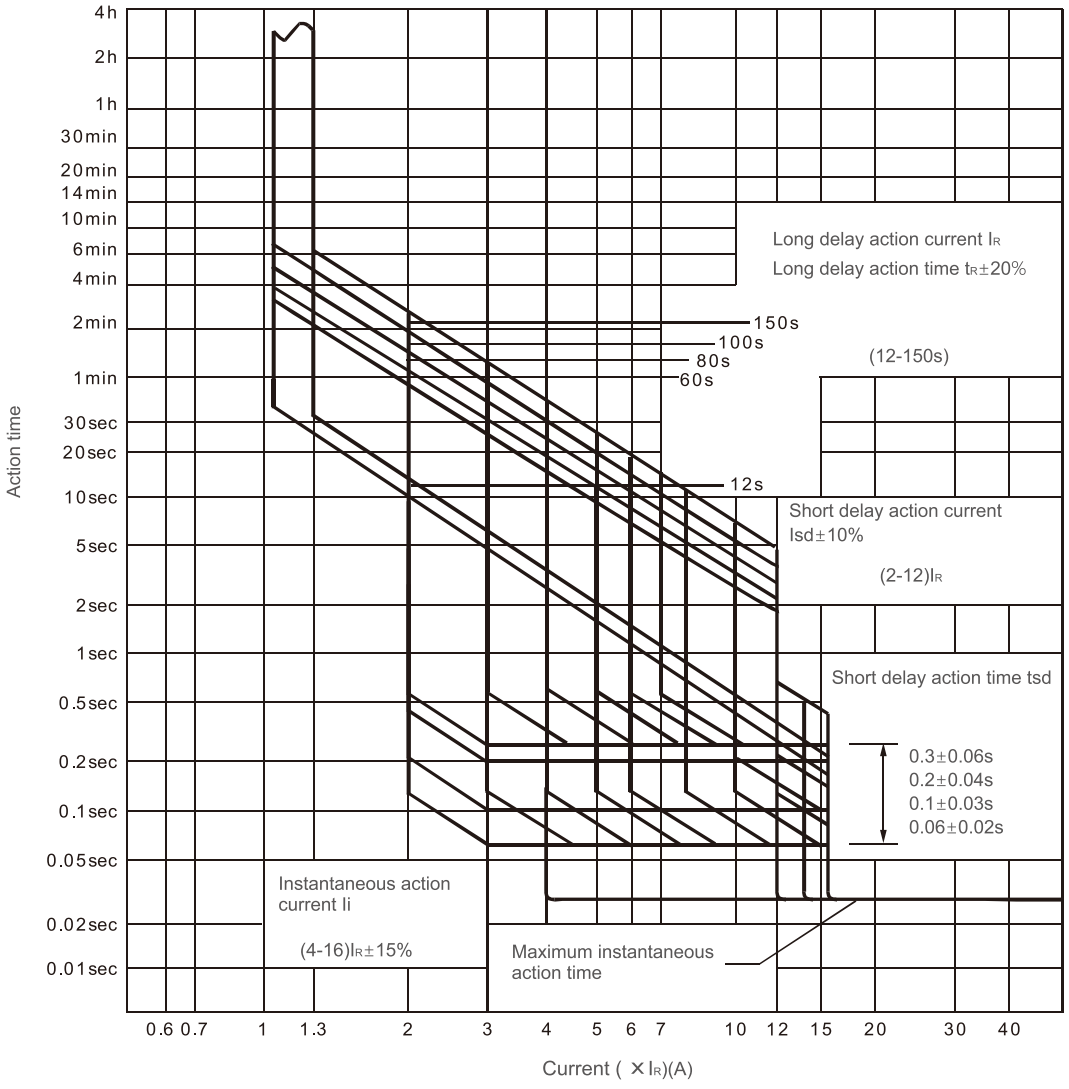


Figure 1 RDM1E-125~800 release characteristic curve

Table 3

Current		Action time (s)					
Power distribution type	1.05I_R	> 2h without tripping					
	1.3I_R	≤1h tripping					
	2I_R	Action time T_R	12	60	80	100	150
		Setting time T_R	12	60	80	100	150
Motor protection type	1.05I_R	> 2h without tripping					
	1.2I_R	≤1h without tripping					
	1.5I_R	Action time T_R	21.3	107	142	178	267
	2I_R	Setting time T_R	12	60	80	100	150
	7.2I_R	Action time T_R	0.93	4.63	6.17	7.72	11.6
Tripping level			/	10A	10	20	30

Note: 1. Action time conforms to $I^2T_R=(2I_R)^2tR$,(1.2Ir≤1<Isd); 2. Action time error±20%; 3. Return time is not less than 70% of the action time

Table 4

Short delay action characteristic		Current Isd	Action time(S)			
		≤0.9 Isd	Without tripping			
		⩾1.1 Isd	tripping			
Short delay protection	Inverse time protection	Isd ⩽I＜1.5 Isd	$I^2T_R=(1.5\ Isd)^2\ tsd$			
	Fixed time protection	1.5 Isd⩽I＜Ii	Setting time tsd(s)	0.06	0.1	0.2	0.3
			Error(s)	±0.02	±0.03	±0.04	±0.06
			Return time(s)	/	/	0.14	0.21
Accuracy		Inverse time action error ±10%					

Table 5

Technical parameter of accessories	Current	Action time(S)
	⩽0.85Ii	Without tripping
	⩾1.15Ii	Tripping

Rated value of auxiliary contact and alarming contact to see table

Table 6

Classify	Frame rated current Inm(A)	Conventional thermal current Ith(A)	Rated working current	
			AC400V	DC220V
Auxiliary contact	Inm⩽400	3	0.3	0.15
	Inm⩾400	3	0.4	0.15
Alarm contact	100⩽Inm⩽800	3	0.3	0.15

Rated control power voltage (Us) and rated operating voltage (Ue) of control circuit release and the motor mechanism to see table 7

Table 7

Type		Rated voltage(V)		
		AC 50HZ		DC
Release	Shunt release	Us	230 400	110 220
	Under voltage release	Ue	230 400	- -
Motor mechanism		Us	230 400	110 220

☐ When the applied voltage of the shunt release is between 70%~100% of the rated control supply voltage, the circuit breaker shall be reliably opened.

☐ When the supply voltage drops to within 70%~35% of the rated operating voltage of the undervoltage release, the undervoltage release can reliably break the circuit breaker, when the supply voltage is lower than 35% of the rated operating voltage of the undervoltage release, the undervoltage release can prevent the circuit breaker from closing, when the supply voltage is higher than 85% of the rated operating voltage of the undervoltage release, the undervoltage release can ensure that the circuit breaker can be closed reliably.

☐ The electric operating mechanism can reliably close the circuit breaker when the supply voltage is between 85% and 110% at the rated voltage.

☐ Power loss and capacity reduction factor

Power losses are shown in Table 8

Table 8

Model	Energizing current (A)	Total three phase power loss (VA)	
		Front and rear wiring	Plug-in wiring
RDM1E-125	125	35	40
RDM1E-250	250	62	70
RDM1E-400	400	115	125
RDM1E-630	630	150	170
RDM1E-800	800	262	294

The capacity reduction factors for changes in ambient temperature are shown in Table 9

Table 9

Model	+40°C	+45°C	+50°C	+55°C	+60°C
RDM1E-125	1In	0.95In	0.89In	0.84In	0.76In
RDM1E-250	1In	0.96In	0.91In	0.87In	0.75In
RDM1E-400	1In	0.94In	0.87In	0.81In	0.74In
RDM1E-630	1In	0.94In	0.87In	0.81In	0.74n
RDM1E-800	1In	0.88In	0.83In	0.79In	0.72In

Appearance and installation dimension

Appearance dimension as Fig. 2, Fig. 3, Fig. 4, Fig. 5, Fig. 6 and table 10
(1) Front of board wiring appearance dimension as Fig. 2 (X-X,Y-Y is the center of 3P circuit breaker)
(2) Rear wiring appearance dimension as Fig. 3, Fig. 4
(3) Plug-in front of board wiring appearance dimension as Fig. 5
(4) Plug-in rear wiring appearance dimension as Fig. 6

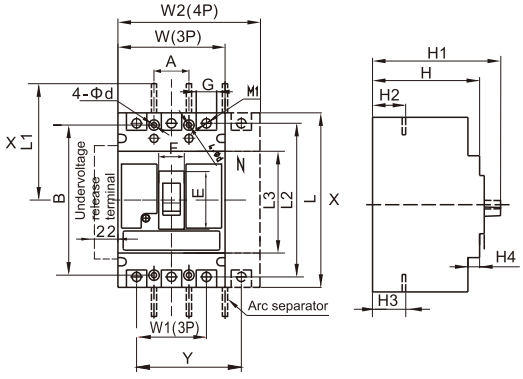


Fig.2 Fixed type front of board wiring

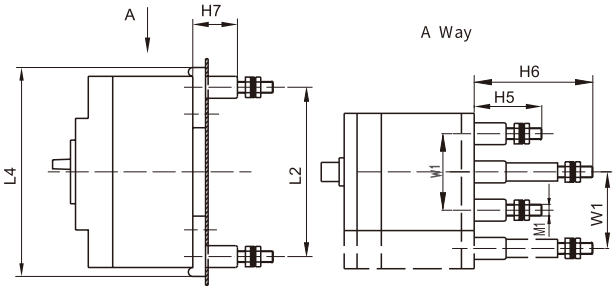


Fig.3 RDM1E-125, 250 Fixed type rear wiring

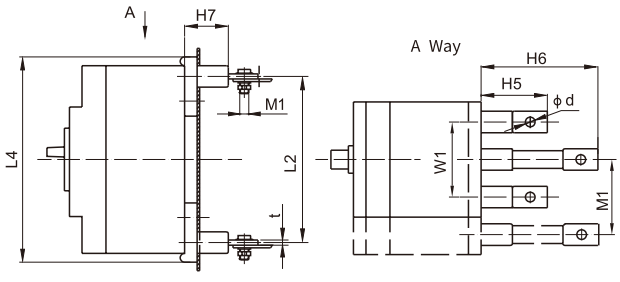


Fig. 4 RDM1E-400, 630, 800 Fixed type rear wiring

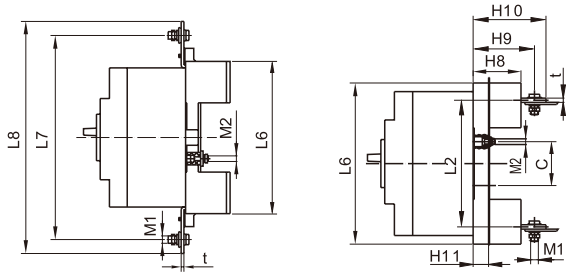


Fig.5 Plug-in front of board wiring (three Pole)
Fig.6 Plug-in rear wiring (three pole, four pole)

Table 10

Model	Front of board wiring														
	W	W1	L	L1	L2	L3	H	H1	H2	H3	H4	E	F	G	W2
RDM1E-125	92	60	150	100	132	88.5	93	112	29	29	12	50	22	18	122
RDM1E-250	107	70	165	132	144	102	90	110	24	24	5	62	22	22	142
RDM1E-400	150	96	257	220	224	175	107	147	38	38.5	5	89	65	33	198
RDM1E-630	150	96	257	220	224	175	107	147	40	41.5	5	89	65	33	-
RDM1E-800	210	140	280	240	243	205	116	155	42	45	4	81.5	66.5	44	280

Model	Rear of board wiring							Plug−in wiring								
	L4	H5	H6	H7	M1	d	t	L6	H8	H9	H10	H11	M1	M2	L7	L8
RDM1E-125	164	53	93	35	M8	–	–	168	50	64	76	18	M8	M6	220	250
RDM1E-250	173	55	100	35	M10	8.5	–	186	50	72	87	18	M8	M6	252	276
RDM1E-400	267	46	83	37	M12	12	8.5	280	60	84	107	21	M10	M8	357	387
RDM1E-630	295	46	83	—	M12	12	8.5	280	60	84	107	21	M10	M8	357	387
RDM1E-800	295	47	87	—	M16	16	16	305	61	97	148	16	M12	M8	—	—

Installation board hole-opening dimensions

(1) See Figure 7 for front of board wiring installation board hole-opening dimensions (X−X, Y−Y are three-pole circuit breaker centers)

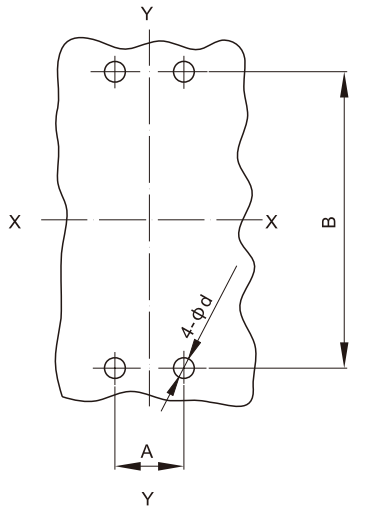


Figure 7 Front of board wiring installation board hole-opening dimensions

Model		RDM1E-125		RDM1E-250		RDM1E-400/630		RDM1E-800	
Number of pole		3	4	3	4	3	4	3	4
Installation board hole opening dimension (mm)	A	30		35	70	44		70	
	B	129		126		194		243	
	d	4.5		4.5		7		7	

(2) See Figure 8 for rear wiring installation board hole-opening dimensions (X-X, Y-Y are three-pole circuit breaker centers)

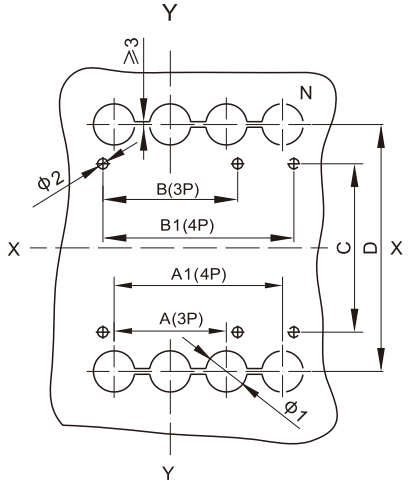


Figure 8 Rear wiring installation board hole-opening dimensions

Model		RDM1E-125		RDM1E-250		RDM1E-400/630		RDM1E-800	
Number of pole		3	4	3	4	3	4	3	4
Installation board hole opening dimension (mm)	A	60	–	70	–	96	–	140	–
	A1	–	90	–	105	–	144	–	210
	B	72	–	87	–	124	–	178	–
	B1	–	102	–	122	–	172	–	248
	C	90		93		164		158	
	D	132		144		224		243	
	ϕ1	22		24		32		48	
	ϕ2	5.5		5.5		6.5		7	

(3) See Figure 9 for plug-in front of plate wiring mounting plate opening dimensions (X-X, Y-Y are 3 pole circuit breaker centers)

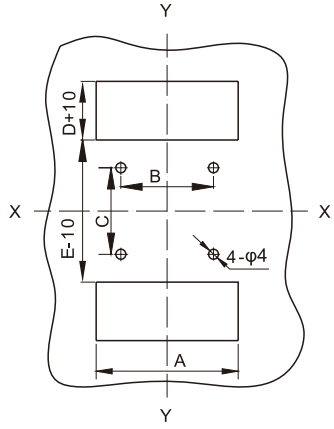


Figure 9 Plug–in front-of–board wiring mounting plate opening dimensions

Model		RDM1E-125	RDM1E-250	RDM1E-400/630
Number of pole		3	3	3
Installation board hole opening dimension (mm)	A	94	110	152
	B	60	70	60
	C	56	54	129
	D	41	66	65
	E	90	91	166
	d	6.5	6.5	8.5

(4) See Figure 10 for plug-in rear wiring installation board hole-opening dimensions (X-X, Y-Y are three-pole circuit breaker centers)

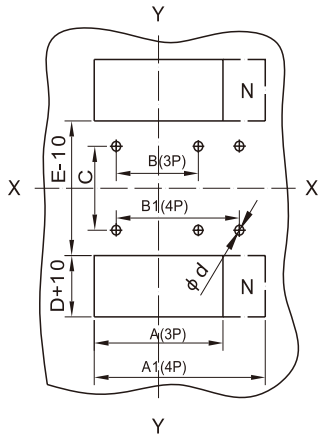


Figure 10 Plug-in rear wiring installation board hole-opening dimensions

Model		RDM1E-125		RDM1E-250		RDM1E-400/630		RDM1E-800	
Number of pole		3	4	3	4	3	4	3	4
Installation board hale opening dimension(mm)	A	94	—	107	—	149	—	210	—
	A1	—	129	—	145	—	200	—	290
	B	60	—	70	—	60	—	90	—
	B1	—	90	—	105	—	108	—	162
	C	56		54		129		146	
	D	38		45.5		54.5		72	
	E	92		95		171		181	
	d	6.5		6.5		8.5		11	

Communication Functions of Circuit Breakers

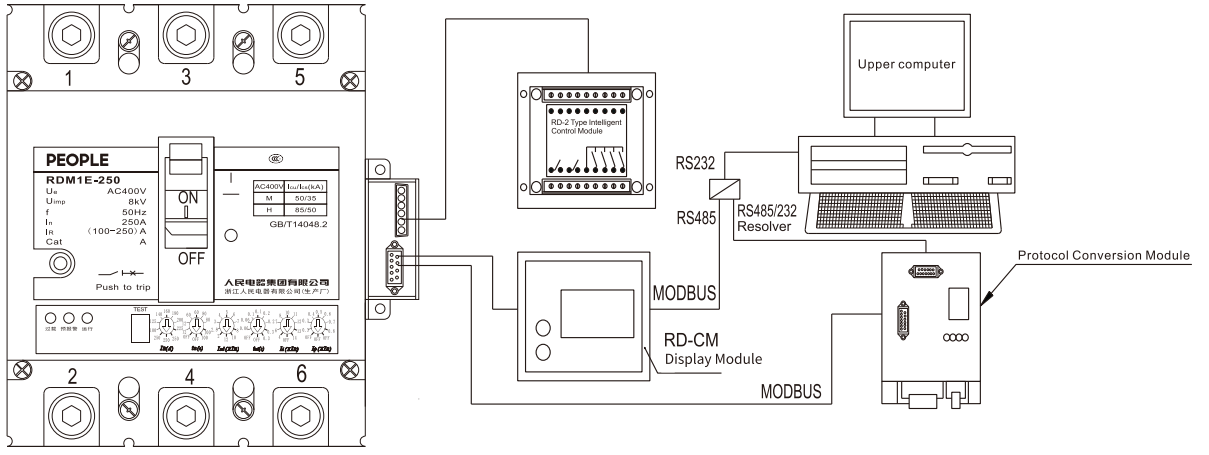
RDM1E intelligent circuit breaker with electric operating mechanism is connected with the upper computer (such as computer), and can realize remote“four remote” function through the communication interface.RS485 interface, Modbus-RTU protocol, communication baud rate 9600K. In addition, with the addition of the RDM1E circuit breaker controller (optional),the parameters of the circuit breaker can be read and modified directly on site.

Communication interfaces and external modules for intelligent circuit breakers

RDM1E series inteligent molded case circuit breakers are equipped with communication interace and MODBUS communication protocol. RDM1E is not used for network communication, but when they are used individually, the hand-held programmer can perform operations such as setting of protection characteristics on the circuit breakers. If RDM1E is used for network communication, they can be directly connected to the corresponding field bus;

Communication network of RDM1E series communicable intelligent molded case circuit breaker

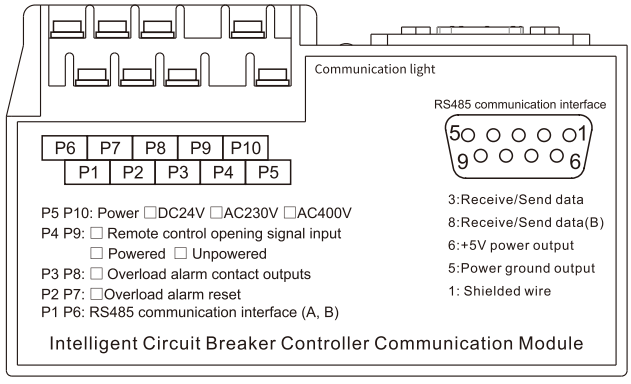
The communication network can be connected by referring to the following scheme. Different protocol modules can be selected for different prbtocols to convert MOBBUS to PROFIBU S-DP and other protbcols.



External Configuration Module for RDM1E Series Communicable Intelligent Molded Case Circuit Breakers (Optional)

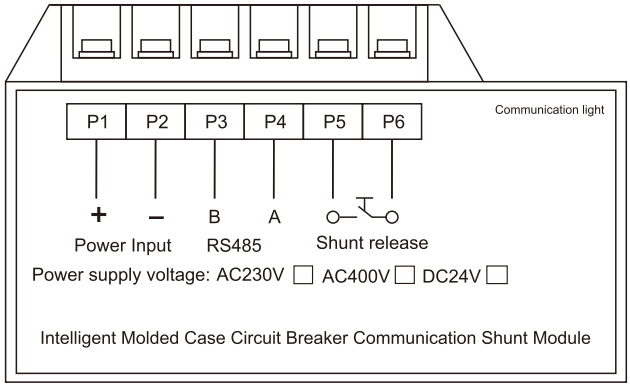
Alarm non-release module

When the product is used in fire fighting circuit, the controller is required to be alarmed for non-release function, at this time, it is necessary to confiqure the overload alarm non-release module to protect the continuity of power supply and meet the requirements of GB50054 Article 6.3.6.The module can monitor the parameter setting of circuit breaker through communication function, remote communication to open the main circuit, output alarm signal (provide pair of passive contacts) when overload in the circuit, etc. It can be used for centralized control and management of electric power department and electric power users.



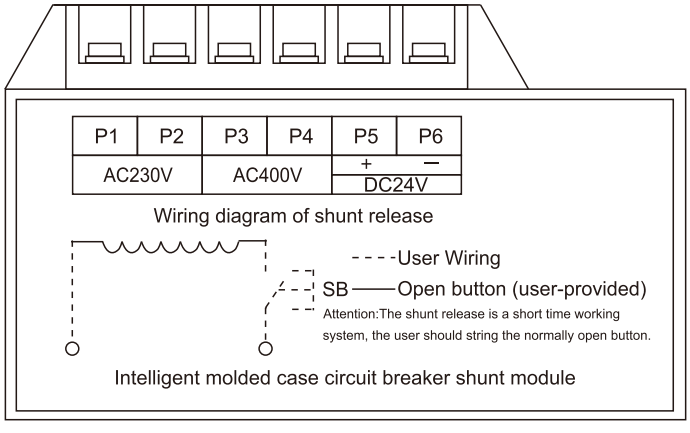
Intelligent Circuit Breaker Communication Shunti Module

It can be used for monitoring the on-site operating parameters of intelligent circuit breaker to replace the meter display function, automatic remote communication to open the main circuit, and at the same time provide auxiliary working power to the intelligent circuit breaker. The green light is always on when the working power of the module is turned on, and the green light flashes during normal communication.



Intelligent Circuit Breaker Shunt Module

It can be used to cooperate with intelligent circuit breakers, automatic remote communication to open the main circuit,and can provide the working power supply voltage of AC230V, AC400V, DC24V.

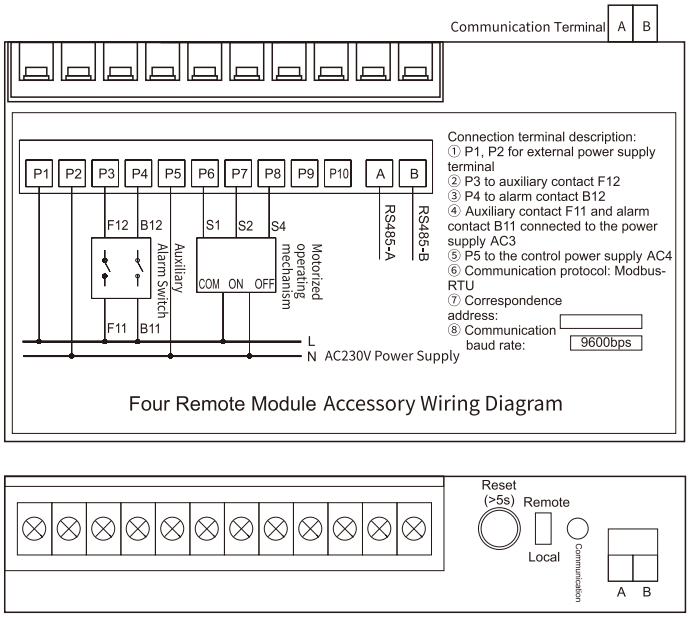


Four-remote communication module

The controller has a communication function, need to cooperate with the corresponding accessories to realize the function (communication module thickness size of 25mm). The parameters of communication characteristics are as follows;

Interface: external communication accessory of the controller, the accessory is a standard RS485 interface;
Baud rate (bps): 9600 by default, the remote control can be set in the range of 2400, 4800, 9600, 19200, 38400;
Communication Format: Data Bit: 8; Checksum: even; Stop Bit: 1;
Communication Protocol: Modbus RTU, Slave Mode;
Device address: 10 (default); Remote control settable range 1~255.

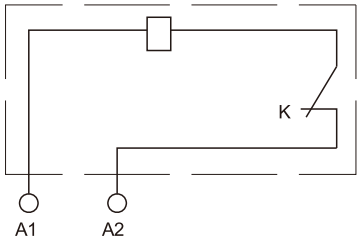
No.	Name	10p Accessory Function	Rated supply voltage (range)	Rated control signal voltage (range)
1	Four Remote Accessory	Four Remote Communication+ Repeat Keys+ Working Indicator	DC24V(85%-110%)	Status signal DC24V (85%-110%) Electrical operation signal DC24V
			AC230V(85%-110%)	Status signal AC230V (85%-110%) Electrical operation signal AC230V
Remarks: Reset button function: press and hold for 5s; parameters such as communication baud rate and communication address are restored to factory values;				



Internal Accessories for Circuit Breakers

Shunt release

The rated control power supply voltage of the shunt release is AC50Hz, 230V, 400V; DC24V, the circuit breaker can be reliably tripped under 85% of the rated control power supply voltage, the user wiring diagram is shown in the following figure.

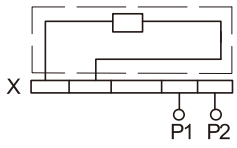


Power Input

K: The micro-switch inside the shunt release in series with the coil is a normally closed contact, which opens its own when the circuit breaker is tripped and closes when the circuit breaker is closed.

Undervoltage release

When the voltage drops (even slowly) to the rated voltage within the range of 70%~35%, the undervoltage release should be operated; when it is lower than 35% of the rated voltage of the release, the undervoltage release should be able to prevent the circuit breaker from closing; when the supply voltage is equal to or greater than 85%, the undervoltage release should be able to ensure that the circuit breaker can be closed reliably.According to the user's needs, the circuit breaker accessories can be directly led out or installed terminal block, the user wiring see the following figure.



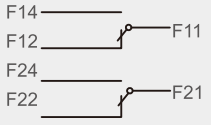
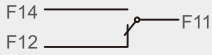
Power Input

External Undervoltage Module Wiring Diagram (dashed box shows internal circuit breaker wiring diagram)

WARNING: The undervoltage release must be energized before the circuit breaker can be re-triggered and closed, otherwise the circuit breaker will be damaged!

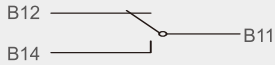
Auxiliary contact

The auxiliary contacts of the circuit breaker are divided into two groups, each of which is electrically inseparable. User wiring is shown in the diagram below.

When the circuit breaker is at the Position of "open"		Shell frame class current 400A and above circuit breaker
		Shell frame class current 400A and below circuit breaker

Alarm contact

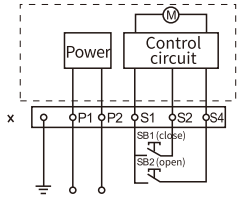
The alarm contacts are inactive during normal closing and breaking of the circuit breaker, and the contacts change their original position only after free release or fault tripping.

When the circuit breaker is at the Position "close" of "open"	

External Accessories for Circuit Breakers

Motorized operating mechanism

The wiring diagram of the motorized operating mechanism is shown below (the internal wiring diagram of the motorized operating mechanism is shown in the dotted box)



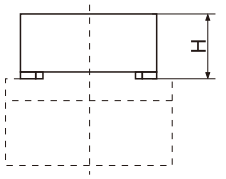
Voltage specification: AC50Hz 110V, 230V
DC110V, 220V power input
Conforms to the description: SB1, SB2 operation buttons (user-provided)
X terminal block
P1, P2 is external power input

NOTE: After the circuit breaker has tripped off, the motorized operating mechanism must first re-couple the circuit breaker before it can close the circuit breaker.

The operating current, power and life of the electric operating mechanism are shown in the table below.

Circuit breaker for matching use	Operating current(A)	Motor power (W)	Lifespan (times)
RDM1E-125	⩽0.5	14	10000
RDM1E-250	⩽0.5	14	8000
RDM1E-400/630	⩽2	35	5000
RDM1E-800	⩽2	35	5000

The height of the motorized operating mechanism is shown in the chart below.

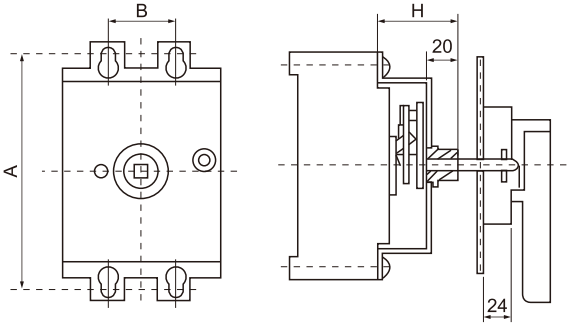


Height of motorized operating mechanism

Matching circuit breaker type	H(mm)
RDM1E-125	94
RDM1E-250	90
RDM1E-400/630	145
RDM1E-800	147

Rotation manual operating mechanism (common to three-pole and four-pole circuit breakers)

mechanism is dedicated to RDM1E series molded circuit breakers, through the rotation of the handle to achieve the circuit breaker closing,This opening and reclosing and drawer cabinets, distribution cabinets, power boxes, etc. in the panel operation requirements, and to ensure that the circuit breaker is in the closed circuit breaker cabinet door can not be opened (i.e., interlocked with the door). Its external dimensions are shown in the following figure and table.



Circuit breaker for matching use	A(mm)	B(mm)	H(mm)
RDM1E-125	104	30	49
RDM1E-250	143	35	55
RDM1E-400/630	194	138	74
RDM1E-800	243	198	66

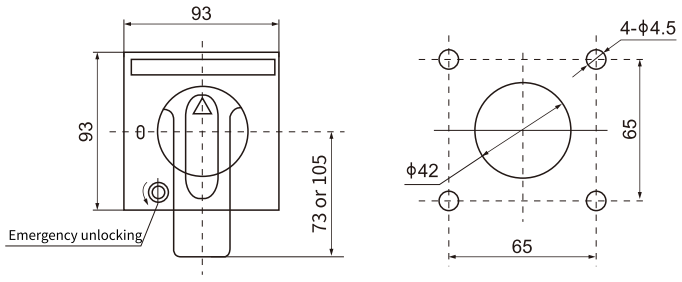
Rotation manual operating mechanism

Handle manual operating mechanism can be equipped with two kinds of operating handle: one for the "F" type square handle; the other for the "A" type round handle, the size of its door opening see the figure below. Turning the handle characteristics of the manual operating mechanism:

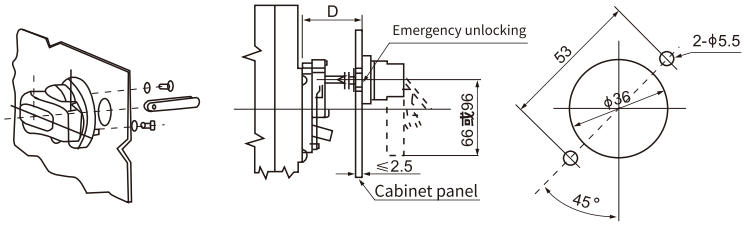
☐ The cabinet door cannot be opened when the circuit breaker is in the closed state.

☐ If the operating handle or manual operating mechanism is faulty in the closed state, the cabinet door can be opened by means of the emergency touch-lock device on the operating handle.

☐ Corresponding to different specifications of the manual operating mechanism, the matching manual operating handle, the door plate opening is consistent.



"F" type square handle profile cabinet door opening size (opening center distance from the hinge is not less than 100mm)



L size: RDM1E-125 is 65, RDM1E-250 is 95, RDM1E-400 is 125
"A" type round handle profile cabinet door opening size (the center of the opening from the hinge distance is not less than 100mm)

Note:

☐ Square shaft length D=150mm (default), length not greater than 150mm, in 50mm steps increments, the longest can provide 500mm,to order specify;

☐ If the manual operating mechanism is equipped with "F" type handle, add "F", if it is equipped with "A" type handle, add "A".Such as CZE-100-F.
If it is not specified, the default is A type.

☐ Manual operating mechanisms must be ordered from our factory as a complete set to ensure product quality. If users purchase them by themselves, our factory will not be responsible for any adverse consequences that occur after installation and assembly.

RDM5

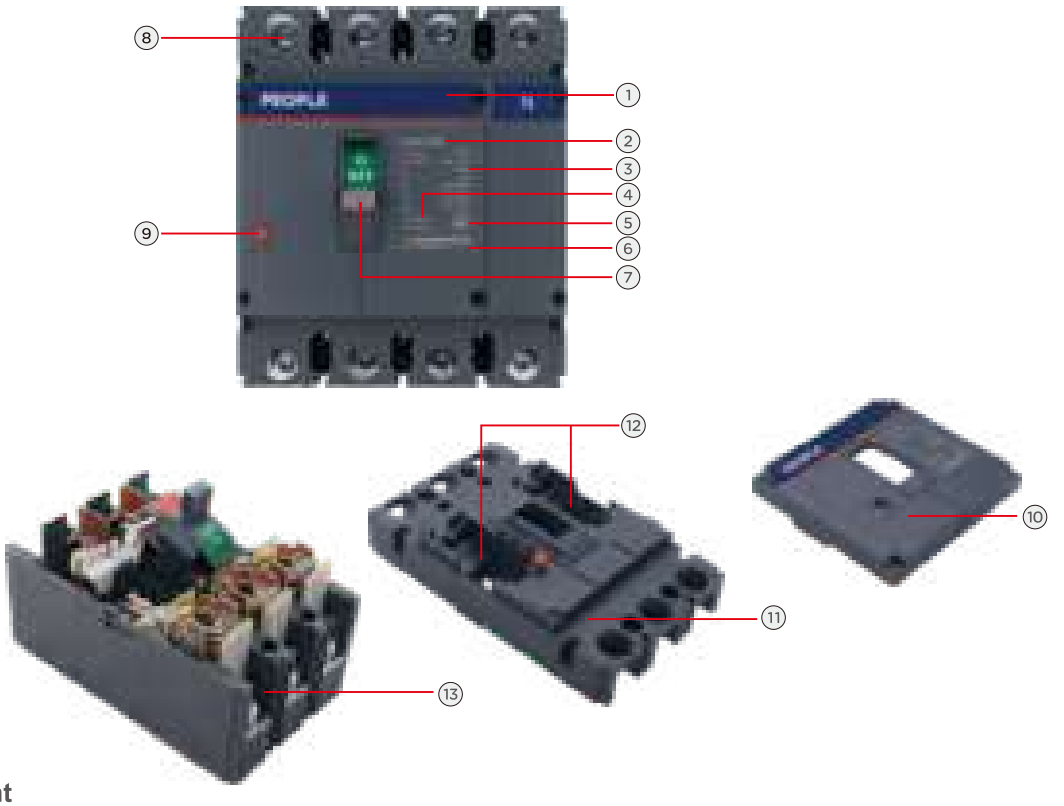
Moulded Case Circuit Breaker

Application

RDM5 series Moulded case circuit breaker (MCCB) are mainly used in power distribution networks with AC 50Hz, rated insulation voltage 1000V, rated operating voltage 690V and below, and rated current up to 800A. They are used to distribute electric energy and protect lines and power equipment from overload, Damage caused by faults such as short circuit and undervoltage. Among them, circuit breakers with the rated current of 630A and below can also be used to protect the motor. Under normal circumstances, the circuit breaker can be used for infrequent switching of circuits and infrequent starting of motors. The circuit breaker has an isolation function and is represented by the symbol " —/ |-x- ".
The product complies with: GB/T 14048.2, IEC 60947-2 standards.

Product structure

Panel Interpretation	
①	Trademark
②	Model number
③	Technical Parameters
④	Conformed standard
⑤	CCC/CE Symbol
⑥	Company name
⑦	Handle
⑧	Terminal screws
⑨	Tripping button
⑩	Cover
⑪	Middle cover
⑫	Accessory mounting holes
⑬	Base



Installation Environment

☐ Pollution level: Level 3

☐ Ambient temperature: ambient air temperature is -5°C~+40°C, and the average value for 24 hours does not exceed +35°C.

☐ Relative humidity: does not exceed 50% when the ambient air temperature is +40°C; higher relative humidity can be achieved at lower temperatures; for example, the average maximum relative humidity in the wettest month is 90%,and the average minimum temperature of the month is +20°C. Measures should be taken to deal with condensation occasionally caused by temperature changes.

☐ Altitude: does not exceed 2000m.

☐ Main circuit installation category: III

☐ Electromagnetic environment: A

MOULDED CASE CIRCUIT BREAKER

The main technical parameters

Frame size Inm(A)	63A		125				160			250				400			630			800		
Rated current In(A)	10, 16, 20, 25,32, 40, 50, 63		10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125				63, 80, 100, 125,160			100, 125, 160, 180, 200, 225, 250				200, 225, 250, 315, 350, 400			400, 500, 630			630 700, 800		
Poles (P)	2, 3, 4		3, 4	2, 3, 4		3, 4	3, 4	2, 3, 4		3, 4	2, 3, 4		3, 4	3, 4								
Rated frequency(Hz)	50																					
Rated insulation voltage Ui(V)	AC1000																					
Rated impulse withstand voltage Uimp (V)	8000						12000															
Rated working voltage Ue(V)	AC400/AC690																					
Arcing distance(mm)	≤50		≤50				≤50			≤50				≤100			≤100			≤100		
Short-circuit breaking capability level	L	M	S	L	M	H	S	L	M	S	L	M	H	L	M	H	L	M	H	L	M	H
Rated ultimate/rated operating breaking capacity Icu/Ics (AC400V)	25 /15	35 /25	15 /10	25 /15	35 /25	50 /35	15 /10	25 /15	35 /25	15 /10	25 /15	35 /25	50 /35	35 /25	50 /35	70 /50	35 /25	50 /35	70 /50	35 /25	50 /35	70 /50
Rated ultimate/rated operating breaking capacity Icu/Ics (AC690V)	/	/	/	/	15 /8	15 /8	/	15 /8	15 /8	/	/	15 /8	15 /8	/	20 /12	20 /12	/	20 /12	20 /12	/	20 /12	20 /12
Category	A																					
Standards	IEC60947-2																					
Environment temperature	-5℃~+40℃																					
Electrical life (times)	8000													7500								
Mechanical life (times)	20000		20000				20000			20000				10000			10000			10000		
Shunt release	■		■				■			■				■			■			■		
Undervoltage release	■		■				■			■				■			■			■		
Alarm contact	■		■				■			■				■			■			■		
Auxiliary contact	■		■				■			■				■			■			■		

Note: the operating voltage of 2-pole products with RDM5-63, 125, 160, and 250 frames is less than or equal to 400V and below.

