New 6 Series

CDW6I

Air Circuit Breaker Product Catalogue

Excellent Quality and Good Choice

DELIXI ELECTRIC

德力西电气

Electricity Safety, Creating the Beauty of Life

Delixi Electric – Become a warm international low-voltage electrical leading enterprise

As the first generation of excellent private enterprises in China's reform and opening-up, Delixi Group closely cooperated with Schneider Electric - a top 500 company in the world in 2007 to jointly establish Delixi Electric Co., Ltd. (referred to as "Delixi Electric") under the long-term trust and support of its customers and partners after nearly 40 years of unremitting efforts. The business of Delixi Electric covers three major fields of electrical distribution, industrial control automation, and household electrical appliances. The company is committed to creating a comfortable, artistic, safe, and intelligent household electricity environment and a professional, safe, reliable, and efficient industrial automation electricity environment for customers at the global emerging markets thanks to its cost-effective, high-efficiency and high-quality products and services, and explores a new model of low-voltage electrical industrial enterprise development in China.

Focusing on the interests of customers and partners, the company adheres to the business philosophy of technological innovation, quality assurance, five-star service, and brand-driven to create a new ecology of full-electrical industry chain. Our company has more than 700 A-level agents, more than 60,000 offline stores, multiple online sales platforms and partners, five R&D centers, three national laboratories, three automation industrial production bases, five-star customer support service teams, 17 domestic logistics centers and dozens of transportation partners, one international logistics center and 4 major business partners in developing countries, as well as continuous and consistent all-round brand building and promotion, committing to creating the optimal customer experience closed loop in the world.

Our company adheres to the values of "Customer First, Cooperation, Agility, Innovation, and Surpass", serves our customers wholeheartedly, and works with partners to establish a social responsibility ecosystem with unified values, repaying the society fully through the "De Fund". By continuously building a "one old and one child traditional culture" enterprise commonweal brand through fulfilling corporate social responsibility with practical actions, build a warm international low-voltage electrical leading enterprise.


Wuhu Production Base


Hangzhou Production Base


Puyang Production Base

德力西电气有限公司
DELIXI ELECTRIC LTD

Delixi Hi-Tech Industrial Park, Liushi Town, Leqing City, Wenzhou, Zhejiang

Tel: (86-577)6177 8888
Fax: (86-577)6177 8000
Customer hotline: 400-826-8008
www.delixi-electric.com

Official website | Official subscription | Official TikTok

CONTENT

Overview

CDW6i Air Circuit Breaker

Main Parameters

- Frame size: 1600AF, 2000AF, 2500AF, 3200AF, 4000AF, 6300AF
- Breaking grade: N&H&M
- Rated current In (A): 400 ~ 6300
- Rated voltage AC Ue (V): 220V/230V/240V/380V/400V/415V
  440V/480V/500V/525V/550V/660V/690V
  800V/900V/950V/1000V/1140V
- Insulation voltage Ui(V): 1000V (for N&H type), 1250V (for M type)
- Number of poles: 3 & 4
- Installation method: Fixed type & Draw-out type
- Wiring method: Horizontal rear connection, vertical rear connection

Intelligent Release

- iTR326 type (basic type)
  Basic function: Protection function (L, S, I & G)

- iTR326A type (standard type)
  Basic protection functions
  Basic measurement functions
  Auxiliary functions

- iTR326H type (advanced type)
  Basic + advanced protection functions
  Multiple measurement functions
  Auxiliary functions
  Special functions
  Communication functions

Accessories

- Lock, interlock, and protection accessories: Button protection lock, key lock, door interlock, and safety shield lock
- Indication accessories: Closing ready contact, three-position signal contact, fault indication contact, and auxiliary contact
- Remote operation accessories: Opening and closing coils, undervoltage coil, electric operating mechanism, electrical reset, and voltage-detected reclosing
- Circuit protection accessories: External transformer of phase N, earthed transformer, and electric leakage transformer
- Connection accessories: Horizontal, vertical, extended terminal, and lengthened terminal

Overview
CDW6i Air Circuit Breaker

Scope of Application

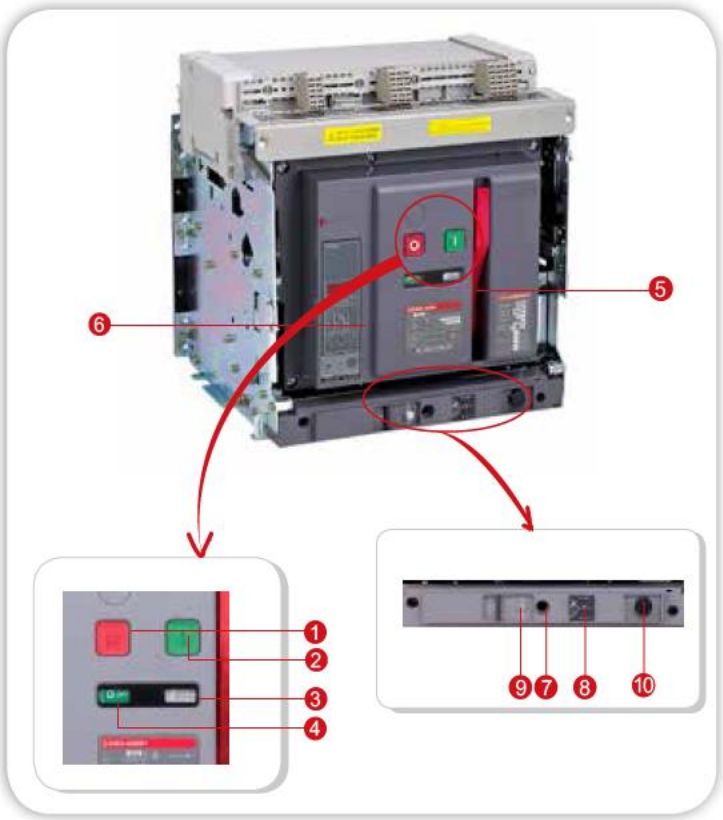
With rated current from 400A to 6300A and rated voltage AC 415V to 1140V, CDW6i series air circuit breaker is primarily used in AC 50/60Hz power distribution for distribution of electric energy and for protection of line and power equipment to prevent hazards such as overload, undervoltage, short circuit, and single phase earthing faults.

This circuit breaker is widely used in power station, factory, mines, and modern high-rise buildings, especially in power distribution system in the intelligent buildings.
Applied standards: GB/T14048.2, IEC/EN 60947-2

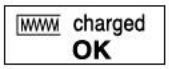
Normal Working Conditions

Ambient temperature	Ambient air temperature is -5℃ to +40℃ (certificated); the mean within 24h does not exceed +35℃. The ultimate temperature range from -40℃ to +70℃ is also available (for L type and M type controllers).
Altitude	4000m
Electromagnetic interference	Suitable for environment A
Pollution level	Level 3 Installed vertically, with inclination of not exceeding 5° in each direction
Installation level	Main circuit of circuit breaker, undervoltage release coil, and primary coil of power transformer: Level IV; auxiliary circuit and control circuit: Level III
Transformation conditions	Handle it greatly; do not upside it down; avoid violent impact as much as possible

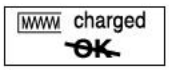
Front Face



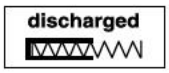
1. Open button (O)
2. Closing button (I)
3. Charged mechanism state indicator
   - Charged, with closing allowed

