



Air Circuit Breaker

DW45 Series Air Circuit Breaker

Application of Intelligent Air Circuit Breaker(ACB):

DW45 series Intelligent Air Circuit Breaker is extensively used as the main switch in the low voltage distribution switchboard of rated voltage of 400V and 690V, rated current of 630A to 6300A, 50HZ or 60HZ. Its function is to control and protect the electrical circuit from damage and prevent power equipments from harm of overload, under-voltage, short circuit and single phase earth etc. Provide with intelligent protecting function and precise selective protection, breaker can enhance the dependability of power supply and avoid unwanted power cut. It comply with IEC60947-2 standard.

Feature of Intelligent Air Circuit Breaker(ACB):

- Rated AC current: 630A-6300A
- Short-circuit breaking capacity: 80KA-120KA
- Rated Voltage: under AC690V
- Two Types: draw-out type and fixed type
- Equipped with many types of intelligent controllers, of different functions.
- Both the 3 Pole and 4 Pole air circuit breakers are available.
- Standards: IEC60947-2, GB14048.2

Categories of Intelligent Air Circuit Breaker(ACB):

- Our air circuit breaker can be of two installation types: fixed type and draw-out type
- Number of poles: 3 pole and 4 pole
- Operation type: manual operation, auto operation
- Trip types: Intelligent controller, under voltage instant (or time delay type) trip and shunt trip
- Intelligent controller categories: L type (basic type), M type (Standard type), and H type (communication type)

Normal Working Conditions of Intelligent Air Circuit Breaker(ACB):

- The ambient temperature of our intelligent circuit breaker should be within -5 to +40. The average temperature should not be more than +35 (except for customized designs)
- The altitude should be below 2000M.
- The relative humidity should not be more than 50% at +40, the upper temperature limit. At lower temperatures, higher humidity is allowed e.g 90% at 20. Dew that is formed during temperature variations should be eliminated, to increase its durability.
- Pollution grade: class 3
- The following have an installation grade of IV: main circuit, absent voltage release coil, power transformer primary coil. Other auxiliary circuits and controls have a mounting grade of III.
- The circuit breakers should be installed according to the manual. The vertical tilt angle should not exceed 5 degrees.
- If the air circuit breaker is installed in a small compartment of the switch board, the protection grade is up to IP40. If it is then fitted with a door frame, the protection grade is up to IP54.

Structure Characteristics of Intelligent Air Circuit Breaker(ACB):

- Our intelligent air circuit breaker can be of a fixed type and draw-out type. The fixed type air circuit breaker is installed within a special drawer to become a draw-out type breaker. Our circuit breaker consists of a contact system, and arc-extinguishing system, operating mechanism, current transformer, intelligent controller and auxiliary switches, secondary plug and socket, under voltage and shunt releases. The draw-out type air circuit breaker has a holder that is made up of right and left side plates, base, beams, etc.

■ Contact system

It adopts integrated contact system, including the main contact and arc contact. The contact is made of high quality material, which does not lead to high temperatures even when it is breaking short circuit current. The contact system is of parallel connection, which reduces the electrical-dynamic repulsion force and improves electric steadiness.

The distance between the moving and static contact is much greater than 18mm as it is required. This is in full compliance with safety requirements.

Note: "Trip" lock device for breaker is optional, the isolating switch is a necessary.

■ Arc-extinguishing chamber

Each pole has an arc-extinguishing chamber, which works to separate and isolate each electrode. The arc-extinguishing chamber is enclosed within the insulating base of the intelligent air circuit breaker, which enforces the mechanical strength of arc-extinguishing chamber wall and avoids breakage when it is breaking a large short circuit current.

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Structure Characteristics of Intelligent Air Circuit Breaker(ACB):

■ Operating mechanism: manual and automatic mechanism

The operating mechanism is located at the front of the intelligent air circuit breaker. It adopts a five-link, trip free structure. It is available with energy storage. The breaker can be closed instantly. The stored energy can be released by a hand-operated button or closing electromagnet. The motor driven mechanism is integrated: consists of an energy storage shaft and main shaft which are connected with concave and convex parts. It is easy to assemble or disassemble.