“N” Pole type of circuit breaker

Type A	The N pole is not equipped with an overcurrent release element, and the N pole is always connected and does not close or open together with the other three poles.
Type B	The N pole is not equipped with an overcurrent release element, and the N pole is closed and opened together with the other three poles (the N pole is closed first and then opened)

Derating factor when ambient temperature changes

Ambient temperature / Factor / Model No.	+40°C	+45°C	+50°C	+55°C	+60°C	+65°C	+70°C
	Derating factor	Derating factor	Derating factor	Derating factor	Derating factor	Derating factor	Derating factor
RDM5-63	1In	0.959In	0.918In	0.877In	0.835In	0.794In	0.752In
RDM5-125							
RDM5-160							
RDM5-250	1In	0.985In	0.968In	0.952In	0.935In	0.919In	0.887In
RDM5-400	1In	0.978In	0.957In	0.936In	0.915In	0.894In	0.873In
RDM5-630	1In	0.978In	0.957In	0.936In	0.915In	0.894In	0.873In
RDM5-800	1In	0.978In	0.957In	0.936In	0.915In	0.894In	0.873In

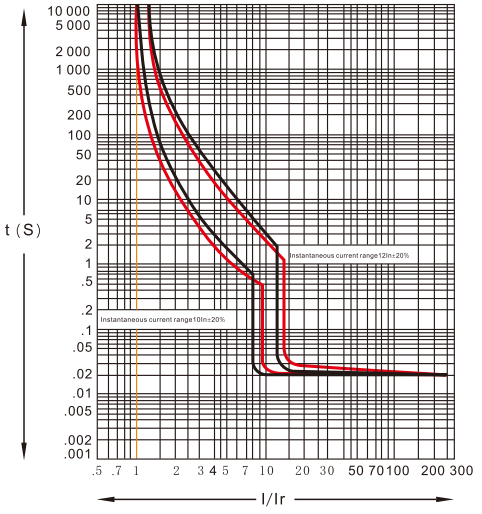
Disconnection characteristics of the product

The thermal release of the product has an inverse time characteristic, and the electromagnetic release has an instantaneous action characteristic. The action characteristics are shown in the table below.

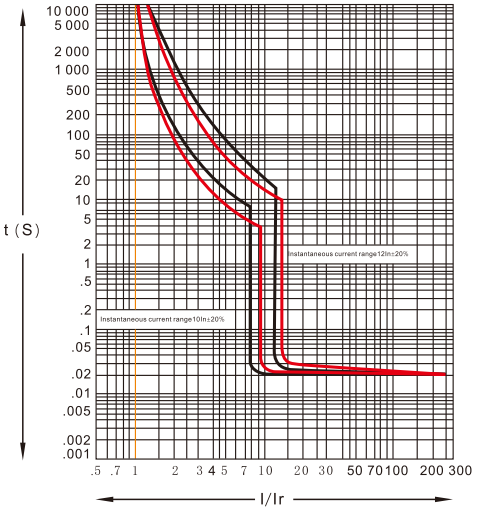
Distribution protection				Motor protection			
Rated current In(A)	Thermal magnetic release		Instantaneous action current (A)	Rated current In(A)	Thermal magnetic release		Instantaneous action current (A)
	1.05In (cold state) non-release time (h)	1.30In (heat state) release time(h)			1.0In (cold state) non-release time (h)	1.2In (heat state) release time(h)	
10≤In≤63	1	1	10In±20%	10≤In≤630	2	2	12In±20%
63<In≤125	2	2	5In±20% 10In±20%				
125<In≤800	2	2					

Note: In the RDM5-63 and RDM5-125S/L specifications, the operating current of the electromagnetic release In=40A is 500A ±20%

Time-current characteristic curve

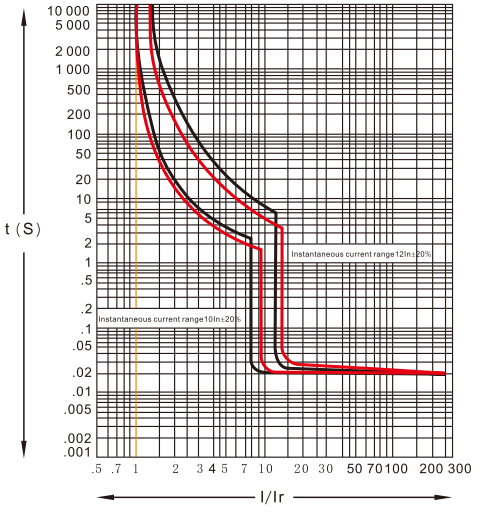


RDM5-63, 125, 160 40A~125A Power distribution protection (black line), motor protection (red line)

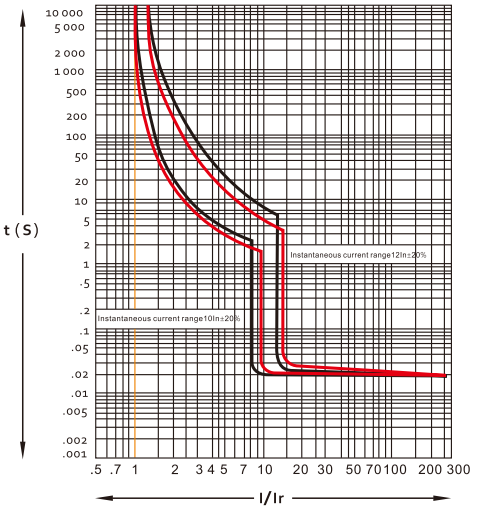


RDM5-250 power distribution protection (black line), motor protection (red line)

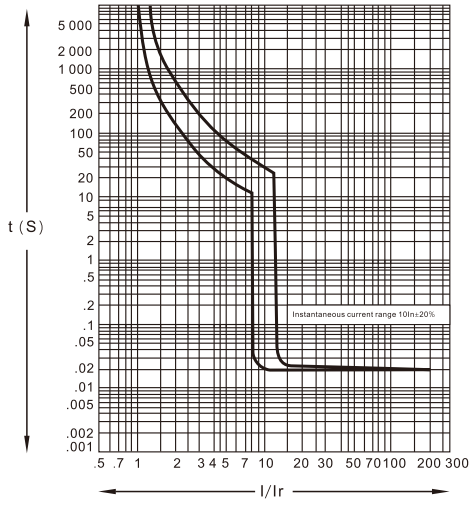
Note: RDM5-63, RDM5-125S/L model specification In=40A electromagnetic release action current is 500A±20%



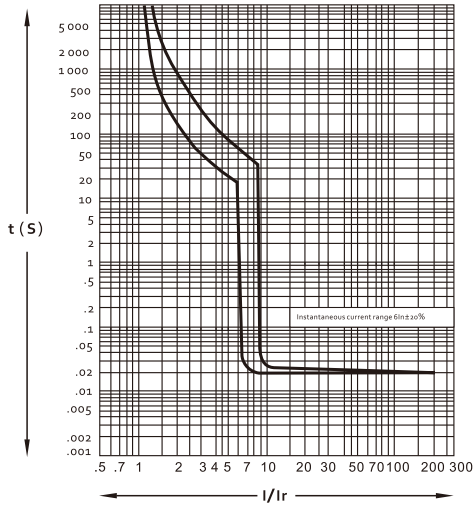
RDM5-400 power distribution protection (black line), motor protection (red line)



RDM5-630 Power distribution protection (black line), motor protection (red line)

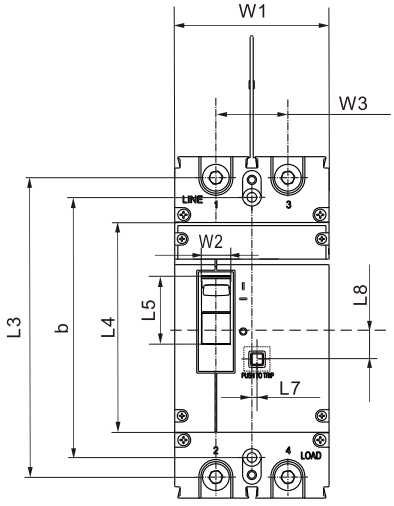


RDM5-800 630A power distribution

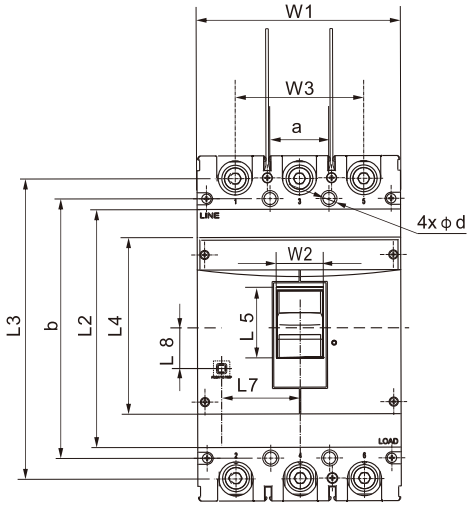


RDM5-800 700A, 800A power distribution

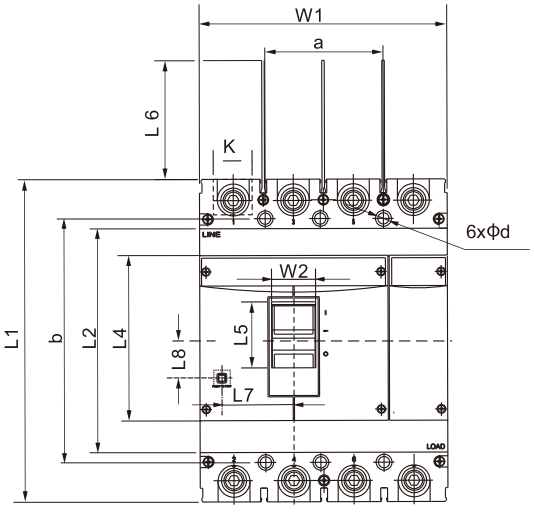
Appearance and installation dimension



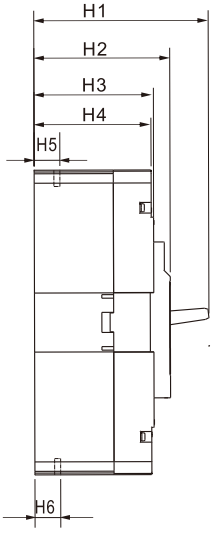
2P



3P



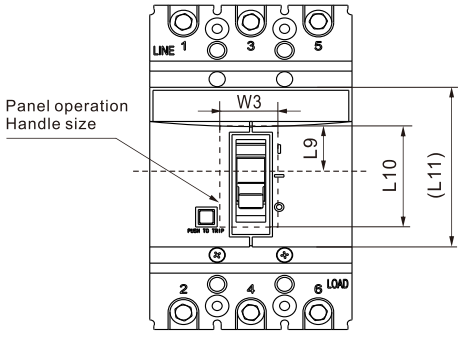
4P



Side

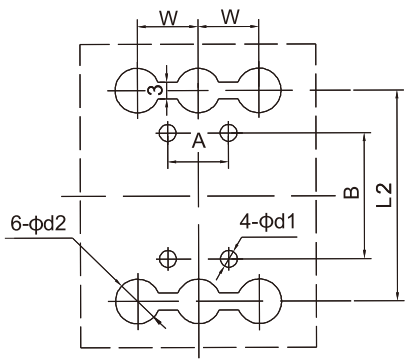
Appearance and installation dimension

Model No.	Poles	Front panel wiring																Installation			Button position	
		L1	L2	L3	L4	L5	L6	W1	W2	W3	H1	H2	H3	H4	H5	H6	K	a	b	d	L7	L8
RDM5-63L/M RDM5-125S/L	2	130	-	116.5	85	-	49.5	50	11	25	83	71	-	57	24.5	24.5	18.5	-	111	3.5	17	20
	3	130	-	116.5	85	-	49.5	75	11	50	83	71	-	57	24.5	24.5	18.5	25	111	3.5	16.5	20
	4	130	-	116.5	85	-	49.5	100	11	75	83	71	-	57	24.5	24.5	18.5	50	111	3.5	16.5	20
RDM5-125M/H	2	152	-	132	88	31	52	62	14.5	30	109.5	96	-	82	28.5	28.5	18	-	129	4.5	1	6.5
	3	152	-	132	88	31	52	92	14.5	60	110	96	-	82	28.5	28.5	18	30	129	4.5	22	15.5
	4	152	-	132	88	31	65	122	14.5	90	110	96	-	82	28.5	28.5	18	60	129	4.5	22	16.5
RDM5-160S/L/M	2	150	-	133	88	31	52	62	14.5	30	93	79	-	65	23.5	23.5	22	-	129	3.5	1	16.5
	3	150	-	133	88	31	52	92	14.5	60	93	79	-	65	23.5	23.5	22	30	129	3.5	22	15.5
	4	150	-	133	88	31	52	122	14.5	90	93	79	-	65	23.5	23.5	22	60	129	3.5	22	16.5
RDM5-250S/L	2	165	-	145.5	102	33	53	75	14	35	96	76	-	67	23	23	25	-	126	4.5	2.5	15.5
	3	165	-	145.5	102	33	53	107	14	70	96	76	-	67	23	23	25	35	126	4.5	42.5	15.5
	4	165	-	145.5	102	33	53	142	14	105	96	76	-	67	23	23	25	70	126	4.5	43	15.5
RDM5-250M/H	2	165	-	145	102	33	53	75	14	35	112.5	94	-	85	22	22	24	-	126	4.5	2.5	15.5
	3	165	-	145	102	33	53	107	14	70	115	94	-	85	23	23	23	35	126	4.5	42.5	15.5
	4	165	-	145	102	33	53	142	14	105	115	94	-	85	23	23	23	70	126	4.5	43	15
RDM5-400L/M/H	3	258	178	224	132	53	100	150	35	96	152	115	101	99	38	38	31	44	194	7	57.5	30
	4	258	179	224	132	53	100	198	35	144	152	115	101	99	38	38	31	94	194	7	57.5	30
RDM5-630L/M/H	3	270	185	235.5	146	52.5	100	182	35.5	116	158	119	106	103	45	43	41	58	200	7	58	32
	4	270	185	235.5	146	52.5	100	240	35.5	174	158	119	106	103	45	43	41	116	200	7	58	31.5
RDM5-800L/M/H	3	280	205	243	148	52	100	210	35	140	159	122	109	105	40.5	42.5	45	70	243	7	53	24.5
	4	280	205	243	148	52	100	280	35	210	159	122	109	105	40.5	42.5	45	140	243	7	53	24.5

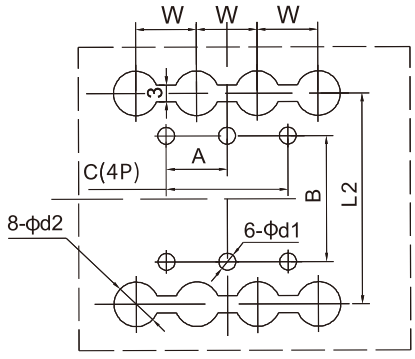


Model Number	Dimension code			
	(L11)	W3	L9	L10
RDM5-63L/M RDM5-125S/L	64	19	14	43
RDM5-125M/H RDM5-160S/L/M	-	23	24	40
RDM5-250S/L/M/H	-	23	30	44
RDM5-400L/M/H	-	47	39	66
RDM5-630L/M/H	-	47	39	66
RDM5-800L/M/H	-	47	42	66

RDM5 series rear panel wiring installation plate opening dimensions

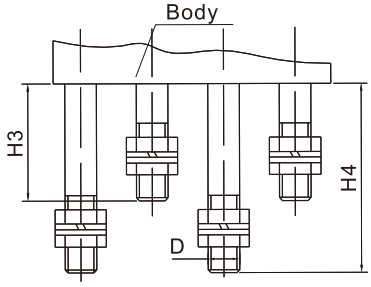


3P

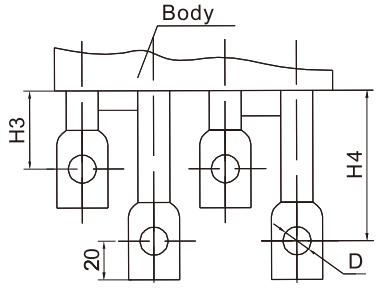


4P

RDM5 series rear panel wiring appearance and installation dimensions



RDM5-125M/H, 160, 250 rear panel wiring

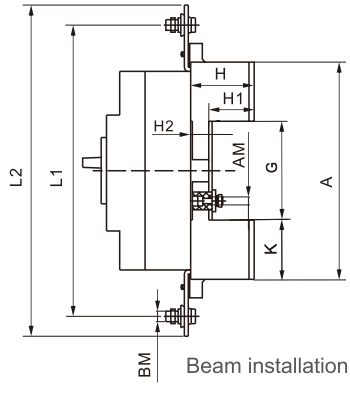


RDM5-400, 630, 800 rear panel wiring

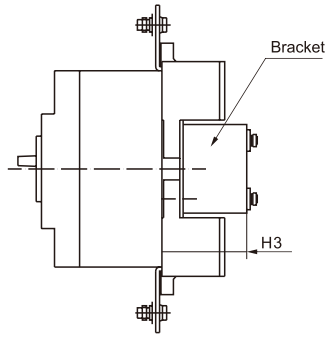
RDM5-125~800 rear panel wiring shape and mounting plate opening dimensions

Model No.	Dimension code									
	H3	H4	D	W	L2	d2	A	B	C	d1
RDM5-125M/H	40	73	M8	30	132	24	30	108	60	5.5
RDM5-160L/M										
RDM5-250L/M/H	46	79	M10	35	145	15	35	126	70	5.5
RDM5-400L/M/H	46	83	φ12	48	224	32	44	194	94	7
RDM5-630L/M/H	45	85	φ16	58	234	37	58	200	116	7
RDM5-800L/M/H	47	87	φ16	70	243	48	70	243	70	7.5

RDM5 series plug-in type front connection dimension



Beam installation

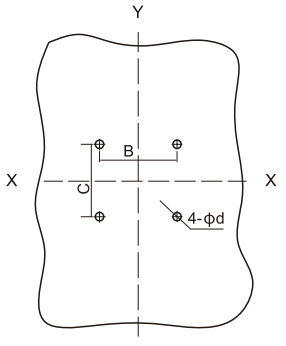


Flat installation

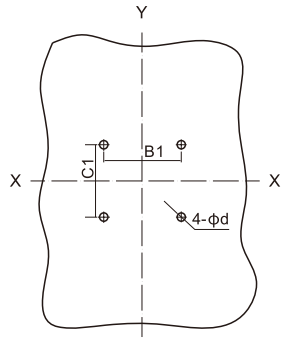
RDM5-125~800 plug-in type front connection appearance dimension

Model number	Dimension code										
	A	G	K	H	H_1	H_2	H_3	L1	L2	AM	BM
RDM5-125M/H	172	95	38.5	50.5	35	16.5	61	185	217	M6	M8
RDM5-160L/M											
RDM5-250L/M/H	183	95	44	52	35	18	65	230	259	M6	M10
RDM5-400L/M/H	276	170	53	79.5	67	18	–	322	352	M6	M10
RDM5-630L/M/H	299	163.5	67.5	84.5	65.5	20	98	368	397	M8	M12
RDM5-800L/M/H	303	179	62	87.5	60.5	28	118	375	405	M10	M12

Dimensions of the opening of the plug-in front connection plate (X-X, Y-Y is the center of the circuit breaker).



Beam installation

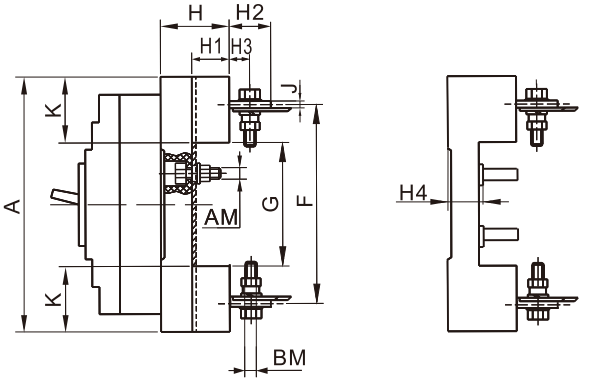


Flat installation

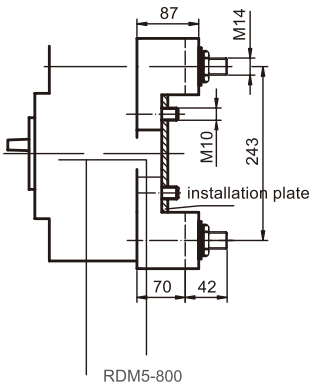
RDM5-125~800 plug-in front connection plate opening hole dimensions

Model number		RDM5-125M/H RDM5-160L/M	RDM5-250L/M/H	RDM5-400L/M/H	RDM5-630L/M/H	RDM5-800L/M/H
Number of poles		3	3	3	3	3
The opening hole of installation plate (mm)	B	66	70	115	90.5	90.5
	B1	50	60	–	65	65
	C	60	64	135	144.5	144.5
	C1	35	35	–	80	80
	d	6.5	6.5	6.5	8.5	11

RDM5 series plug-in rear connection dimensions and mounting plate opening dimensions



RDM5-125-630

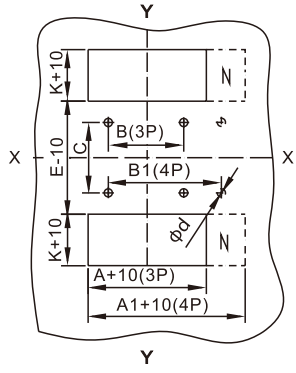


RDM5-800

RDM5-125~800 plug-in rear connection circuit breaker dimensions

Model number	Dimension code											
	A	F	G	J	K	H	H1	H2	H3	H4	AM	BM
RDM5-125S/L	155	116	91.5	2	22	48	30	47	15	17.5	M3.5	M5
RDM5-125M/H RDM5-160L/M	168	132	92	4	38	48	32.5	32.5	18	17	M6	M8
RDM5-250L/M/H	186	145	95	5.8	45.5	49.5	33.5	34	17	17	M6	M8
RDM5-400L/M/H	280	224	171	8	54.5	59.5	40	44	23.5	20	M8	M12
RDM5-630L/M/H	300	234	170	11.5	65	59	40	50	30	20	M8	M12
RDM5-800L/M/H	305	243	181	M14	62	/	60	-	-	28	M10	M14

Dimensions of opening of plug-in rear wiring installation plate (X-X, Y-Y are the center of the circuit breaker)



RDM5-125~800 plug-in rear wiring installation plate opening dimensions

Model No.		RDM5-125S/L		RDM5-125M/H RDM5-160L/M		RDM5-250L/M/H		RDM5-400L/M/H		RDM5-630L/M/H		RDM5-800L/M/H	
Poles		3	4	3	4	3	4	3	4	3	4	3	4
The opening hole dimension of installation plate (mm)	A	75	-	91	-	107	-	149	-	182	-	210	-
	A1	-	-	-	126	-	145	-	200	-	242	-	290
	B	50	-	60	-	70	-	60	-	100	-	90	-
	B1	-	-	-	90	-	105	-	108	-	158	-	162
	C	55	-	56		54		129		123		146	
	K	22	-	38		45.5		54.5		65		62	
	E	91.5	-	92		95		171		170		181	
	d	3.5	-	6.5		6.5		8.5		8.5		11	

Auxiliary contacts

Function

When the circuit breaker is at the statues of opening or free tripping, F12 and F11 is connected, F14 and F11 is breaking; When the circuit breaker is at the closing statues, F12 and F11 is breaking, F14 and F11 is connecting

Each set of auxiliary contacts is not electrically separated, and the parameters of the auxiliary contacts are shown in the table below.

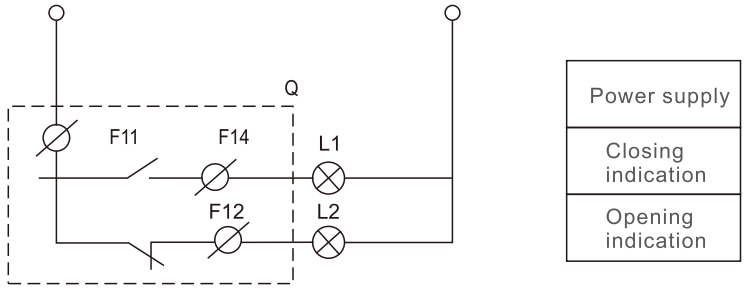
When the circuit breaker is at the position of "Opening"	F14, F12, F11 / F24, F22, F21	Frame size of circuit breaker is 400A and above
	F14, F12, F11	Frame size of circuit breaker is 250A and below
When the circuit breaker is at the position of "Closing"	When is at the "Opening", the contacts in the ON status turns to the OFF status When is at the "Opening", the contacts in the OFF status turns to the ON status	

Electrical characteristics

Operating voltage (V)		AC				DC		
		24	48	110	240/415	24	48	110/220
Rated current (A)	AC-15	6	6	5	2	-	-	-
	DC-13	-	-	-	-	2	1.2	0.25

Wiring diagram

The auxiliary contact can form a control loop with the indicator light. Through the indicator light, the operator can know the opening and closing position of the circuit breaker without opening the power distribution cabinet.

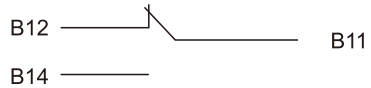
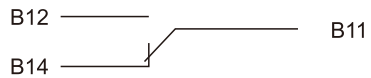


Alarming contacts

The alarm contact is mainly used to provide a signal when the circuit breaker load is overloaded, short-circuited or undervoltage and other faults or free tripping occur. When the circuit breaker is in the opened or closed state, B12 and B11 are connected, and B14 and B11 are disconnected. When the circuit breaker is in a tripped state, B12 and B11 are disconnected, and B14 and B11 are connected.

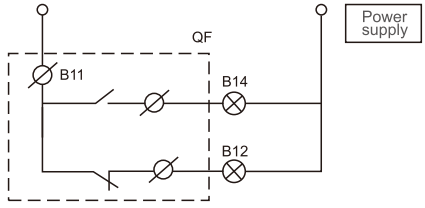
Function

- □ Overload or short-circuit faults
- □ Artificial test button tripping
- □ Shunt release action
- □ Circuit failure, the action of the undervoltage tripper indicates the opening and closing status of the circuit breaker

When the circuit breaker is at the position of “Opening” “Closing”	
When the circuit breaker is at the position of “Free tripping” alarming	

Wiring diagram

The alarm contact can be connected to the indicator light, buzzer, etc., and the operator can be notified in time when the circuit breaker is tripped.

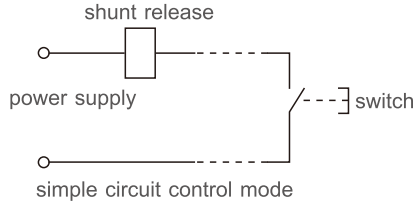


Parameter of Auxiliary contacts and alarming contacts

Classification	Rated current of frame size	Setting heating current A	AC-15			DC-13	
			Rated voltage V	Rated frequency Hz	Rated current A	Rated voltage V	Rated current A
Auxiliary contacts	Inm≤250	3	400	50	0.3	230	0.15
	Inm≥400	3			0.4		0.15
Alarming contacts	125≤Inm≤800	3			0.3		0.15

Shunt release

Shunt release is an accessory of remote control the products to open, when the power supply is equal to the any voltage among 70%~110% of the rated control power supply voltage, the shunt release can reliably action.



Electrical characteristics

Model No.	Power consumption of shunt coil (W)		
	AC400V	AC230V	DC24V
RDM5-63, 125, 160	96.8	73	91.2
RDM5-250	112	68.6	85.3
RDM5-400, 630, 800	68	58.2	100

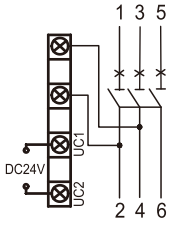
Action characteristics

Operating voltage of reliably action		70%~110%□Us
Power-on time (pulse type)	Min. value	10ms
	Max. value	1s
Response time		30ms
Operation cycles		1000

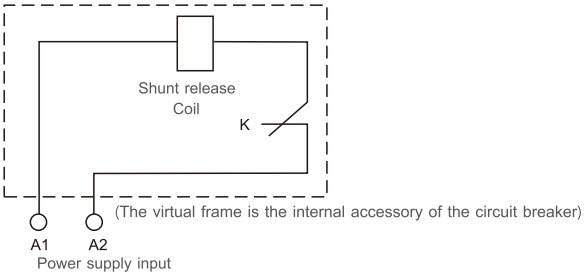
Wiring diagram

K: The micro switch connected in series with the coil inside the shunt release, is the NC contact, after the circuit breaker opened, this contact will break by itself, and close when the circuit breaker is closed.
When using the shunt release with the rated control power voltage of DC24V, the maximum length of the copper wire (the length of each of the two wires), must satisfy with the requirements of the below tables:

Conductor sectional area / Voltage DC24V	1.5mm²	25mm²
100%Ue	150m	250m
80%Ue	100m	1600m



DC24V
Wiring diagram



AC 50Hz 230V, 400V
Wiring diagram

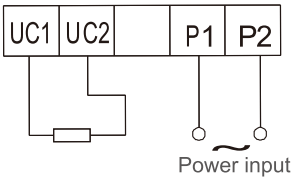
Undervoltage release

It can realize the undervoltage protection functions of thie circuit breaker, to break thie circuit breaker when the power voltage is over low,and protecting the equipments. When its power voltage reduces toone specified range, it can make the circuit breaker realize non-delaybreaking. breaking.When thevoltage reduces to the70%~35% of the rated control voltage, the undervoltage release should action; When it is lower than 35% of the release's rated voltage, the undervoltage release should prevent the circuit breaker closed; Within the 85%~110% of the rated control power power voltage, the undervoltage release should ensure the circuit breaker can reliably close.
Rated value of undervoltage release: AC50Hz, 230V, 400V.
Notice: the circuit breaker with the undervoltage release, it can only re-trip and close under the situation of the release is electrified with rated voltage.

Applicable voltage and power consumption

Rated control power supply voltage (Us)	AC 220~240V
	AC 380~415V
Power consumption (hold)	5W

Wiring diagram



Wiring diagram for undervoltage release

Electrical characteristics

Model No.	Power consumption of undervoltage coil (W)	
	AC400V	AC230V
RDM5-63, 125, 160	4	3.1
RDM5-250	4.3	3.3
RDM5-400, 630	3.6	2.5
RDM5-800	2	1.6

Action characteristics

Action condition	Reliably breaking	35%~70%
	Prevent closing	⩽35%
	Reliably closking	⩾85%
Response time	1s	
Operation cycle	1000	

Motor operation device (MOD)

Protection grade: IP40

Functions

- □ Button control the circuit breaker opening and closing
- □ Both can be freely selection of motor opening and closing or human operation manually opening and closing
- □ With the opening and closing indication as well as freely tripping indication

Operation

Selecting the operation type through manual/automatic rotate switch

□ Automatic operation

Switch “manual/automatic switch” to the “automatic” position, remotely give the signal of “closing or opening”, to realize the connecting and breaking of the circuit breaker.

□ Manual operation

Switch “manual/automatic switch” to the “manual” position, rotate operation handle to realize the connecting and breaking of the circuit breaker

Application

- □ Local motor operation, centralized operation, and automatically control
- □ Normal/backup power conversion, or switch to the backup power supply, to optimize the energy costs, etc.
- □ It is applicable for the circuit breaker remote motor closing, breaking and re-bulk as well as the occasions of automatic control
- □ Rated voltage of motor operation mechanism: AC400V, AC230V, DC220V;
- □ Operating voltage range of motor operation mechanism: 85%~110%Ue.

Motor operation mechanism type

□ CD2 AC, DC Type motor operation mechanism

Allowable voltage range of CD2 Motor operation mechanism:

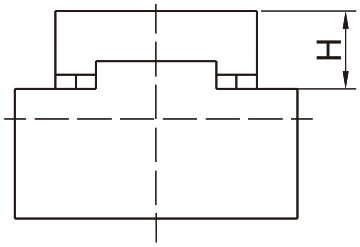
- □ CD2: the operation frequency for 125~250A is not over 180 times/h, action time≤0.7s;
- □ CD2: the operation frequency for 400~800A is not over 60 times/h, action time≤1s;
- □ Rated control power voltage: when at 400V, the allowable voltage range: 320~440VAC;
- □ According to the different operating forces of the circuit breaker, the electric operating mechanism of the switch with relatively small force can operate normally.

Structural form of the electric operating mechanism

Category \ Model	RDM5-63, 125, 250, 400, 630, 800
Structure form	Electric motor
Voltage	50Hz, 230V, 400V

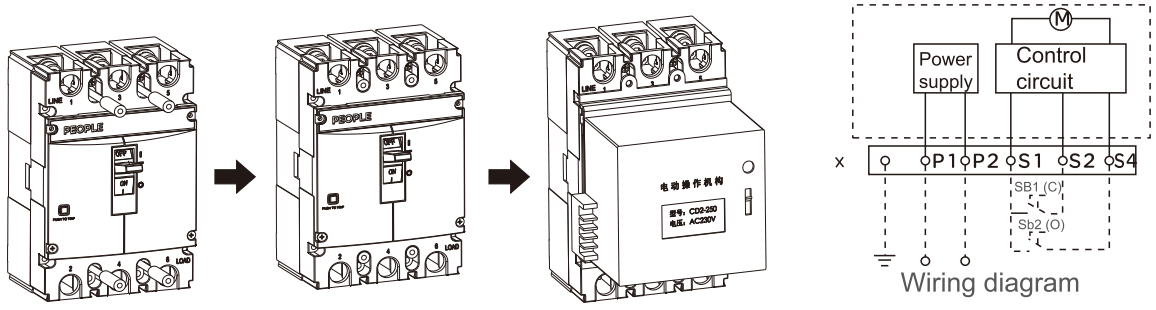
Note: After the circuit breaker with the electric operation mechanism is tripped, the electric operating mechanism must make the circuit breaker re-trip, and then closing.

The height of RDM5 series circuit breaker motor operating mechanism is shown in Table 11.

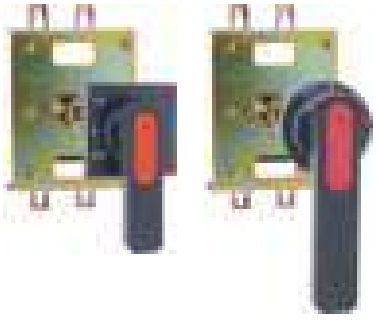


Model	RDM5-63L, M RDM5-125L	RDM5-125M RDM5-160L, M	RDM5-250 L, M, H	RDM5-400 L, M, H	RDM5-630 L, M, H	RDM5-800 L, M, H
Height H	95	94	90	145	145	147

Schematic diagram of CD2 motor installation and operation:



⚠ After the circuit breaker with the electric operating mechanism is tripped and tripped, the electric operating mechanism must first open the gate before it can close the gate.



Rotation handle operation mechanism

According to human mechanics, the rotating handle adopts an unique design and transmission structure. The closing and re-buckling of the circuit breaker are realized through the rotating handle. Flexible operation, smooth, low operating force, easy installation.
The position of the rotation handle exactly indicates the position of the circuit breaker contacts: open, closed or free trip.

Classification of rotating handle

☐ Direct rotating handle (RHD)

☐ Extended rotating handle(ERH)

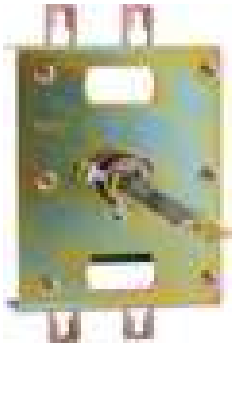
Characteristics of rotating handle

☐ When the circuit breaker is at the closing status, under the function of rotating handle, it cannot opening the cabinet door

☐ If require to emergently open the cabinet door, it can use the emergent unlock device on the handle to open the cabinet door

☐ Corresponding to different specifications of circuit breakers, with each matching extended hand -operated handles, their opening size of the door panel are the same

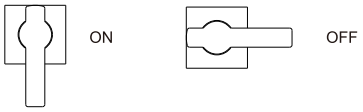
☐ Small operation force, high reliably



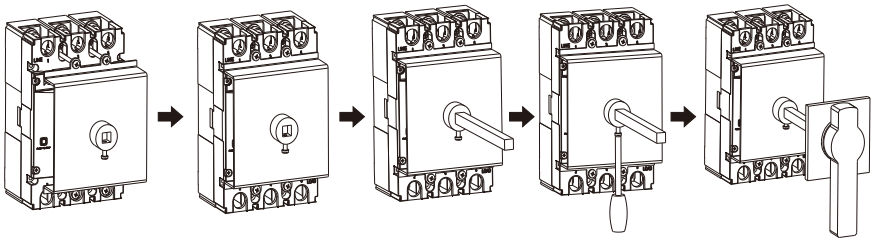
Extended rotating handle (ERH)

Operation instructions

ON/OFF Operation



Installation diagram

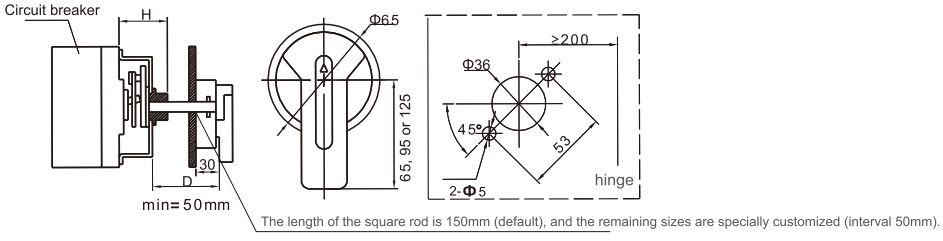


1. Align the direction of manual installation; 2. Tighten the mounting screws; 3. Install an extended screw; 4. Fixed screw; 5. Install an extended handle

Note: The default standard configuration of the screw length is 150mm at the factory. If you need other special customization, please contact the factory (increase or decrease in units of 50mm).

Rotating hand mechanism

When the manual mechanism is installed, first open the hole according to the size shown, and turn the handle “OFF” on the door panel of the switch cabinet to indicate that the handle is fixed in the horizontal position. Then try to operate the handle, the rotation should be flexible, and the circuit breaker should be closed when the handle is in the horizontal position, and the circuit breaker should be closed when the handle is in the vertical position.

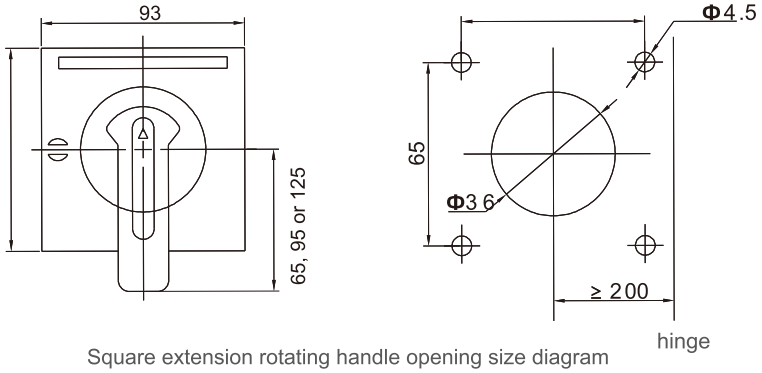


Size diagram of manual operation mechanism

Circular extension rotating handle opening size diagram

Size diagram of manual operation mechanism for 63~800A

Rotating manual mechanism

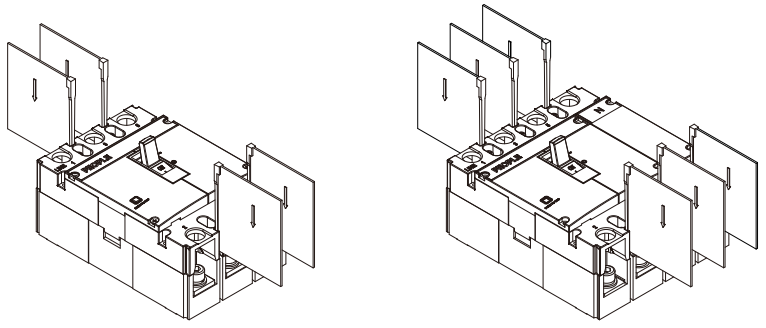


Square extension rotating handle opening size diagram

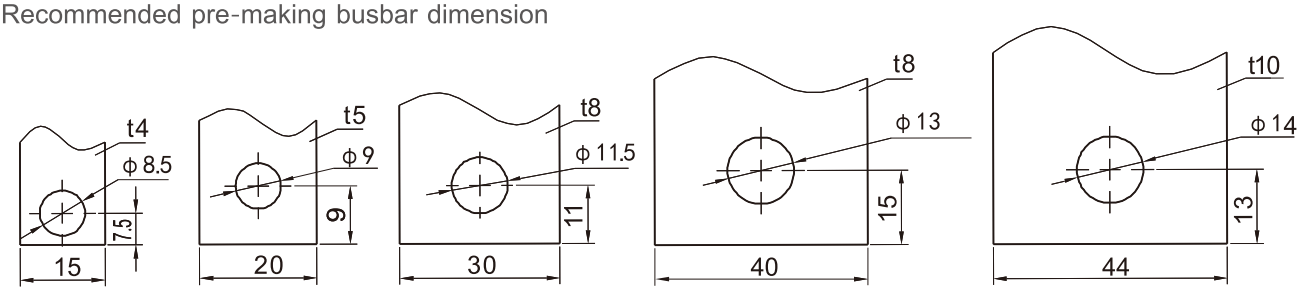
Model No.	RDM5-63L、M RDM5-125L	RDM5-125M、H RDM5-160L、M	RDM5-250 L、M、H	RDM5-400 L, M, H	RDM5-630 L、M、H	RDM5-800 L、M、H
Installation size H	51	61	57	88	88	87
The Y value of the operating handle relative to the center of the circuit breaker	0	0	0	0	0	0

Phase separator

The phase separator can enhance the insulation performance of the phase conductor, even after the switch is installed, it can be installed from the front slot. The phase separator is standard at the factory, and a circuit breaker has 2 pieces (2P), 4 pieces (3P), and 6 pieces (4P).