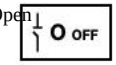
     

   - Charged, with closing not allowed

   - Discharged

4. Main contact position indicator
   - Open 

   - Close 

5. Mechanical charge handle
6. Controller
7. Draw in (out) device
8. Connection, test, and disconnection position indication
9. Connection, test, and disconnection position limiter
10. Rocker storage

Functions and Features

CDW6i Air Circuit Breaker

Shell frame current														
Rated current In(A)		1600		2000		2500			3200		4000			6300
400		●	●											
630		●	●	●	●	●	●	●			●	●	●	
800		●	●	●	●	●	●	●			●	●	●	
1000		●	●	●	●	●	●	●			●	●	●	
1250		●	●	●	●	●	●	●			●	●	●	
1600		●	●	●	●	●	●	●			●	●	●	
2000				●	●	●	●	●	●	●	●	●	●	
2500						●	●	●	●	●	●	●	●	
3200									●	●	●	●	●	
4000											●	●	●	●
5000														●
6300														●
Breaking capacity														
Breaking grade		N	H	N	H	N	H	M	N	H	N	H	M	N
Rated ultimate short-circuit breaking capacity Icu (kA)	220V/230V/240V 380V/400V/415V	50	66	80	80	80	100	-	80	100	100	100	-	120
	440V/480V/500V 525V/550V/660V/690V	36	42	50	55	65	70	-	65	70	65	75	-	85
	690V/800V/900V 950V/1000V/1140V	-	-	-	-	-	-	60	-	-	-	-	-	-
	800V/900V/950V 1000V/1140V	-	-	-	-	-	-	-	-	-	-	-	85	-
Rated run short-circuit breaking capacity Ics (kA)	220V/230V/240V 380V/400V/415V	50	55	80	80	65	85	-	80	85	85	100	-	100
	440V/480V/500V 525V/550V/660V/690V	36	42	50	55	65	70	-	65	70	65	75	-	75
	690V/800V/900V 950V/1000V/1140V	-	-	-	-	-	-	60	-	-	-	-	-	-
	800V/900V/950V 1000V/1140V	-	-	-	-	-	-	-	-	-	-	-	85	-
Rated short-time withstand (1s) breaking capacity Icw (kA)	220V/230V/240V 380V/400V/415V	42	42	50	65	65	85	-	65	85	85	85	-	85
	440V/480V/500V 525V/550V/660V/690V	36	36	50	55	65	70	-	65	70	65	75	-	75
	690V/800V/900V 950V/1000V/1140V	-	-	-	-	-	-	60	-	-	-	-	-	-
	800V/900V/950V 1000V/1140V	-	-	-	-	-	-	-	-	-	-	-	85	-
Icm (kA)	220V/230V/240V 380V/400V/415V	110	145	176	176	176	220	-	176	220	220	220	-	264
	440V/480V/500V 525V/550V/660V/690V	79	92	110	121	143	154	-	143	154	143	165	-	187
	690V/800V/900V 950V/1000V/1140V	-	-	-	-	-	-	132	-	-	-	-	-	-
	800V/900V/950V 1000V/1140V	-	-	-	-	-	-	-	-	-	-	-	187	-

Service Life						
Service life	Electrical life	8000	8000	7000	7000	6000	800
	Mechanical life (maintenance required)	15000	15000	10000	10000	10000	2500
	Mechanical life (maintenance-free)	30000	30000	20000	20000	20000	5000

Operation Time		
Operation time	Making and breaking time (ms)	≤25
	Closing time (ms)	≤70

Dimensions							
Dimensions (mm) H * W * D	Drawer type 3P	322×288×330	436×405×425	436×465×425	436×465×425	439×441×428.6	441.5×815×508
	Drawer type 3P	322×358×330	436×500×425	436×580×425	436×580×425	439×556×428.6	441.5×930×508
	Fixed type 3P	301×276×229	397×364×327	397×428×327	397×428×327	352×422×329.5	——
	Fixed type 3P	301×346×229	397×459×327	397×543×327	397×543×327	352×537×329.5	——

Note: 1): 6300A of 6300N only has 3P drawer type.

Derating Table under the different temperature of CDW6i							
Frame	Current/Temperature	-5℃ ~+40℃	+45℃	+50℃	+55℃	+60℃	+70℃
CDW6i-1600N&H	400	400	400	400	400	400	400
	630	630	630	630	630	550	500
	800	800	800	800	800	700	630
	1000	1000	1000	1000	950	900	850
	1250	1250	1200	1200	1150	1050	950
	1600	1600	1550	1500	1450	1350	1150
CDW6i-2000N&H	630	630	630	630	630	630	630
	800	800	800	800	800	700	650
	1000	1000	1000	1000	1000	1000	900
	1250	1250	1250	1250	1250	1150	1000
	1600	1600	1600	1500	1500	1300	1200
	2000	2000	1900	1900	1800	1700	1500
CDW6i-2500N&H&M (To be updated)	630	630	630	630	630	630	630
	800	800	800	800	800	800	800
	1000	1000	1000	1000	1000	1000	1000
	1250	1250	1250	1250	1250	1250	1250
	1600	1600	1600	1600	1600	1600	1600
	2000	2000	2000	2000	2000	2000	1900
	2500	2500	2400	2300	2200	2200	2000
CDW6i-3200N&H	2000	2000	2000	2000	2000	2000	1900
	2500	2500	2400	2300	2200	2200	2000
	3200	3200	3000	3000	2800	2800	2500
CDW6i-4000N&H&M	1600	1600	1600	1600	1600	1600	1500
	2000	2000	2000	2000	2000	2000	1700
	2500	2500	2500	2500	2500	2200	2000
	3200	3200	3200	3200	3000	2500	2200
	4000	4000	4000	3600	3400	3200	3000
CDW6i-6300N	4000	4000	4000	4000	4000	4000	3600
	5000	5000	5000	5000	4800	4800	4200
	6300	6300	6000	5600	5400	5200	4600

Note: Derating coefficient, and technical parameters listed in the degrading table are obtained from the test and theoretical calculation, and they are only used for general model selection guide.

Altitude Derating Coefficient Table

Altitude of 2000 m and below has no influence on the performance of circuit breaker. If above this value, the degradation factors of air insulation properties and cooling capacity must be considered; the correction factors listed in table below are available if the installation altitude exceeds 2000 m:

Altitude (m)	2000	2500	3000	3500	4000	4500	5000
Insulation voltage Ui (V)	1000	910	910	830	830	770	770
Impulse withstand voltage Uimp (kV)	12	10.5	10.5	9.5	9.5	9	9
Max. operating voltage Ue (V)	690	690	690	660	600	600	550
Thermal rating at 40℃ In (A)	1In	0.98In	0.93In	0.91In	0.87In	0.84In	0.81In

Note:
In the plateau environment, the breaking capacity shall be derated according to the corresponding rated operating voltage, with a general range 75% ~ 50% selected, which is inversely proportional to the altitude.
For details, please contact the Technical Department of Delixi Electric.
Refer to GB/T 20645 Special environmental condition – Technical requirements of low-voltage apparatuses for plateau.