■ Intelligent controller

■ Drawer holder

The drawer holder of our intelligent air circuit breaker consists of right and left guiderail side plates, base and cross arm. A boosting device and an indicator are fitted to the base. A static contact auxiliary circuit is installed at the top of the drawer holder. The bridge type main circuit contacts are safety separated by a plate at the front.

■ Three positions of the breaker in the drawer

--"ON" position: Both the main circuit and the auxiliary circuit are connected. The separation plate is open.

--"Test" position: the main circuit is disconnected. The separation plate is closed. Only the auxiliary circuit is connected. Tests can be made in this mode.

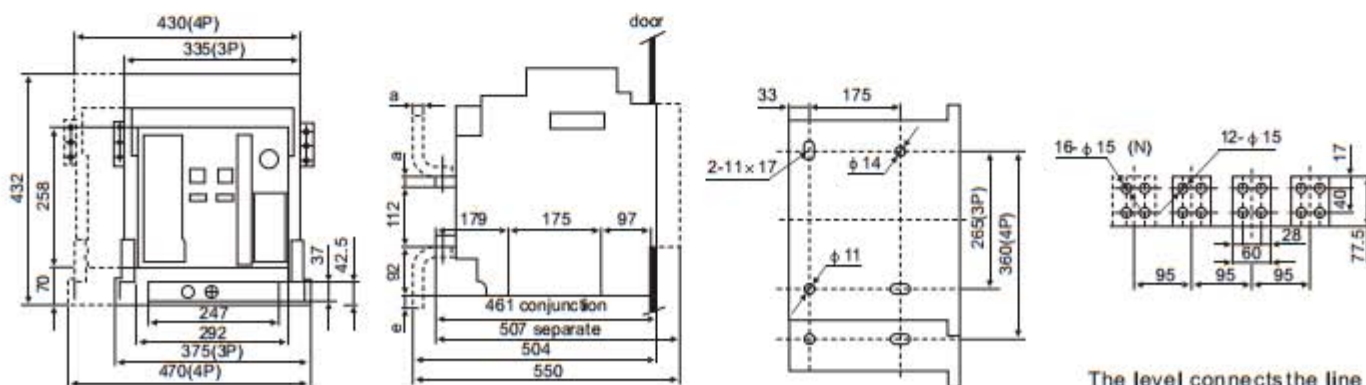
--"OFF" position: both the main and the auxiliary circuits are disconnected. The safe separation plate is closed.

DW45-2000/3200/6300 Air Circuit Breaker

Application:

DW45 series intelligent air circuit breaker is mainly used as the main switch in the low voltage distribution switchboard. DW45-2000/3200/6300 is available with a rated frame current of 2000A/3200A/6300A and a rated current from 630A to 2000A/3200A/6300A. Apart from intelligent air circuit breaker, we can also supply Miniature circuit breaker(MCB), moulded case circuit breaker(MCCB), Earth Leakage Circuit Breaker(ELCB, RCD, RCCB, RCBO), Contactor, Distribution Board, Cabinet, Relay, Fuse and so on. With ISO9001, CCC, SEMKO, CE, SAA certificate and CB test report, these products are exported to many countries that include Russia, Turkey, England, Australia, France, Brazil, Peru, Syria, Saudi Arabia, Jordan, India, Malaysia and more. Welcome to contact with us.

Outer and Mount Dimensions:



The level connects the line

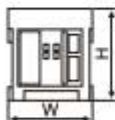


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DW45-2000 Air Circuit Breaker

Parameters of DW45-2000 intelligent Air Circuit Breaker:

Type			DW45-2000																			
In(A) Rated frame current			2000																			
In(A) Rated current			630			800			1000			1250			1600			2000				
Ue(V) Rated working voltage			AC400, 690 50Hz																			
Ui(V) Rated insulating voltage			AC1000																			
Uimp(V) Rated impulse withstand voltage			8000																			
Upf Power frequency withstand voltage			AC3500V 1min																			
pole			3, 4			3, 4			3, 4			3, 4			3, 4			3, 4				
In(A) Rated current of N pole			50%In 100%In																			
Rated ultimate shortcircuit breaking capacity Icu(kA)(rms)	AC400V		80			80			80			80			80			80				
	AC690V		50			50			50			50			50			50				
Rated operating short circuit breaking capacity Icm(kA)(peak)	AC400V		50			50			50			50			50			50				
	AC690V		40			40			40			40			40			40				
Rated short circuit making capacity Icm(kA)(rms)	AC400V		176			176			176			176			176			176				
	AC690V		105			105			105			105			105			105				
Rated short circuit withstand current(Is)Icw(rms)	AC400V		50			50			50			50			50			50				
	AC690V		40			40			40			40			40			40				
(ms)full breaking time(no additional delay)			25-30																			
(ms)closing time			Max.70																			
intelligent controller	Primary model		•			•			•			•			•			•				
	Standard model		•			•			•			•			•			•				
	Other model		•			•			•			•			•			•				
operation performance (times)	AC400V		6500			6500			6500			6500			6500			6500				
	AC690V		3000			3000			3000			3000			3000			3000				
	Maintenance-free		15000			15000			15000			15000			15000			15000				
	With maintenance		30000			30000			30000			30000			30000			30000				
installation	Mounting type		Horizontal																			
	Type	Draw-out type	• •			• •			• •			• •			• •			• •				
		Fixed type	• •			• •			• •			• •			• •			• •				
	Dimension H*W*L		H	W	L	H	W	L	H	W	L	H	W	L	H	W	L	H	W	L		
	Draw-out type	Horizontal	3P	Front																		
			Rear	432	375	421	432	375	421	432	375	421	432	375	421	432	375	421	432	375	421	
		Horizontal	4P	Front	432	470	421	432	470	421	432	470	421	432	470	421	432	470	421	432	470	421
			Rear																			
		Vertical	3P	Front																		
			Rear																			
	Fixed type	Horizontal	3P	Front																		
			Rear	402	362	323	402	362	323	402	362	323	402	362	323	402	362	323	402	362	323	
		Horizontal	4P	Front																		
			Rear	402	457	323	402	457	323	402	457	323	402	457	323	402	457	323	402	457	323	
		Vertical	3P	Front																		
			Rear																			



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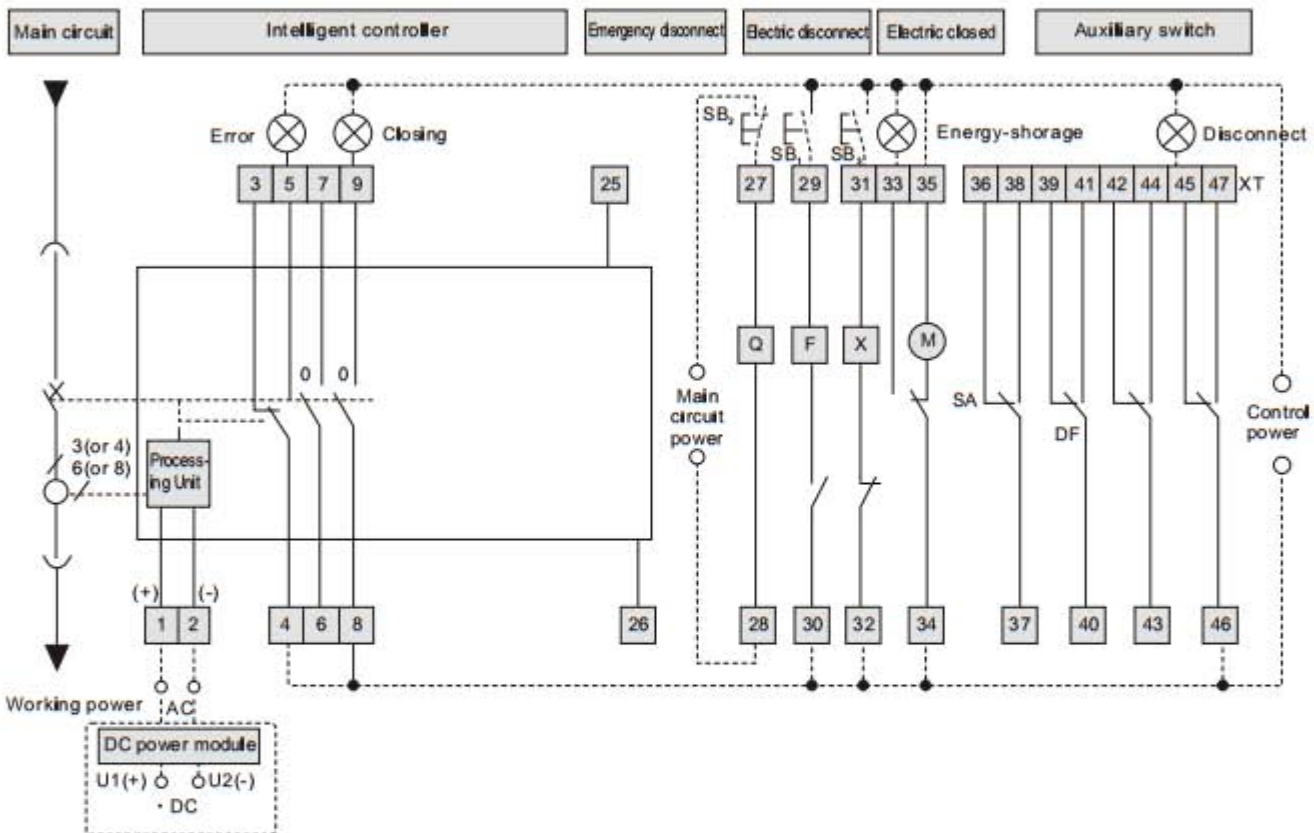