Recommended pre-making busbar dimension



RDM5 series recommended pre-making busbar dimensions

Screw tightening torque

Model No.	RDM5-125S	RDM5-63 L/M RDM5-125L	RDM5-125 M/H RDM5-160S/L/M	RDM5-125 M/H RDM5-160S/L/M	RDM5-400L/M/H	RDM5-630L/M/H	RDM5-800L/M/H
Contact screw specifications	M6	M8	M8	M8	M12	M12	M12
Torque (N·m)	5	8	10	10	20	26	28

RDM5E

Electronic type Moulded Case Circuit Breaker

Description

RDM5E Series Electronic type MCCB is suitable for the distribution circuits of AC50Hz, rated insulation voltage of 1000V, rated operating voltage 690V and below, rated current up to 800A, which is used to distribute the electric and protect the circuits and the power equipment avoid the damages of over-load, short-circuit and under-voltage etc. faults. The circuit breaker below 630A can also be used as the protection of the motor. Under the normal situation, the circuit breaker can also be used as the circuit's infrequently switching and motor's infrequently startup. The circuit breaker has the protect function of over-load long time delay reverse time limit, short-circuit short delay reverse time limit, short circuit short delay fixed time limit, short circuit instantaneous and under-voltage. This product has the characteristics of small size, high breaking capacity, short arcing, convenient installation of accessories and anti-vibration.

Normal operating condition and installation condition

1.Installation location no more than 2000m

2.Temperature: not higher than +40℃,and no lower than -25℃, and the average temperature no higher than +35℃

3.The relative humidity: no more than 50%,when temperature is +40℃.The product can withstand the higher humidity under lower temperature, for instance, when temperature at +20℃, the product can withstand 90% relative humidity.

4.Class of pollution: 3 Class

5.Main circuit breaker installation type: III class, Auxiliary circuit and control circuit installation type: II class

Main function characteristics

Intelligent controller is the main parts of the MCCB, it is applicable for the motor protection or the distribution protection, to realize the measurement, protection, control and communication functions are integrated, so that the line and power equipment are free from overload, short circuit, grounding and other fault damages.

Using MCU micro processing controller, stable and reliable performance: this intelligent controller can supply the power, only one phase is electrified, when the current is not lower than 35% of its rated current, all can ensure the protection function is working normally.

- ☐ Selective cooperation has three-stage protection: the circuit breaker of class B and other short circuit protection devices can selectively cooperate under short circuit conditions; the setting of overload long delay reverse time limit, short circuit delay (reverse time limit, fixed time limit), short circuit instantaneous and other protection function parameters
- ☐ With three parameter sets of action current and action time, it can be adjusted from 4-10 stages: the user can adjust the controller according to the load current requirements, or choose to close the corresponding function
- ☐ High current instantaneous tripping function: when the circuit breaker is closed for operation, if has the short circuit high current (≥20Inm, the circuit breaker magnetic tripping mechanism can be directly disconnected, the double protection is more reliable and safe;
- ☐ With the tripping test (test) function: input DC DC12V voltage to test the circuit breaker action characteristics;
- ☐ Fault self-diagnosis function: to protect and detect the working state and operation situation of the intelligent controller itself;
- ☐ With the forecast warning indication, overload indication: when the load current reaches or exceeds the setting value, the light guide column exports the light source;
- ☐ Magnetic flux converter double air gap technology: work more reliable and stable, prevent misoperation, reliable tripping, low power;
- ☐ High protection accuracy: overload protectidn, short circuit, short delay protection action current accuracy of +10%; short circuit instantaneous protection value accuracy of ± 15% depends on the action current;

Optional functions

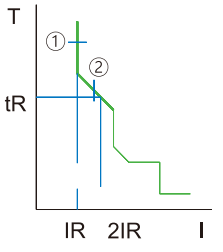
- ☐ Dual passive signal output function: signal (or alarm), AC230V3A;
- ☐ With fire protection shunt function: overload alarm does not trip (provide a pair of passive contacts) and provide shunt release function
- ☐ With communication function: standard RS485, Modbus Fieldbus Agreement

Main technical parameter

	RDM5E-125		RDM5E-250		RDM5E-400		RDM5E-800	
Rated current of frame size Inm (A)	125		250		400		800	
Rated current (A)	32, 63, 125		250		400		630, 800	
Poles	3,4		3,4		3,4		3,4	
Rated frequency (Hz)	50							
Rated insulation voltage Ui (V)	AC 1000							
Rated impulse withstand voltage Uimp (V)	12000							
Rated working voltage Ue (V)	400/690V							
Arcing distance (mm)	⩽50		⩽50		⩽100		⩽100	
Rated short circuit breaking capacity	M	H	M	H	M	H	M	H
Rated limit/Rated operation Icu/Ics (KA) at 400V	35/23	50/35	35/23	50/35	50/35	70/50	50/35	70/50
Rated limit/Rated operation Icu/Ics (KA) at 690V	15/8	20/10	15/8	20/10	15/8	20/10	15/8	20/10
Rated short-time withstand current Icw (kA/1s)	1.5		3		5		10	
Usage category	A		A		B		B	
Confirms to standard	IEC60947-2							
Using environment condition	-35~+70℃							
Electrical life (cycles)	5000		3500		1500		500	
Mechanical life (cycles)	10000		10000		5000		3000	
Front connection	■	■	■	■	■	■	■	■
Rear connection	■	■	■	■	■	■	■	■
Plug-in connection	■	■	■	■	■	■	■	■
Undervoltage release	■	■	■	■	■	■	■	■
Shunt release	■	■	■	■	■	■	■	■
Auxiliary contacts	■	■	■	■	■	■	■	■
Alarming contacts	■	■	■	■	■	■	■	■
Motor operation mechanism	■	■	■	■	■	■	■	■
Manual operation mechanism	■	■	■	■	■	■	■	■
Intelligent control module	■	■	■	■	■	■	■	■
Testing power module	■	■	■	■	■	■	■	■

Main functional configuration of the power distribution system

Overload long delay protection
Overload long delay protection is used to prevent overheating of lines and equipment under overload.



No.	Parameter	Illustration
①	I_R	Overload long delay tripping setting current
②	t_R	Overload long delay setting time

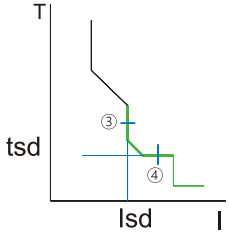
□ Overload long delay reverse time limit protection action characteristics

Items	Framse size Inm(A)	Rated current In(A)	Range（A）
Current Set Point (IR) [Encoder 1]	125	32	IR=12.5-14-16-18-20-22-25-28-30-32
		63	IR=25-32-36-40-45-50-56-63
		125	IR=50-56-63-70-75-80-90-100-112-125
	250	250	IR=100-112-125-140-150-160-180-200-225-250
	400	400	IR=160-180-200-225-250-280-315-350-375-400
	800	630	IR=250-280-315-350-375-400-450-500-560-630
		800	IR=315-350-400-450-500-560-630-700-760-800
Action characteristics			I＞1.3IR, action within 1h, I≤1.05IR, no action＞2 h, current allowable error: ±10%
Characteristics curve	Time setting value (s) [Encoder 2]		tR=12-60-80-100-OFF @2IR（Inm=125、250）；When tR=OFF, close the overload long delay protection function
			tR=12-60-100-150-OFF @2IR（Inm=400~800）；When tR=OFF, close the overload long delay protection function
	Action time		Action time confirms to $T=(\frac{2IR}{I})^2 tR$ Time allowable error：± 20%

Remark:
1. Overload long delay protection has thermal memory function, the cooling time default 30 min., the controller power-off automatically removes the thermal memory value.
2. When the overload alarming but not trip accessory is connected, the breaker automatically startup the overload alarming not trip function, action characteristics curve is the same with overload long delay protection function. When tR=OFF, close the overload long delay protection function and alarming but not trip function

Short-circuit short delay protection

Short circuit short delay protection is for medium strength short circuit faults and provides selective protection for the distribution system.



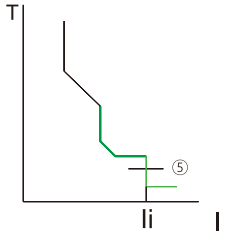
No.	Parameter	Illustration
③	Lsd	Short circuit short delay tripping setting current
④	Tsd	Short circuit short delay setting time

□ Short circuit short delay protection action characteristics

Item	Frame size Inm(A)	Rated current In(A)	Range（A）
Current setting value（IR） [Encoder 3]	125~400	32~400	Isd=（2-2.5-3-4-5-6-7-8-10-12）×IR
	800	630~800	Isd=（2-2.5-3-3.5-4-5-6-7-8-10）×IR
Action characteristics			I＞1.1Isd action，I≤0.9Isd no action current allowable error：±10%
Characteristics curve	Time setting value (s) [Encoder 4]		tsd=0.06-0.1-0.2-0.3-OFF（When tR=OFF, close the short-circuit delay protection function)
	Action time		When tsd≤I＜1.5Isd, reverse time limit action. Characteristics curve: $T=(\frac{1.5Isd}{I})^2$ tsd Time allowable error: fixed error ±20ms，±20% When 1.5Isd≤I＜Ii, fixed time limit action tsd=0.06s，±0.03s tsd=0.1s，±0.04s tsd=0.2s，±0.05s tsd=0.3s，±0.06s

Short circuit instantaneous protection

Short circuit transient protection is for severe short circuit faults and provides quick cut-off protection for the power distribution system.



No.	Parameter	Illustration
⑤	Ii	Instantaneous tripping setting current

Item	Frame size Inm(A)	Rated current In(A)	Range（A）
Current setting value （IR） [Encoder 5]	125~800	32~800	Ii=（3-4-5-6-7-8-10-12-14-OFF）×IR
Action characteristics			I＞1 .1 5Ii Instantaneous protection action, I≤0.85Ii nstantaneous protection no action current allowable error：±15%

Overload forecast alarm [Encoder 6]

The encoder 6 may be used to set up the overload forecast alarm function parameters

Item	Frame size Inm(A)	Rated current In(A)	Range（A）
Forecast alarm current（IP）	125~800	32~800	Ip=（0.7-0.75-0.8-0.85-0.9-0.95-1-OFF）×IR
Action characteristics			I＞1 .0Ip Forecast alarm indicator lights，I≤0.9Ip forecast alarm indicator do not light

Overload indication

The panel overload indicator lamp is used to monitor the load current status

Items	Frame size Inm(A)	Rated current In(A)	Range（A）
Overload indication	125~800	32~800	1.05IR
Action characteristics			I＞1 .05IR Overload indicator lights，I≤1.0IR overload indicator do not light

Operation indication

Panel operation indicator is used to monitor the operation status of the controller

Items	Frame size Inm(A)	Rated current In(A)	Range
Running indication	125~800	32~800	0.4In
Action characteristics			I＞0.4In Running indication twinkle (period 1s, duty cycle 50%), I ≤0.35In running indication does not light

Prepayment function

After the product is connected to the prepaid accessories, they will receive the AC220V control signal output by the electricity meter. Action characteristics are shown in the following table:

Meter signal	Circuit breaker action characteristics
0VAC	Allow the opening and closing operation
220VAC	Delay 3 seconds automatic opening, prohibit reclosing

Communication function

The controller has a communication function, which needs to be implemented with the corresponding accessories.

Communication characteristics parameter

- □ Interface：The controller is connected with external communication accessories, which is the standard RS485 interface
- □ Baud rate (bps): the default is 38400, the remote control can set the range of 2400,4800,9600,19200,38400.

Communication format：

- □ Data bit：8；
- □ Check position: occasional；
- □ Stop position: 1；
- □ Communication protocol: ModBus RTU, slave mode;
- □ Device address: 10 (default), remote adjustment can set the range of 1~255.

Motor protection main function allocation

Overload long time delay protection

Item	Frame size Inm(A)	Rated current In(A)	Range（A）
Current setting value（IR）【Encoder 1】	125	32	IR=12.5-14-16-18-20-22-25-28-30-32
		63	IR=25-32-36-40-45-50-56-63
		125	IR=50-56-63-70-75-80-90-100-112-125
	250	250	IR=100-112-125-140-150-160-180-200-225-250
	400	400	IR=160-180-200-225-250-280-315-350-375-400
	800	630	IR=250-280-315-350-375-400-450-500-560-630
		800	IR=315-350-400-450-500-560-630-700-760-800
Action characteristics			I＞1 .2IR,action within 1h,I≤1.05IR, no action＞2 h, the current allows error：±10%
	Tripping category【Encoder 2】		tR=12-60-80-100-OFF @2IR （Inm=125、250）；
			tR=12-60-100-150-OFF @2IR （Inm=400~800）；

Characteristics curve	Category	125~250 Frame action characteristics/time																	
		based on I^2t action																	
	1.05IR(cooling statues)	No action within 2h																	
	1.2IR(cooling statues)	No action within 1h																	
	1.5IR(cooling statues)	21.3s	107s	142s	178s	21.3s	107s	178s	267s	14.2s	21.3s	28.4s	42.7s	56.9s	85.3s	113.8s	170.7s	227s	455.1s
	2IR‡R(cooling statues)	12s	60s	80s	100s	12s	60s	100s	150s	8s	12s	16s	24s	32s	48s	64s	96s	128s	256s
	7.7IR(cooling statues)	0.93s	4.63s	6.17s	7.72s	0.93s	4.63s	7.72s	11.6s	0.62s	0.93s	1.23s	1.85s	2.47s	3.7s	4.94s	7.41s	9.88s	19.75s
	Tripping grade	—	10A	10	20	—	10	20	30	—	—	5	5	10A	10A	10	10	20	30
	Action time allowable error：±20%																		

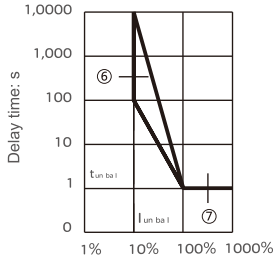
Remarks:
1. Overload long time delay protection has thermal memory function, the default cooling time is 30min, the controller automatically cleans the thermal memory value when cut off.
2. When the overload alarm without tripping is connected in, the overload alarm without tripping function will be automatically startup, the action characteristics curve is the same with the overload long time delay protection function. When tR=OFF, turning off the overload long time delay protection function and alarm without tripping function.

Overload pre-alarming

Item	Frame size Inm(A)	Rated current In(A)	Range（A）
Pre-alarm current（IP）	125~800	32~800	Ip=1.0×IR（Fixed）
Action characteristics			I＞1 .0Ip The pre-alarm indicator lights up ，I≤0.9Ip the pre-alarm indicator does not light up

Current imbalance protection【Encoder 6】

Encoder 6 can be used to do parameter setting devices for current imbalance protection. Current imbalance protection is one of the basic functions of motor protection, which can eliminate the faults of motor jitter and burning out caused by current imbalance and phase deficiency.



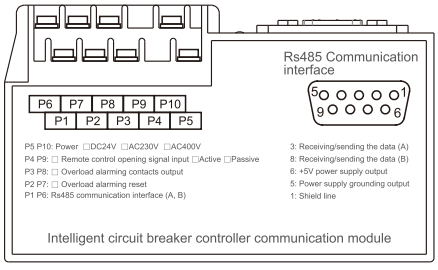
S/No.	Parameter	Illustration
⑥	L_{unbal}	Current imbalance rate setting value
⑦	T_{unbal}	Current imbalance rate protection setting time

Item	Frame size Inm(A)	Rated current In(A)	Range（A）
Current imbalance rate (%)	125~800	32~800	Iunbal=（10-20-30-40-50-60-70-80-90-OFF）%
Action characteristics			I＞1.1Iunbal action，I≤0.9Isd no action
Characteristics curve			T=max {(Iunbal) $\times\frac{1}{\text{tunbal}^2}$,tunbal} ,tunbal=1s； Time allowable error：±10%；
Method of calculating the current imbalance rate			in formula：Iavg= $\frac{\sum_{j=1}^{3} Ij}{3}$, Iavg $\varepsilon i=\frac{\text{Max}\lvert Ij-Iavg\rvert}{Iavg}\times 100\%$ Is the average of the three-phase current, and Ij is the effective value of the J phase current. Note: The current in the above formula refers to the effective value

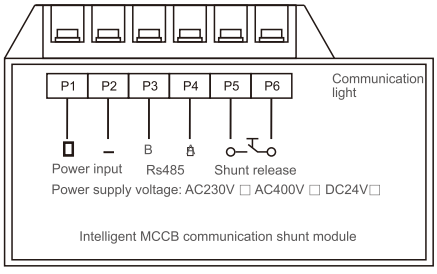
Accessory function allocation

Specification allocation

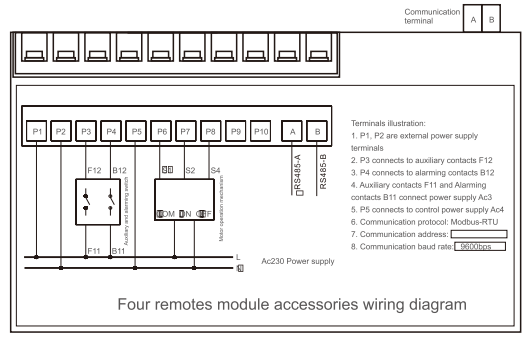
No.	Name	10p accessory function	Rated power voltage (range)	Rated control signal voltage (range)
1	Four remote accessories	Four remote communication+ Reset button+working indication	DC24V (85%~110%)	Status signal DC24V (85%~110%) Motor operation signal DC24V
			AC230V (85%~110%)	Status signal AC230V (85%~110%) Motor operation signal AC230
Remark: Reset button function, pressing and holding for 5s; Communication baud rate, communication address and other parameters are restored to factory values				

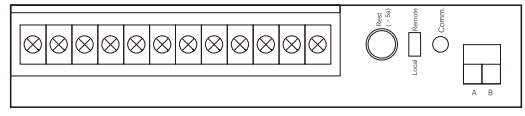


Alarming does not trip module

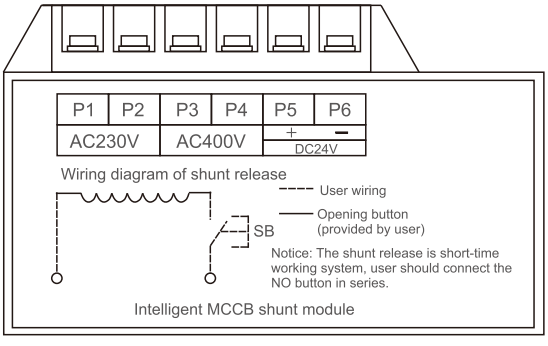


Intelligent circuit breaker communication shunt module

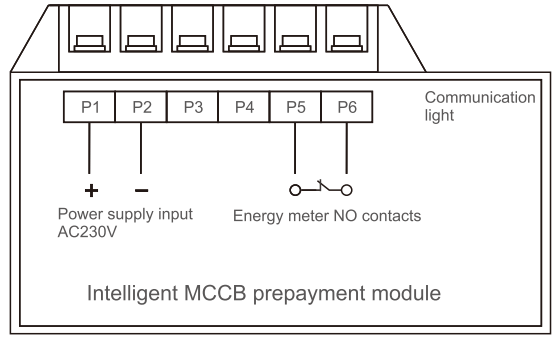




Four remotes communication module



Intelligent circuit breaker shunt module



Prepayment module

Technical parameters for the accessories devices

Rated value of auxiliary contacts and alarming contacts

Classification	Rated current of frame size Inm (A)	Setting thermal current Ith (A)	Rated working current Ie (A)	
			AC400V	DC220V
Auxiliary contacts	Inm≤400	3	0.3	0.15
	Inm≥400	3	0.4	0.15
Alarming contacts	100≤Inm≤800	3	0.3	0.15

Rated control power voltage (Us) and rated working voltage (Ue) of control circuit release and electric operation mechanism

Type			Rated voltage（V）	
			AC50Hz	DC
Release	Shunt release	Us	230、400	24
	Undervoltage release	Ue	230、400	——
Electric operation mechanism		Us	230、400	110、220

☐ External voltage of shunt release is within 70%~100% of rated control power voltage, it should reliably break the circuit breaker.

☐ When the power voltage reduces to the 70%~35% of the undervoltage release's rated voltage, the undervoltage release should reliably break the circuit breaker. When the power voltage is lower than 35% of the undervoltage release's rated voltage, the undervoltage release can prevent the circuit breaker closing. When the power voltage is higher than 85% of the undervoltage release's rated voltage, the underv -undervoltage release can ensure the circuit breaker reliably close.

☐ When the electric operation mechanism is under the rated frequency, and the power voltage between 85%~110%, it can reliably close the circuit breaker.

☐ Power consumption

Model No.	Electrified current（A）	Three-phase total power loss（VA）	
		Front and rear wiring	Plug-in type wiring
RDM5E-125	125	35	40
RDM5E-250	250	62	70
RDM5E-400	400	115	125
RDM5E-800	800	262	294

☐ Capacity reduction coefficient of ambient temperature change (all measured under the rated current of the same case frame)

Capacity reduction coefficient / Environment temperature / Model No.	+40℃	+45℃	+50℃	+55℃	+60℃	+65℃	+70℃
RDM5E-125	1In	1In	1In	0.97In	0.95In	0.92In	0.9In
RDM5E-250	1In	1In	1In	0.96In	0.93In	0.89In	0.86In
RDM5E-400	1In	1In	1In	0.97In	0.95In	0.92In	0.9In
RDM5E-800	1In	1In	1In	0.96In	0.93In	0.89In	0.86In

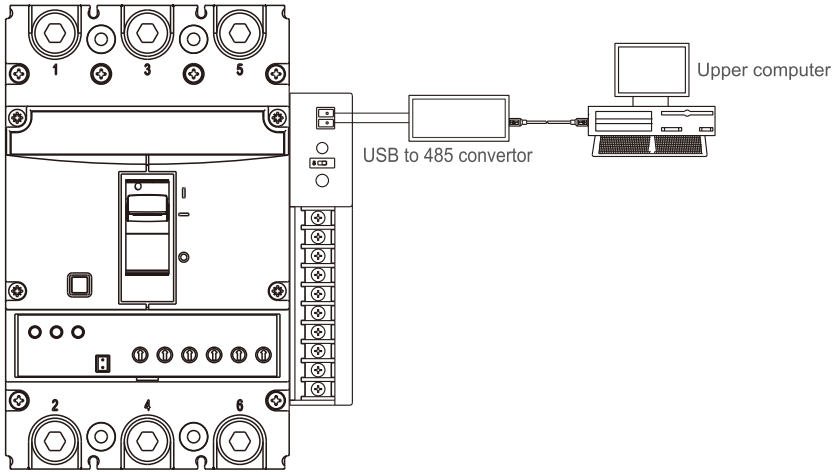
Communication function

☐ RDM5E MCCB with the electric operation mechanism is connected with the upper computer (such as computer), it can realize the remote "Four remote" function through the communication interface, RS485 interface, Modbus-RTU protocol, communication baud rate 9600K.
Additionally, adding the RDM5E MCCB controller (optional accessories) can be directly read and modify the parameters of the circuit breaker in the field.

☐ Communication interface and external module of electronic type MCCB

☐ RDM5E communication MCCB has the communication interface, MODBUS communication protocol

- ☐ When the RDM5E communication MCCB is not used for the network communication but for singly use, the handheld programmer can adjust the protection characteristics of the circuit breaker through the communication interface, the RD-CD LCD display module can also be connected to the communication interface to monitor the operating current and fault information of the circuit breaker.
- ☐ When RDM5E communication MCCB is used for the network, it can be directly connected to the responding field bus. Refer to the field bus with different protocol, can use RD-DP protocol conversion module, to converse the MODBUS protocol and connect to the responding field bus.
- ☐ The communication network of RDM5E series communicable electronic plastic case circuit breaker can be connected with reference to the scheme in the figure below



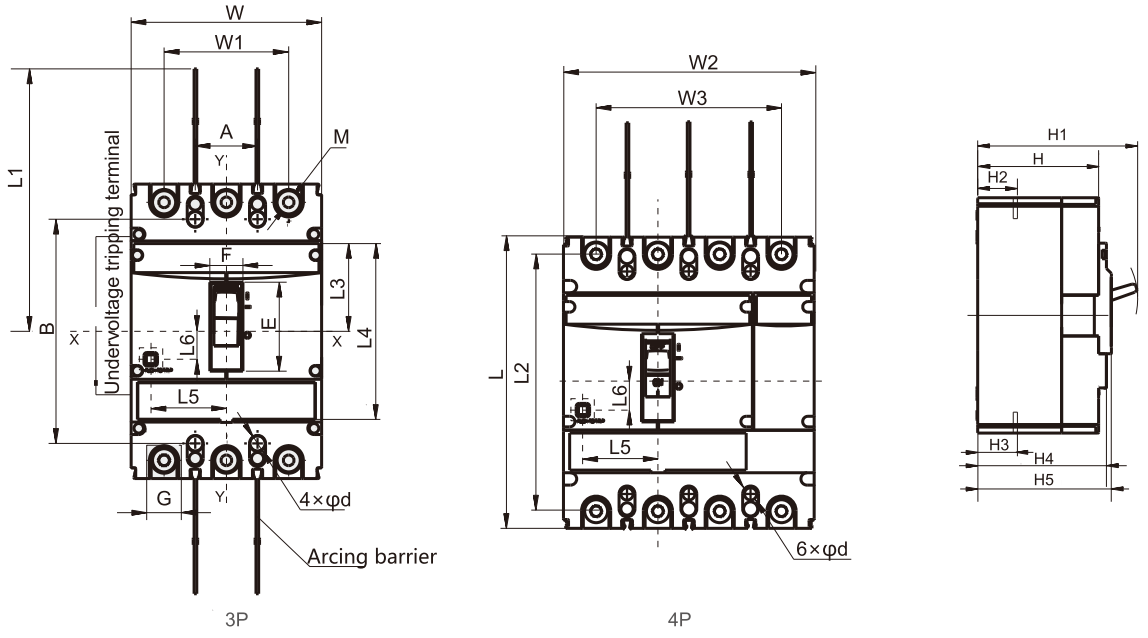
RDM5ESeries communication electronic type MCCB function configuration

●Basic function △ Optional function

Function \ Type	RDM5E Basic type	RDM5E(Z) Intelligent type	RDM5E(X) Fire-proof type	RDM5E(F) Prepaid type
Overload long delay setting	●	●	●	●
Short circuit short delay setting	●	●	●	●
Short circuit instantaneous setting	●	●	●	●
Overload, forecast alarm indication	●	●	●	●
Release testing function	●	●	●	●
Fault self-diagnosis function	●	●	●	●
Dual-channel passive signal output	-	●	△	-
Communication function module	-	●	△	-
Shunt function	-	△	△	-
intelligent control module	-	△	△	-
Fire-proof function	-	-	●	-
Prepaid function	-	-	-	●

Overall and installation dimension

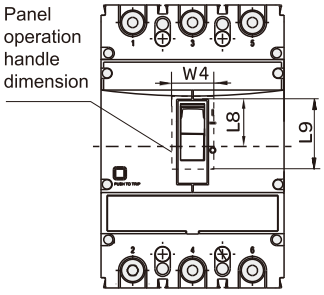
Overall dimension of front board wiring to see diagram 1（X-X、Y-Y is the center of the circuit breaker）



Fixed type front board wiring

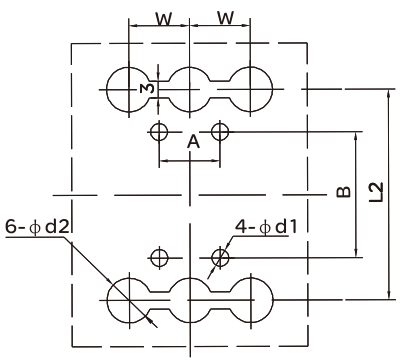
Model No.	Front board wiring																		Button position	
	W	W1	W2	W3	L	L1	L2	L3	L4	H	H1	H2	H3	H4	H5	E	F	G	L5	L6
RDM5E-125	92	60	-	-	150	125	132	43	92	82	112	29	29	93	96	43	19	18	22	16
RDM5E-250	107	70	142	105	165	136	144	52	104	85	115	23	23	90.5	94	50	19	23	42.5	15.5
RDM5E-400	150	96	198	144	257	228	224	69	159	99	152	38	38	104	115	80	42	31	57.5	30
RDM5E-800	210	140	280	210	280	240	243	80	178	103	158	41	44	112	122	82	42	44	53	24.5

Panel operation handle dimension

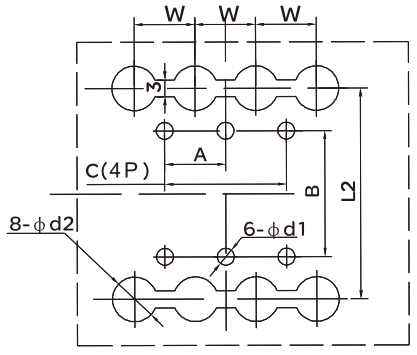


Model No.	Code		
	W4	L8	L9
RDM5E-125	23	24	40
RDM5E-250	23	30	44
RDM5E-400	47	39	66
RDM5E-800	47	42	66

RDM5E Series back board wiring installation board hole-opening dimension

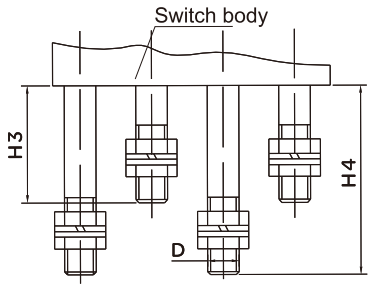


3P

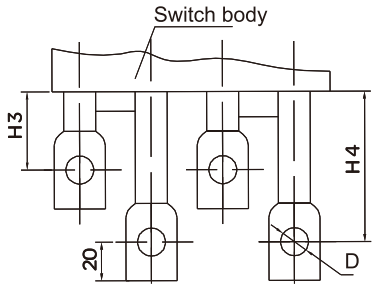


4P

RDM5E series back-board wiring overall and installation dimension



RDM5E-125, 250 Fixed type back board wiring

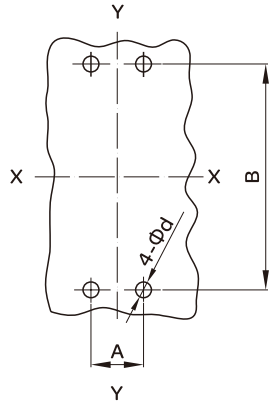


RDM5E-400、800 Fixed type back board wiring

RDM5E-125~800 Back-board wiring overall and installation board hole-opening dimension

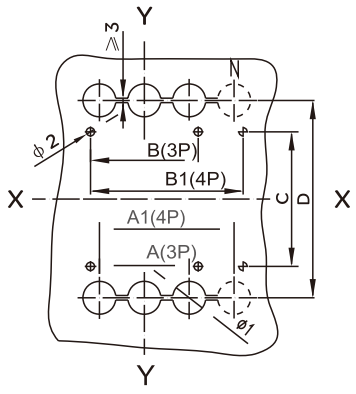
Model No.	Code									
	H3	H4	D	W	L2	d2	A	B	C	d1
RDM5E-125	40	73	M8	30	132	24	30	108	60	5.5
RDM5E-250	46	79	M10	35	145	15	35	126	70	5.5
RDM5E-400	46	83	φ12	48	224	32	44	194	94	7
RDM5E-800	47	87	φ16	70	243	48	70	243	70	7.5

Front board wiring installation board hole-opening dimension（X-X、Y-Y is the center of the circuit breaker）



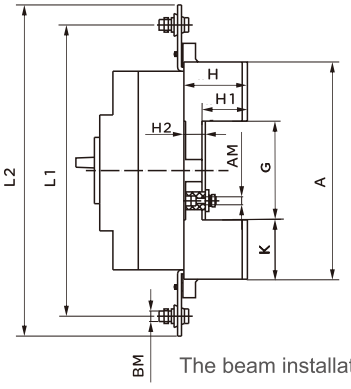
Model No.		RDM5E-125		RDM5E-250		RDM5E-400		RDM5E-800	
Pole		3	4	3	4	3	4	3	4
Installation board hole opening dimension (mm)	A	30	60	35	70	44	94	70	140
	B	129		126		194		243	
	d	4.5		4.5		7		7	

Back board wiring installation board hole-opening dimension（X-X、Y-Y is the center of the circuit breaker）

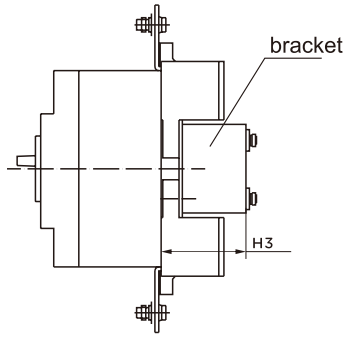


Model No.		RDM5E-125		RDM5E-250		RDM5E-400		RDM5E-800	
Pole		3	4	3	4	3	4	3	4
Installation board hole opening dimension (mm)	A	60	-	70	-	96	-	140	-
	A1	-	90	-	105	-	144	-	210
	B	30	-	35	-	44	-	70	-
	B1	-	60	-	70	-	94	-	70
	C	108		122		194		243	
	D	132		145		224		243	
	φ1	22		24		32		48	
	φ2	5.5		5.5		7		7	

RDM5E series plug-in type front board overall dimension



The beam installation

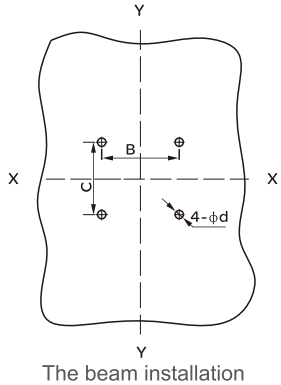


Flat surface installation

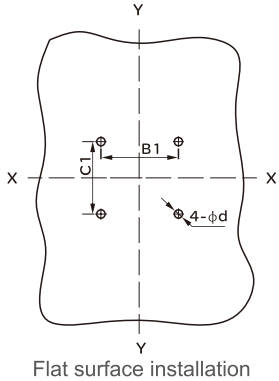
RDM5E-125～800 plug-in type front board circuit breaker overall dimension

Model No.	Code										
	A	G	K	H	H_1	H_2	H_3	L1	L2	AM	BM
RDM5E-125	172	95	38.5	50.5	35	16.5	61	185	217	M6	M8
RDM5E-250	183	95	44	52	35	18	65	230	259	M6	M10
RDM5E-400	276	170	53	79.5	67	18	-	322	352	M6	M10
RDM5E-800	303	179	62	87.5	60.5	28	118	375	405	M10	M12

Plug-in type front board wiring installation board hole-opening dimension（X-X、Y-Y is the center of the circuit breaker）



The beam installation

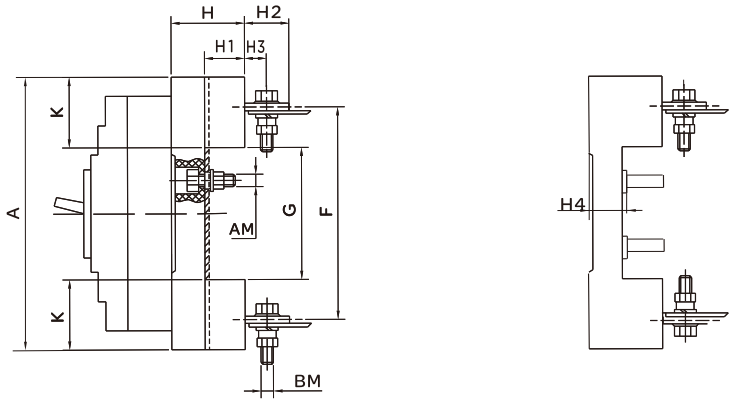


Flat surface installation

RDM5E-125~800 Plug-in type front board wiring installation board hole opening dimension

Model No.		RDM5E-125	RDM5E-250	RDM5E-400	RDM5E-800
Pole		3	3	3	3
Installation board hole opening dimension (mm)	B	66	70	115	90.5
	B1	50	60		65
	C	60	64	135	144.5
	C1	35	35	-	80
	d	6.5	6.5	6.5	11

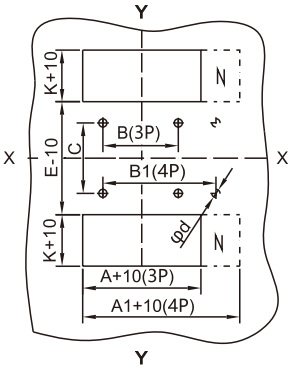
RDM5E series plug-in type back board overall dimension and installation board hole-opening dimensiona



RDM5E-125～800 Plug-in type back board circuit breaker overall dimension

Model No.	Code										
	A	G	K	L1	H	H1	H2	H3	H4	AM	BM
RDM5E-125	168	92	38	132	48	32.5	32.5	18	17	M6	M8
RDM5E-250	186	95	45.5	145	49.5	33.5	34	17	17	M6	M8
RDM5E-400	280	171	54.5	224	59.5	40	44	23.5	20	M8	M12
RDM5E-800	305	181	62	243	87	60	—	—	28	M10	M14

Plug in type back board wiring installation board hole-opening dimension（X-X、Y-Y is the center of circuit breaker）



RDM5E-125～800 Plug-in type back board wiring installation board hole-opening dimension

Model No.		RDM5E-125		RDM5E-250		RDM5E-400		RDM5E-800	
Pole		3	4	3	4	3	4	3	4
Installation board hole opening dimension (mm)	A	91	-	107	-	149	-	210	-
	A1	-	126	-	145	-	200	-	280
	B	60	-	70	-	60	-	90	-
	B1	-	90	-	105	-	108	-	162
	C	56		54		129		146	
	K	38		45.5		54.5		62	
	E	92		95		171		181	
	d	6.5		6.5		8.5		11	

RDM1L

Moulded Case Circuit Breaker

Application

RDM1L series moulded case circuit breaker, is mainly applied to the distribution circuit of AC50/60Hz, rated working voltage is 400V,rated current up to 800A for providing protection indirectly and prevent the fire caused by the fault grounding current, and it also can be used for power distribution and circuit protection against overload and short-circuit, it also works for transfering circuit and starting motor unfrequently.
This product is suitable for isolating.
This product is applied to standard of IEC 60947-2.

Normal operation condition and installation condition

3.1 Temperature: no higher than +40°C,and no lower than -5°C, and the average temperature no higher than +35°C.
3.2 Installation location no more than 2000m.
3.3 The relative humidity: no more than 50%, when Temperature is +40°C,The product can withstand the higher humidity under lower temperature, for instance, when temperature at +20°C, the product can withstand 90% relative humidity.
The condensation that happened because of temperature changes should be taken care with special measurements
3.4 Class of pollution : 3 Class
3.5 It should be installed at the place that have no danger of explosion, it also has no gas and conductive dust which would cause metal-corrosion and insulation-damage.
3.6 Maximum install inclined Angle 5°, it should be installed at the place has no obvious impact and weather-influence.
3.7 Main circuit installation type: III, Auxiliary circuit and control circuit installation type: II
3.8 External magnetic field of Installation location should not exceed than 5 times of earth magnetic field.
3.9 Installation electromagnetic environment: B type

Classification

3.1 Pole: 2P, 3P and 4P(2P product only has RDM1L-125L/2300, RDM1L-125M/2300,RDM1L-250M/2300,RDM1-250M/2300)
3.2 Connection type: front board connection, back board connection and plug-in type.
3.3 Application: power-distribution type and motor-protection type
3.4 Residual current release type: electromagnetic type, instantaneous type.
3.5 Residual current breaking time: delay type and Non-delay type
3.6 Rated limited short-circuit breaking capacity: L-standard type, M-Medium type, H-high type
3.7 Operational type: Handle-directed operation, Motor operation(P), rotation-handle operation(Z,for cabinet)

Main technical parameter

4.1 Ui=690V, Uimp=8kV, the main technical parameter see Table 1.

Table 1

Model No.	Rated current In(A)	Rated operational voltage(V)	Rated short-circuit breaking capacity R		Rated residual short circuit making and breaking capacity Im(A)	Rated residual action current In(mA)	Arc distance mm
			Icu(kA)	Ic(skA)			
RDM1L-125L	10 16 20 25 32 40 50 63 80 100 125	400	35	22	25%Icu	30/100/300 No delay type 100/300/500 delay type	⩽50
RDM1L-125M			50	35			
RDM1L-125H			85	50			
RDM1L-250L	100 125 160 180 200 225 250	400	35	22	25%Icu	100/300/500	⩽50
RDM1L-250M			50	35			
RDM1L-250H			85	50			
RDM1L-400L	225 250 315 350 400	400	50	25	25%Icu	100/300/500	⩽100
RDM1L-400M			65	35			
RDM1L-400H			100	50			
RDM1L-800L	400 500 630 700 800	400	50	25	25%Icu	300/500/1000	⩽100
RDM1L-800M			70	35			
RDM1L-800H			100	50			

Table 3

Code	Instruction
A type	N pole has no overload release, and N pole is always connected and do not connect or break with the other 3 pole together.
B type	N pole has no overload release, and N pole connect or break with the other 3 pole together.
C type	N pole has overload release, and N pole connect or break with the other 3 pole together.
D type	N pole has overload release, and N pole always connected,do not connected or break with the other 3 pole together.