Functions and Features

iTR326 Series Controller

按键说明

1. Top fixation
2. LED indicator light
3. Controller name plate
4. Bottom fixation
5. External connection terminal
6. Transformer connector
7. Flux/jogging connector

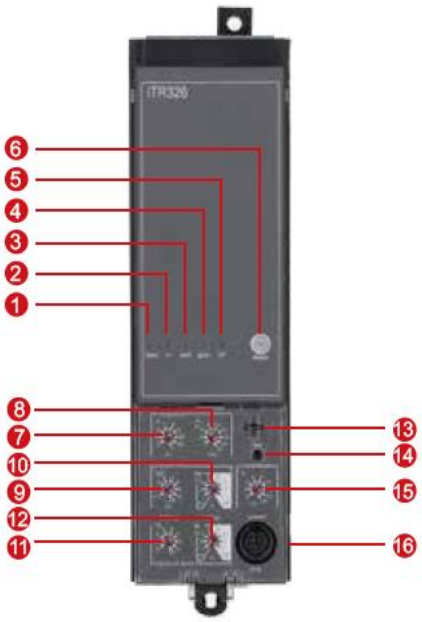
L type (basic type)

Key indicator

1. Alarm lamp
2. Long delay tripping indication
3. Short delay or instantaneous tripping indication
4. Ground or leakage current fault tripping indication
5. Advanced protection
6. Reset button

Key description adjustment panel

7. Long-delay current setting I_R
8. Long-delay tripping delay t_R
9. Short delay tripping I_{sd}
10. Short delay tripping delay t_{sd}
11. Ground fault tripping I_g
12. Ground fault tripping delay t_R
13. Padlock position
14. Test button
15. Instantaneous tripping current
16. Test connection



Functions and Features

iTR326 Series Controller

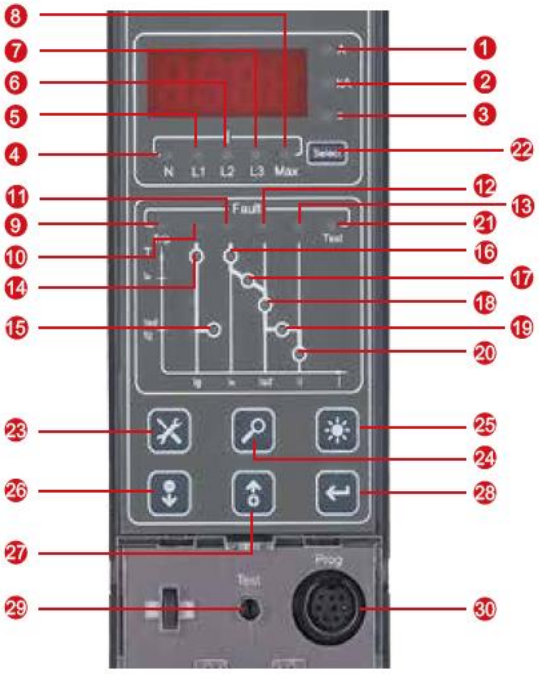
M type (standard type)

Indicator description

1. Current unit A
2. Current unit kA
3. Time unit S
4. N phase current
5. A phase current
6. B phase current
7. C phase current
8. Maximum current
9. Tripping indication
10. Ground protection
11. Long delay protection
12. Short delay protection
13. Instantaneous protection
14. Ground current set value
15. Ground time set value
16. Long delay current set value
17. Long delay time set value
18. Short delay current set value
19. Short delay time set value
20. Instantaneous current set value
21. Test action state

Navigation keys

22. Toggle key
23. Set key
24. Query key
25. Return / clear light
26. -/ down page
27. +/ up page
28. Enter key
29. TEST key
30. Test connection



H type (Advanced type)

Key indicator

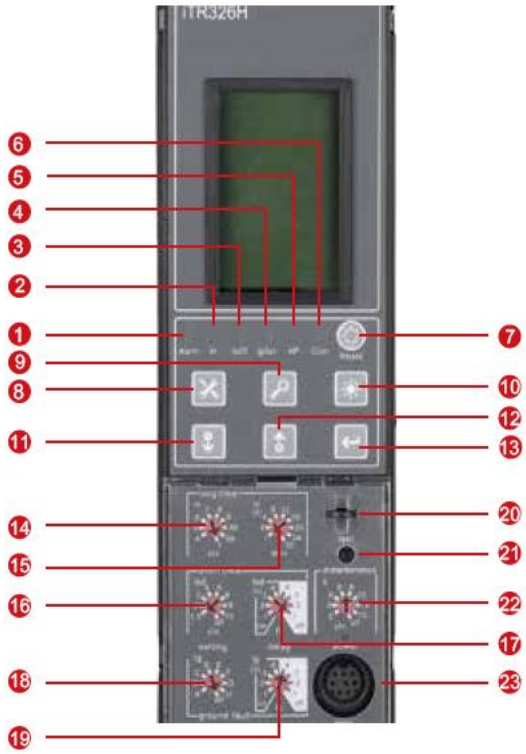
1. Alarm lamp
2. Long delay tripping indication
3. Short delay or instantaneous tripping indication
4. Ground or leakage current fault tripping indication
5. Advanced protection
6. Communication function
7. Reset button

Navigation keys

8. Set key
9. Query key
10. Return/clear light
11. -/ Down page
12. +/ Up page
13. Enter key

Key description adjustment panel

14. Long delay current setting I_R
15. Long delay tripping delay t_R
16. Short delay tripping Isd
17. Short delay tripping delay tsd
18. Ground fault tripping Ig
19. Ground fault tripping delay tg
20. Padlock position
21. Test button
22. Instantaneous tripping current
23. Test connection



Functions and Features

iTR326 Series Controller

Function Introduction	iTR326	iTR326A	iTR326H
			
	L	M	H
Protection functions	Long delay protection L Short delay protection S Instantaneous protection I Ground protection G MCR protection HSISC protection	Long delay protection L Short delay protection S Instantaneous protection I Ground protection G MCR protection HSISC protection	Long delay protection L Short delay protection S Instantaneous protection I Ground protection G MCR protection HSISC protection Low volage protection / alarm Overvoltage protection / alarm Voltage unbalance (phase loss) protection / alarm Phase sequence protection / alarm Low frequency protection / alarm High frequency protection / alarm Reverse power protection / alarm
Measurement functions		Current measurement	Current measurement Voltage measurement Power measurement Frequency measurement Harmonic measurement
Auxiliary functions	Pre-alarm Fault history Test function	Pre-alarm Self-diagnosis function Fault history Test function	Pre-alarm Self-diagnosis function Fault history Test function
Display function		LED Nixie tube display	LCD display
Special function			Load monitoring Regional interlock
Communication function			Modbus

Intelligent Controller Protection

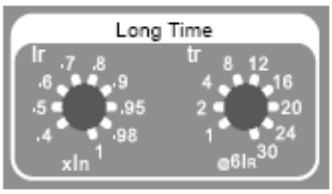
There are inverse time lag and constant time-lag protections for intelligent controller. When fault current exceeds inverse time lag set value, the controller can have delay protection according to the constant time-lag.
Inverse time lag curve conforms to characteristic curve I^2t.