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DW45-2000/3200/6300 Air Circuit Breaker

Breaker Secondary Circuit Wiring Diagram:

Controller for the M or L-type basic functions



Note:

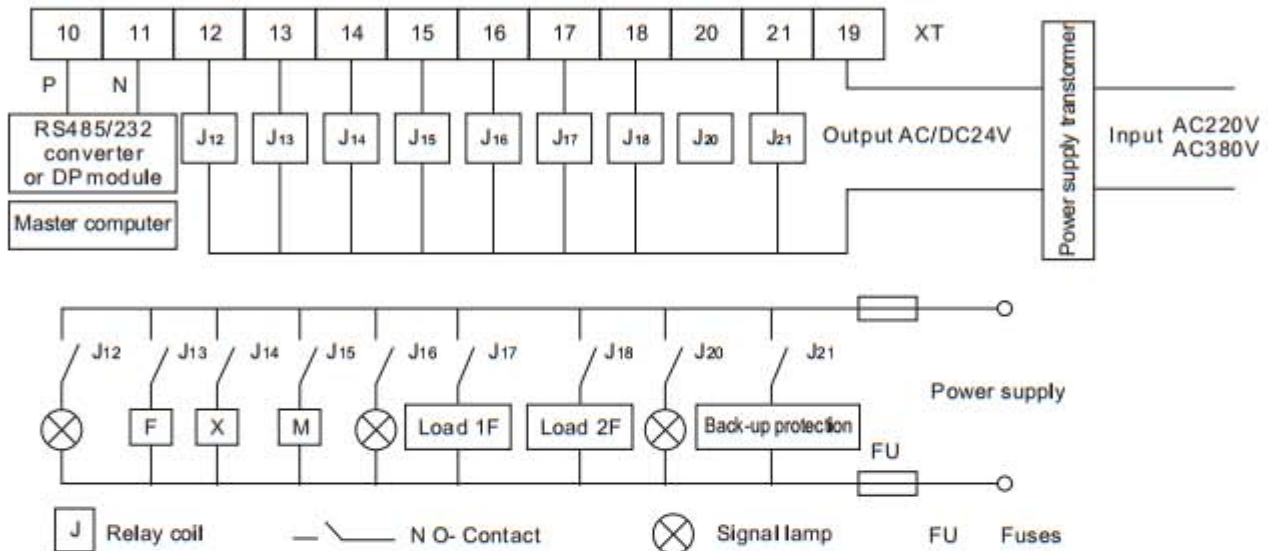
- If the control power voltage of F, X, M is different, it should be connect into different power.
- Terminal #35 to power supply directly (auto energy prestore) or follow with a NO button then connect to the power supply (manual advance energy storage).
- If user put forward, terminal #6 - #7 can output often close contact.
- Impressed accessories is done by users themselves.
- When the intelligence work of controllers for the DC power supply, it need to increase the DC module (At this point # 1, # 2 terminal can not directly access AC power) Secondary wiring is showed by the chart [DC110V or 220V U1(+)\U2(-) input, the two fan-out of DC power module should be respectively connect to the Second Block wiring terminal 1 (+), 2(-)] SB1 Shunt button (User-owned) X Closing electromagnet DF Auxiliary contact Q Under-voltage release or undervoltage delay-time release SB2 Under-voltage button (User-owned) M Charging motor F Shunt release NO-contact (3A/AC380V) SB3 Switch-on button XT Terminal SA Micro-motor switch ⊕ signal lamp (User-owned).