4.2 Circuit breaker residual current action protection time see Table4

Table4

Residual current		I△n	2I△n	5I△n	10I△n
Non-delay type	Max breaking time(s)	0.3	0.15	0.04	0.04
Delay type	Max breaking time(s)	0.4/1.0	0.3/1.0	0.2/0.9	0.2/0.9
	Limited undrive time t(s)	-	0.2/0.5	-	-

4.3 Overload release consists of the thermal long-delay release which has inverse-time characteristic and instantanous action release, the action feature see Table5

Table5

Power-Distribution circuit breaker				Motor-protection circuit breaker			
Rated current In(A)	Thermal release		electromagnetic release action current	Rated current In(A)	Thermal release		electromagnetic release action current
	1.05In(cool state) Non-action time(h)	1.30In(heat state) Action time(h)			1.0 In(cool state) non-action time(h)	1.20In(heat state) action time(h)	
10≤In≤63	1	1	10In±20%	10≤In≤800	2	2	12In±20%
63<In≤125	2	2					
125<In≤800	2	2	5In±20% 10In±20%				

4.4 Accessory device technical parameter

4.4.1 Rated value of auxiliary contact and alarming contact, see Table6

Table6

Contact	Frame size rated current	conventional heating current Ith(A)	Rated operation current Ie(A)	
			AC400V	DC220V
Auxiliary contact	Inm≤400	3	0.3	0.15
	Inm≥400	3	0.4	0.15
Alarm contact	100≤Inm≤800	3	0.3	0.15

4.4.2 Control circuit release and motor rated control power voltage(Us) and rated operational voltage(Ue) See Table7.

Table7

Type		Rated voltage (V)		
		AC 50Hz		DC
Release	shunt release	Us	230 400	110 220
	undervoltage release	Ue	230 400	–
motor mechanism		Us	230 400	110 220

4.4.2.1 shunt release external voltage is between rated control power voltage 70%~110%, it can tripping the release realiably.

4.4.2.2 when power supply voltage decrease to 70% to 35% undervoltage rated operating voltage,under-voltage release can breaking the line.When the power supply voltage is higher than 85% of undervoltage release rated operating voltage,the undervoltage release will that circuit breaker close.Warning: Undervoltage release must be charged at first, then circuit breaker closed. If not, the circuit breaker would be damaged.

4.4.2.3 Motor operation mechanism ensure that it can make the circuit breaker closed when the power voltage is between 85% - 110%,under rated frequency.

4.4.3 Leakage alarming module(RDM1L-125L,250L do not have it.) Specification: P5-P6 port for input power-source AC50/60Hz,230Vor 400V.P1-P2,P3-P4 port for capacity is AC230V 5A, see Fig1

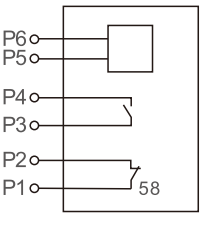


Fig1.

Note: 1. Mode II could satisfy the speacial place needs, User adopts this function after the consideration.
2.Circuit breaker with leakage alarming module. when the leakage alarming is happening, the leakage protection module would function after reseting the reset button of Module II.Fig1.

Appeatance and Installation dimension

5.1 Appeatance and Installation dimension see Fig2, Fig3 and Fig8.

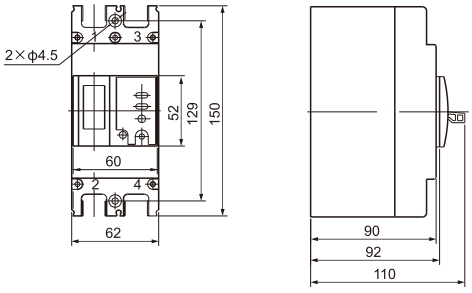


Fig2a RDM1L-125M/2300

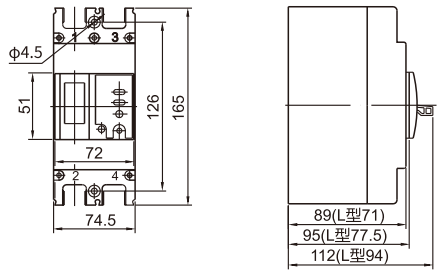


Fig2b RDM1L-250M/2300

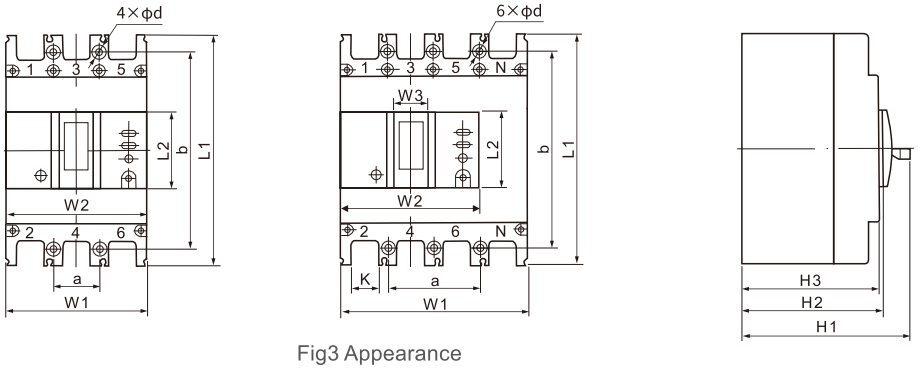


Fig3 Appearance

Table8

Model No.	Pole	Front board connection									Installation Dimension		
		L1	L2	W1	W2	W3	H1	H2	H3	K	a	b	ϕd
RDM1L-125L	3	150	52	92	88	23	94	75	72	18	30	129	ϕ4.5
	4	150	52	122	88	23	94	75	72	18	60	129	ϕ4.5
RDM1L-250L	4	150	52	92	88	23	110	92	90	18	30	129	ϕ4.5
	3	150	52	122	88	23	110	92	90	18	60	129	ϕ4.5
RDM1L-250M.H	3	165	52	107	102	23	94	72	70	23	35	126	ϕ5
	3	165	62	142	102	23	94	72	70	23	70	126	ϕ5
RDM1L-400	3	165	52	107	102	23	110	90	88	23	35	126	ϕ5
	4	165	62	142	102	23	110	90	88	23	70	126	ϕ5
RDM1L-800	4	257	130	150	150	65	150	110	108	32	44	194	ϕ7
	4	257	92	198	142	65	150	110	108	32	44	194	ϕ7

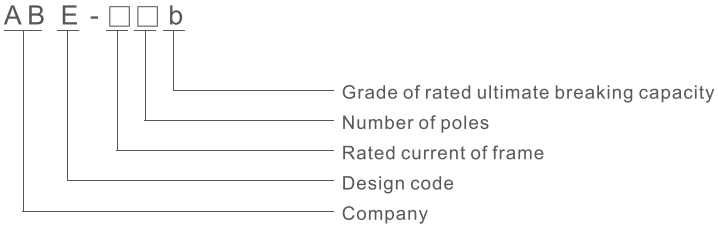
ABE

Moulded Case Circuit Breaker

Application

ABE series moulded case circuit breaker is suitable for industrial or commercial power and lighting with AC 50/60Hz, rated working voltage up to AC 600V/DC 250V, rated current up to 400A. It's a kind of economical breaker with the characters of stable and reliable function: beautiful appearance, small size and long life. It can be used for conversion of line and infrequent starting motor. It can also be attached to install the accessories which have protection function for avoiding loss-voltage, under voltage. The product can install connection line with front board and back board. It also can equip hand-operating apparatus or motor-operating apparatus to control in a remote distance. It conforms with IEC60947-2.

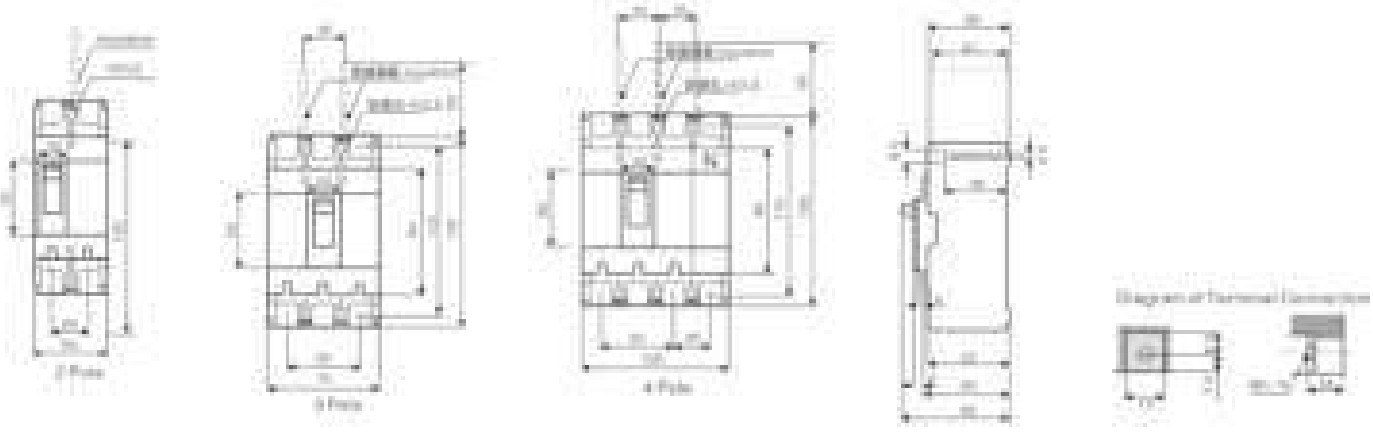
Model No.

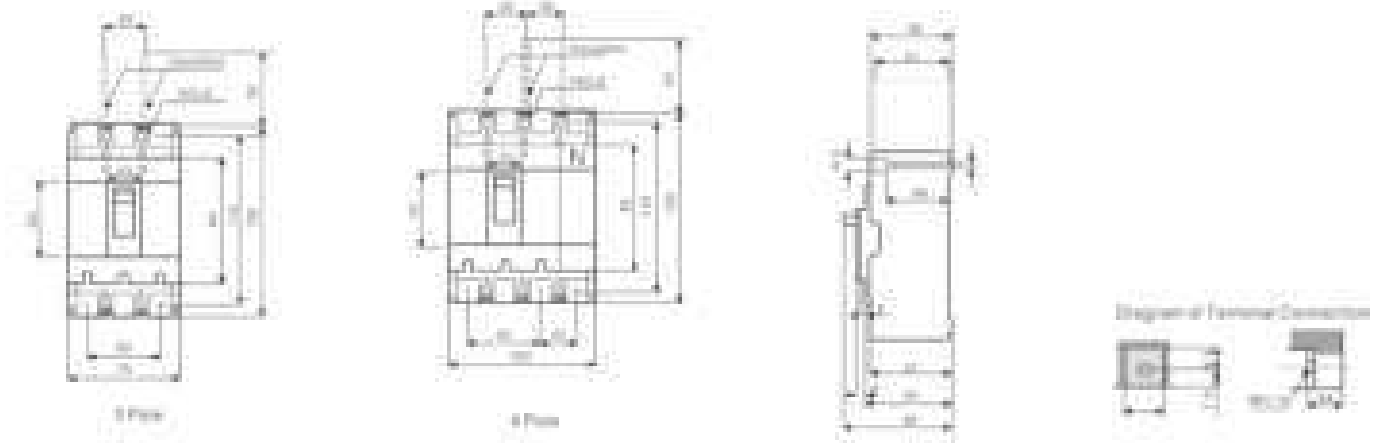


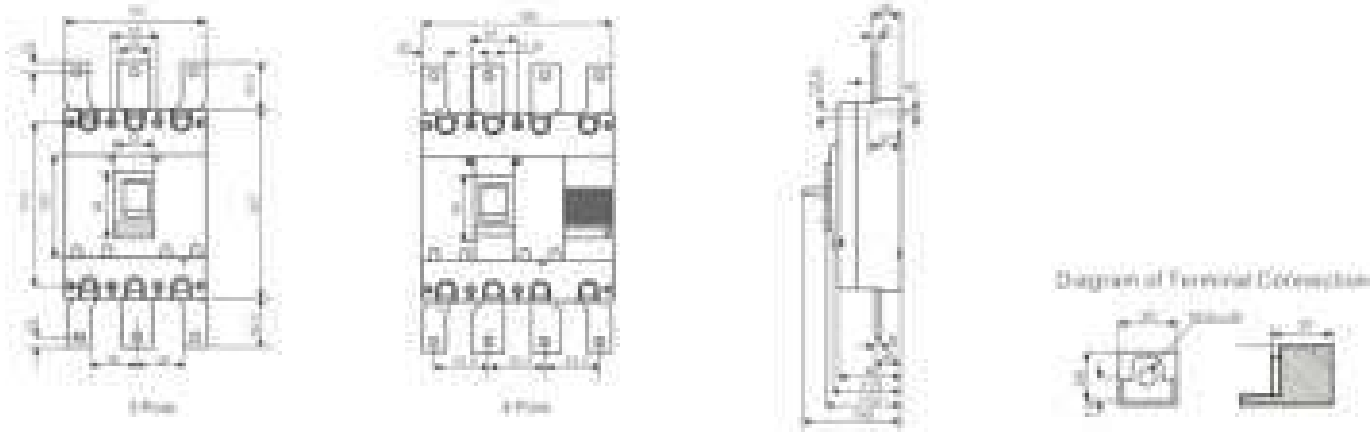
Main technique parameter

Type	Number of poles	Rated current in (A)	Breaking capacity (AC50/60Hz) KA					
			220/240V	380V	410V	440/460V	480/500V	600V
ABE-52b	2P	5,10,15,20,30,40,50	10	7.5	5	5	2.5	2.5
ABE-53b	3P	5,10,15,20,30,40,50	10	7.5	5	5	2.5	2.5
ABE-54b	4P	5,10,15,20,30,40,50	10	7.5	5	5	2.5	2.5
ABE-102b	2P	60,75,100	25	14	10	10	7.5	5
ABE-103b	3P	60,75,100	25	14	10	10	7.5	5
ABE-104b	4P	60,75,100	25	14	10	10	7.5	5
ABE-202b	2P	125,150,175,200,225	35	18	18	18	10	7.5
ABE-203b	3P	125,150,175,200,225	35	18	18	18	10	7.5
ABE-204b	4P	125,150,175,200,225	35	18	18	18	10	7.5
ABE-403b	3P	250,300,350,400	35	30	25	25	18	18
ABE-603b	3P	500,600	50	42	35	35	25	22
ABE-803b	3P	800	50	42	35	35	25	22

External and Installation dimension







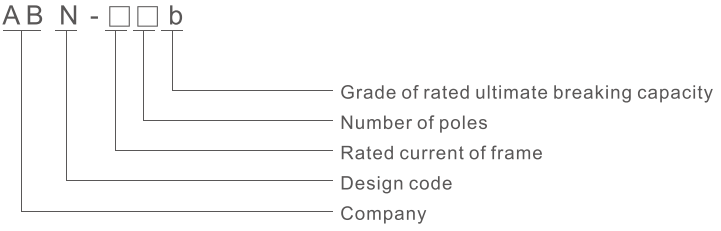
ABN

Moulded Case Circuit Breaker

Application

ABN series moulded case circuit breaker is suitable for industrial or commercial power and lighting with AC 50/60Hz, rated working voltage up to AC 600V/DC 250V, rated current up to 400A. This breaker with the characters of stable and reliable function: beautiful appearance, small size and long life. It can be used for conversion of line and infrequent starting motor. It can also be attached to install the accessories which have protection function for avoiding loss-voltage, under voltage. The product can install connection line with front board and back board. It also can equip hand-operating apparatus or motor-operating apparatus to control in a remote distance. It conforms with IEC60947-2.

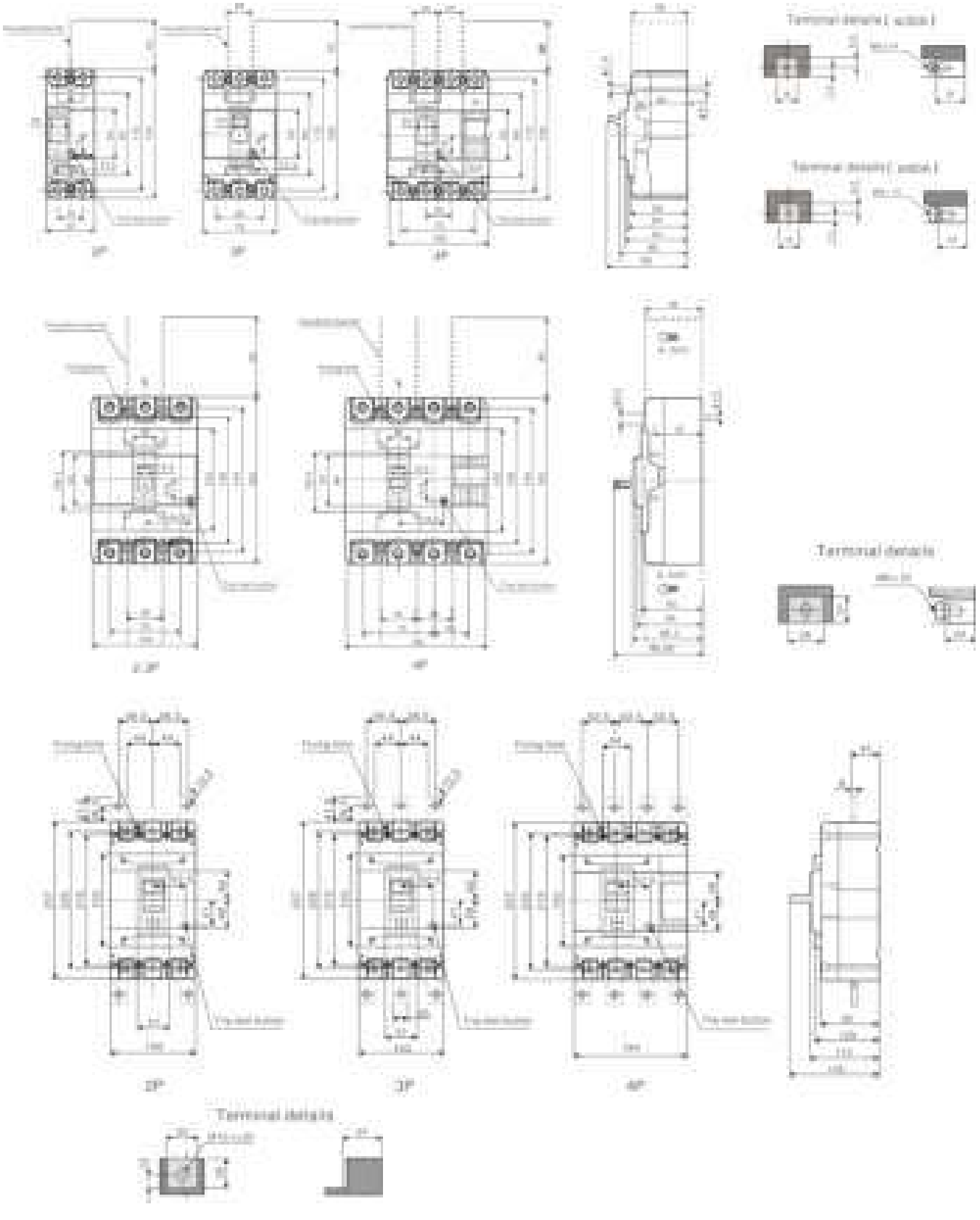
Model No.



Main technique parameter

Frame grade		50AF	100AF	250AF	400AF	800AF
Type		N Type				
Type and pole	2P	ABN52c	ABN102c			
	3P	ABN53c	ABN103c	ABN203c	ABN403c	ABN803c
		15,20,30,40, 50	15,20,30,40, 50,60,75,100	100,125,150,175, 200,225,250	250,300,350, 400	500,630,700, 800
Rated operational voltage, Ue	AC(V)	690	690	690	690	690
	DC(V)	500	500	500	500	500
Rated insulation voltage Ui V		750	750	750	750	750
Rated impulse withstand voltage Uimp Kv		8	8	8	8	5
AC	690V	2.5	5	8	5	8
	480/500V	7.5	10	18	18	25
	415/460V	14(10)	18	26	37	37
	380V	18(14)	22	30	42	45
	220/250V	30(25)	35	65	50	50
DC	500V(3P)	5	10	10	10	10
	250V(2P)	5	10	10	10	10
Ics=%×Icu		100	100	100	100	100
Dimensions W×H×D(mm)		75×130×60	75×130×60	105×165×60	140×257×109	210×280×113

External and Installation dimension



RDW1

Air circuit breaker

Description

RDW1 air circuit breaker which applied to power distribution network of AC 50/60Hz, rated operational voltage up to 690V, rated current up to 6300A. It's mainly used to distribute power and protect the circuit and equipments against damages of overload, short-circuit, under voltage and ground fault, and it has intelligent protection functions, provides accurated selective protection, improves power-supply reliability to avoid unnecessary power interruption. And it also has open type communication port, can realize remote control function and satisfy the requirements of control center and automatic system. This production without intelligent controller and senor has insulation function. This product conforms to the standard of IEC60947-2

Normal operation condition and installation condition

3.1 Temperature: no more than +40℃, no less than -5℃, and average day temperature no more than +35℃.
If customer requires condition of higher than +40℃ ,or lower than -25℃, it should be consulted with manufacture.
3.2 Installation location attitude no more than 2000m
3.3 Humidity: when the temperature at +40℃, it no more 50%
The higher humidity is accepted at the lower temperature. The average humidity of month should no more than 90%, and the average temperature of month should not lower than +25℃.
The condensation should be taken care when the humidity change.
3.4 Protection class: IP20
3.5 Using type: B type
3.6 Pollution type: 3 level
3.7 Installation type:
Type of circuit breaker main circuit, under voltage release, primary coil of power transformer is installation IV; type of Auxiliary circuit and control circuit installation is III.

Main technique parameter

Table 1

Model No.		RDW1-1000	RDW1-2000	RDW1-3200	RDW1-4000	RDW1-6300
Rated current (A)		200,400,630, 800,1000	630,800,1000 1250,1600,2000	2000,2500,2900, 3200	2900,3200 3600,4000	4000,5000,6300
Neutral rated current In(A)		100%In	100%In	100%In	100%In	50%In
Rated operating voltage (V)		AC 400	AC 400/690			
Frequency (Hz)		50/60Hz				
Number of poles		3P/4P				
Rated impulse withstand voltage Uimp (Kv)		AC 8	AC 12			
Rated isolation voltage Ui (V)		AC 690	AC 1000			
Power frequency withstand voltage(V) 1min		1890	2200			
Rated ultimate short circuit breaking capacity(Icu)	AC400V	42	80	100	100	120
	AC690V	-	50	65	85	85
Rated operating short circuit breaking capacity(Ics)	AC400V	32	65	80	80	100
	AC690V	-	50	65	65	75
Rated withstand current for short-time(Icw)	AC400V	20/30(0.5s)	65	80	80	100
	AC690V	-	40	50	50	75
Operation life(times) 2500A below 1time/3min; Above 2500A 1time/6min	Electrical life	7000	6500	3000	3000	1500
	Mechanical life	15000	15000	10000	10000	5000

Table 5

Protection characteristics type	Long delay Ir	Short delay Isd		Instananeous Ii	Grounding Ig	Accuracy
		Reverse time limit	Fixed time limit			
Action current setting range	(0.4~1.0)In	(1.5~15)Ir1		(1.0~20)In	(0.2~1.0)In	±10%
Action time	≤1.05Ir1 No action within 2h ＞1.3Ir1 action within 1h	0.1t	0.1~0.4s	-	0.1~1s	-

Note 1: The protection parameters must not be cross-set, and should comply with the Ir<Isd<Ird rules;

Protection characteristics and functions of intelligent controller

Protection characteristics of intelligent controller

Note: t_L- setting time of long delay 1.5Ir, T_L- Action time of long delay

Table 6

1.5Ir Setting time	15	30	60	120	240	360	480	600	720	840	960
2.0Ir Action time	8.44	16.88	33.75	67.5	135	202.5	270	337.5	405	472.5	540

Note: t_L —the whole time with a long delay of 1.5Ir, and T_L-the action time with a long delay.

Short delay overcurrent protection characteristics

Short-delay overcurrent protection has a time limit and a reverse time limit. When the overload current is <8Ir, the reverse time limit is set, and its characteristics are as follows: ITsd=(8Ir) tsd, tsd is the delay setting time;

When the overload current is >8Ir, the reverse time limit is automatically converted to the time limit characteristic. The time limit characteristic is shown in Table 7, and the time error is ±15%

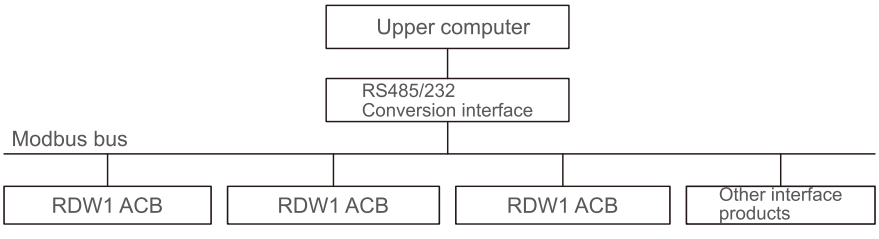
Table 7

Delay time (s)				Returnable time (s)			
0.1	0.2	0.3	0.4	0.5	0.14	0.23	0.35

H Type intelligent release

In addition to having all the functions of Type M, it also has an RS485 standard communication interface (the standard configuration is Modbus communication protocol), which can communicate in half-duplex or full-duplex. Through the communication interface, a local system with a master-slave structure (hereinafter referred to as the system) can be formed. 1-2 computers are used as the master station, and a number of intelligent circuit breakers or other communicable components are used as slaves. The system network structure is shown in the figure below, For the circuit breaker unit, the system can realize the long-distance "four remote" function; monitoring of various power grid parameters and operating parameters, monitoring of the current operating status of the intelligent circuit breaker, adjustment and download of various protection limit parameters, combined and sub-operation control of the intelligent circuit breaker, etc, The system is suitable for the construction and transformation of various power stations, power plants, small and medium-sized substations, industrial and mining enterprises, buildings and other distribution control systems.

For example: The connection diagram of the Modbus communication protocol interface is as follows:



Composition of the system

Sensor hardware structure of data communication network system

The intelligent circuit breaker provides a standard RS485 communication interface, which is drawn from the No.10 and No.11 outlets of the outlets of the circuit breaker; the communication medium connected to the system: Class A shielded twisted pair.

Network main characteristics

Two-way serial data transmission method, the product can provide a variety of communication protocol methods; Modbus, profibus-DP, DeviceNet, CAN, etc.The strict master-slave method, that is, the master station is the initiator and controller of the communication, and the slave station can only communicate with the master station, not directly with other slaves.Communication baud rate 4.8/9.6/38.4/76.8/153.6 kbps is adjustable. The default value is 9.6kbps, and the communication distance is 1.2km.

Monitoring software

The configuration software can realize the configuration and application of the required monitoring and management software according to different engineering requirements, and can realize operation monitoring operations and a variety of daily management functions.

System function

Remote control refers to the object that controls the slave system of each slave circuit breaker in the system through the master station computer. Click the remote control button with the mouse, and the system will provide the corresponding running state. After the operator enters the operation password, the remote control "close" or "open" instruction can be issued. The system transmits the instruction to the corresponding circuit breaker slave station, and after receiving the instruction, the slave station will operate the remote control results such as breaking, closing and storing energy according to the established timing.

Remote adjusting

Remote adjustment refers to setting the protection setting value of the slave station through the master station computer, selecting the corresponding object on the surface of the setting value stored in the master station computer, clicking the remote adjustment button with the mouse, the system will provide the protection setting value table of allthe protection setting values of the corresponding object, After the operator enters the password, the required parameter can be selected from the parameter table, and then clicking the corresponding button, the master station will download the parameter to the remote adjustment resuit, and the slave station will modify its own protection setting value after receiving the instruction.

Remote monitoring

Remote adjustment refers to setting the protection setting value of the slave station through the master station computer, selecting the corresponding object on the surface of the setting value stored in the master station computer, clicking the remote adjustment button with the mouse, the system will provide the protection setting value table of allthe protection setting values of the corresponding object, After the operator enters the password, the required parameter can be selected from the parameter table, and then clicking the corresponding button, the master station will download the parameter to the remote adjustment resuit, and the slave station will modify its own protection setting value after receiving the instruction.

The fault record can record the following fault parameters:

The current values of phase A, B, C and N, voltage values of UAB, UBC and UCA, fault type and fault action at the time of fault are recorded in the fault database.

The current real-time current and voltage of each sub-station are displayed by computer bar graph and absolute value table, and the running status of each node is displayed by real-time curve.

Remote communication

Remote messaging refers to checking the slave station's model, closed and open status, protection settings, and the operation and other information of the slave station through the master station computer. The parameters submitted by the slave station circuit breaker to the upper computer mainly include: switch model, Switch status (closed/off), fault information, alarm information, various protection settings, etc.

Other function of system

In addition to the four remote operation control functions, the system can also perform a variety of management functions: accident alarm (information screen, screen promotion, event printing, sound alarm), event recording, maintenance listing, shift handover management, load trend analysis, multiple report printing, etc.

L Type intelligent controller

The L-type controller adopts a coded switch tuning method, which has four-stage protection characteristics such as overload long delay, short circuit short delay, instantaneous, and grounding. It has functions such as fault status and load current beam indication, but it is displayed digitally, and its functions are not as complete as the M and H types. The setting value is graded adjustment, which is for users to choose in general situations.

The operating voltage and required functions of the excitation tripper, undervoltage tripper, electric operating mechanism, energy release (closing) electromagnet, and intelligent controller of the circuit breaker are shown in Table 8.

Table 8

Item			AC (50Hz)		DC	
			220V	380V	110V	220V
Shunt release			24VA	36VA	—	—
Undervoltage release			24VA	36VA	24W	24W
Closed electromagnet			24VA	36VA	24W	24W
Motor operation mechanism	Rated current of frame size	2000A	85VA	85VA	85W	85W
		3200A, 4000A	125VA	125VA	125W	125W
		6300A	150VA	150VA	150W	150W
Power supply of Intelligent controller: AC220V, AC380V, DC220V, DC110V, power supply error ±15%						

Note: The reliable operating voltage range of the shunt release is 70%~110%, and the closing electromagnet and operating mechanism are 85%~110%

The performance of the undervoltage tripper of the circuit breaker is shown in Table 9

Table 9

Category		Undervoltage delay release	Undervoltage instantaneous release
Release action time		Delay 1, 3, 5s	Instantaneous
Release operating voltage value	(30%~70%)Ue	Reliable disconnection of circuit breaker	
	≤ 35%Ue	Circuit breaker cannot be closed	
	(85%~110%)Ue	Circuit breaker can be reliably closed	
Within ½ of the delay time, if the power supply voltage is restored to 85% Ue, The circuit breaker cannot be disconnected			—

Note: The delay time accuracy is ±10%

Performance of auxiliary contacts

☐ The agreed heating current of the auxiliary contact is 6A;

☐ Auxiliary contact form: four sets of conversion contacts (standard configuration), please contact us for special requirements;

☐ Abnormal connection and breaking ability of auxiliary contacts;

☐ The connection and breaking capacity of the auxiliary contacts under abnormal conditions of use determined by the use is shown in the table

Table 10

Usage category	Connection			Breaking			Number of on-off operation cycles and operating frequency		
	U/Ue	I/Ie	cosΦ or T0.95	U/Ue	I/Ie	cosΦ or T0.95	Number of operation cycles	Number of operation cycles per minute	Power-on time (s)
AC-15	1.1	10	0.3	1.1	10	0.3	10	6 (or the same operating frequency as the main loop)	0.05
DC-13	1.1	1.1	6Pe	1.1	1.1	6Pe			

□ The connection and breaking capabilities of the auxiliary contacts under normal conditions are shown in the table 11

Table 11

Usage category	Connection			Breaking		
	U/Ue	I/Ie	cos Φ or T0.95	U/Ue	I/Ie	cosΦ or T0.95
AC-15	1	10	0.3	1	1	0.3
DC-13	1	1	300ms	1	1	300ms

Key and lock for the disconnecting position

The circuit breaker has the “Key and lock for the disconnecting position” accessory (according to the order requirements: three locks and two keys, two locks and one key, one lock and one key, etc.). Can lock the circuit breaker in the disconnected position. At this time, no matter whether the closing button or the energy release (closing) electromagnet is used, the circuit breaker cannot be closed.

Structure overview (see Figure 5 for the structure of the circuit breaker)

The fixed circuit breaker is mainly composed of a contact system, an intelligent controller, a manual operating mechanism, a motor operating mechanism, and a mounting plate.

The drawer type circuit breaker is mainly composed of a contact system, an intelligent controller, a manual operating mechanism, and a drawer base with a motor operating mechanism.

The circuit breaker is arranged in a three-dimensional manner, which has the characteristics of compact structure and small size. The contact system is enclosed in an insulating base plate, and each phase of the contact is also separated by an insulating plate to form a small chamber, and the intelligent controller, manual operating mechanism, and electric operating mechanism are arranged in front of it in turn to form their own independent units. If one of the units is broken, it can be removed and replaced with a new one.

The drawer type circuit breaker is composed of a plug-in circuit breaker and a drawer base. The guide rail in the drawer base can be pulled in and out, and the circuit breaker inserted is located on the guide rail to get out of the drawer, and the main circuit is connected by the insertion connection between the busbar inserted into the circuit breaker and the bridge contact on the drawer base.

The drawer type circuit breaker has three working positions: the “connection” position, the “test” position, and the “separation” position. The position change is achieved by screwing in or out of the handle. The indication of the three positions is displayed by the pointer on the beam of the low base of the drawer base.

When in the “connection“ position, both the main circuit and the secondary circuit are turned on; when in the “test” position, the main circuit is disconnected and separated by insulating partitions. Only the secondary circuit is turned on, and some necessary action tests can be performed; when in the “separation” position, the main circuit and the secondary circuit are all disconnected. Moreover, the drawer type circuit breaker has a mechanical interlocking device. The circuit breaker can only be closed at the connection position or the test position, and the circuit breaker cannot be closed at the intermediate position between the connection and the test.

The interlocking mechanism of the circuit breaker (applicable to drawer type and fixed type) is shown in Figure 6. The user can use the interlocking mechanism separately to convert two or three units.

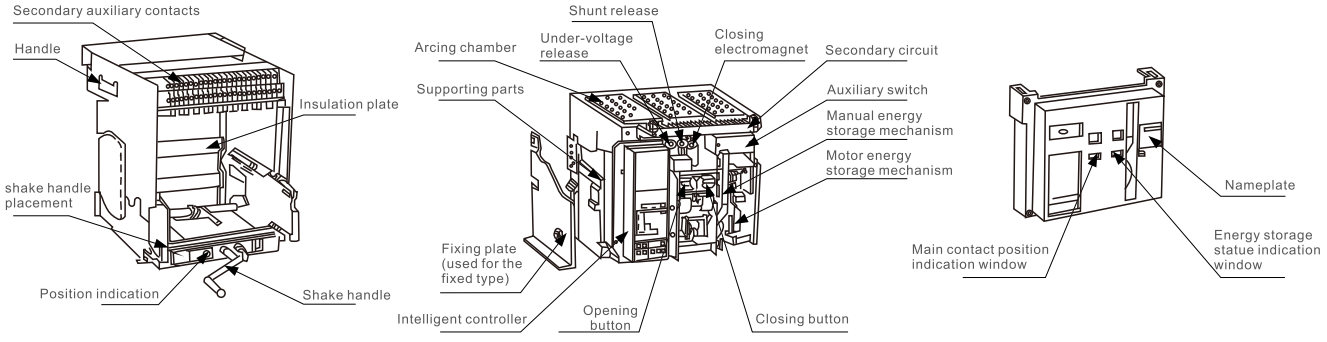


Figure 5 Structural diagram for circuit breaker

Lever interlock (for the same cabinet)

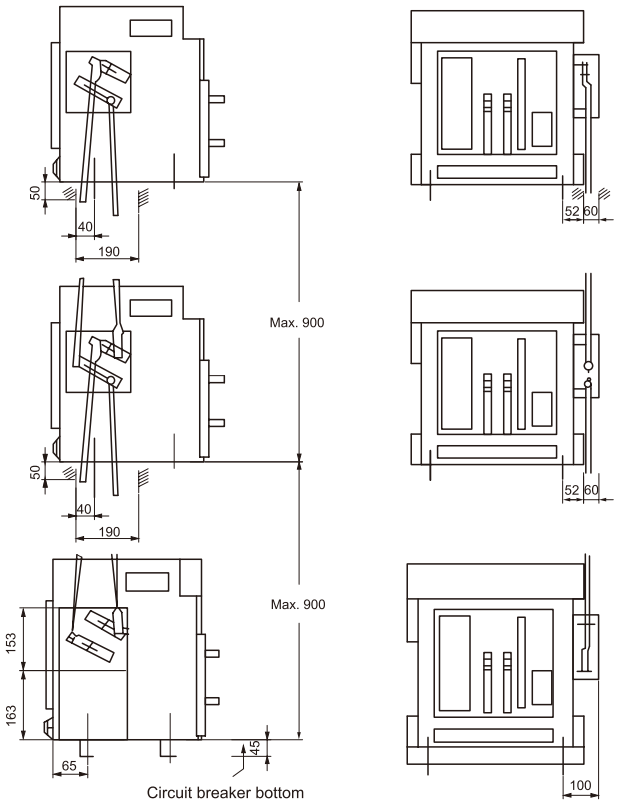
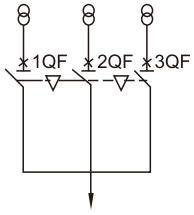


Figure 6 (A) Lever interlocking

Note: Three vertically mounted circuit breakers with a lever interlock.
If two circuit breakers interlocks only need to remove the top circuit breaker.

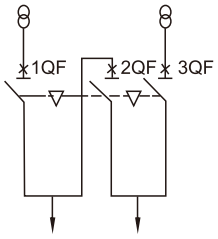
Circuit diagram	Possible operation mode

Method 1: Three power sources can only be integrated into one circuit breaker



1QF	2QF	3QF
0	0	0
1	0	0
0	1	0
0	0	1

Method two: two power supplies with up to two circuit breakers



1QF	2QF	3QF
0	0	0
1	0	0
0	1	0
0	0	1
1	1	0
0	1	1
1	0	1

Soft interlock (Available for horizontal and vertical, suitable for between adjacent cabinets or in the same cabinet

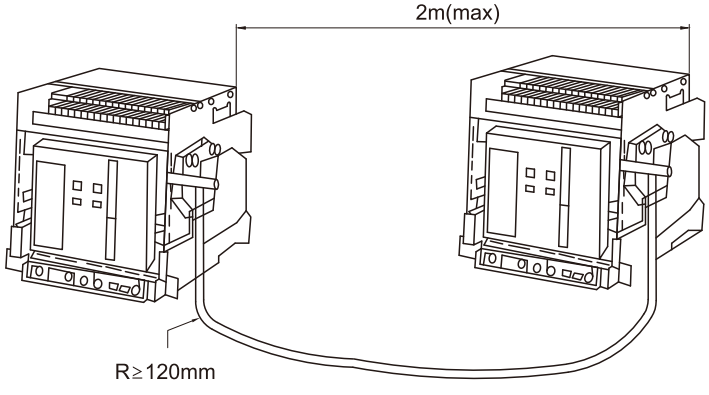
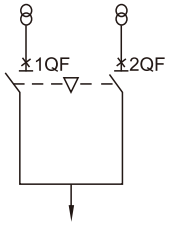


Figure 6 (B) Steel cable and rope interlocking

Circuit diagram	Possible operation mode



1QF	2QF
0	0
0	1
1	0

Grounding fault protection method

The controller is divided into two different protection methods, one is the difference type (T), and the controller protects according to the sum of the three-phase current and the current vector on the neutral line. According to the number of poles of the circuit breaker, it is divided into three forms: 3PT, 4PT, and (3P+N)T, which are shown in the figure below (a, b, and c). The other method is ground current type (W). The controller directly takes the output current signal of an additional current transformer between the neutral point of the main power supply and ground for protection. The transformer is between the N line and the PE line, see Figure d below.