Overload protection with long time delay

Threshold of overload protection with long time delay

<1.05 I_R: >2h No action;
>1.2 I_R: <1h Action;
≥1.2 I_R: Action delay;

I_R current setting range: 0.4In, 0.5In, 0.6In, 0.7In, 0.8In, 0.9In, 0.95In, 0.98In, 1.0In



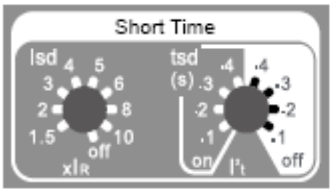
Inverse Time Lag Operation Features	I^2t: $t=(6/N)^2 * t_R$								
Setting current multiple	Operation time s								
1.5 I_R	16s	32s	64s	128s	192s	256s	320s	384s	480s
2 I_R	9s	18s	36s	72s	108s	144s	180s	216s	270s
6 I_R	1s	2s	4s	8s	12s	16s	20s	24s	30s

Notes: N – Fault current is divided by the multiple of set current I/I_R
t – Time delay of fault action
t_R – Long delay time set value
Allowed tolerance of action time ±10%

Short circuit protection with short time delay

Threshold of short circuit protection with short time delay

<0.9 Isd: No action;
>1.1 Isd: Action;
≥1.1 Isd: Action delay;



I_{sd} current setting range: 1.5I_R, 2I_R, 3I_R, 4I_R, 5I_R, 6I_R, 8I_R, 10I_R+OFF

Current	Operation time					
$I_{sd}<I\leq 8I_R$	Inverse time lag	Action characteristic s	$I^2t=(8I_R)^2$ tsd			
		Setting time s	0.1、0.2、0.3、0.4			
I≥1.1Isd	Constant time-lag;	Setting time s	0.1	0.2	0.3	0.4
	min. time is return	Min. s	0.08	0.14	0.23	0.35
	time	Min. s	0.14	0.2	0.32	0.5

Notes: Isd – Short delay current set value
I – Fault current value
I_R – Long delay set value
t – Fault action delay time
tsd – Short delay reverse time lag set value
Allowed tolerance of action time ±20%

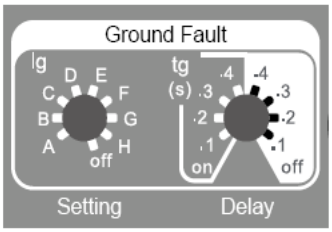
Short circuit instantaneous protection

Threshold of short circuit instantaneous protection

<0.85 Ii: No action;
>1.15 Ii: Action;
Current setting values of instantaneous action: 2In, 3In, 4In, 6In, 8In, 10In, 12In, 15In+OFF
Note: The tolerance of action time is ≤50ms.

Functions and Features

iTR326 Series Controller



Ground Fault Protection Action

Threshold of ground fault protection action

<0.9 Ig: No action;

>1.1 Ig: Action;

≥1.1 Ig: Action delay;

Current set value	A	B	C	D	E	F	G	H	OFF
In<1250	0.2In	0.3In	0.4In	0.5In	0.6In	0.8In	0.9In	In	
In≥1250	500A	600A	700A	800A	900A	1000A	1100A	1200A	

tg(s)	Reverse time lag	Action characteristics

$$t = \frac{(I_J)^2}{I^2} \times tg$$

Return time	Setting time s	0.1、0.2、0.3、0.4			
Constant time-lag;	Setting time s	0.1	0.2	0.3	0.4
min. time is return	Min. s	0.08	0.14	0.23	0.35
time	Max. s	0.14	0.2	0.32	0.5

Notes: I_J is ground protection set value; when In≥1250A, I_J=1200A; when In<1250A, I_J = In

I: Fault current

T: Fault action delay time

tg: Ground reverse time lag set value

Allowed tolerance of the inverse time lag action time: ±20%

Factory Settings of Intelligent Controller

Tripping curves I^2t	Long delay		Short delay		Instant	Ground fault		Thermal memory
	I_R	t_R	Isd	ts	Ii	Ig	tg	
	1In	30s	6In	0.2s	10In	G	0.4s	20min

For details, please visit the www.delixi-electric.com

Remote Operation

Shunt coil MX

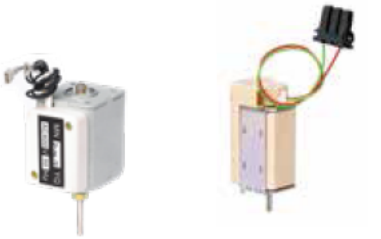
After the circuit breaker is charged, the shunt coil can disconnect the circuit breaker instantaneously by remote operation under specified power supply.

- Rated control power voltage AC220/AC230V, AC380/AC400V, DC220V, DC110V
- Operation voltage (0.7-1.1) Us
- Break time: 50±10ms

Closing coil XF

After the circuit breaker is charged, the closing coil can close the circuit breaker by remote operation under specified power voltage.

- Rated control power voltage AC220/AC230V, AC380/AC400V, DC220V, DC110V
- Operation voltage (0.85-1.1) Us
- Closing time: 55±10ms



Undervoltage coil MN

There are undervoltage instantaneous and undervoltage delay types for undervoltage coil.
After the circuit breaker closes, this coil can work to disconnect the circuit breaker when the circuit breaker voltage drops to 70%-35% rated voltage. The circuit breaker can be closed only when the undervoltage coil power voltage recovers to 85% rated voltage.

- Rated control power voltage AC220/AC230V, AC380/AC400V
- Operation voltage (0.35-0.7) Ue
- Reliable closing voltage: (0.85-1.1) Ue
- Non closing voltage: ≤0.35Ue
- Delay time: 0.5s, 1s, 1.5s, 3s (1600AF, 4000AF),
  1s, 3s, 5s (2000AF, 2500AF, 3200AF, 6300AF), the longest delay time is 705s, which can be set according to the actual conditions.

Undervoltage delay release MNR

The undervoltage delay coil can switch off the circuit breaker after certain time delay 0.5s, 1s, 1.5s, and 3s (1600AF, 4000AF) or 1s, 3s, and 5s (2000AF, 2500AF, 3200AF, and 6300AF).

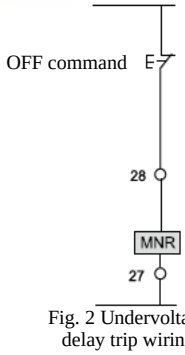


Fig. 2 Undervoltage delay trip wiring

Motor Operating Mechanism MCH

When the circuit breaker is disconencted and the power supply is available, motor operating mechanism can automatically charge the circuit breaker, so that the circuit breaker is disconnectd for closed under the action of undervoltage release and closing electromagnet. In the absence of power supply, the handle can be used to store energy for the circuit breaker.

- Rated control power voltage AC220/AC230V, AC380/AC400V, DC220V, DC110V
- Operation voltage: (0.85-1.1) Us
- Power dissipation: 75W (1600AF), 85W (2000AF), 110W (2500AF), 110W (3200AF), 180W (4000AF), 150W (6300AF).
- Charge time: <5s
- Utilization category: AC15, DC13

Note: Left figure is suitable for 2000/2500/3200/6300AF; right figure is suitable for 1600/4000AF

Functions and Features

Accessories

Indication Contacts

Auxiliary switch OF

4-ON and 4-OFF by default

- 1600AF: 4-ON and 4-OFF
- 4000AF: 4-ON and 4-OFF; 5-ON and 5-OFF; 6-ON and 6-OFF; 8-ON and 8-OFF; 12-ON and 12-OFF
- 2000/2500/3200/6300AF: 4-ON and 4-OFF; 5-ON and 5-OFF; 6-ON and 6-OFF

It can be used to monitor the status of circuit breakers, such as connecting circuit breaker position indicator and disconnecting indicator

Rated thermal current Ith: AC380V/AC400V 0.75A, DC220V 0.15A, AC220V/AC230V 1.3A

Lock

Drawer padlock

Padlock provided by user

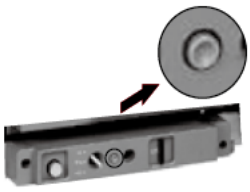
If the padlock is used, when the circuit breaker is in the “Disconnection” position, pull out the padlock plate. After locking, the crank handle cannot be inserted.