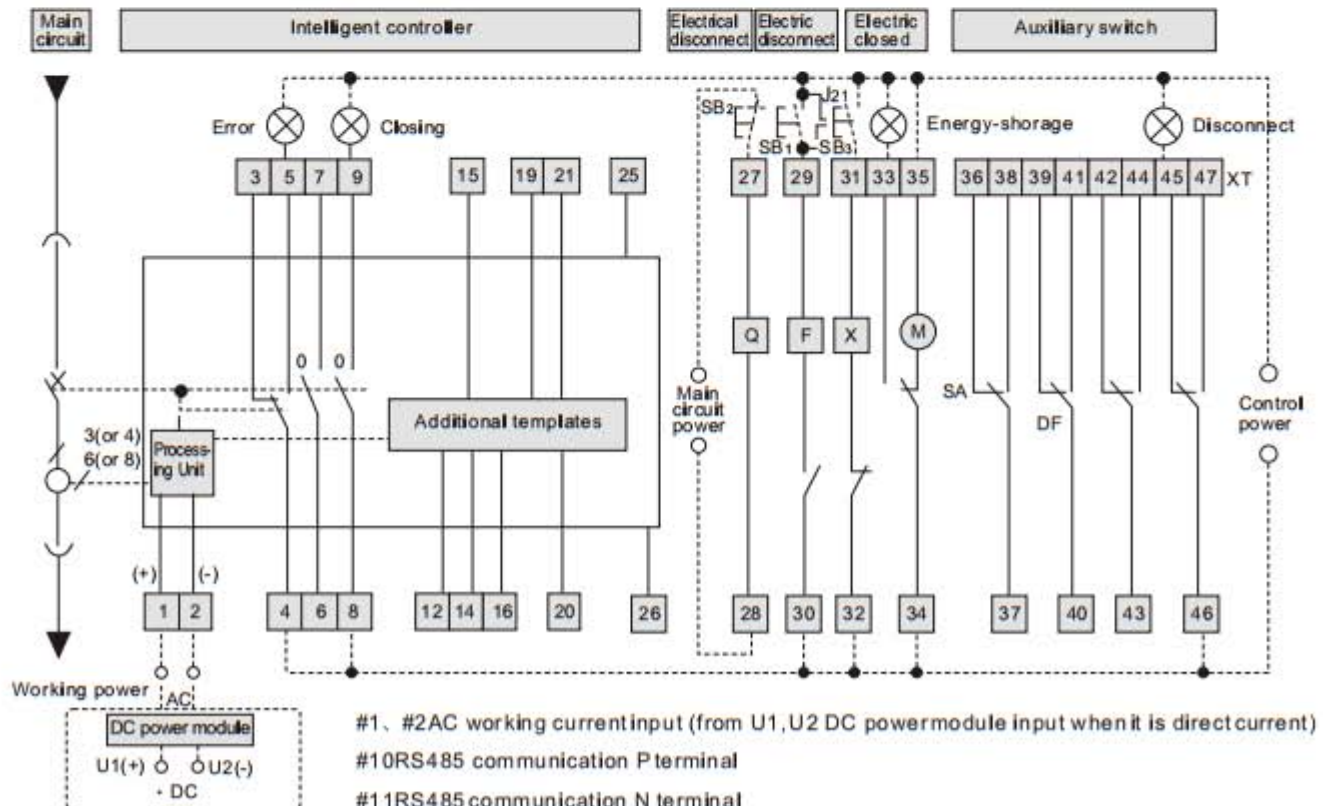
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DW45-2000/3200/6300 Air Circuit Breaker

the wiring diagram of additional features relay circuit breaker



other wirings of intelligent controller



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DW45-3200 Air Circuit Breaker

Parameters of DW45-3200 intelligent Air Circuit Breaker:

Type				DW45-3200												
In(A) Rated frame current				3200												
In(A) Rated current				2000			2500			2900			3200			
Ue(V) Rated working voltage				AC400, 690 50Hz												
Ui(V) Rated insulating voltage				AC1000												
Uimp(V) Rated impulse withstand voltage				8000												
Upf Power frequency withstand voltage				AC3500V 1min												
pole				3, 4			3, 4			3, 4			3, 4			
In(A) Rated current of N pole				50%In 100%In												
Rated ultimate shortcircuit breaking capacity Icu(kA)rms	AC400V			100			100			100			100			
	AC690V			65			65			65			65			
Rated operating shortcircuit breaking capacity Icm(kA)(peak)	AC400V			65			65			65			65			
	AC690V			50			50			50			50			
Rated short circuit making capacity Icm(kA)(rms)	AC400V			220			220			220			220			
	AC690V			143			143			143			143			
Rated short circuit withstand current (Is)Icw(ms)	AC400V			65			65			65			65			
	AC690V			50			50			50			50			
(ms)full breaking time(no additional delay)				25-30												
(ms)closing time				Max.70												
intelligent controller	Primary model			+			+			+			+			
	Standard model			+			+			+			+			
	Other model			+			+			+			+			
operation performance (times)	AC400V			3000			3000			3000			3000			
	AC690V			1500			1500			1500			1500			
	Without maintenance			10000			10000			10000			10000			
	With maintenance			20000			20000			20000			20000			
installation	Mounting type			Horizontal												
	Type	Draw-out type			+ +			+ +			+ +			+ +		
		Fixed type			+ +			+ +			+ +			+ +		
	Dimension H*W*L			H	W	L	H	W	L	H	W	L	H	W	L	
	Draw-out type	Horizontal	3P	Front												
			Rear	432	435	421	432	435	421	432	435	421	432	435	421	
		4P	Front	432	550	421	432	550	421	432	550	421	432	550	421	
			Rear													
		Vertical	3P	Front												
			Rear													
	Fixed type	Horizontal	3P	Front												
			Rear	402	422	323	402	422	323	402	422	323	402	422	323	
		4P	Front													
			Rear	402	537	323	402	537	323	402	537	323	402	537	323	
		Vertical	3P	Front												
			Rear													
		4P	Front													
			Rear													



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DW45-6300 Air Circuit Breaker

Parameters of DW45-3200 intelligent Air Circuit Breaker:

Type			DW45-6300										
In(A) Rated frame current			6300										
In(A) Rated current			4000			5000			6300				
Ue(V) Rated working voltage			AC400, 690 50Hz										
Ui(V) Rated insulating voltage			AC1000										
Uimp(V) Rated impulse withstand voltage			8000										
Upf Power frequency withstand voltage			AC3500V 1 min										
pole			3, 4			3, 4			3, 4				
In(A) Rated current of N pole			50%In 100%In										
Rated ultimate short circuit breaking capacity Icu(kA)rms	AC400V		120			120			120				
	AC690V		85			85			85				
Rated operating short circuit breaking capacity Icm(kA)(peak)	AC400V		100			100			100				
	AC690V		75			75			75				
Rated short circuit making capacity Icm(kA)(rms)	AC400V		264			264			264				
	AC690V		165			165			165				
Rated short circuit withstand current(Is)Icw(rms)	AC400V		100			100			100				
	AC690V		75			75			75				
(ms)full breaking time(no additional delay)			25-30										
(ms)closing time			Max.70										
intelligent controller	Primary model		•			•			•				
	Standard model		•			•			•				
	Other model		•			•			•				
operation performance (times)	AC400V		500			500			500				
	AC690V		500			500			500				
	Without maintenance		4000			4000			4000				
	With maintenance		8000			8000			8000				
installation	Mounting type		Horizontal										
	Type	Draw-out type		• •			• •			• •			
		Fixed type		• •			• •			• •			
	Dimension H*W*L			H	W	L	H	W	L	H	W	L	
	Draw-out type	Horizontal	3P	Front									
			Rear	432	813	494	432	813	494	432	435	421	
		4P	Front	432	813	494	432	813	494				
			Rear										
		Vertical	3P	Front									
			Rear										
	Fixed type	Horizontal	3P	Front									
			Rear										
		4P	Front										
			Rear										
		Vertical	3P	Front									
			Rear										
		4P	Front										
			Rear										