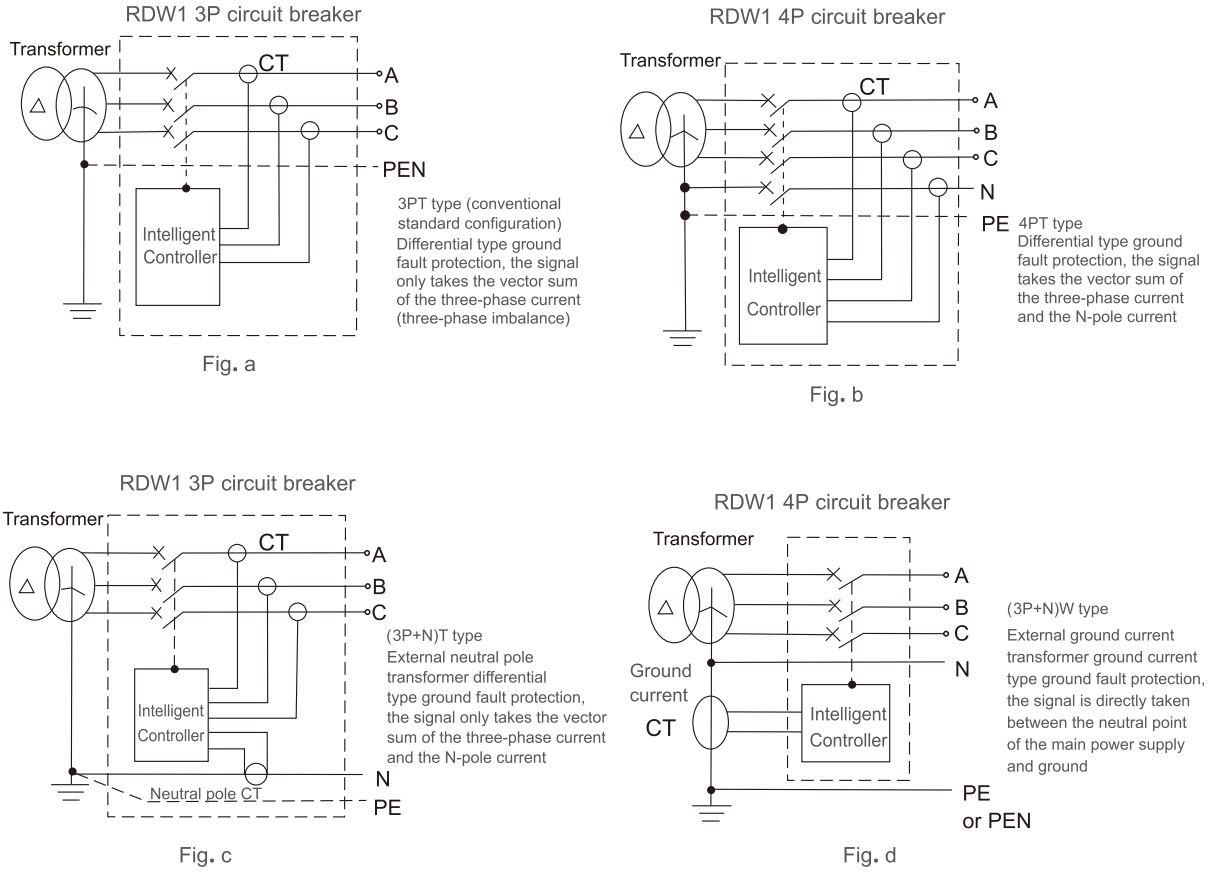


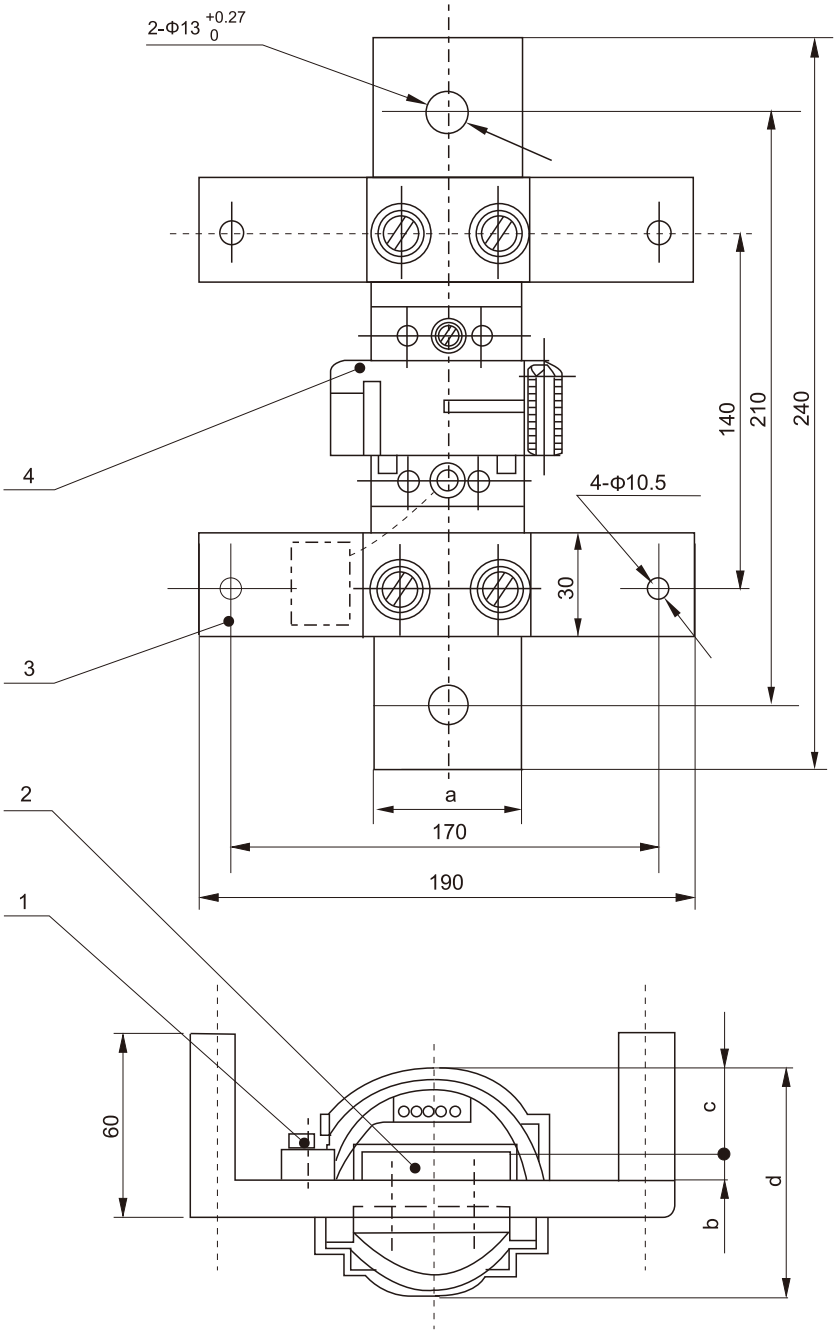
Figure 7(A) Ground fault protection method

External grounding single-phase grounding protection device (see Figure 7)

An external transformer (neutral pole transformer or ground current transformer) is provided to the user as an accessory. The user sets it into the busbar by himself, and connects the connection (length is 2m) to the secondary terminal blocks #25 and #26 of the circuit breaker.

Phase partition

Used to increase the insulation strength between busbars (for drawer type).



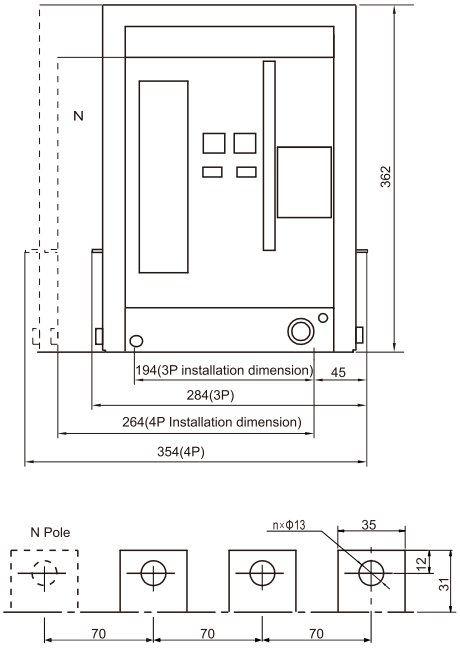
1. Wiring board 2. Busbar 3. Fixed board 4. Transformer

Inm(A)	a	b	c	d
2000	60	12.5	34	Φ89
3200	80	20	35	Φ109.5

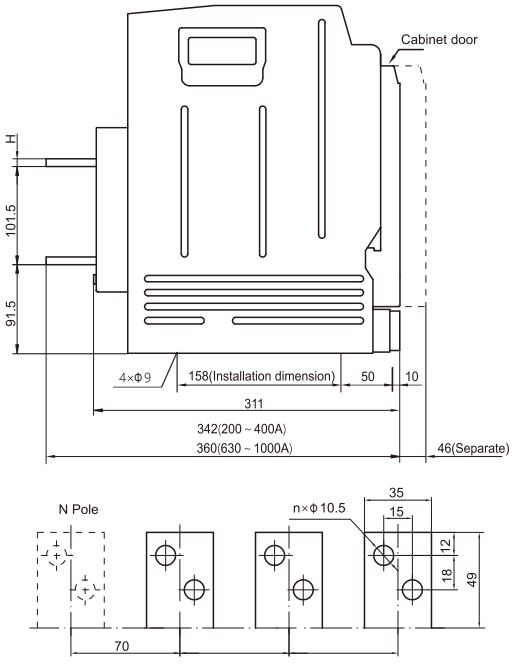
Figure 7 (B) Dimensions and installation dimensions of ground fault protection device

Overall dimension and installation dimensions

☐ RDW1-1000 3P/4P (Withdrawable type) Overall dim ension and installation dimension

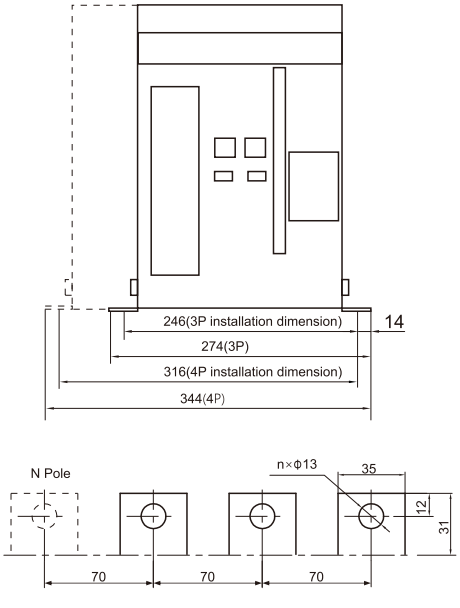


RDW1-200A~400A

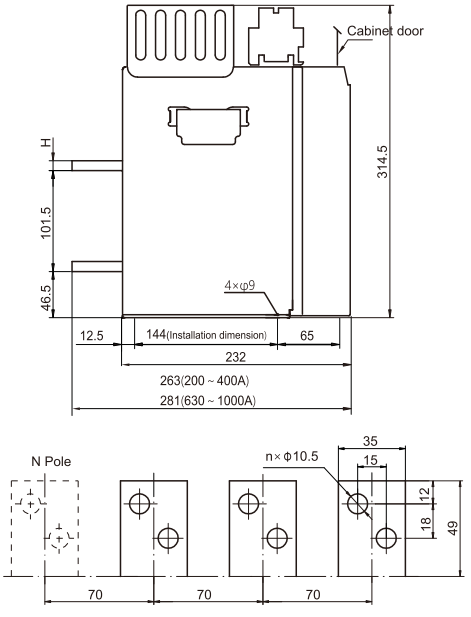


RDW1-630A~1000A

☐ RDW1-1000 3P/4P (Fixed type) Overall dimension and installation dimension



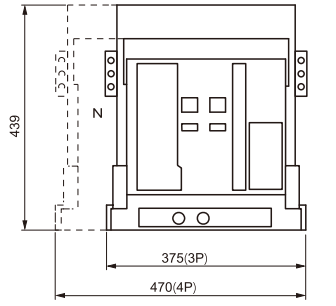
RDW1-200A~400A

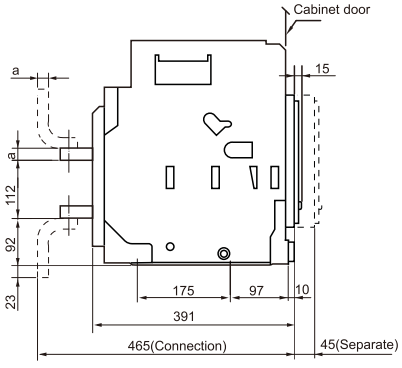


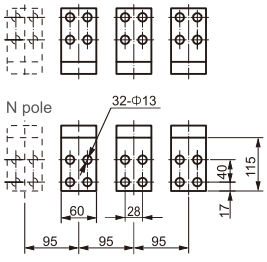
RDW1-630A~1000A

Rated current (A)	200, 400	630	800, 1000	Remark
Busbar thickness H (mm)	6	8	10	—
QTY n	6	12	12	3P
	8	16	16	4P

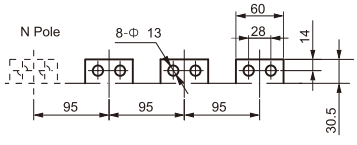
☐ RDW1-2000 3P/4P (Withdrawable type) Overall dimension and installation dimension



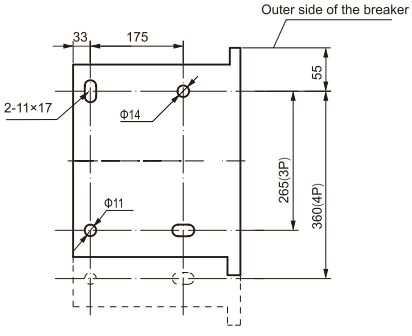


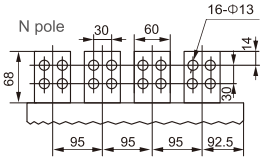


Vertical wiring



Horizontal wiring

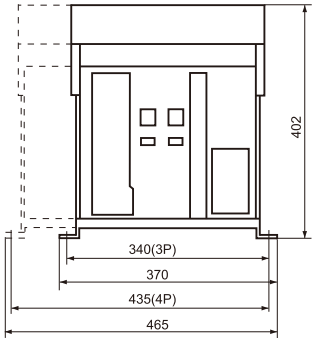


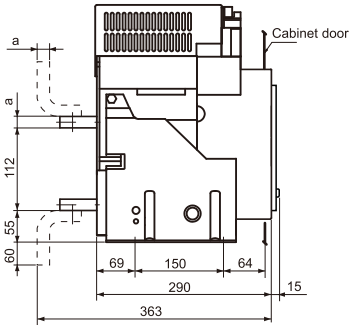


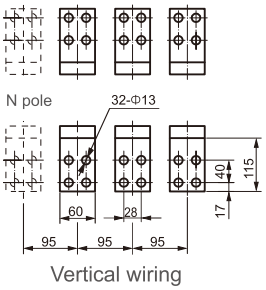
Horizontal lengthened busbar

In	a(mm)
630~800A	10
1000~1600A	15
2000A	20

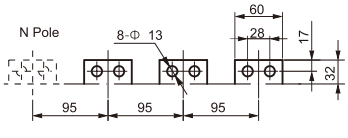
☐ RDW1-2000 3P/4P (Fixed type) Overall dimension and installation dimension



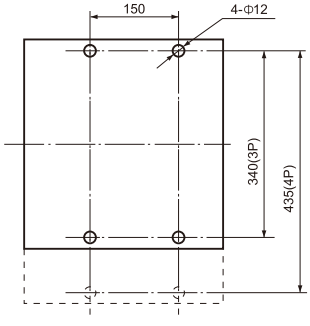


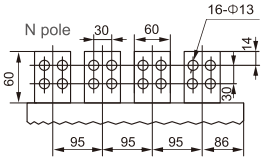


Vertical wiring



Horizontal wiring

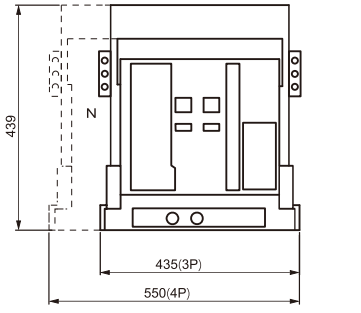


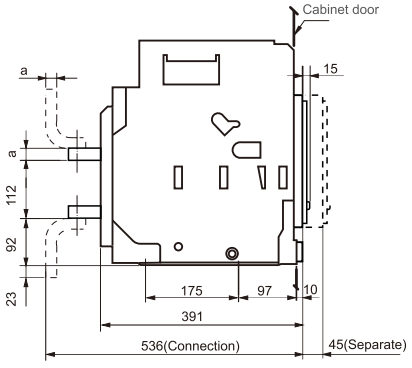


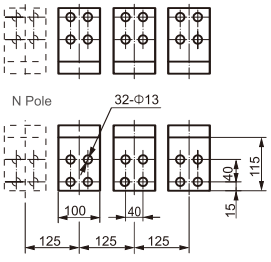
Horizontal lengthened busbar

In	a(mm)
630~800A	10
1000 ~1600A	15
2000A	20

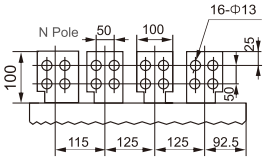
☐ RDW1-3200 3P/4P (Withdrawable type) Overall dimensions and installation dimensions





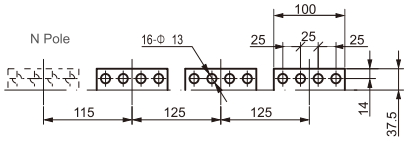


Vertical wiring

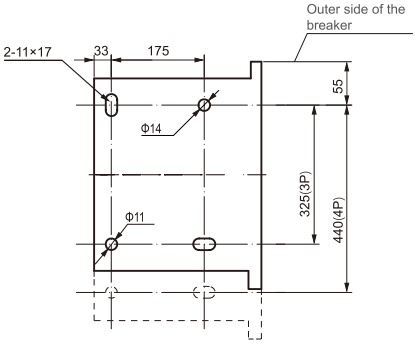


Horizontal lengthened busbar

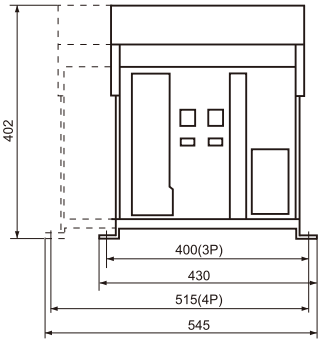
In	a(mm)
2000A、2500A	20
2900A、3200A	30

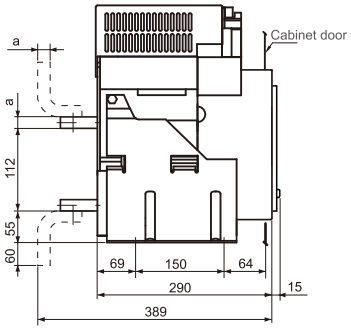


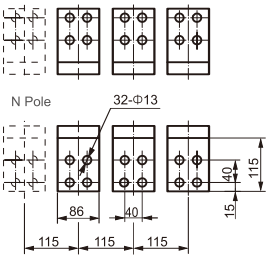
Horizontal wiring



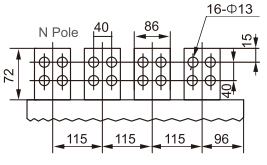
☐ RDW1-3200 3P/4P (Fixed type) Overall dimensions and installation dimensions





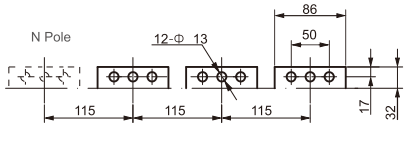


Vertical wiring

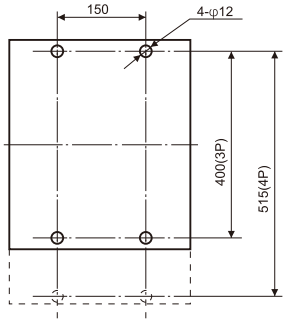


Horizontal lengthened busbar

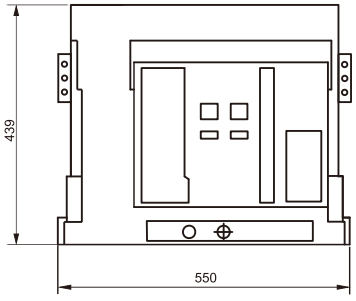
In	a(mm)
2000A、2500A	20
2900A、3200A	30

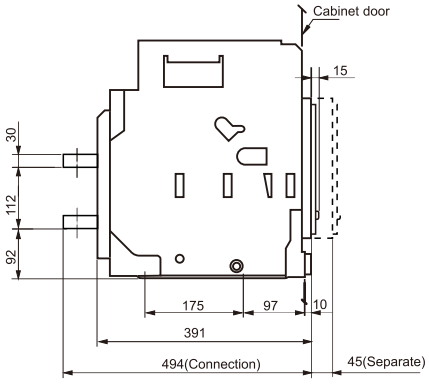


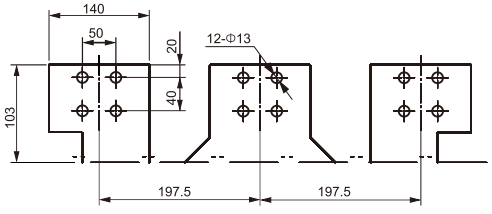
Horizontal wiring

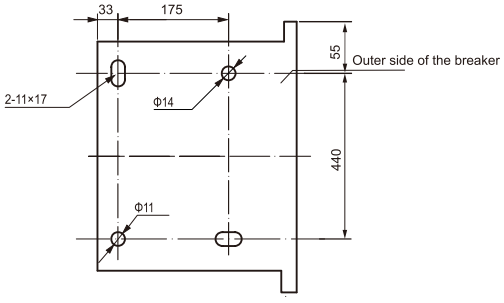


☐ RDW1-4000 3P (Withdrawable type) Overall dimension and installation dimension

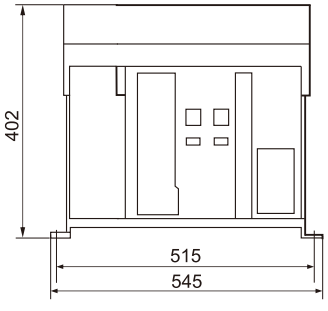


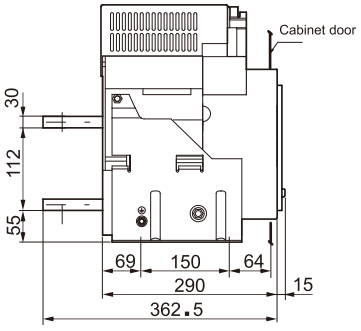


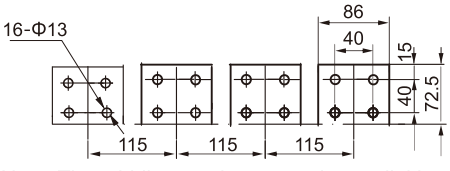




☐ RDW1-4000 3P (Fixed type) Overall dimension and installation dimension

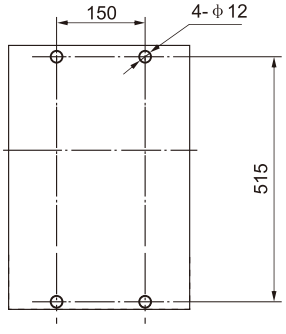




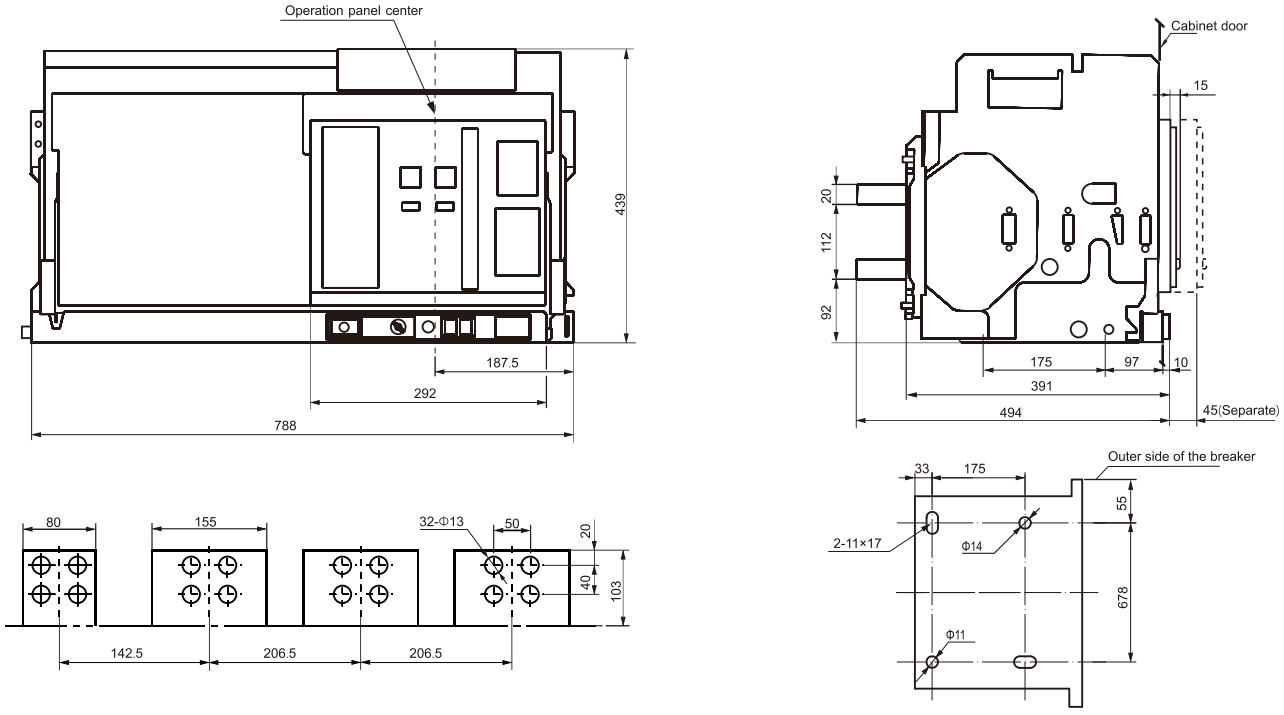


Note: The middle two phases are in parallel in phase B

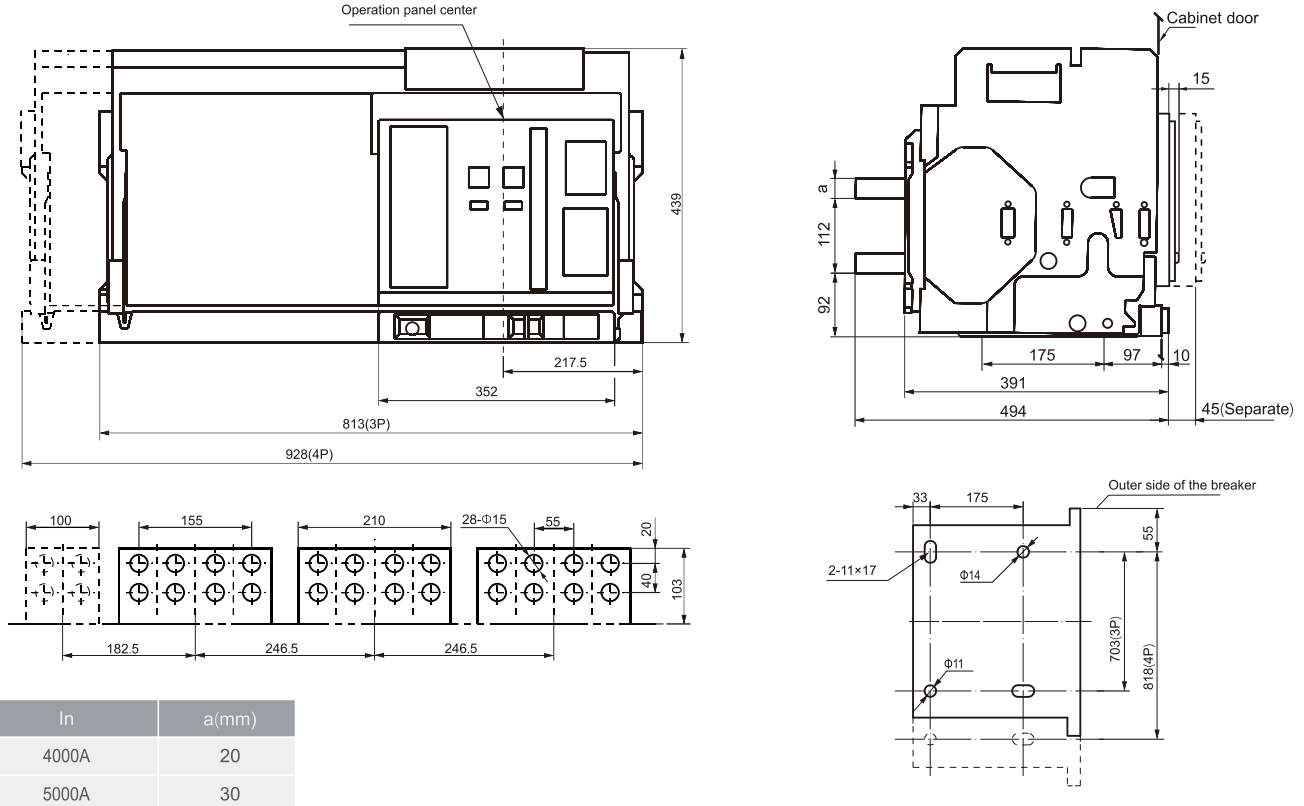
Horizontal wiring



☐ RDW1-4000 4P (Withdrawable type) Overall dimension and installation dimension

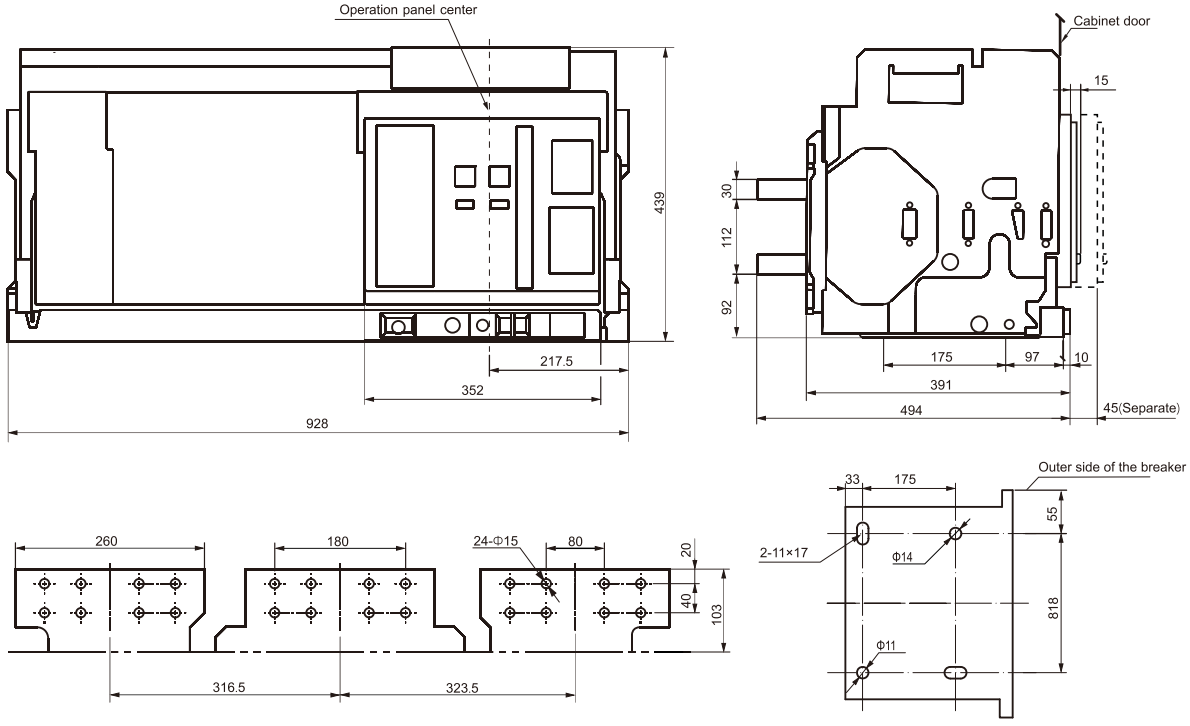


☐ RDW1-6300 3P/4P 4000A/5000A (Withdrawable type) Overall dimension and installation dimension

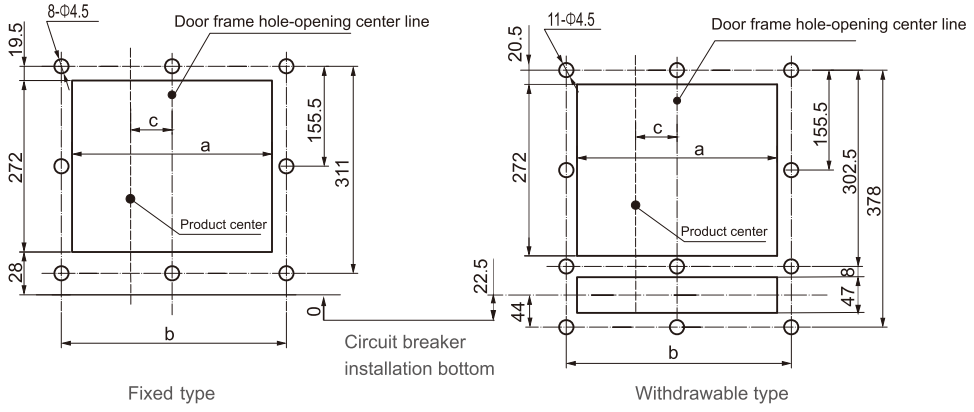


In	a(mm)
4000A	20
5000A	30

☐ RDW1-6300 4P 6300A (Withdrawable type) Overall dimension and installation dimension



When used with the complete sets of cabinet, the door frame dimension and its installation dimension to see the below diagram, and use ST2.9×9.5-F-H to fixed when installation

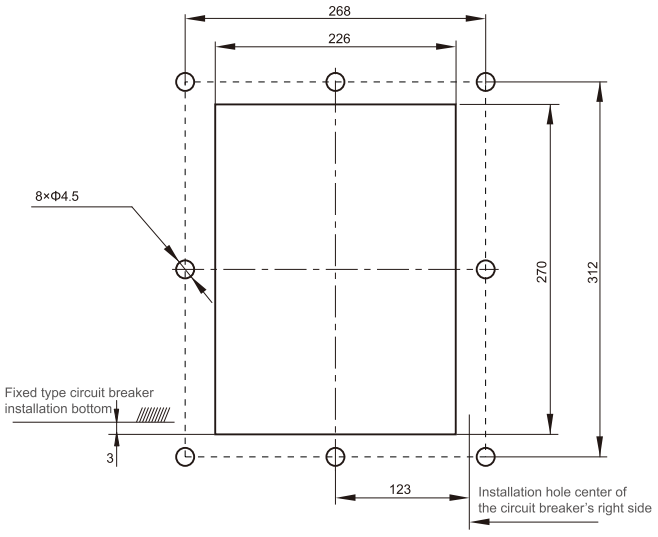


Frame size Inm(A)	a(mm)	b(mm)	c(mm) 3P	c(mm) 4P
2000	306	346	0	47.5
3200	366	406	0	57.5
4000/3P	366	406	57.5	—
4000/4P Withdrawable type	306	346	—	206.5
6300	366	406	189(4000/5000 3P)	
	366	406	246.5(4000/5000 4P、6300 3P)	

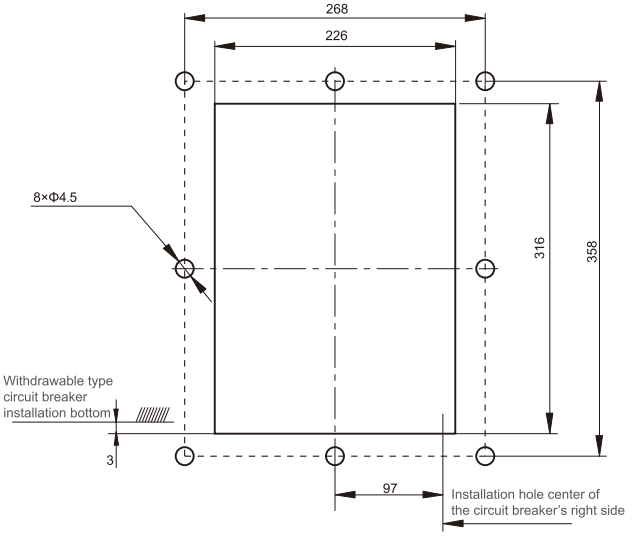
RDW1-2000~6300 Door frame hole-opening dimension and installation dimension

☐ RDW1-1000 Withdrawable type/Fixed type door frame hole-opening dimension and installation dimension

☐ RDW1-1000 Fixed type door frame hole-opening dimension



☐ RDW1-1000 Withdrawable type door frame hole-opening dimension



☐ The specification and the quantity of the connection busbar to see below table (for reference)

Rated current (A)	External busbar specification(mm)	QTY for each pole	Rated current (A)	External busbar specification(mm)	QTY for each pole
630	40×5	2	2900	100×10	6
800	50×5	2	3200	100×10	4
1000	60×5	2	3600	100×10	5
1250	80×5	2	4000	100×10	5
1600	100×5	2	5000	100×10	6
2000	100×5	3	6300	100×10	8
2500	100×5	4	Note: When use 6300/4000A, it's better to use 5 pcs of 100×10 for each pole		

RDW5

Intelligent type Air circuit breaker

Description

RDW5 series intelligent type Air circuit breaker is applied to power distribution network of AC 50/60Hz, rated operating voltage up to 400V/690V, rated current up to 6300A. It's mainly used to distribute power and protect circuit and power-supply equipment against damage of faults, such as overload, under-voltage, short-circuit, single-phase grounding, and it has insulation function. Besides, the circuit breaker has various intelligent protect function, can realize bidirectional communication between several breaker and central control computer by its network system, realize remote control function to satisfied the requirements of automatic system control. The circuit breaker conforms the standard of IEC60947-2.