Keylock

The circuit breaker can be locked at the Disconnect position by the open lock. When the lock is unlocked by a key and the key is not pulled out, the circuit breaker can be switched on.

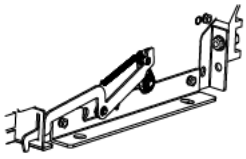
There are three options of open lock available (the latter two are available for power distribution system with two-wire connection):

- One lock one key
- Two locks one key
- Three locks two keys
- Four locks three keys



Drawer Position Locking Mechanism

It is a locking device to lock the circuit breaker in the “Connection”, “Test”, and “Disconnection” positions for drawer type circuit breaker. Those three positions of circuit breaker are indicated through the indicator. The advance and retreat handle is locked in the exact position, and is unlocked through the rest button.



Door Interlock

It is installed on the side of circuit breaker and linkages to distribution cabinet door in the drawer type circuit breaker. It can guarantee that the cabinet door cannot be opened when the circuit breaker is at the Connection or Test position. The cabinet door can be opened in the Disconnection position. It can prevent the circuit breaker from slipping to cause damage.

Closing Ready Indication Contact PF

- It consists of a mechanical indication contact and a changeover contact, and can issue a closing signal and indicate the conditions:
  Circuit breaker is disconnected;
  Circuit breaker is charged;
  No persistent OFF command;
- The wiring diagram sees Fig. 4 (for 1600&4000 frame) or Fig. 5 (for 2000&2500&3200&6300 frame); those in the dashed box are connected by customer
- Rated operating current: AC-12 AC400V 3A, DC-12 DC220V 0.15A (for 1600&4000 frame)
- Rated operating current: AC-12 AC250V 3A (for 2000&2500&3200&6300 frame)

Note: Left figure is suitable for 2000/2500/3200/6300AF; right figure is suitable for 1600/4000AF

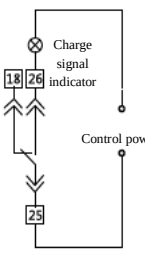


Fig. 4 PF wiring diagram

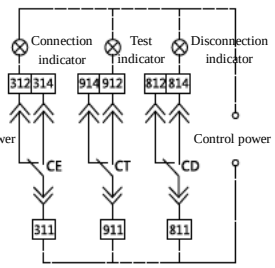


Fig. 5 Three-position indication signal wiring diagram

Mechanical Interlock

Mechanical Interlock

- There are lever interlock and cable interlock
- When lever interlock is used, two or three circuit breakers are only installed vertically; when cable interlock is used, circuit breakers can be horizontally or vertically installed, and can be used in a power distribution system with two-wire connection.
- Two or three circuit breakers are connected for linkage.
- When any one is closed, the other will be disconnected through linkage.

Operation and Protection

Door frame

- The door frame installed on the distribution cabinet door can increase IP protection level to IP40
- It is applicable to fixed type and drawer type

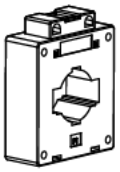
Phase Partition

- The insulation board installed in the middle of breaker busbar can increase the creepage distance and improve the insulation capacity.

Controller Accessories

External transformer of N phase

In a 3P+N grounding mode, an external transformer used to measure neutral phase current is harnessed to the wiring bus by the user.

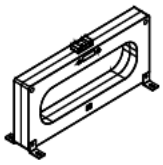


Ground Transformer

- A special external transformer is used to measure the neutral phase current can protect the circuit breaker in the event of upper and lower ground faults when the grounding mode is the current return type.
- It is only applicable for iTR326H controller.

Leakage Current Transformer

- It is an additional special rectangular transformer when the earth protection is of the leakage type
- It is only applicable for iTR326H controller.



Power Module

- It can supply auxiliary power for intelligent controller in the AC220V/AC230V, AC380V/AC400V, DC220V, and DC110V circuits
- Input is AC220V/AC230V, AC400V/AC380V, DC220V, and DC110V, and output is DC24V; the input fluctuation range is ±20%, and the output fluctuation range is ±5%; 4 sets of DC24V with total power 7W are output.

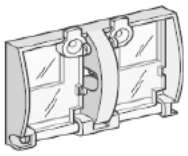
Signal Conversion Module

- Output signal unit is applicable to communcition function such as signal processing of regional interlocking and four-remote functions, or to fault alarm or indication.
- It is only applicable to iTR326H controller.

Note: Left figure is suitable for 2000/2500/3200/6300AF; right figure is suitable for 1600/4000AF.

Functions and Features

Accessories



Button Lock

- To prevent misoperation of the closing or opening button
- Lock is provided by user; the diameter of lock rod is φ5 to φ8 mm.

Safety Shield Lock (only support 1600AF/4000AF)

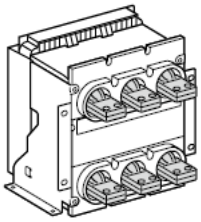
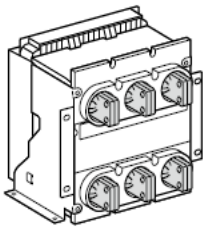
- Used for inspection or maintenance by user. There is a shield lock hole on the drawer shield for 1600 frame. It shall be ordered additionally for 4000 frame.
- The shield lock shall be provided by user, and the diameter of lock rod is φ5 to φ8 mm.

Secondary Wiring Terminal Guard

- After wiring by the user, it is used to prevent the impurities or dust from dropping onto the secondary terminal
- Provided only for drawer type product

Voltage-Detected Closing

- Operating voltage AC230/400V, 50Hz/60Hz
- Starting power: AC230: 340W; AC400V: 490W. Operating power: 5W
- Operating temperature: -40℃~+70℃; the mean within 24h does not exceed +35℃
- Pollution level: Level 3; Protection grade: IP30
- Undervoltage delay: 0s, 1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 10s
- Closing delay: 1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 10s
- When voltage drops to 20%~70% Ue, undervoltage closing will be available; when increased to 85% Ue, undervoltage closing will be available.
- It works with closing coil and undervoltage coil. (Voltage-detected function is suitable for full frame)

Rear connection	
Horizontal	Vertical
	

Notes:

1. Horizontal connection is provided for all frames, and only vertical connection is provided for 1600&2500&4000 frame.
2. Horizontal and vertical connections of 1600 frame are realized by rotating busbar.
3. The vertical connection of 2000 frame can be realized by use of vertical L-shaped adapter, which is only suitable for 2000A and below.
4. Vertical connection of 2500AF is only available for M type 2500AF.

Product Model

Coding rules

Body coding

W6i20N163DH

Product name	Frame current grade	Breaking capacity	Rated current	Number of poles	Installation method
W6i	16	H	06	3	DH
	16：1600A（04~16） 20：2000A（06~20） 25：2500A（06~25） 32：3200A（20~32） 40：4000A（06~40） 63：4000A（40~63）	N: N type H: H type M: M type 2500AF and 4000AF only have M type 6300AF only has N type	04:400A 06:630A 08:800A 10:1000A 12:1250A 16:1600A 20:2000A 25:2500A 32:3200A 40:4000A 50:5000A 63:6300A	3: 3-pole 4: 4-pole	DH: Drawer type, horizontal FH: Fixed type, horizontal DV: Drawer type, vertical (only for 1600AF/2500M/4000AF) FV: Fixed type, vertical (only for 1600AF/2500M/4000AF)

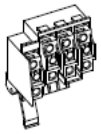
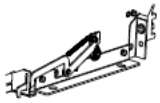
Default standard accessories of CDW6i: Shunt, closing, motor mechanism, 4-ON 4-OFF auxiliary contact, door frame, phase partition, power module, iTR326A

Accessory Coding

		Accessory coding	Accessory name
Controller			
		CDW6iTUL CDW6iTUM CDW6iTUH	Controller iTR326 Controller iTR326A Controller iTR326H
Remote operation			
Shunt coil		CDW6iMX12A CDW6iMX13A CDW6iMX12D CDW6iMX11D CDW6iMX2A CDW6iMX3A CDW6iMX2D CDW6iMX1D	Shunt release AC220V/AC230V (CDW6i-2000/2500/3200/6300AF) Shunt release AC380V/AC400V (CDW6i-2000/2500/3200/6300AF) Shunt release DC220V (CDW6i-2000AF/2500AF/3200AF) Shunt release DC110V (CDW6i-2000AF/2500AF/3200AF) Shunt release AC220V/AC230V (CDW6i-1600AF/4000AF) Shunt release AC380V/AC400V (CDW6i-1600AF/4000AF) Shunt release DC220V (CDW6i-1600AF/4000AF) Shunt release DC110V (CDW6i-1600AF/4000AF)
Closing coil		CDW6iXF12A CDW6iXF13A CDW6iXF12D CDW6iXF11D CDW6iXF2A CDW6iXF3A CDW6iXF2D CDW6iXF1D	Closing release AC220V/AC230V (CDW6i-2000/2500/3200/6300AF) Closing release AC380V/AC400V (CDW6i-2000/2500/3200/6300AF) Closing release DC220V (CDW6i-2000AF/2500AF/3200AF) Closing release DC110V (CDW6i-2000AF/2500AF/3200AF) Closing release AC220V/AC230V (CDW6i-1600AF/4000AF) Closing release AC380V/AC400V (CDW6i-1600AF/4000AF) Closing release DC220V (CDW6i-1600AF/4000AF) Closing release DC110V (CDW6i-1600AF/4000AF)
Undervoltage coil		CDW6iMN12A CDW6iMN13A CDW6iMN2A CDW6iMN3A CDW6iMN62A CDW6iMN63A	Undervoltage release AC220V/AC230V (CDW6i-2000AF/2500AF/3200AF) Undervoltage release AC380V/AC400V (CDW6i-2000AF/2500AF/3200AF) Undervoltage release AC220V/AC230V (CDW6i-1600AF/4000AF) Undervoltage release AC380V/AC400V (CDW6i-1600AF/4000AF) Undervoltage release DC220V/AC230V (CDW6i-6300AF) Undervoltage release DC380V/AC400V (CDW6i-6300AF)
Undervoltage delay coil		CDW6iMNR12A CDW6iMNR13A CDW6iMNR2A CDW6iMNR3A	Undervoltage delay release AC220V/AC230V (CDW6i-2000/2500/3200/6300AF) Undervoltage delay release AC380V/AC400V (CDW6i-2000/2500/3200/6300AF) Undervoltage delay release AC220V/AC230V (CDW6i-1600AF/4000AF) Undervoltage delay release AC380V/AC400V (CDW6i-1600AF/4000AF)

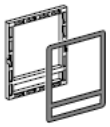
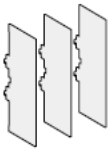
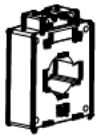
Product Model

Coding rules

	Accessory coding	Accessory name
Remote operation		
Motor mechanism 	CDW6iMCH202A	Motor mechanism AC220V/AC230V (CDW6i-2000AF)
	CDW6iMCH203A	Motor mechanism AC380V/AC400V (CDW6i-2000AF)
	CDW6iMCH202D	Motor mechanism DC220V (CDW6i-2000AF)
	CDW6iMCH201D	Motor mechanism DC110V (CDW6i-2000AF)
	CDW6iMCH322A	Motor mechanism AC220V/AC230V (CDW6i-3200AF)
	CDW6iMCH323A	Motor mechanism AC380V/AC400V (CDW6i-3200AF)
	CDW6iMCH322D	Motor mechanism DC220V (CDW6i-3200AF)
	CDW6iMCH321D	Motor mechanism DC110V (CDW6i-3200AF)
	CDW6iMCH162A	Motor mechanism AC220V/AC230V (CDW6i-1600AF)
	CDW6iMCH163A	Motor mechanism AC380V/AC400V (CDW6i-1600AF)
	CDW6iMCH162D	Motor mechanism DC220V (CDW6i-1600AF)
	CDW6iMCH161D	Motor mechanism DC110V (CDW6i-1600AF)
	CDW6iMCH402A	Motor mechanism AC220V/AC230V (CDW6i-4000AF)
	CDW6iMCH403A	Motor mechanism AC380V/AC400V (CDW6i-4000AF)
	CDW6iMCH402D	Motor mechanism DC220V (CDW6i-4000AF)
	CDW6iMCH401D	Motor mechanism DC110V (CDW6i-4000AF)
	CDW6iMCH632A	Motor mechanism AC220V/AC230V (CDW6i-6300AF)
	CDW6iMCH633A	Motor mechanism AC380V/AC400V (CDW6i-6300AF)
Indication contact		
Aux. switch 	CDW6iOF1644	Aux. switch 4-ON 4-OFF (CDW6i-1600AF)
	CDW6iOF2044	Aux. switch 4-ON 4-OFF (CDW6i-2000AF)
	CDW6iOF2066	Aux. switch 6-ON 6-OFF (CDW6i-2000AF)
	CDW6iOF3244	Aux. switch 4-ON 4-OFF (CDW6i-2500/3200/6300AF)
	CDW6iOF3266	Aux. switch 6-ON 6-OFF (CDW6i-2500/3200/6300AF)
	CDW6iOF4044	Aux. switch 4-ON 4-OFF (CDW6i-4000AF)
	CDW6iOF4066	Aux. switch 6-ON 6-OFF (CDW6i-4000AF)
	CDW6iOF4088	Aux. switch 8-ON 8-OFF (CDW6i-4000AF)
Lock		
Key lock 	CDW6i16L3	Three locks two keys CDW6i-1600AF
	CDW6i16L2	Two locks one key CDW6i-1600AF
	CDW6i16L1	One lock one key CDW6i-1600AF
	CDW6iL3	Three locks two keys CDW6i-2000/2500/3200/6300AF
	CDW6iL2	Two locks one key CDW6i-2000/2500/3200/6300AF
	CDW6iL1	One lock one key CDW6i-2000/2500/3200/6300AF
	CDW6i40L3	Three locks two keys CDW6i-4000AF
	CDW6i40L2	Two locks one key CDW6i-4000AF
	CDW6i40L1	One lock one key CDW6i-4000AF
Door interlock 	CDW6i20DLR	Drawer type door interlock CDW6i-2000AF
	CDW6i32DLR	Drawer type door interlock CDW6i-3200AF

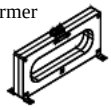
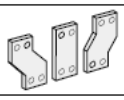
Product Model