Model No.		RDW5-1600		RDW5-2000		RDW5-2500		RDW1-3200		RDW5-4000		RDW5-6300	
Rated current (A)		200,400,630 800,1000 1250,1600		630,800, 1000,1250, 1600,2000		1000,1250,1600, 2000,2500		2000, 2500, 2900, 3200		2000, 2500, 2900, 3200, 3600,4000		4000, 5000, 6300	
Neutral rated current In(A)		100%In		100%In		100%In		100%In		100%In		50%In	
Rated operating voltage (V)		AC 400/690											
Frequency (Hz)		50/60Hz											
Number of poles		3P/4P											
Rated impulse withstand voltage Uimp (Kv)		AC 12											
Rated isolation voltage Ui (V)		AC 1000											
Power frequency withstand voltage(V) 1min		3500(Main circuit)											
Breaking capacity grade		S	H	S	H	S	H	S	H	S	H	S	H
Rated ultimate short circuit breaking capacity(Icu) kA	AC400V	50	65	80	80	80	100	80	100	100	100	120	135
	AC690V	36	50	50	65	65	70	65	70	65	85	85	120
Rated operating short circuit breaking capacity(Ics) kA	AC400V	50	55	80	80	80	85	80	85	85	100	100	135
	AC690V	36	42	50	65	65	70	65	70	65	85	75	120
Rated withstand current for short-time(Icw) kA	AC400V	42	50	65	65	80	85	80	85	85	100	85	135
	AC690V	36	42	40	55	65	65	65	70	65	85	75	120
Using type		B type											
Breaking time(without any auxiliary delay		25-30ms											
Closing time		⩽70ms											
Using life	Electrical life	5600		5600		3500		3500		4200		1000	
	Mechanical life (without maintenance)	10000		10000		7000		7000		7000		6500	
	Mechanical life (maintenance)	20000		20000		14000		14000		14000		13000	
Wire incoming pattern		Wire to enter from the upper or lower port											
Arc distance(mm)		0											
Installation method		Fixed type or draw-out type											

Intelligent controller protection characteristics

☐ Intelligent controller protection characteristics has inverse time limit and fixed time limit, when the fault current exceeds the setting value of inverse time limit

☐ Inverse time limit curve conforms to characteristics curve I^2t

Overload long delay protection characteristics

Overload long delay protection action value

☐ <1.05Ir: >2h does not trip

☐ ⩾ 1.3: < 1h trip

☐ Ir current setting value range: (0.4~1.0)In+OFF

Inverse time limit action characteristics $I^2T= (1.5Ir)^2 Tr$

Setting current multiple	Action time (s)										
1.5Ir	15	30	60	120	240	360	480	600	700	840	960
2Ir	8.44	16.88	33.75	67.5	135	202.5	270	337.5	405	472.5	540
6Ir	0.94	1.88	3.75	7.5	15	22.5	30	37.5	45	52.5	60
7.2Ir	0.65	1.3	2.6	5.21	10.42	15.63	20.83	26.04	31.25	36.46	41.67

Remark: T-Fault action delay time

Tr - Long delay time setting value

Action time allowable error±15%

Short-circuit short delay protection characteristics

Short-circuit short delay protection action value

☐ < 0.9Isd: no action

☐ ＞1.1Isd: action

☐ Isd current setting value range: (1.5~15)Ir+OFF

Current	Action time					
Isd<I≤8Ir	Inverse time limit	Action characteristics	$I^2t=(8Ir)^2tsd$			
		Setting time s	0.1	0.2	0.3	0.4
I≥1.1Isd	Fixed time limit Minimum time is the back time	Setting time s	0.1	0.2	0.3	0.4
		Minimum s	0.08	0.14	0.23	0.35
		Maximum s	0.14	0.2	0.32	0.5

Remark: Isd- short delay current setting value

I - fault current value

Ir - long delay setting value

t - fault action delay time

tsd - short delay inverse time limit setting value action time allowable error ±20%

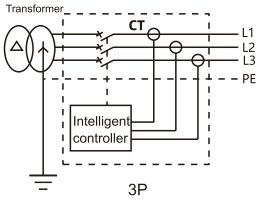
Short-circuit instantaneous protection characteristics

Action current setting value	(1.0~20)In+OFF	Current allowable error	±10%
Action characteristics	≤0.85Ii no action		
	> 1.15Ii action		

Grounding fault protection characteristics

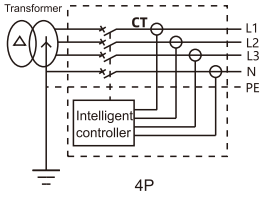
Grounding protection current setting value Ig				
Action current setting value Ig		(0.2~1.0)In+OFF	Current allowable tolerances	±10%
Action characteristics		＜0.8Ig no action		
		≥1.1Ig no action		
Action time Tg Time allowable error ±10%	Fixed time limit setting time	0.1~1s+OFF		
	Inverse time limit shearing factor Cr	1.5~6+OFF		
	Inverse time formular	t=TgxCrxIg/I Cr-shearing factor	t-delay time Ig-setting action current	Tg-setting delay time I-Grounding fault current

Ground fault protection mode and electrical principle diagram



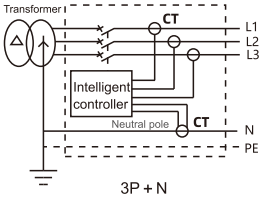
Method 1 (Value difference type)

- ☐ TN-C, TN-C-S, TN-S Using the 3P circuit breaker in the distribution system, no neutral wire current transformer.
- ☐ The ground fault protection signal takes the vector sum of the three-phase current
- ☐ Protection characteristics is fixed time limit or inverse time limit protection



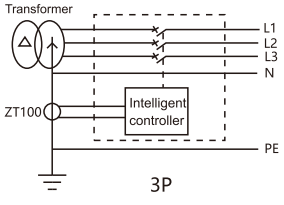
Method 2 (Value difference type)

- ☐ TN-S Using the 4P circuit breaker in the distribution system, built-in neutral wire current transformer
- ☐ The ground fault protection signal takes the vector sum of the four-phase current
- ☐ Protection characteristics is fixed time limit or inverse time limit protection



Method 3 (Value difference type)

- ☐ TN-S Using the 3P circuit breaker, External neutral wire current transformer
- ☐ The ground fault protection signal takes the vector sum of the three phase current and N phase current
- ☐ Protection characteristics is fixed time limit or inverse time limit protection
- ☐ Remark: the length of Neutral wire current transformer conductor does not over 2m.



Method 4 (Ground current type)

- ☐ Using the 3P circuit breaker in the ground current protection type distribution system, external neutral wire current transformer
- ☐ Additional special current transformer
- ☐ The distance between the special current transformer and the circuit breaker does not over 10m.

Factory setting value of intelligent controller

Tripping curve I²t	Long delay		Short delay		Instantaneous	Grounding fault		Thermal memory
	IR	tR	Isd	ts	Ii	Ig	tg	
	1.0In	15s	8Ir1	0.4s	12In	OFF	/	20min

Accessories

Remote operation

RDW5-1600
Closing electromagnetic coil

RDW5-2500~6300
Closing electromagnetic coil

☐ Closing electromagnetic coil

Operating voltage Us	AC230V	AC400V	DC220V	DC110V
Action voltage range	(85~110)%Us			
Startup current	1.3A	0.7A	1.3A	2.5A
Pull-in time	≤60ms			

Note: When the circuit breaker completes the energy storage operation and at the normal opening status, the circuit breaker can be fast closed by using the closing electromagnetic coil remotely control

RDW5-1600
Shunt release

RDW5-2500~6300
Shunt release

☐ Shunt release

Operating voltage Us	AC230V	AC400V	DC220V	DC110V
Action voltage range	(70~110)%Us			
Action voltage range	1.3A	0.7A	1.3A	2.5A
Pull-in time	≤30ms			

Note: When the circuit breaker is at the closing status, the circuit breaker can be fact opened by the shunt release remotely control

RDW5-1600
Undervoltage release

RDW5-2500~6300
Undervoltage release

☐ Undervoltage release

Operating voltage Us	AC230V	AC400V
Action voltage range	(35~70)%Ue	
Reliably closing voltage range	(85~110)%Ue	
Cannot closing voltage range	≤35%Ue	
Power consumption	20VA	
RDW5-1600 Tripping time	Instantaneous,1s, 3s, 5s, 10s, 15s, 20s	
Above RDW5-2500 tripping time	Instantaneous, 0.5s, 1s, 3s, 5s	

Note: 1. When the undervoltage tripping device is not powered, the circuit breaker cannot be closed
2. Within 1/2 delay tripping time, when the working voltage is restored to more than 85%Ue, the circuit breaker is not opened;
3. In lightning-prone areas and power grids with unstable power supply voltage, it is recommended to use the undervoltage tripping device with delay to prevent the circuit breaker disconnection due to short-term voltage reduction

RDW5-1600
Energy storage motor

RDW5-2500~6300
Energy storage motor

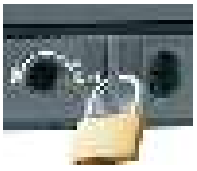
☐ Energy storage motor

Operating voltage Us	AC230V	AC400V	DC220V	DC110V
Operating voltage range	(85~110)%Us			
Energy storage time	5s			
RDW5-1600 Power consumption	75VA		75W	
RDW5-2500 Power consumption	110VA		110W	
Above RDW5-4000	150VA		150W	

Remark: 1. Realizing the electric energy storage of the circuit breaker and the automatic energy storage operation after the circuit breaker is closed, so that the circuit breaker can be immediately closed after the circuit breaker is broken.
2. Manual energy storage operation can also be carried out during circuit breaker maintenance

Accessories

Lock and interlock



Drawer operation padlock

☐ Drawer operation padlock

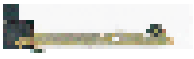
1. When the main body of the drawer type circuit breaker is at the position of “separate”, pull out the card board and lock it by the padlock, the main body cannot be shaken to the “testing” or ‘”connecting” position after locking. (The padlock is provided by the user)

Key lock

☐ Key lock

1. The key lock can lock the circuit breaker in the disconnected position. The circuit breaker can be closed only if the lock is opened by the key and the key is not pulled out
2. There are three kinds of common key locks: one lock and one key, two locks and onekey, and three locks and two keys

Note: Two locks and three locks are used in the power distribution system with two incoming lines and one connection



Position lock interlock

☐ Position lock interlock

1. When the drawer circuit breaker body is in the “test” or “connection” position, the cabinet door is forbidden to open. When the circuit breaker body is in the “separate” position, the cabinet door is allowed to open.

Drawer position interlocking mechanism

☐ Drawer position interlocking mechanism

1. In the drawer breaker, the locking device of the “connection”, “test” and “separate” positions of the breaker, the three positions of the breaker are displayed through the indicator window, pull in and pull out the handle is locked in the exact position, and can be unlocked by the reset button.

Mechanical interlock

☐ Mechanical interlock

1. There are two kinds of interlocks: lever interlock and cable interlock
2. Using lever interlock, two or three circuit breakers can only be installed vertically, using cable interlock, and circuit breakers can be installed horizontally and vertically

Indicate contact

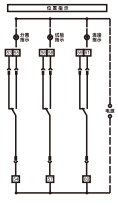
RDW5-1600
Auxiliary switch

RDW5-2500~6300
Auxiliary switch

☐ Auxiliary switch

Rated operating voltage	AC230V	AC400V	DC220V	DC110V
Setting thermal current	6A			
Rated control capacity	300VA		60W	

Note: 1. Default configuration: four sets of conversion contacts
2. Other type: 4NO4NC, 6 groups of conversion contacts, 6NO6NC



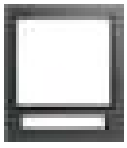
Position signal
Device wiring diagram

☐ Position signal device wiring diagram

1. Drawer type optional accessories
2. The three-position indicator contact is installed on the extracted frame to indicate the circuit breaker in the drawer position
3. When the circuit breaker is in the connection position, see the left wiring diagram and see the figure

Accessories

Protection



Door frame

☐ Door frame

1. The door frame is installed on the door of the power distribution cabinet, sealing and beautiful function, and the protection level can be reached.

Phase partition

☐ Phase partition

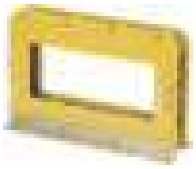
1. Vertically installed between each phase bus of the circuit breaker, to enhance the insulation capacity of the circuit breaker

Controller accessories

N Pole current transformer

☐ N Pole current transformer

1. In the grounding mode of 3P+N, the external transformer used to measure the neutral phase current is set on the wiring bus by the user
2. Choose from three options with grounding transformer and leakage transformer



ZCT
Zero sequence current transformer

☐ ZCT1 Zero sequence current transformer

1. When the grounding protection is the residual current type, a zero-sequence current transformer should be applied. Signal sampling methods is the vector sum of each phase current, it is applicable for the protection of small current.

Grounding current transformer

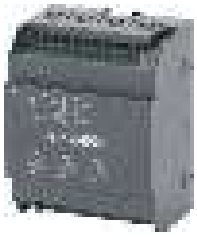
☐ Grounding current transformer

1. The special external transformer used to measure the neutral phase current can protect the upper and lower grounding faults of the circuit breaker simultaneously
2. The grounding mode is the ground current return type
3. Only for R / H type controllers
4. With N phase external transformer and leakage transformer

Auxiliary power module

☐ Auxiliary power module

1. Input voltage: AC230V/AC400V/DC110V/DC220V (option);
2. Auxiliary power supply module can provide power not less than 9.6W, DC24V power supply, can output four sets of terminals, can provide power supply for intelligent controller and relay module;
3. The installation method is 35mm standard guide rail or direct installation.



Relay module

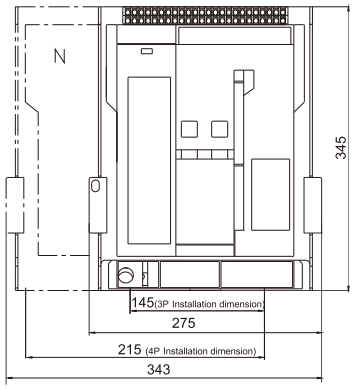
☐ Relay module

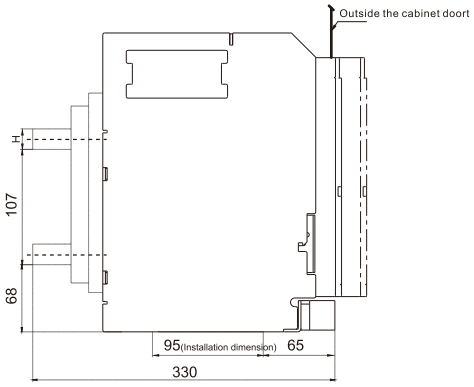
1. Input voltage: DC24V
2. Contacts capacity: AC250V 10A; DC28V 10A
3. When the load capacity of the switch of the control circuit breaker is large, it should be controlled through the relay module conversion.
4. The installation method is 35mm standard guide rail or direct installation.

Overall dimension and installation dimension

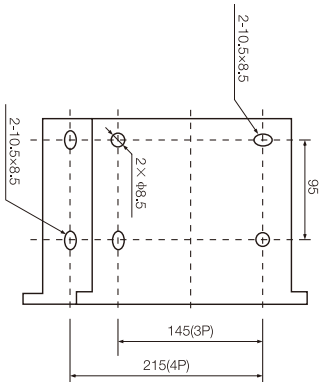
RDW5-1600S ACB (Withdrawable type) overall and installation dimensions

☐ RDW5-1600S ACB (Withdrawable type) overall dimension

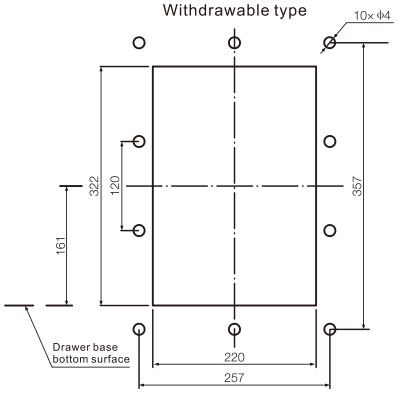




☐ RDW5-1600S ACB (Withdrawable type) installation dimension

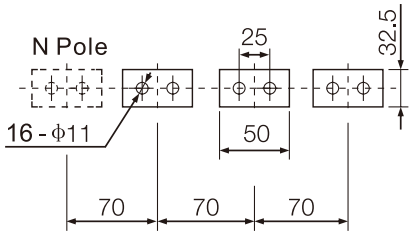


Installation size



Hole opening size for the frame

☐ RDW5-1600S ACB (Withdrawable type) wiring dimension

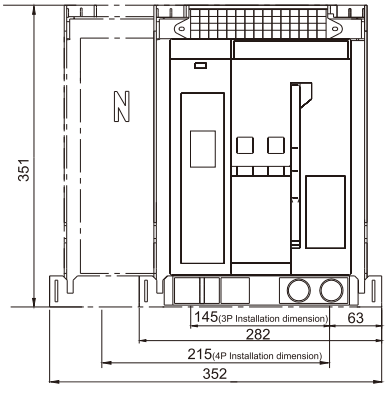


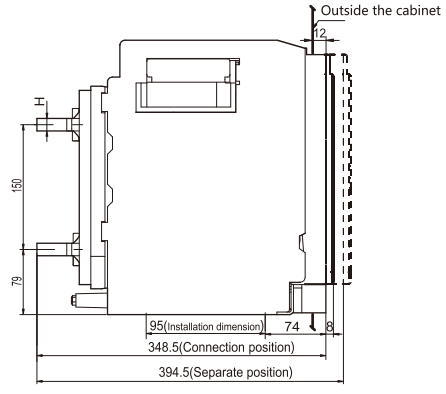
Rated current (A)	Thickness of busbar H (mm)
200、400、630	6
800、1000	10
1250、1600	18

RDW5-1600S the correspondence between the current and the busbar thickness

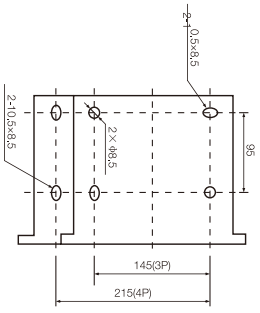
RDW5-1600H ACB (Withdrawable type) overall and installation dimensions

☐ RDW5-1600H ACB (Withdrawable type) overall dimensions

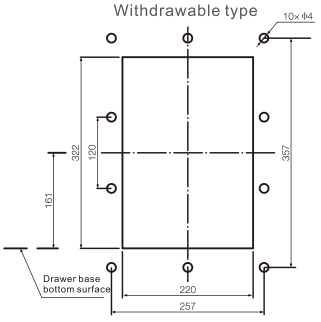




☐ RDW5-1600H ACB (withdrawable type) Installation size and frame hole-opening size

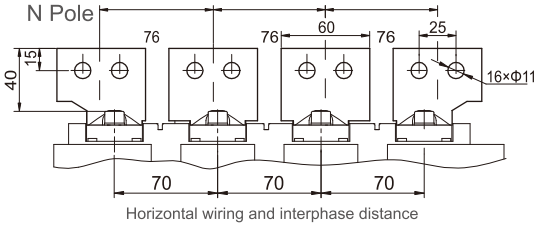


Installation dimension

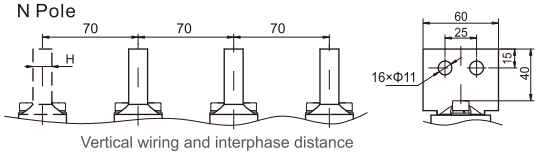


Hole opening size for the frame

☐ RDW5-1600H ACB (withdrawable type) Installation dimension



Horizontal wiring and interphase distance



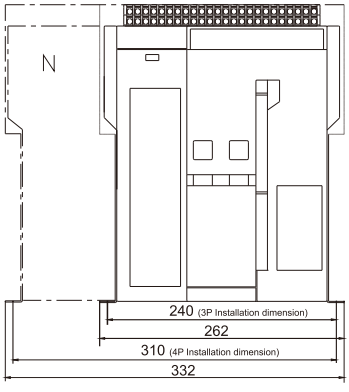
Vertical wiring and interphase distance

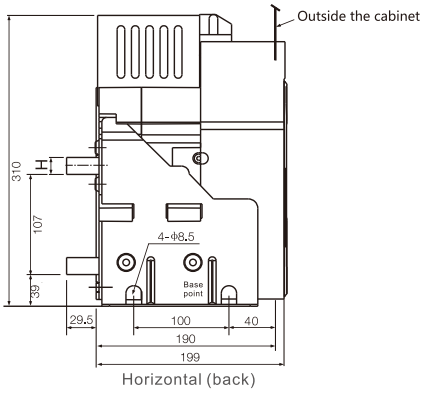
Rated current (A)	Thickness of busbar H (mm)
200、400、630	5
800、1000	10
1250、1600	15

RDW5-1600H the correspondence between the current and the busbar thickness

RDW5-1600S ACB (Fixed type) overall and installation dimensions

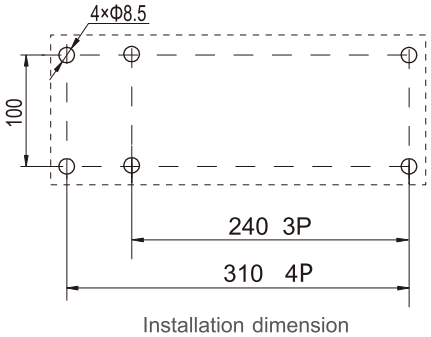
☐ RDW5-1600S ACB (Fixed type) overall dimensions



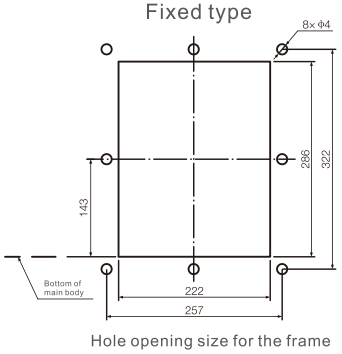


Horizontal (back)

☐ RDW5-1600S ACB (Fixed type) Installation size and frame hole-opening size

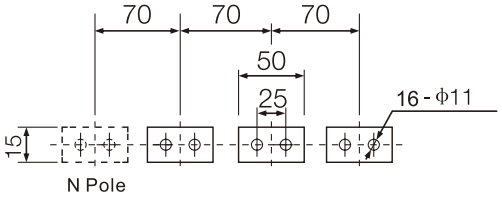


Installation dimension



Hole opening size for the frame

☐ RDW5-1600S ACB (Fixed type) Installation dimension

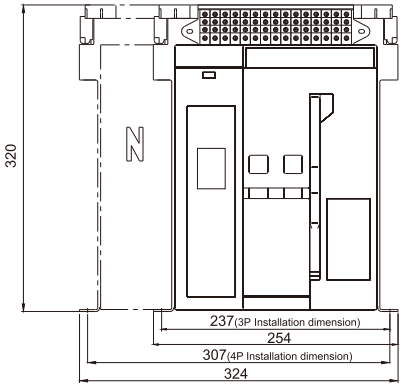


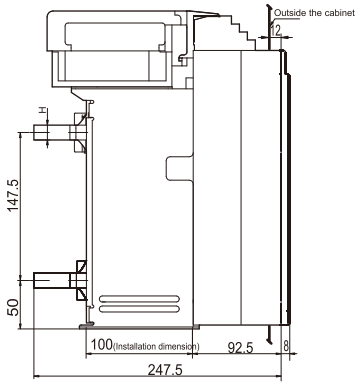
Rated current (A)	Thickness of busbar H (mm)
200、400、630	6
800、1000	10
1250、1600	18

RDW5-1600S the correspondence between the current and the busbar thickness

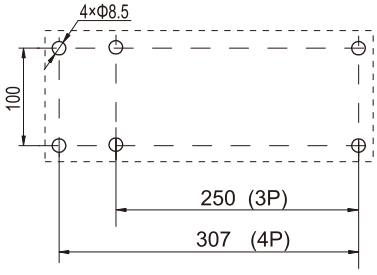
RDW5-1600H ACB (Fixed type) overall and installation dimensions

☐ RDW5-1600H Overall dimension

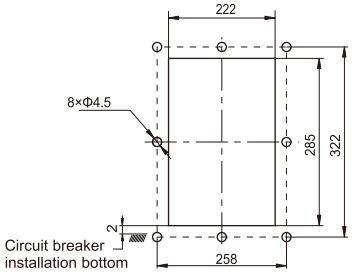




☐ RDW5-1600H Installation dimension

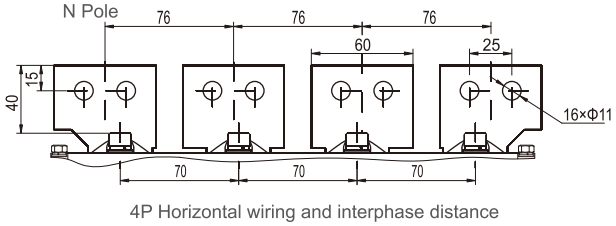


Installation dimension

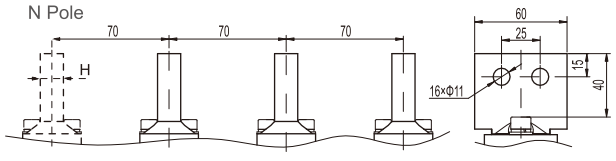


Hole opening size for the frame

☐ RDW5-1600H Installation dimension



4P Horizontal wiring and interphase distance



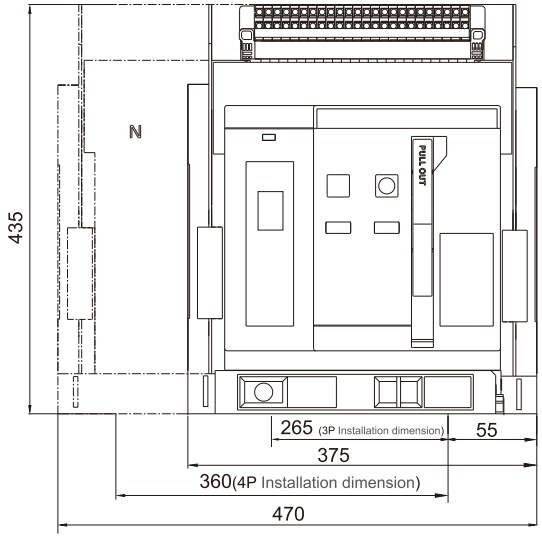
Vertical wiring and interphase distance

Rated current (A)	Thickness of busbar H (mm)
200、400、630	5
800、1000	10
1250、1600	15

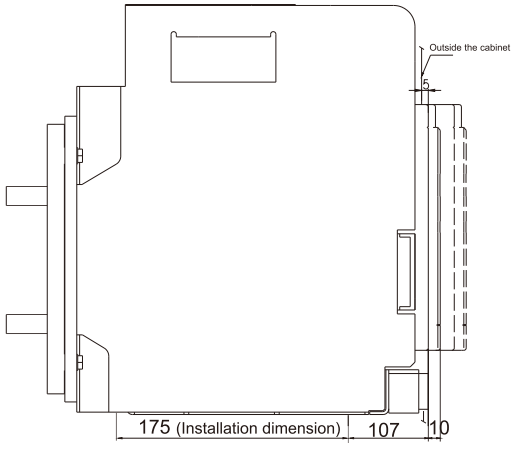
RDW5-1600H the correspondence between the current and the busbar thickness

RDW5-2000/2500 S/H ACB (Withdrawable type) overall and installation dimensions

☐ RDW5-2000/2500 S/H Overall dimension

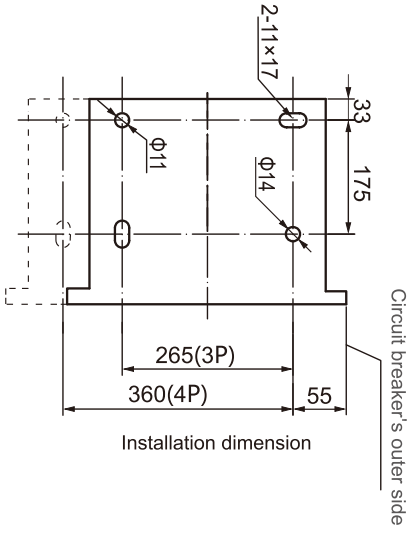


Center line and overall dimension

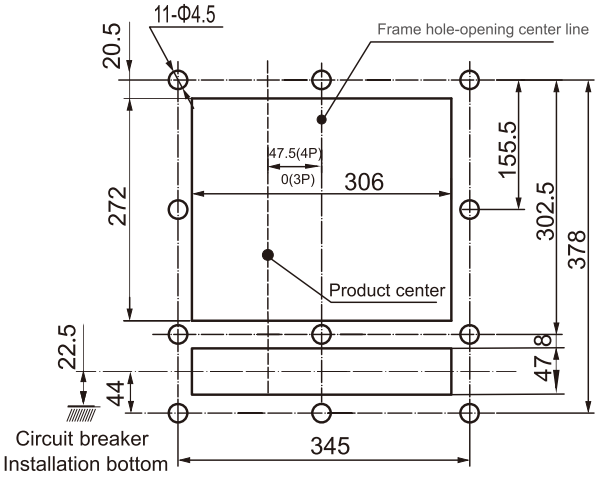


Horizontal wiring and overall dimension

☐ RDW5-2000/2500 S/H Installation dimension and frame hole-opening dimension



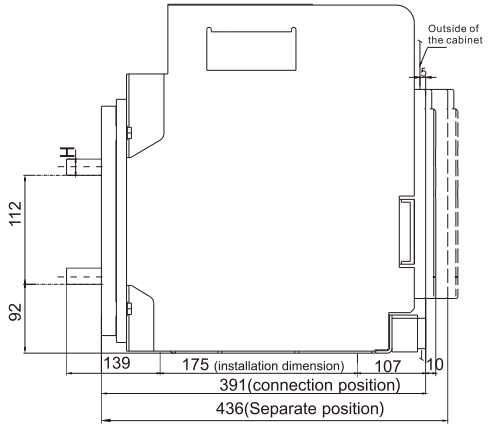
Installation dimension



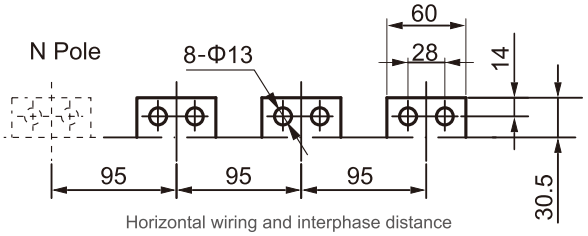
Withdrawable type

Frame hole-opening dimension

☐ RDW5-2000S Wiring dimension



Horizontal wiring and overall dimension

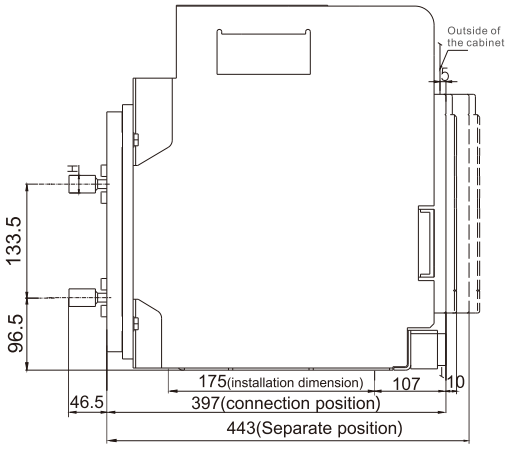


Horizontal wiring and interphase distance

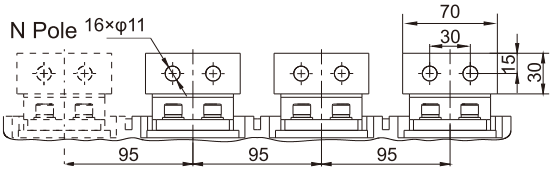
Rated current (A)	Thickness of busbar H (mm)
630、800	10
1000、1250、1600	15
2000	20

RDW5-2000S the correspondence between the current and the busbar thickness

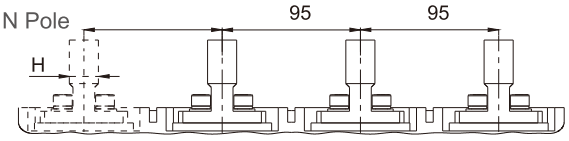
☐ RDW5-2000H wiring dimension



Horizontal wiring and overall dimension



Horizontal wiring and interphase distance



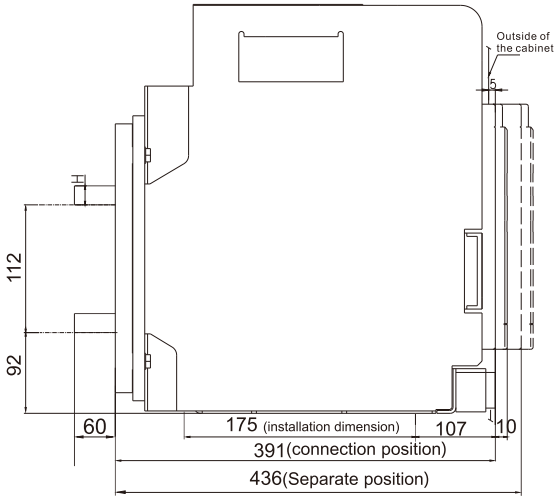
Vertical wiring and interphase distance

Rated current (A)	Thickness of busbar H (mm)
630、800	10
1000、1250、1600	15
2000	20

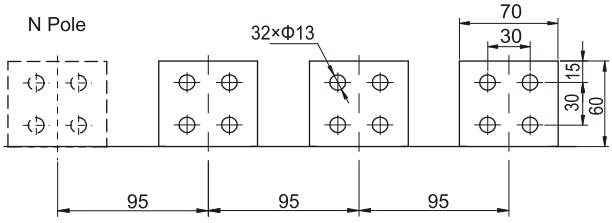
RDW5-2000H the correspondence between the current and the busbar thickness

RDW5-2000/2500 S/H ACB (Withdrawable type) overall and installation dimensions

☐ RDW5-2500S Wiring dimension



Horizontal wiring and overall dimension

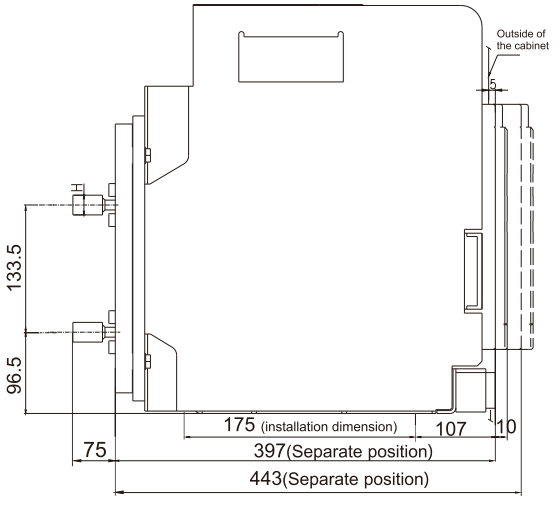


Horizontal wiring and interphase distance

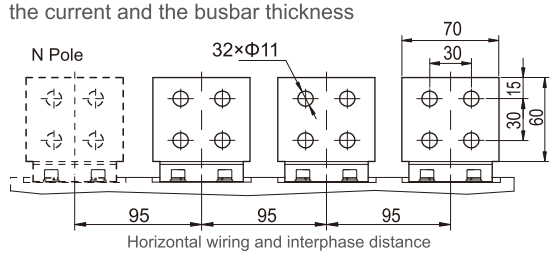
Rated current (A)	Thickness of busbar H (mm)
1000、1250、1600	15
2000、2500	20

RDW5-2500S the correspondence between the current and the busbar thickness

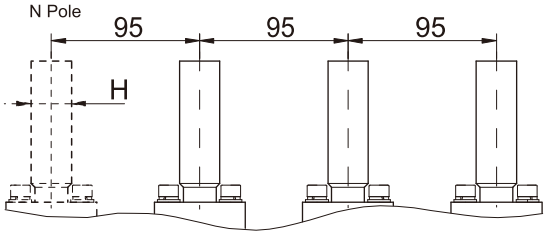
☐ RDW5-2500H Wiring dimension



Horizontal wiring and overall dimension



Horizontal wiring and interphase distance



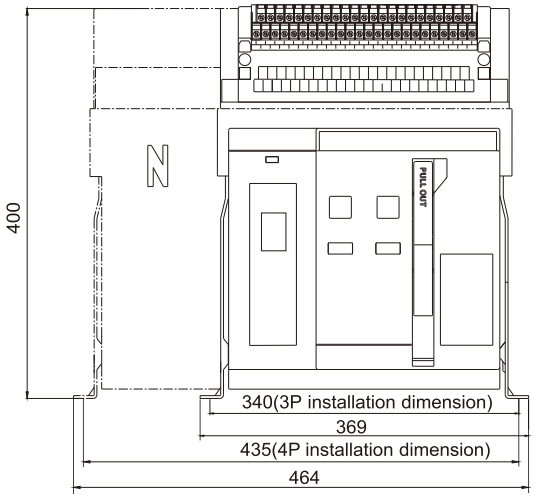
Vertical wiring and interphase distance

Rated current (A)	Thickness of busbar H (mm)
1000、1250、1600	15
2000、2500	20

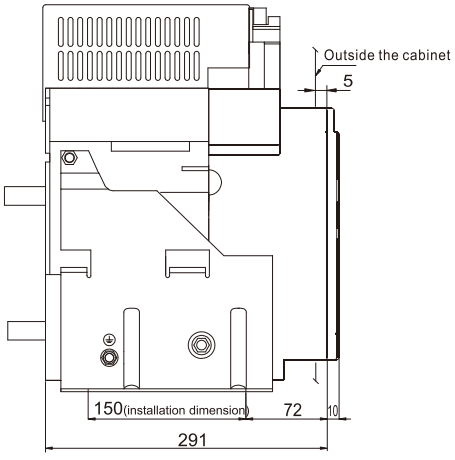
RDW5-2500H the correspondence between the current and the busbar thickness

RDW5-2000/2500 S/H ACB (Fixed type) overall and installation dimensions

☐ RDW5-2000/2500 S/H Overall dimensions

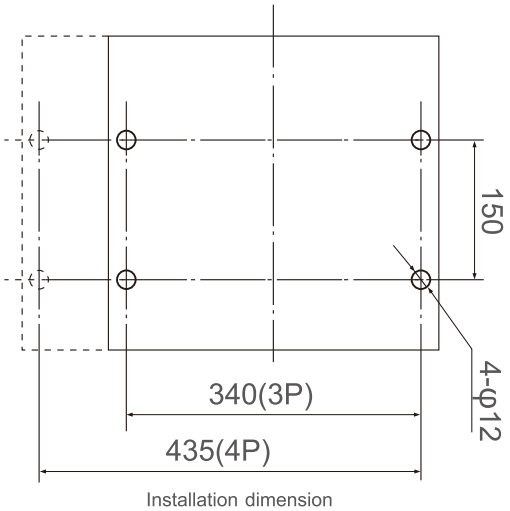


Center line and overall dimension

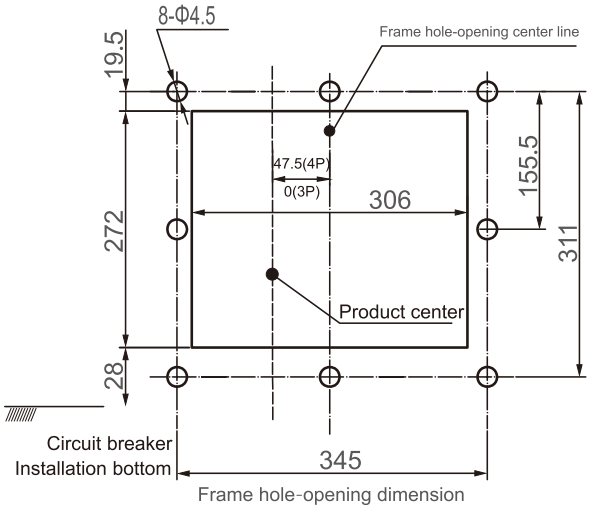


Horizontal wiring and overall dimension

☐ RDW5-2000/2500 S/H Installation dimension and frame hole-opening dimension

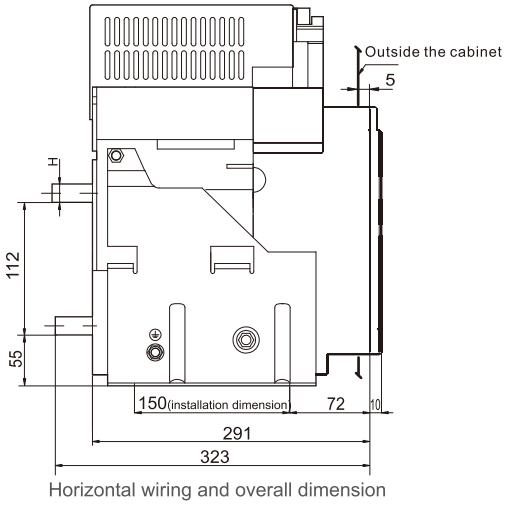


Installation dimension

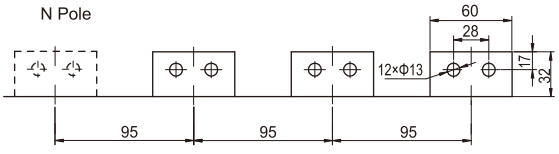


Frame hole-opening dimension

☐ RDW5-2000S wiring dimension



Horizontal wiring and overall dimension

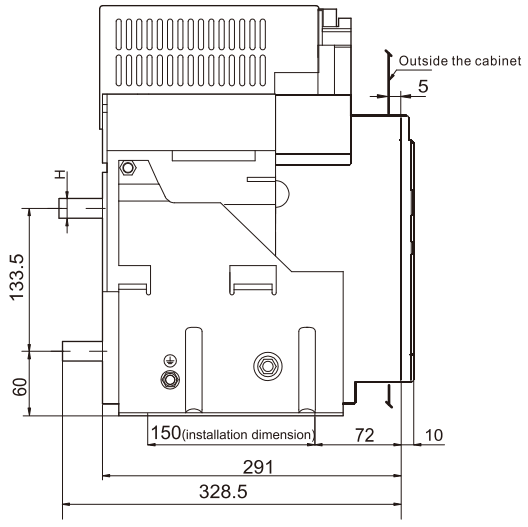


Horizontal wiring and interphase distance

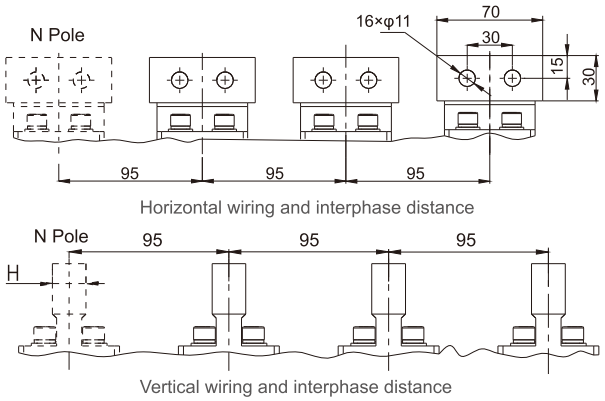
Rated current (A)	Thickness of busbar H (mm)
630、800	10
1000、1250、1600	15
2000	20