Coding rules

	Accessory coding	Accessory name
Operation and Protection		
Door frame 	CDW6i16FCDP	Fixed type door frame CDW6i-1600AF
	CDW6i16DCDP	Drawer type door frame CDW6i-1600AF
	CDW6i20FCDP	Fixed type door frame CDW6i-2000AF
	CDW6i20DCDP	Drawer type door frame CDW6i-2000AF
	CDW6i32FCDP	Fixed type door frame CDW6i-3200AF
	CDW6i32DCDP	Drawer type door frame CDW6i-3200AF
	CDW6i40FCDP	Fixed type door frame CDW6i-4000AF
	CDW6i40DCDP	Drawer type door frame CDW6i-4000AF
	CDW6i63FCDP	Fixed type door frame CDW6i-6300AF
	CDW6i63DCDP	Drawer type door frame CDW6i-6300AF
Phase partition 	CDW6i16FD	Fixed type phase partition 3PCDW6i-1600AF
	CDW6i16DD	Drawer type phase partition 3PCDW6i-1600AF
	CDW6i20FD	Fixed type phase partition 3PCDW6i-2000AF
	CDW6i20DD	Drawer type phase partition 3PCDW6i-2000AF
	CDW6i32FD	Fixed type phase partition 3PCDW6i-2500/3200/6300AF
	CDW6i32DD	Drawer type phase partition 3PCDW6i-2500/3200/6300AF
	CDW6i40FD	Fixed type phase partition 3PCDW6i-4000AF (No for 4000A)
	CDW6i40DD	Drawer type phase partition 3PCDW6i-4000AF (No for 4000A)
	CDW6i164FD	Fixed type phase partition 4PCDW6i-1600AF
	CDW6i164DD	Drawer type phase partition 4PCDW6i-1600AF
	CDW6i204FD	Fixed type phase partition 4PCDW6i-2000AF
	CDW6i204DD	Drawer type phase partition 4PCDW6i-2000AF
	CDW6i324FD	Fixed type phase partition 4PCDW6i-2500/3200/6300AF
	CDW6i324DD	Drawer type phase partition 4PCDW6i-2500/3200/6300AF
	CDW6i404FD	Fixed type phase partition 4PCDW6i-4000AF (No for 4000A)
	CDW6i404DD	Drawer type phase partition 4PCDW6i-4000AF (No for 4000A)
Intelligent controller accessories		
N phase transformer 	CDW6i1604NCT	External transformer of N phase CDW6i-1600AF/400A
	CDW6i160616NCT	External transformer of N phase CDW6i-1600AF/630-1600A
	CDW6i200608NCT	External transformer of N phase CDW6i-2000AF/630-800A
	CDW6i201020NCT	External transformer of N phase CDW6i-2000AF/1000-2000A
	CDW6i32NCT	External transformer of N phase CDW6i-3200AF/2000-3200A
	CDW6i40NCT	External transformer of N phase CDW6i-4000AF/1600-4000A Round
	CDW6i63NCT	External transformer of N phase CDW6i-6300A/4000-6300A
Earthed transformer 	CDW6iZT100-400	Earthed transformer CDW6i-400A (only for H type controller)
	CDW6iZT100-630	Earthed transformer CDW6i-630A (only for H type controller)
	CDW6iZT100-800	Earthed transformer CDW6i-800A (only for H type controller)
	CDW6iZT100-1000	Earthed transformer CDW6i-1000A (only for H type controller)
	CDW6iZT100-1250	Earthed transformer CDW6i-1250A (only for H type controller)
	CDW6iZT100-1600	Earthed transformer CDW6i-1600A (only for H type controller)
	CDW6iZT100-2000	Earthed transformer CDW6i-2000A (only for H type controller)
	CDW6iZT100-2500	Earthed transformer CDW6i-2500A (only for H type controller)
	CDW6iZT100-3200	Earthed transformer CDW6i-3200A (only for H type controller)
	CDW6iZT100-4000	Earthed transformer CDW6i-4000A (only for H type controller)
	CDW6IZT1005000A	Earthed transformer CDW6i-5000A (only for H type controller)
	CDW6IZT1006300A	Earthed transformer CDW6i-6300A (only for H type controller)

Product Model

Coding rules

	Accessory coding	Accessory name
Intelligent controller accessories		
Leakage transformer 	CDW6iZCT1	Leakage transformer CDW6i (only for H type controller)
Signal conversion module 	CDW6iTR	Signal conversion module (H type communication, regional interlock, four-remote)
Power module 	CDW6iDP	DC power module (input DC220V, output DC24V)
	CDW6i2AP	Power module CDW6i-AC220V/AC230V
	CDW6i4AP	Power module CDW6i-AC380V/AC400V
Voltage-detected reclosing 	CDW6i25M2JY	CDW6i-2500M voltage-detected 220V/230V AC/DC
	CDW6i25M3JY	CDW6i-2500M voltage-detected 380V/400V
	CDW6i40M2JY	CDW6i-4000M voltage-detected 220V/230V AC/DC
	CDW6i40M3JY	CDW6i-4000M voltage-detected 380V/400V
Mechanical interlock		
Cable interlock	CDW6i16FL2	Fixed type cable interlock (two units) CDW6i-1600AF
	CDW6i20FL2	Fixed type cable interlock (two units) CDW6i-2000AF
	CDW6i32FL2	Fixed type cable interlock (two units) CDW6i-2500/3200/6300AF
	CDW6i40FL2	Fixed type cable interlock (two units) CDW6i-4000AF
	CDW6i20FL3	Fixed type cable interlock (three units) CDW6i-2000AF
	CDW6i32FL3	Fixed type cable interlock (three units) CDW6i-2500/3200/6300AF
	CDW6i40FL3	Fixed type cable interlock (three units) CDW6i-4000AF
	CDW6i16DL2	Drawer type cable interlock (two units) CDW6i-1600AF
	CDW6i20DL2	Drawer type cable interlock (two units) CDW6i-2000AF
	CDW6i32DL2	Drawer type cable interlock (two units) CDW6i-2500/3200/6300AF
	CDW6i40DL2	Drawer type cable interlock (two units) CDW6i-4000AF
	CDW6i20DL3	Drawer type cable interlock (three units) CDW6i-2000AF
	CDW6i32DL3	Drawer type cable interlock (three units) CDW6i-2500/3200/6300AF
	CDW6i40DL3	Drawer type cable interlock (three units) CDW6i-4000AF
	CDW6IFL3S40	Fixed type cable interlock (three units) CDW6i-4000AF
	CDW6IDL3S40	Drawer type cable interlock (three units) CDW6i-4000AF
	CDW6IDLBUS	Buscouple drawer type cable interlock CDW6i-2000/2500/3200/6300AF
Lever interlock	CDW6i16FG2	Fixed type lever interlock (two units) CDW6i-1600AF
	CDW6i20FG2	Fixed type lever interlock (two units) CDW6i-2000AF
	CDW6i32FG2	Fixed type lever interlock (two units) CDW6i-2500/3200/6300AF
	CDW6i40FG2	Fixed type lever interlock (two units) CDW6i-4000AF
	CDW6i16DG2	Drawer type lever interlock (two units) CDW6i-1600AF
	CDW6i20DG2	Drawer type lever interlock (two units) CDW6i-2000AF
	CDW6i32DG2	Drawer type lever interlock (two units) CDW6i-2500/3200/6300AF
	CDW6i40DG2	Drawer type lever interlock (two units) CDW6i-4000AF
	W6IFG3S40	Fixed type lever interlock (three units) CDW6i-4000AF
	W6IDG3S40	Drawer type lever interlock (three units) CDW6i-4000AF
Connection accessories		
	CDW6iV3	Vertical L type adapter 3PW3-2000 (2000A and below)
	CDW6iV4	Vertical L type adapter 4PW3-2000 (2000A and below)
	CDW6iS3	Extended terminal 3P (1600N)
	CDW6iS4	Extended terminal 4P (1600N)
	CDW6iATSEC2	CDW6i dual-power controller (LCD type)
	CDW6iATSECM	CDW6i buscouple type controller (LCD type)