RDW5-2000S the correspondence between the current and the busbar thickness

☐ RDW5-2000H wiring dimension



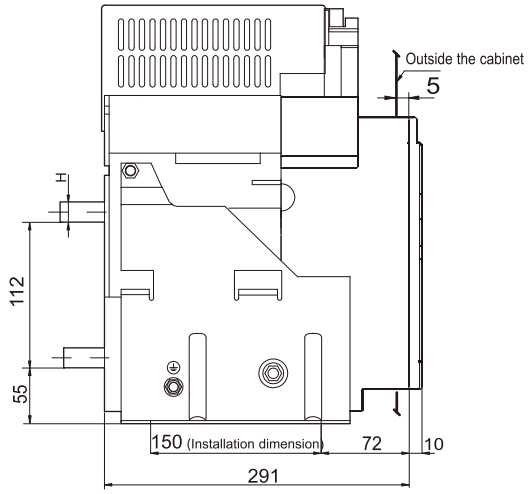
Horizontal wiring and overall dimension

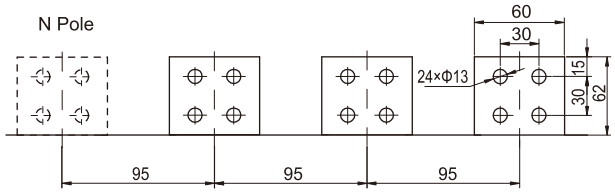


Rated current (A)	Thickness of busbar H (mm)
630、800	10
1000、1250、1600	15
2000	20

RDW5-2000H the correspondence between the current and the busbar thickness

☐ RDW5-2500S Wiring dimension

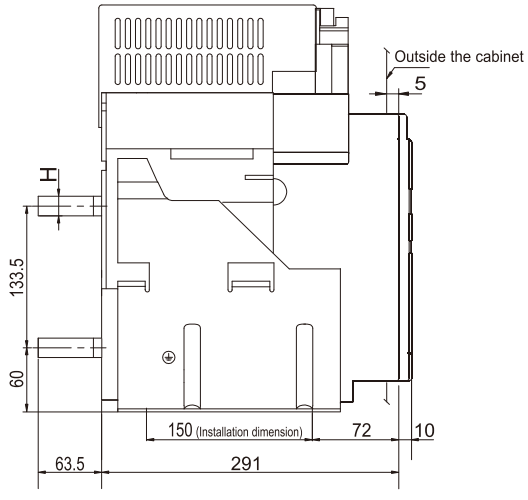




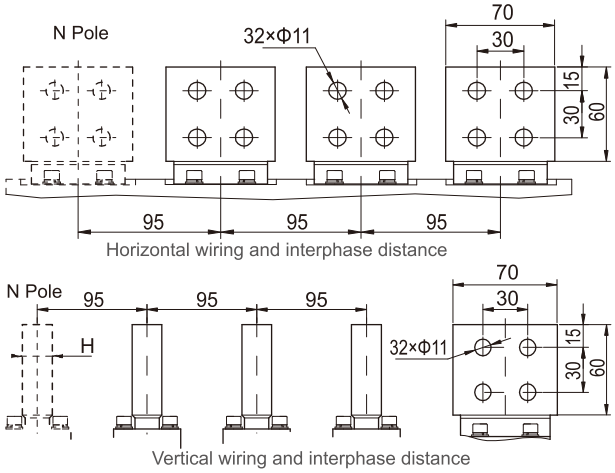
Rated current (A)	Thickness of busbar H (mm)
1000、1250、1600	15
2000、2500	20

RDW5-2500S the correspondence between the current and the busbar thickness

☐ RDW5-2500H Wiring dimension



Horizontal wiring and overall dimension

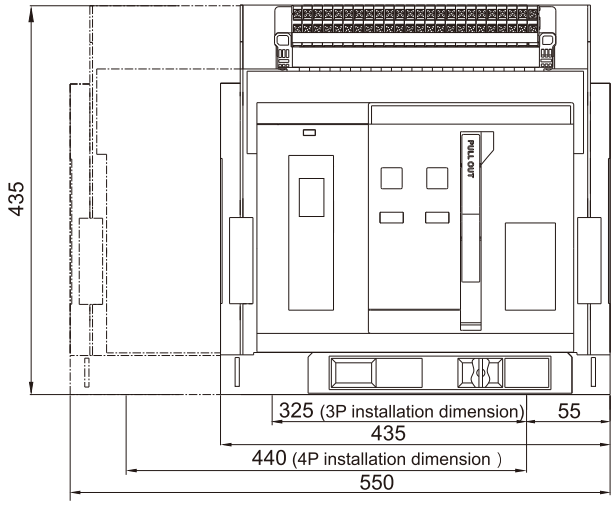


Rated current (A)	Thickness of busbar H (mm)
1000、1250、1600	15
2000、2500	20

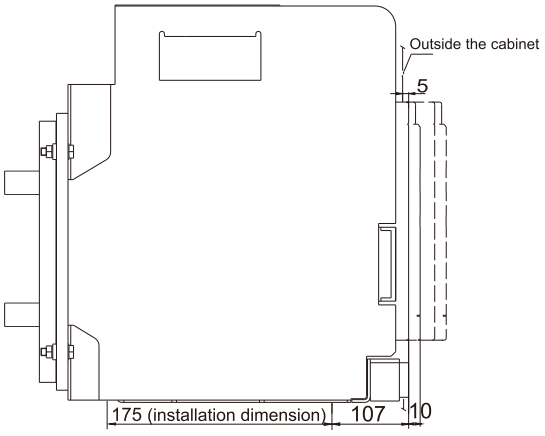
RDW5-2500H the correspondence between the current and the busbar thickness

RDW5-3200/4000 S/H ACB (Withdrawable type) overall and installation dimensions

☐ RDW5-3200/4000 S/H Overall dimension

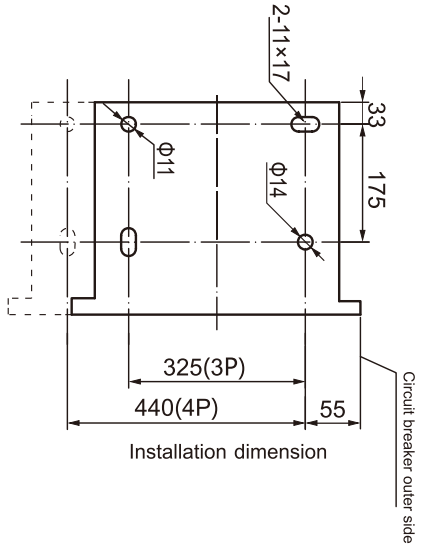


Central line and overall dimension

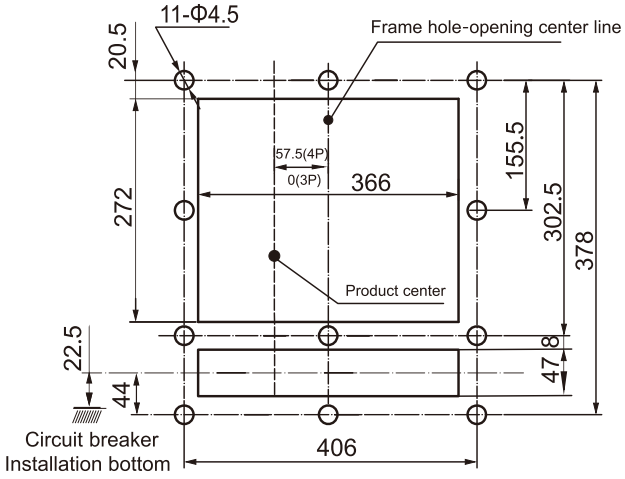


Horizontal wiring and overall dimension

☐ RDW5-3200/4000 S/H installation dimension and frame hole-opening dimension



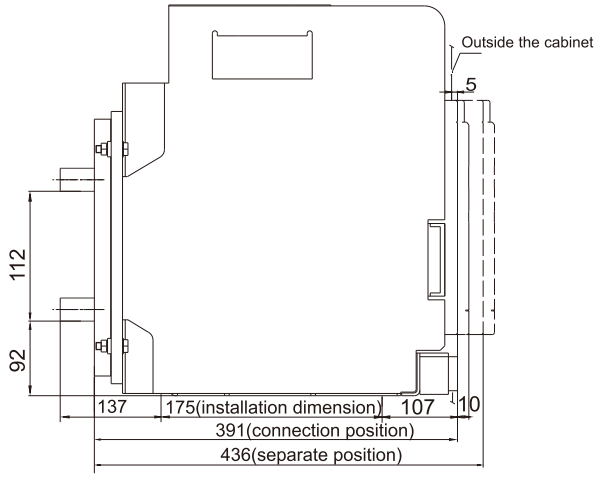
Installation dimension

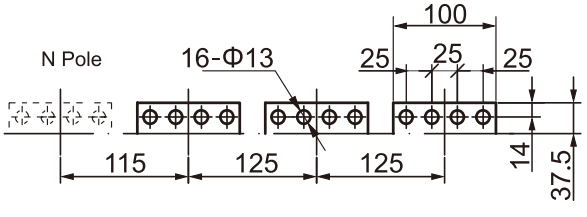


Withdrawable type
Frame hole-opening dimension

RDW5-3200/4000 S/H ACB (Withdrawable type) overall and installation dimensions

☐ RDW5-3200S Wiring dimension



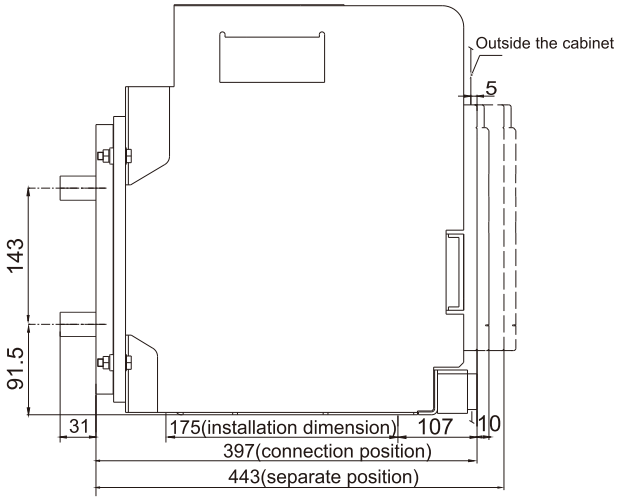


Horizontal wiring and interphase distance

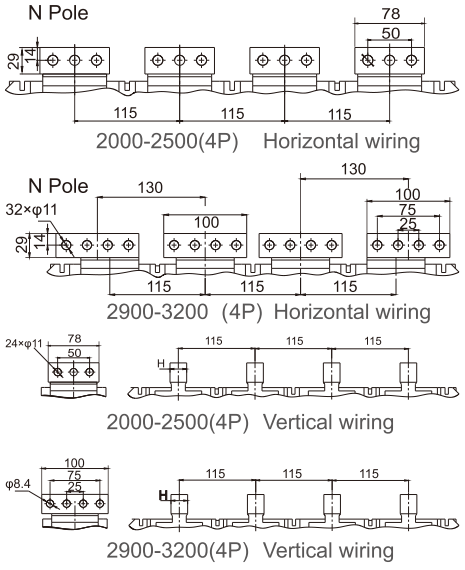
Rated current (A)	Thickness of busbar H (mm)
2000、2500	20
2900、3200	30

RDW5-3200S the correspondence between the current and the busbar thickness

☐ RDW5-3200H Wiring dimension



Horizontal wiring and overall dimension

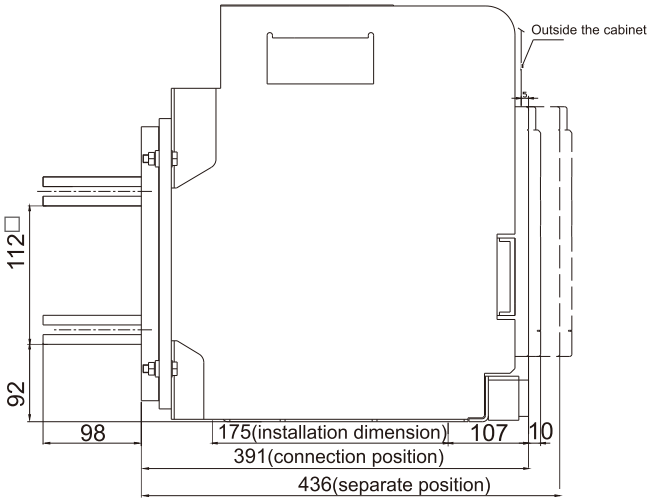


Rated current (A)	Thickness of busbar H (mm)
2000、2500	25
2900、3200	25

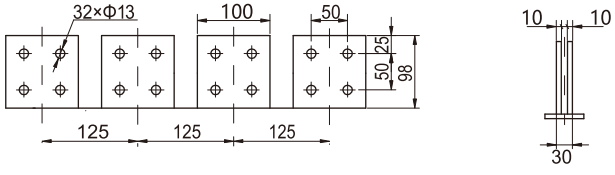
RDW5-3200H the correspondence between the current and the busbar thickness

RDW5-3200/4000 S/H ACB (Withdrawable type) overall and installation dimensions

RDW5-4000S Wiring dimension



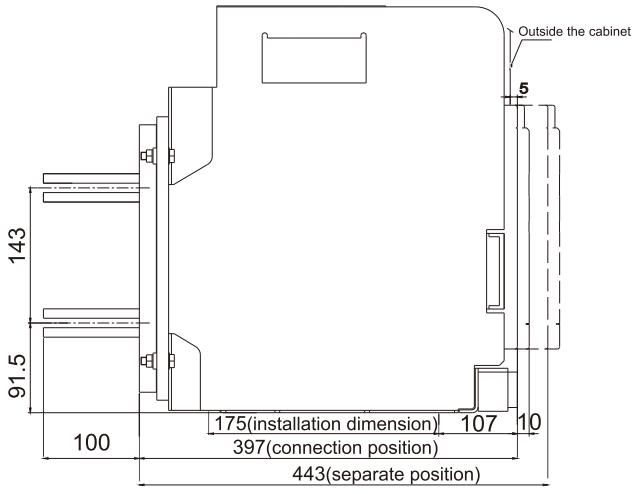
Horizontal wiring and overall dimension



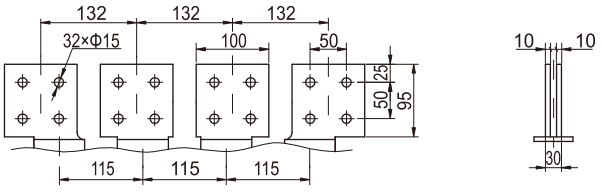
Horizontal wiring and interphase distance

Horizontal wiring and overall dimension

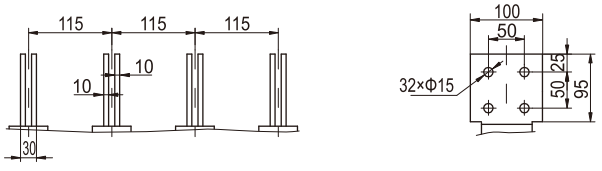
☐ RDW5-4000H Wiring dimension



Horizontal wiring and overall dimension



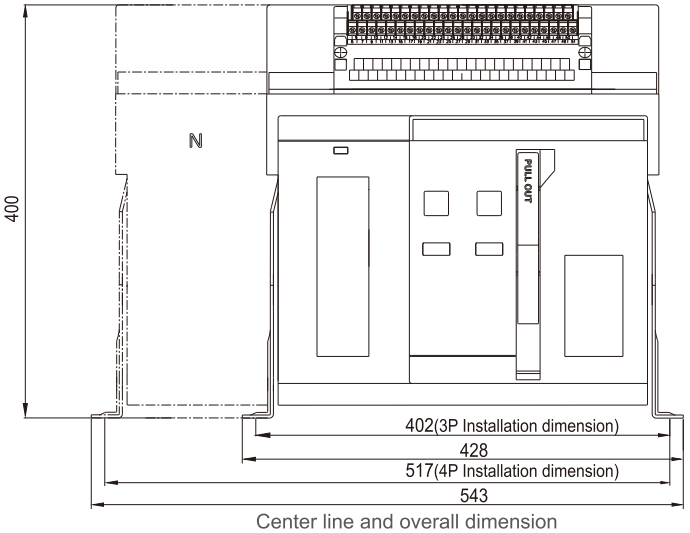
Horizontal wiring and interphase distance



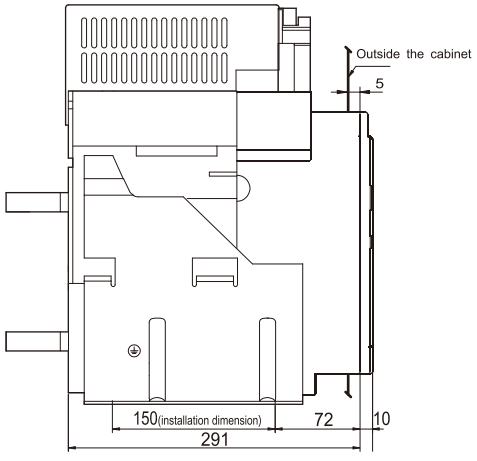
Vertical wiring and interphase distance

RDW5-3200/4000 S/H ACB (Fixed type) overall and installation dimensions

☐ RDW5-3200/4000 S/H Overall dimension

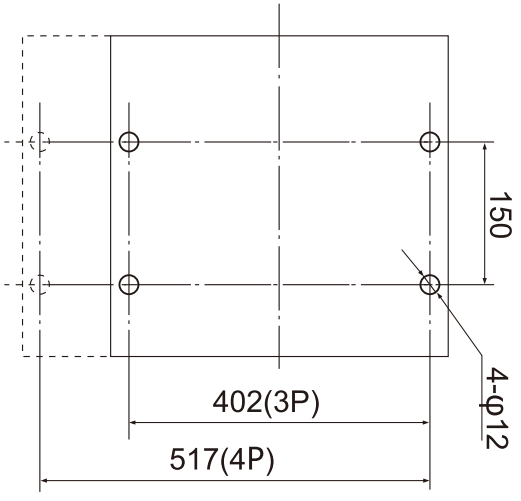


Center line and overall dimension

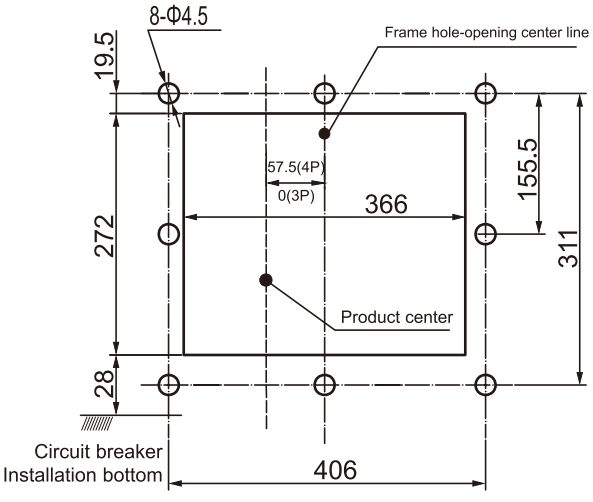


Horizontal wiring and overall dimension

☐ RDW5-3200/4000 S/H Installation dimension and frame hole-opening dimension



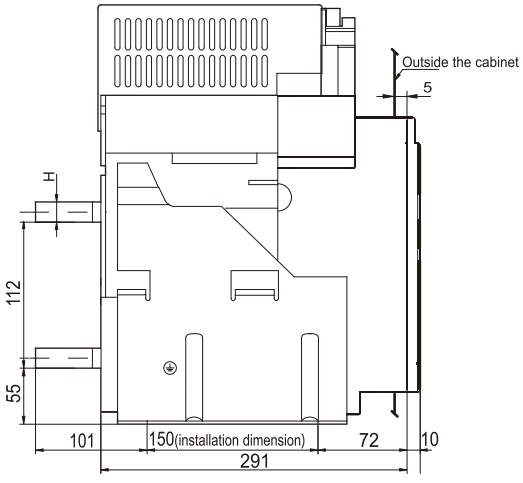
Installation dimension



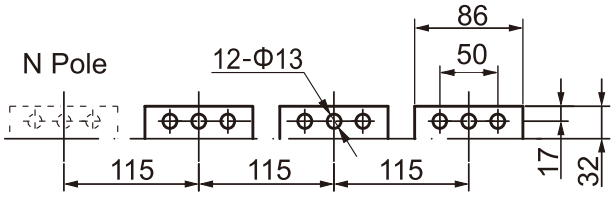
Frame hole-opening dimension

RDW5-3200/4000 S/H ACB (Fixed type) overall and installation dimensions

☐ RDW5-3200S Wiring dimension



Horizontal wiring and overall dimension

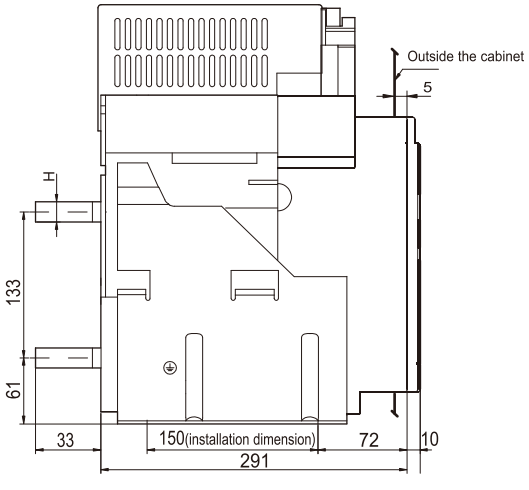


Horizontal wiring and interphase distance

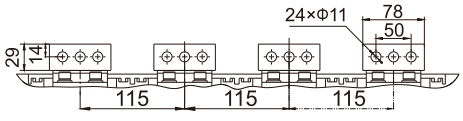
Rated current (A)	Thickness of busbar H (mm)
2000、2500	20
2900、3200	30

RDW5-3200S the correspondence between the current and the busbar thickness

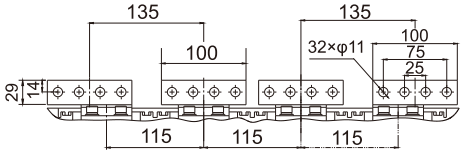
☐ RDW5-3200H Wiring dimension



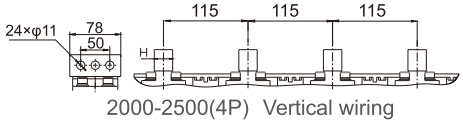
Horizontal wiring and overall dimension



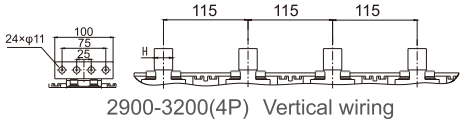
2000-2500(4P) Horizontal wiring



2900-3200 (4P) Horizontal wiring



2000-2500(4P) Vertical wiring

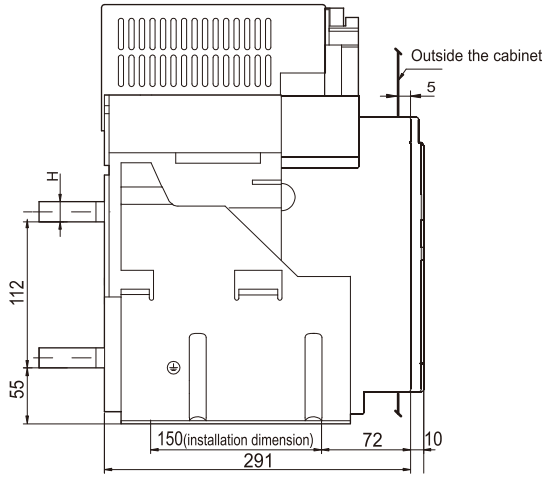


2900-3200(4P) Vertical wiring

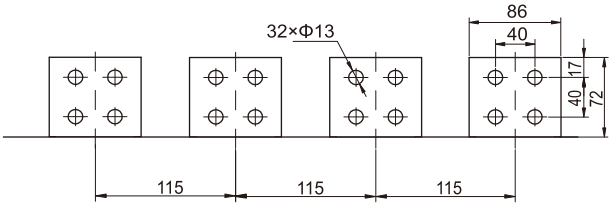
Rated current (A)	Thickness of busbar H (mm)
2000、2500	25
2900、3200	25

RDW5-3200H the correspondence between the current and the busbar thickness

☐ RDW5-4000S Wiring dimension



Horizontal wiring and overall dimension

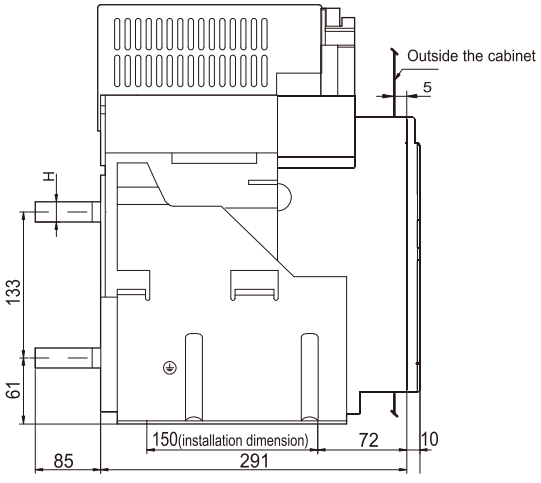


Horizontal wiring and interphase distance

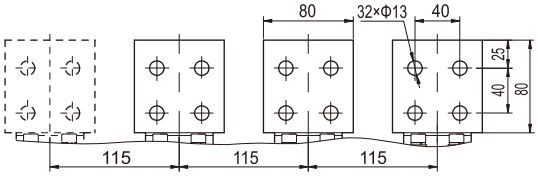
Rated current (A)	Thickness of busbar H (mm)
2000、2500	20
2900、3200、4000	30

RDW5-4000S the correspondence between the current and the busbar thickness

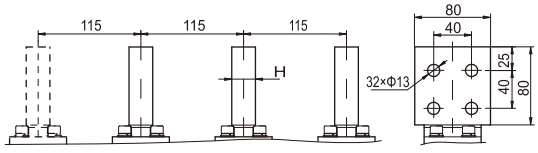
☐ RDW5-4000H Wiring dimension



Horizontal wiring and overall dimension



Horizontal wiring and interphase distance



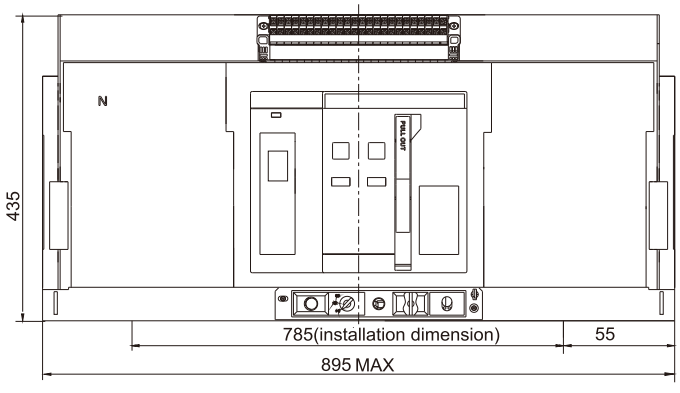
Vertical wiring and interphase distance

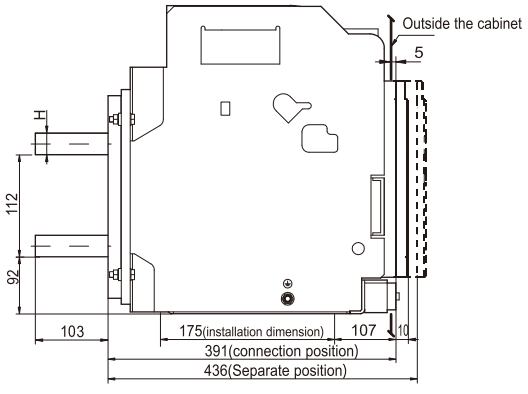
Rated current (A)	Thickness of busbar H (mm)
2000、2500	20
2900、3200、4000	25

RDW5-4000H the correspondence between the current and the busbar thickness

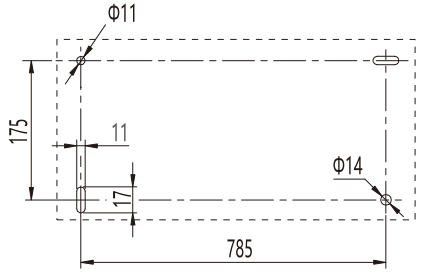
RDW5-6300S ACB (Withdrawable type) overall and installation dimensions

☐ RDW5- 6300S Overall dimension

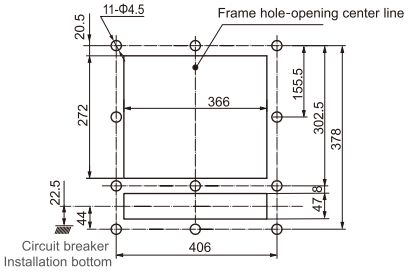




☐ RDW5- 6300S Installation dimension and frame hole-opening dimension

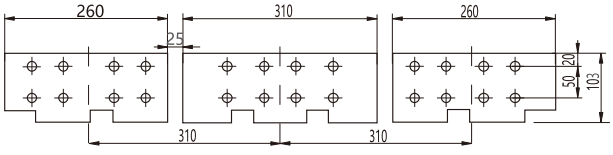


3P/4P Installation dimension diagram



Frame hole-opening dimension for Withdrawable type circuit breaker

☐ RDW5- 6300S Wiring dimension

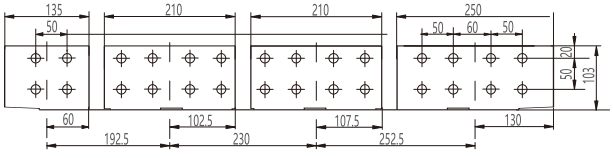


3P Horizontal wiring and interphase distance

Rated current (A)	Thickness of busbar H (mm)
4000	20
5000、6300	30

RDW5-6300S the correspondence between the current and the busbar thickness

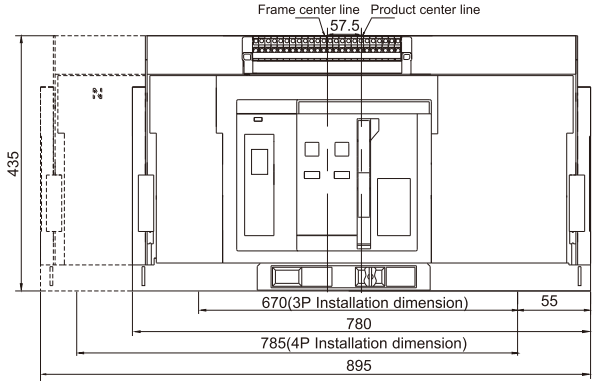
N Pole

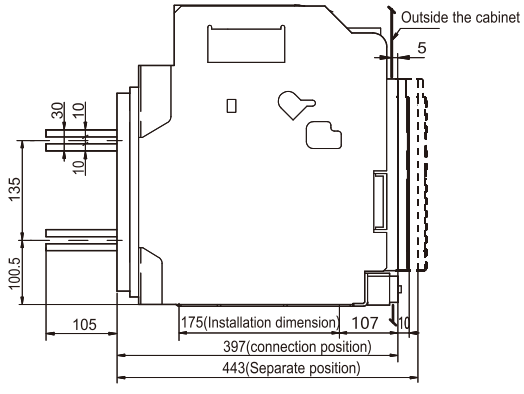


4P Horizontal wiring and interphase distance

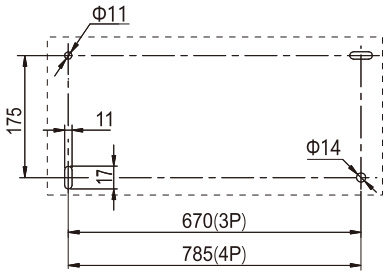
RDW5-6300H ACB (Withdrawable type) overall and installation dimensions

☐ RDW5- 6300H Overall dimension

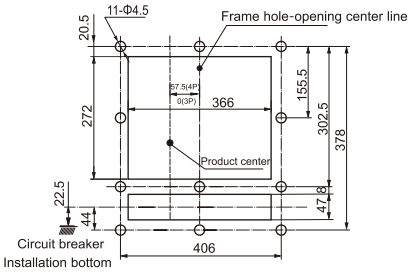




☐ RDW5- 6300H Installation dimension and frame hole-opening dimension

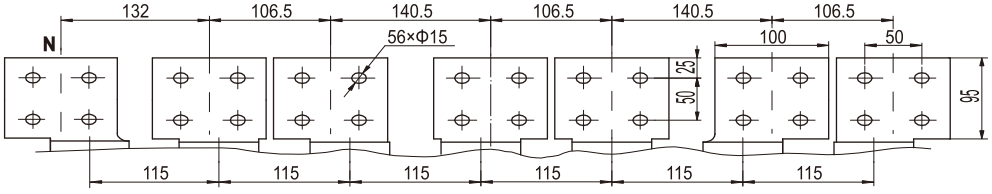


Installation dimension

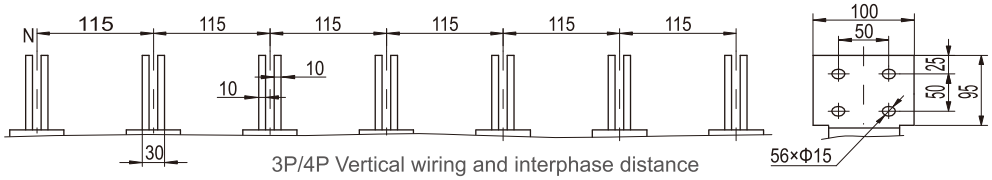


Frame hole-opening dimension

☐ RDW5- 6300H Wiring dimension



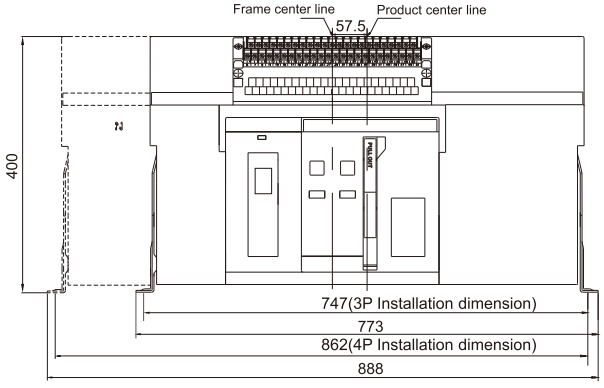
3P/4P Horizontal wiring and interphase distance

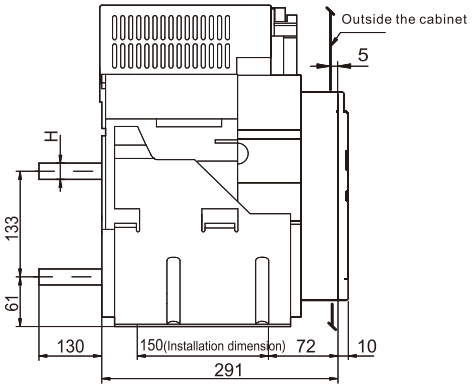


3P/4P Vertical wiring and interphase distance

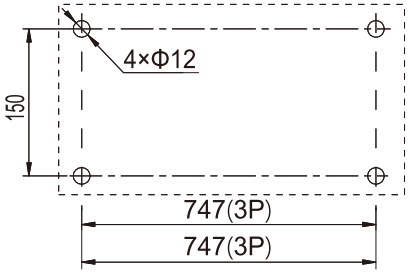
RDW5-6300H ACB (Fixed type) overall and installation dimensions

☐ RDW5- 6300H Overall dimension

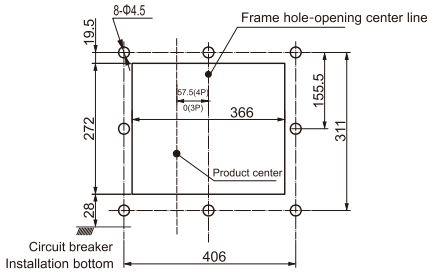




☐ RDW5- 6300H Installation dimension and frame hole-opening dimension

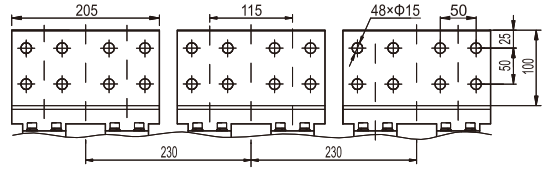


Installation dimension

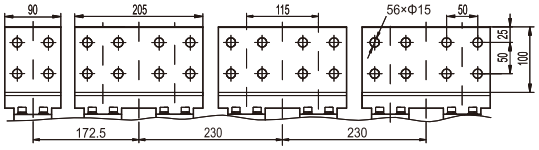


Frame hole-opening dimension

☐ RDW5- 6300H Wiring dimension



3P Horizontal wiring and interphase distance



4P Horizontal wiring and interphase distance

Rated current (A)	Thickness of busbar H (mm)
4000	25
5000~6300	30

RDW5-6300S the correspondence between the current and the busbar thickness

Rated current (A)	External copper bar specification W × T (mm)	Number of pieces per terminal	Sectional area of each terminal (mm^2)
200	20×5	1	100
400	40×5	1	200
630	40×5	2	400
800	50×5	2	500
1000	60×5	2	600
1250	80×5	2	800
1600	100×5	2	1000
2000	100×5	3	1500
2500	100×5	4	2000
2900	100×10	3	3000
3200	100×10	4	4000
3600	100×10	5	5000
4000	100×10	5	5000
5000	100×10	6	6000
6300	100×10	8	8000

RDH5D

Automatic Transfer Switch

Application

RDH5D series Automatic transfer switch equipment,integrates electrical and mechanical interlocking systems to guarantee safe transfer operation.It is applicable for the industry distribution device power supply system of AC50Hz,rated voltage AC400V, rated conventional current up to 3200A.It has detection, communication, electrical and mechanical interlocking functions.It can realize full-automatic and remote control,reset,manual control for emergency and other operations.This switch is applicable for two circuit power supplys, normal and standby power supply changeover automatically or the automatic changeover and safe disconnect between two sets of load equipments.

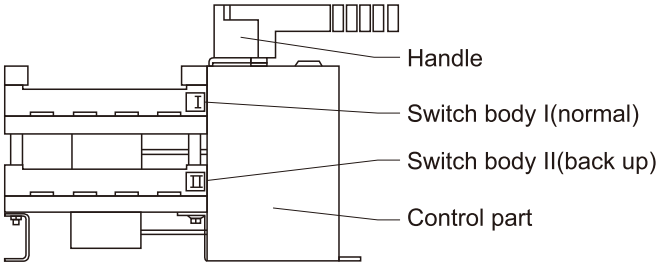
Switch structure

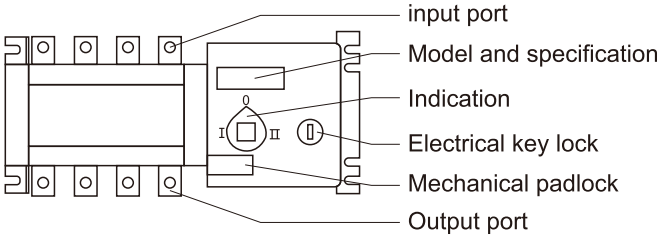
3.1 Electrical lock: control switch internal circuit power. when it is on, the switch can realize full-automatic, forced recovery and remote operation; when it is off, the switch only can be manual-operate.

3.2 Operation handle: The electrical lock should be off when the handle is used for manual operation.

3.3 Mechanism lock: using for detection. Firstly, turn switch to "0" position by using handle, then, pull the lock mechanism up and lock it, then taking detection.(pull up the lock, and the switch internal control power supply would be cut off, the switch can not automatic and manual operation.)

3.4 Position indication: indicate the working position(I,O,II).





Main technical parameter

4.1 Standard: IEC60947-6-1

4.2 Rated operation voltage(Ue):AC400V

4.3 Rated insulation voltage(Ue):AC690V

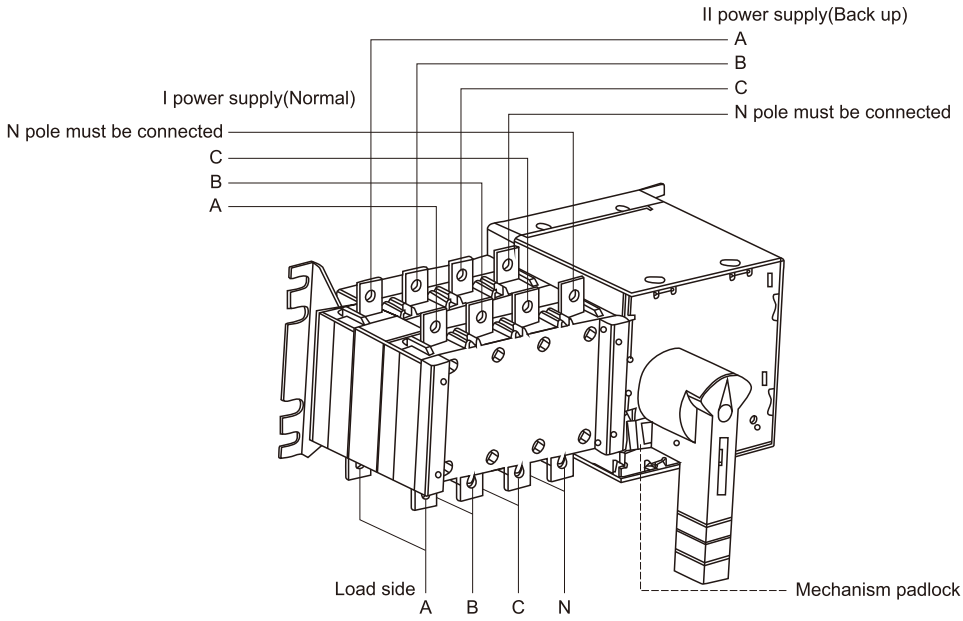
4.4 Rated operation current(Ie):10A-3200A

4.5 Control power supply voltage: DC24V,AC230V,AC400V

Main specifications

Rated thermal current(A)		100	160	250	400	630	1000	1250	1600	2000	2500	3200
Rated insulation voltage		690V										
Rated impulse withstand voltage		5kV	8kV				12kV					
Rated operational current(A)	AC-31A	100	160	250	400	630	1000	1250	1600	2000	2500	3200
	AC-35A	100	160	250	400	630	1000	1250	1600	2000	2500	3200
	AC-33iB	100	160	250	400	630	1000	1250	1600	2000	2500	3200
Rated short-time withstand current		5kV	10kV		13kV			50kV				55kV
Rated limited short-circuit current		5kV	100kV		70kV		100kV	120kV			80kV	
Control power supply voltage		DC24C、AC230V、AC400V										
Change-over time(s)		0.5	1	1.1	1.2		1.25			24.5		

Wiring diagram



Usage Method

Switch function

6.1 Automatic function: when normal power supply is off, the switch transfers the circuit to Backup power supply; when normal power supply is recovery,the switch would transfer circuit to Normal power supply.

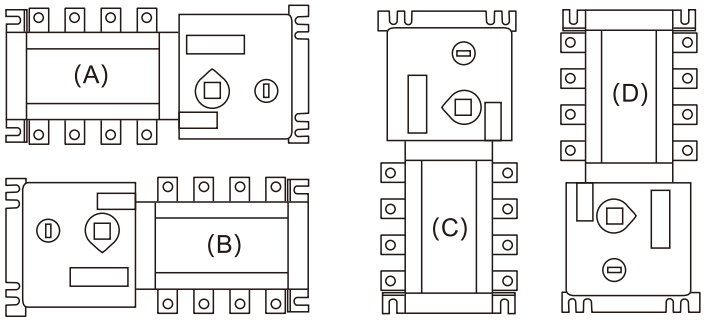
6.2 Forced recovery "0" function: start "0" button, the switch would cut two power supplys.

6.3 Remote control function: remote contol, push "I" button to start the normal power supply. Push "II" button to start back up power supply; Push "0" button to cut off two power supplys.

6.4 Please choose the switch function,and connect according to needs.

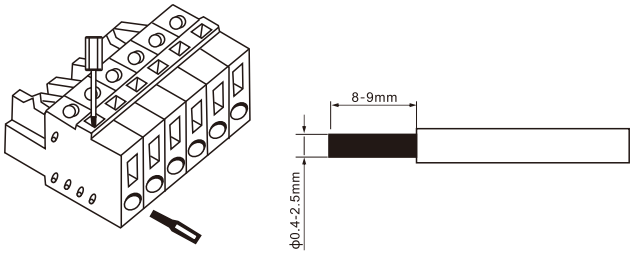
6.5 Please mention the model No., Specification and needed functions.

Switch installation

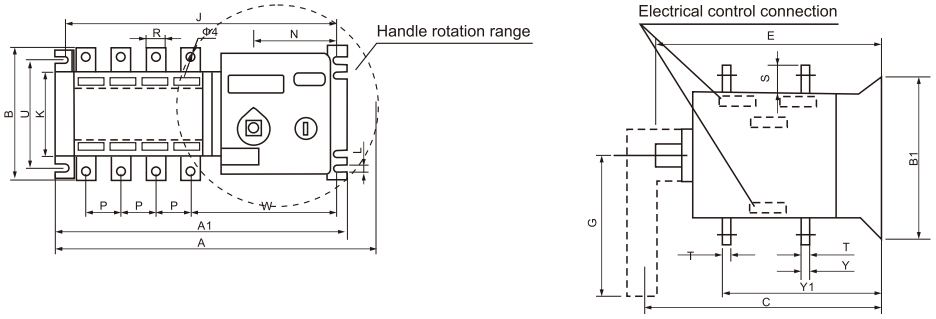


The above A,B,C is corrected(A is best),D is not right.

Terminal connection



Appearance



Specification	Shape dimension and Installation dimension																			
In	A	A1	B	B1	C	E	G	J	K	L	N	P	R	S	T	U	W	ΦX	Y	Y1
100A/3	235	232	110	105	134	150	115	221	84	7	74.5	30	14	18	2.5	105	126	6	36	86
100A/4	247	244	110	105	134	150	115	232	84	7	74.5	30	14	18	2.5	105	126	6	36	86
160A/3	292	270	145	128	230	200	145	254	105	7	91	36	20	25	3.5	127	158	9	55	125
160A/4	322	303	145	128	230	200	145	285	105	7	91	36	20	25	3.5	127	158	6	55	125
250A/3	356	312	170	142	261	220	145	295	105	7	91	50	25	30	3.5	142	168	6	60	145
250A/4	406	365	170	142	261	220	145	345	105	7	91	50	25	30	3.5	142	168	6	60	145
400A/3	487	370	240	222	284	280	189	351	180	9	93	65	32	40	5	222	203	9	83	193
400A/4	552	437	240	222	284	280	189	422	180	9	93	65	32	40	5	222	203	9	83	193
630A/3	487	368	240	222	284	280	189	351	180	9	93	65	40	50	6	222	203	9	83	193
630A/4	552	437	240	222	284	280	189	422	180	9	93	65	40	50	6	222	209	9	83	193
800A/3	646	519	328	250	363	320	443	490	220	11	87	120	60	69	8	250	207	11	109	254
800A/4	760	630	328	250	363	320	443	610	220	11	87	120	60	69	8	250	207	11	109	254
1000A/3	646	519	328	250	363	320	443	490	220	11	87	120	60	69	8	250	207	11	109	254
1000A/4	760	630	328	250	363	320	443	610	220	11	87	120	60	69	8	250	207	11	109	254
1250A/3	646	519	335	250	363	320	443	490	220	11	87	120	80	69	8	250	207	11	110	255
1250A/4	760	630	335	250	363	320	443	610	220	11	87	120	80	69	8	250	207	11	110	255
1600A/3	646	519	335	250	363	351	443	499	220	11	87	120	80	69	10	250	207	12	110	255
1600A/4	760	634	335	250	363	351	443	617	220	11	87	120	80	69	10	250	207	12	110	255
2000A/3	800	535	423		542	560	447	490	220		84.5		80	120	10			12		169
2000A/4	800	633	423		542	560	447	617	220		84.5		80	125	15			12		174
2500A/3	800	535	423		542	560	447	490	220		84.5		80	130	20			12		179
2500A/4	800	633	423		542	560	447	617	220		84.5		80	120	10			12		169
3200A/3	800	535	423		542	560	447	490	220		84.5		80	125	15			12		174
3200A/4	800	650	423		542	560	447	617	220		84.5		80	130	20			12		179

Switch control type and relevent function

10.1 I type: Automatic type

10.2 II type: Automatic, Forced "O", remote control, With generator.

10.3 III type: Phase loss detection protection,automatic, Forced "O", remote control, With generator.

10.4 Automation: Self-throwing and self-reset, when normal power supply stops or defaults phase, switch transfers circuit to standby power supply.And when normal power recovers, switch transfers circuit return to normal power supply.

10.5 Forced "0":when there is an emergency or device detection, start Forced "0" self-lock button, switch turns to "0" position and cut two circuits.

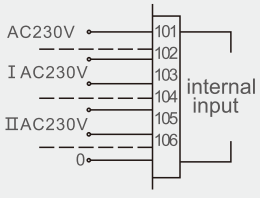
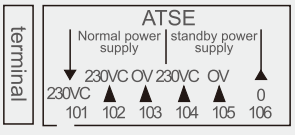
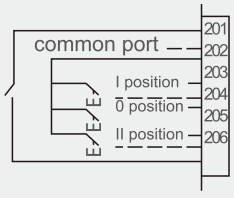
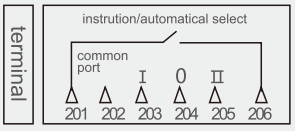
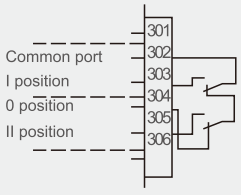
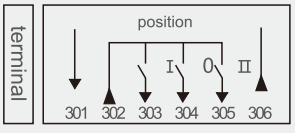
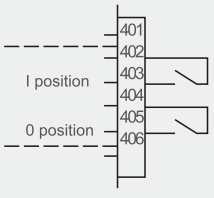
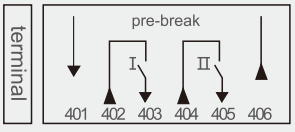
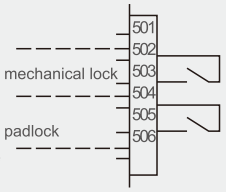
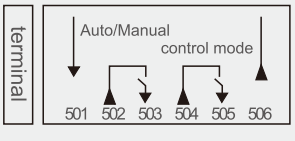
10.6 Remote control: press "I" position button, then normal power supply starts working;press "II" position button, then standby power supply starts working.

10.7 With generator:when normal power supply stops or defaults phase,then it gives the signal to start generator. When the power is turned on, the switch will automatically switch to the power supply. And when normal power supply recovers, switch returns the circuit to normal power supply,and stops the generator.

10.8 Phase loss protection:detect and protect normal power supply phase-loss.

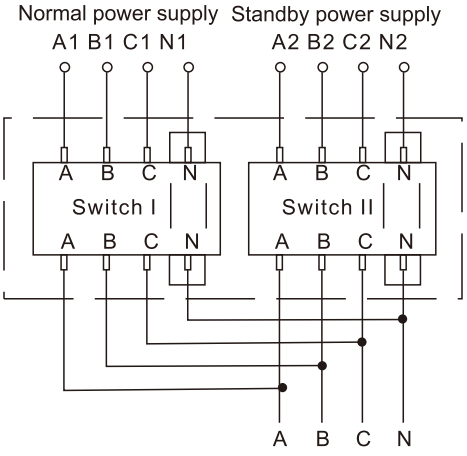
Using instruction

11.1 Nonprofessional installation and Unauthorized opening is forbidden;
11.2 Please read this instruction to avoid improper using.
11.3 Switch interior control power supply rated voltage is 220V, from c1 of normal power supply,N1and C2,N2of standby power supply .Only it is between 85% to 110% of rated control voltage, it could work normally.
11.4 Switch input terminal power supply should have overload protection for interior circuit board and control motor to avoid high voltage damage.
11.5 Switch output terminal should have short-circuit protection against high circuit damage.
11.6 When installing, Please turn off Electrical key lock, and turn the switch to "0" position.
11.7 when connecting, please distinguish A, B, C, N of power supply input line, and connect to relative poles.
11.8 Before powering on, please check whether C.N voltage is in the 85% to 110% rated control voltage range, then turn on the electrical lock.
11.9 Please keep the electrical key and handle separately in case of accident.

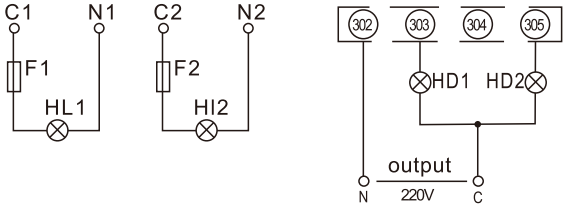
output connection	internal device	terminal instrution
	second power supply	
instrution/ automatical select 	control	
	position indicators	
	First pre-break auxiliary point	
"manual" contact open "automatic" contact close  "machanical padlock" contact open "Non machanical padlock" contact close		

Terminal connection diagram

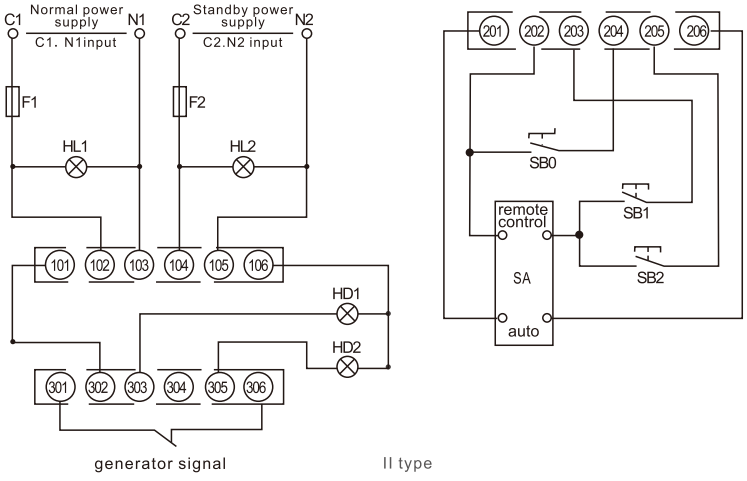
12.1 RDH5D series Main circuit connection diagram



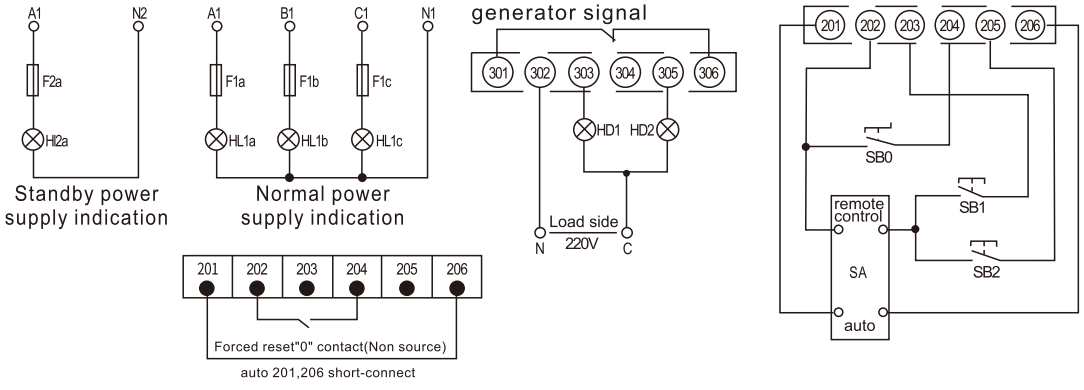
12.2 100A I type connection diagram



12.3 100A II type Automation+Remote control connection diagram



12.4 100A III type Automation+Remote control connection diagram

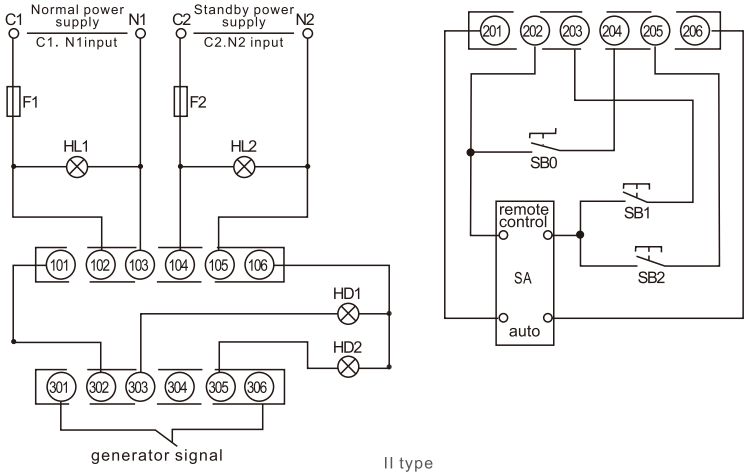


1. 100A and below only has I, II type switch
2. HD1-2, HL1-2 indication light can be connected according to needs.
3. Switch internal connects to Normal power supply C1.N1 and standby power supply C2,N2
4. I type (auto) switch internal, 201 and 206 terminal short-connects,so there is no 201-206 terminal.
5. II type switch 201-206 terminal can be connected according to relavent function
6. 301and 306 are the signal contacts of generator's starting.

1. 100A and below III type switch is special switch
2. III switch connects 3 phases,102 and 105 terminal can not connect power supply.
3. Switch power supply throwing instruts connect wiring according to the above fig.
4. 302 connects from load side N phase, signal light live line connects from load side C phase.
5. 301and 306 are the signal contacts of generator's starting.
6. Auto, remote control and II type are in same connection mode.

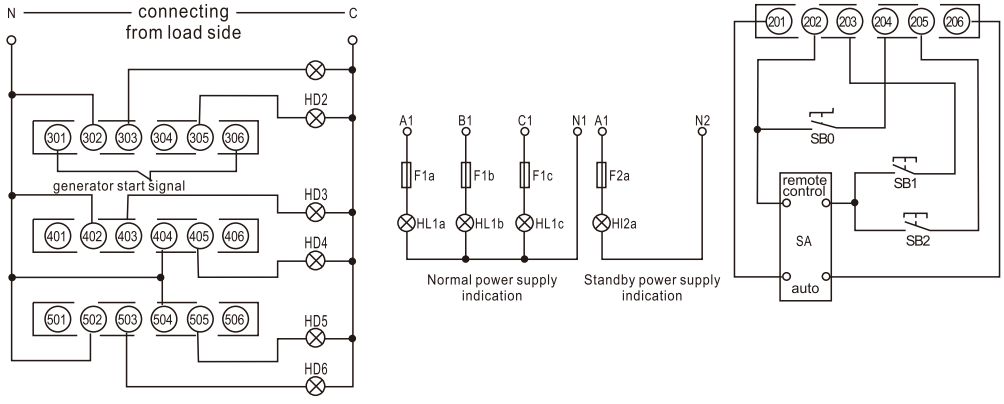
F1-2:(2A)Fuse
HL1: Normal power supply power indication
HL2: Standby power supply power indication
HD1: Normal power supply throwing indication
HD2: Standby power supply throwing indication
SA: Power transfer switch
SB0:Forced "0" selflock button
SB1:Normal power supply throwing button
SB2:Standby power supply throwing button

12.5 160A to 630A II Type Auto.+manual(remote control) connection diagram



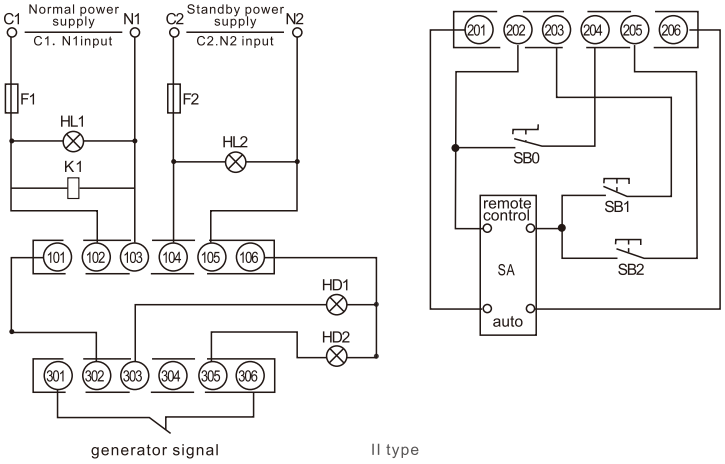
II type

12.6 160A to 630A III Type Auto.+manual(remote control) connection diagram



F1-2:(2A)fuse
HL1: Normal power supply power indicator
HL2: Standby power supply power indicator
1.HD1-6,HD1-2 indicator connects according to needs.
2.Only 400A and above have 401-406,501-506 terminals.
3.101 and 106 are switch output indicator power supplys, 106 is live line.
4. I type switch do not make 125A and above,only II type and III type
5. II type and III type 201-206 terminals can be connected according to relevant functions.
6. III Type connects 3 phases,102-105 do not need power,only 3poles switch 103 needs to connect the normal power supply N1,105 connects to Standby power N2.

12.7 1000A to 3200A II type auto+manual connection diagram



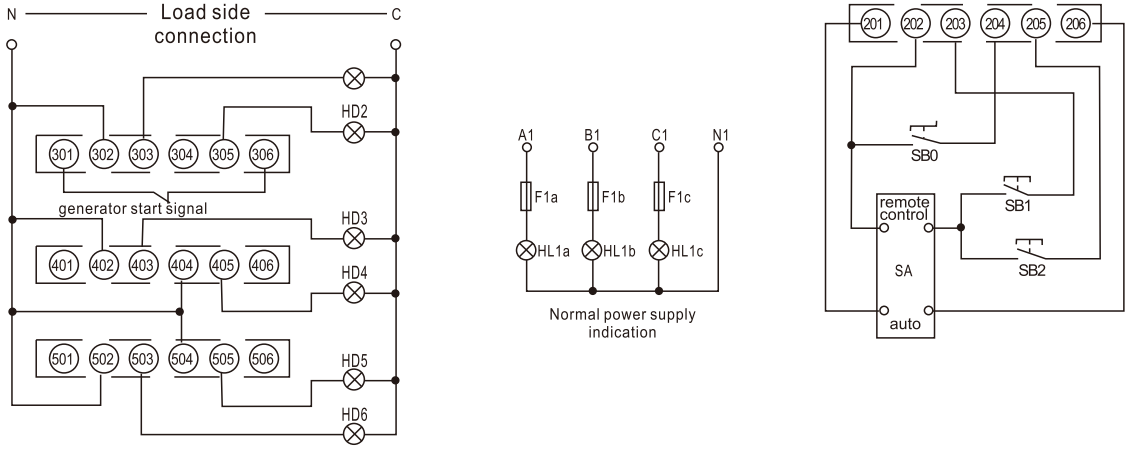
II type

HD1:Normal power supply throwing indication
HD2:Standby power supply throwing indication
HD3:Normal power supply pre-breaking indication
HD4:Standby power supply pre-breaking indication
HD5:Mechanical padlock on/off indication
HD6:Electrical lock on/off indication
AS:Function transfer switch
SB0:Forced reset "O" self-lock button
SB1:Normal power supply throwing button
SB2:Standby power supply throwing button

F1-2:(2A)Fuse
HL1: Normal power supply power indication
HL2: Standby power supply power indication
HD1: Normal power supply throwing indication
HD2: Standby power supply throwing indication
HD3:Normal power supply pre-breaking indication
HD4:Standby power supply pre-breaking indication
HD5:Mechanical padlock on/off indication
HD6:Electrical lock on/off indication
K1: Middle relay

SA: Power transfer switch
SB0:Forced "0" selflock button
SB1:Normal power supply throwing button
SB2:Standby power supply throwing button
1.Only II type and III type have 1000A and above production.
2.HD1-6,HL1-2 indicator can be connected according needs.
3.101 and 106 are switch output indicator power supplys, 106 is live line
4.201-206 terminal can be connected according to relevant functions.
5.K1 relay only can be used at full-automation.

12.8 1000A to 3200A III type auto+manual connection diagram



(III type)

Note:

1.III type switch connects to 3 phase power supply,102-105 do not connect to power supply.
only in the 3 poles switch, 103 connects Normal power supply N1,105 connects to Standby power supply.
2.Other connection mode refer to 125A to 630A type.

RDQ1

Automatic Transfer Switch

Description

RDQ1 series Dual Power Supply Auto-Transfer Switch is suitable for the power- supply system of AC 50Hz, rated operating voltage 400V, rated operating current 63 A and below. It can switch optionally between two circuit power supplys according to requirements. This product has the protective functions of over-load, short-circuit, under-voltage, meanwhile, it also has the functions of fire protection, double breaking and output the closing signal, which is especially suitable for the lighting circuit of the office building, shopping mall, bank, high-rise building that require fire protection.

Normal operating condition and installation condition

3.1 Altitude of installation place does not exceed 2000m.

3.2 Ambient temperature: -5℃~+40℃, average value within 24h does not exceed +35℃.

3.3 Atmosphere condition: The relative humidity does not exceed 50% when the highest temperature is +40℃, it is allowed relatively high relative humidity at the relatively low temperature, for example, it reaches 90% when 20℃, and it should take special measurements when there occurred the condensation on the products that is due to the variation of humidity.

3.4 Grade of pollution: 3

3.5 Installation condition: it is installed at the places that without impact vibration and without rain and snow; The upper terminal connects to the power supply side, the lower terminal connects to the load side, and the gradient between the installation side and the vertical side does not exceed 5°.

3.6 Installation category: III

3.7 External magnetic field of the installation place nearby does not exceed 5 times of earth magnetic field at any direction.

Technical parameter

4.1 Basic parameter of double power supply ATS to see table 1

Table 1

Product performance parameter		
Confirms to standards		IEC60947-6-1
ATS grade CB class		CB
Usage category		AC-33iB
Rated operating voltage Ue		AC230V-400V
Rated operating frequency		50Hz/60Hz
Rated operating current Ie		6A、10A、16A、20A、25A、32A、40A、50A、63A
Switch control voltage		Ac230 V
Rated insulation voltage Ui		AC690V
Transfer action time		≤3s (cannot be adjustable)
Life	Electrical life	1500 times
	Mechanical life	6000 times
Rated short-circuit connecting capacity Icm		7.5kA
Rated short-circuit breaking capacity Icn		5kA

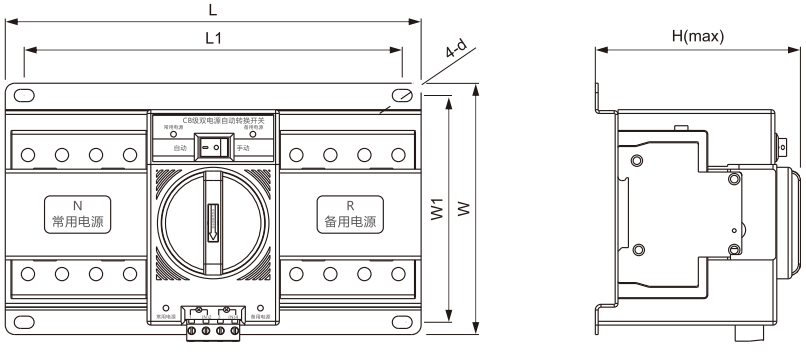
4.2 Basic parameter for the conventional type and intelligent type double power supply ATS to see table 2

Table 2

Product model	Conventional type	Intelligent type
Installation mode	Integrated type	Integrated type
Operation mode	Automatic and manual	Automatic and manual
Monitor function	Breaking phase detection	Under voltage, loss of phase and break phase detection ofconventional power supply
Transfer mode	Automatic transfer and automatic recovery	Automatic transfer but does not automatic recovery
Fire protection linkage control	Non	DC12-24V input double break (fire auto cut off function)
Display function	LED light	LED light

External and installation dimension

External and installation dimension confirm to table 3 and map 1



Map1

Table 3

Dimensions / Model	External dimension			Installation dimension		
	L	W	H	L1	W1	ϕd
Four poles	222	135	116	202	123	5
Three poles	185			165		

Installation

6.1 Conductive wire

The conductive wire (cable) adopted by the double power supply is the single core PVC insulation copper wire or equal copper bar, the cross section according to table 4.

Table 2

Rated current In (A)	6	10	16 20	25	32	40 50	63
Cross section of wire or cable mm²²	1.0	1.5	2.5	4.0	6.0	10	16

6.2 Wiring map of dual power supply ATS

6.2.1 Wiring diagram for the four poles of ATS to see figure 2

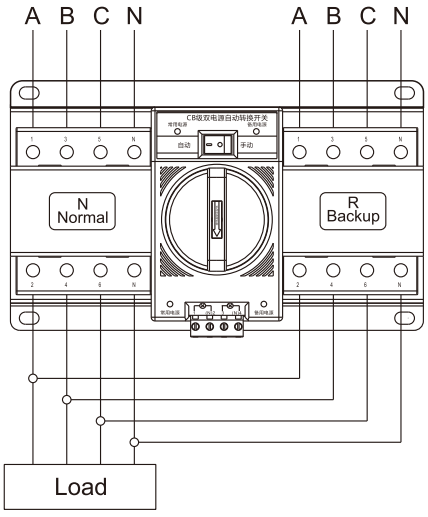


figure 2

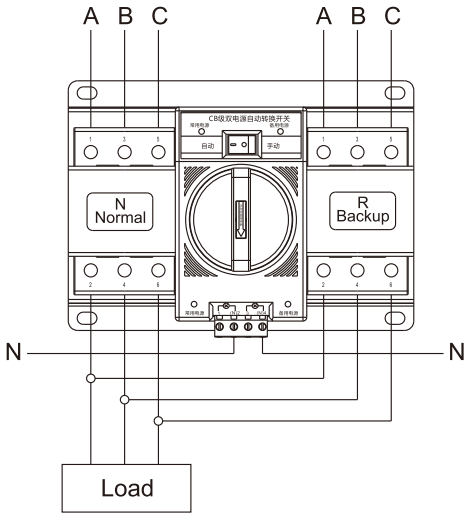


figure 3

6.3 Wiring diagram for the output terminal of ATS

6.3.1 Wiring disgram for the output terminal of conventional type to see figure 4

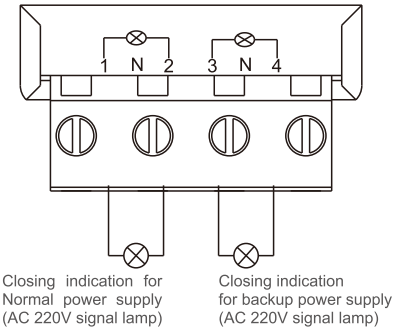


figure 4

6.3.2 Wiring diagram for the output terminal of intelligent type to see figure 5

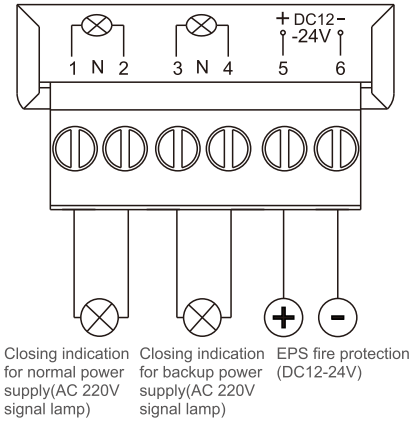
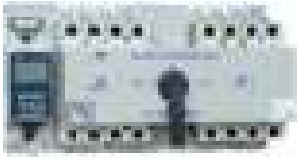


figure 5

RDQH

Automatic Transfer Switch



Application

RDQH automatic transfer switch is applicable for power system of AC50Hz,rated operation voltage 380V,rated operation current 10A to 1600A.It transfers circuit between two circuit power supplys according to needs. This product has protection against overload, short-circuit, under-voltage, and also has fire protection, two circuit breaks and output making signal function.

Normal operating condition and installation condition

3.1 installation location altitude should not exceed 2000m.

3.2 ambient temperature shall not exceed +40℃,but shall not lower than 5℃.Daily average temperature shall not exceed +35℃.

3.3 Humidity: Relative humidity is not more than 50% when temperature is +40℃,and the higher humidity is accepted if temperature is lower.

3.4 Pollution level:3.

3.5 installation location do not be influenced by weather and impact. Upper terminal connects power side, lower terminals connects load side. tilt angle with the vertical plane shall not exceed 5°.

3.6 Installation type:III.

3.7 External magnetic field of the installation place nearby does not exceed 5 times of earth magnetic field at any direction.

Technical parameter

4.1 Main technical parameter see Table 1.

Table 1

Product performance parameter					
Standards		IEC60947-6-1			
ATS grade CB class		CB			
Usage category		AC-33iB			
Rated operating voltage Ue		AC380V-400V			
Rated operating frequency		50Hz			
Switch control voltage		AC230V,AC400V			
Rated insulation voltage Ui		AC690V			
Min transfer action time		≤3s			
Life	Electrical life	< 400A	1500 times	⩾400A	1000 times
	Mechanical life		4500 times		3000 times

4.2 Basic parameter for the conventional type and intelligent type double power supply ATS to see table 2

Table 2

Product model	Conventional type	Intelligent type
Installation mode	Integrated type	Integrated type
Operation mode	Automatic and manual	Automatic and manual
Monitor function	Breaking phase detection	Under voltage, loss of phase and break phase detection ofconventional power supply
Transfer mode	Automatic transfer and automatic recovery	Automatic transfer but does not automatic recovery
Fire protection linkage control	Non	DC12-24V input double break (fire auto cut off function)
Display function	LED light	LED light

4.2 Specification see Table2

Table 2

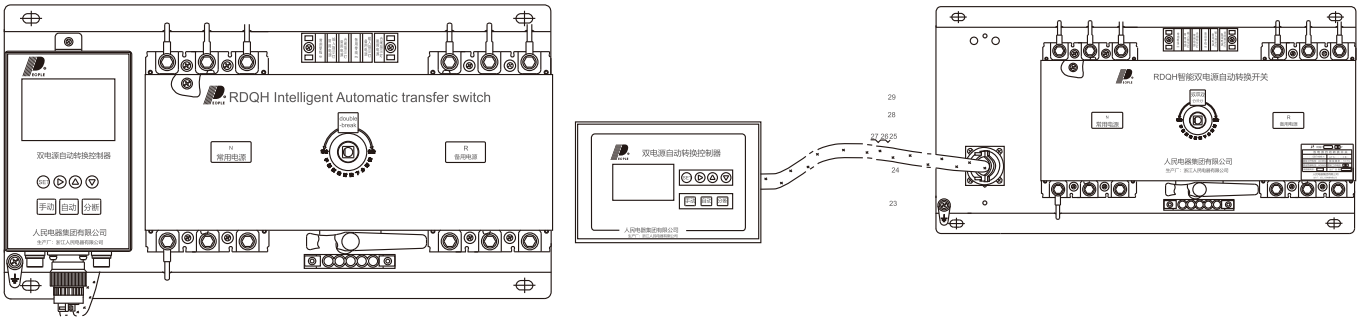
Specification	Frame size	Rated operational current Ie(A)	Rated short-circuit impulse withstand voltage Uimp	Rated short-circuit breaking capacity Icn
RDQH-63	63	10、16、20、25、32、40、50、63	8kV	5kV
RDQH-100	100	32、40、50、63、80、100	8kV	10kV
RDQH-250	250	100、125、160、180、200、225、250	8kV	10kV
RDQH-400	400	225、250、315、350、400	8kV	10kV
RDQH-630	630	400、500、630	8kV	13kV
RDQH-800	800	630、800	10kV	16kV
RDQH-1250	1250	800、 1000、1250	12kV	25kV
RDQH-1600	1600	1250、1600	12kV	25kV

4.3 Controller function,see Table3

Table 3

Model No.	RDQH ATSE Intelligent controller
installation type	Intergated type, separated embedded plane type
operational type	Manual, automatic,double-open
monitoring function	phase-loss,voltage-loss,undervoltage,overvoltage,manual,automatic,double-open
conversion method	Auto change and auto recovery,Auto change and no auto recovery, Mutual standby, power optimized selection
native function	fire protection breaking,generator start signal,tripping alarming
delay time of power supply switching	0s to 999s (sets by user)
double-open delay	1s to 10s(sets by user)
system type setting	1#city power2#city power, 1#city power2#generator power, 1#generator power2#city power

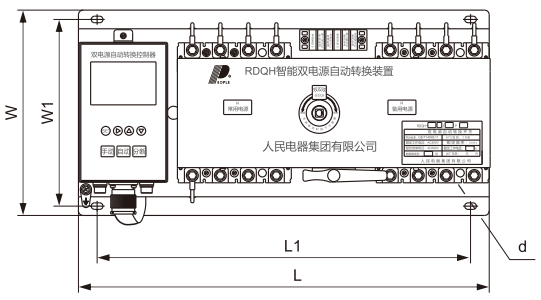
4.4 Intergated type separated type of intelligent

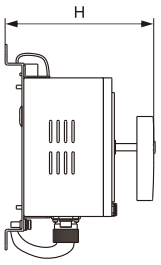


Note: RDQH ATSE,difference of Intergated type and separated type:Intergated production controller and switch body connecting together as a whole,the separated type makes the control panel be installed at the cabinet door with wire.Their controller has same size.

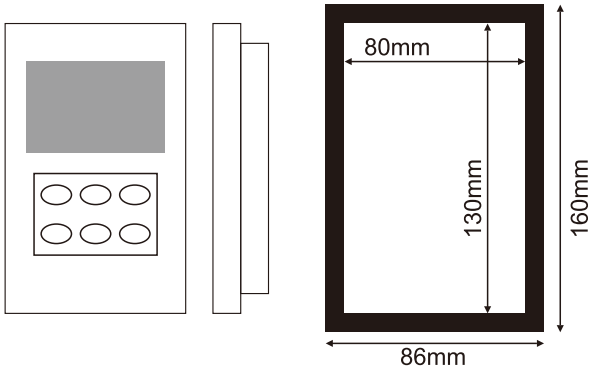
Appearance and installation dimension

5.1 Appearance and installation dimension





Dimensions / Specification	Appearance				Installation		
Frame size	Pole	L	W	H	L1	W1	ϕd
RDQH-63	3P	375	215	120~130	338	195	6
	4P	400	215	120~130	364	195	6
RDQH-100	3P	410	220	120~140	370	200	6
	4P	440	220	120~140	400	200	6
RDQH-250	3P	450	220	165~180	410	200	6
	4P	485	220	165~180	445	200	6
RDQH-400	3P	560	325	250	510	305	8
	4P	610	325	250	560	305	8
RDQH-630	3P	640	325	260	600	305	8
	4P	700	325	260	650	305	8
RDQH-800	3P	670	330	260	630	305	12
	4P	790	330	260	750	305	12
RDQH-1250	3P	670	470	290	615	370	12
	4P	800	470	290	745	370	12
RDQH-1600	3P	670	470	290	615	370	12
	4P	800	470	290	745	370	12



Seperated type controller plane open hole size:80mmX130mm

Memo

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