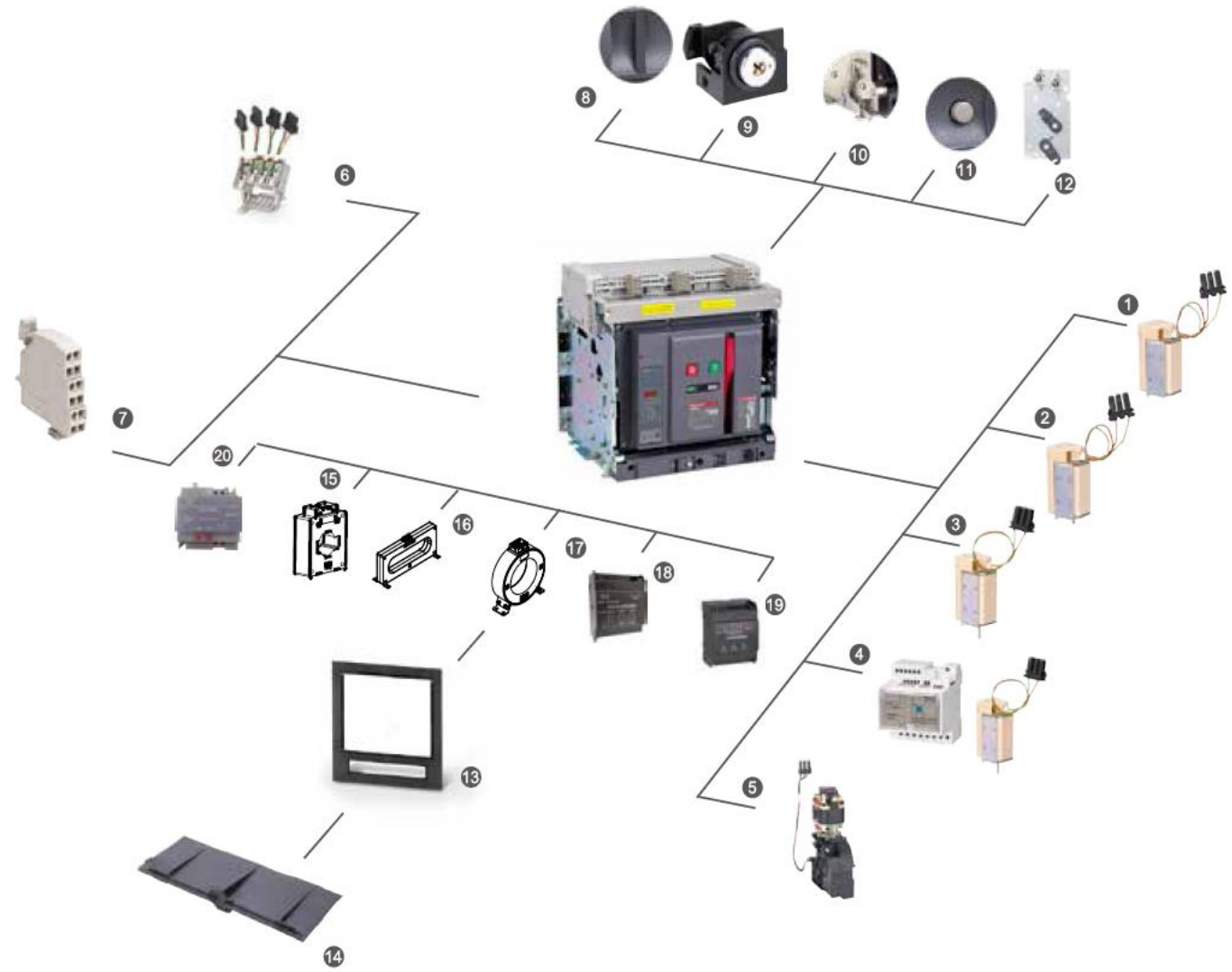
Notes: 2m wire is provided as standard for CDW6iATSEC2, and an additional meter will be charged separately.

4m wire is provided as standard for CDW6iATSECM, and an additional meter will be charged separately.

Product Model

Accessory Indication Diagram

CDW6i Air Circuit Breaker Accessory Indication Diagram



Remote operation	Indication contact	Lock and connection	Operation and protection	Controller accessories
1 Shunt coil	6 Aux. switch OF	8 Padlock	13 Door frame	15 External transformer of N phase
2 Closing coil	7 Secondary wiring terminal	9 Key lock	14 Phase partition	16 Leakage transformer
3 Undervoltage coil		10 Door interlock		17 Earthed transformer
4 Undervoltage delay coil		11 Locking mechanisms at connection, disconnection, and test positions		18 Power module
5 Motor operating mechanism		12 Mechanical interlock		19 Signal conversion module
				20 Voltage-detected reclosing

Product Model

Configuration Table

Configuration Table

Frame			1600AF	2000AF	2500AF	3200AF	4000AF	6300AF
Body								
Circuit body			■	■	■	■	■	■
Accessories								
Controller	iTR326	Controller (basic type)	□	□	□	□	□	□
	iTR326A	Controller (current type)	■	■	■	■	■	■
	iTR326H	Controller (harmonic type)	□	□	□	□	□	□
Indication contact type	PF	Closing ready contact	□	□	□	□	□	□
	PI	Three-position signal	□	□	□	□	□	□
	SWT1	Fault indication contact 1	■	■	■	■	■	■
	SWT2	Fault indication contact 2	□	-	-	-	□	-
	OF4	Aux. switch 4-ON 4-OFF	■	■	■	■	■	■
	OF5	Aux. switch 5-ON 5-OFF	-	□	□	□	□	□
	OF6	Aux. switch 6-ON 6-OFF	-	□	□	□	□	□
	OF8	Aux. switch 8-ON 8-OFF	-	-	-	-	□	-
	OF12	Aux. switch 12-ON 12-OFF	-	-	-	-	□	-
Remote operation type	MX	Shunt coil	■	■	■	■	■	■
	XF	Closing coil	■	■	■	■	■	■
	MN	Undervoltage coil	□	□	□	□	□	□
	MNR	Undervoltage delay release	□	□	□	□	□	□
	MCH	Motor operating mechanism	■	■	■	■	■	■
	RES	Electrical reset	□	-	-	-	□	-
	ATSEC	Dual power supply 1	□	□	□	□	□	□
	TR	Signal conversion module	□	□	□	□	□	□
	AP	AC power module	■	■	■	■	■	■
	DP	DC power module	□	□	□	□	□	□
	JY	Voltage-detected	□	□	□	□	□	□
Locking and interlock type	VBP	Button protective cap	□	□	□	□	□	□
	L1/L3	Key lock	□	□	□	□	□	□
	Three-position lock	Three-position lock	■	■	■	■	■	■
	DLR	Door interlock	□	□	□	□	□	□
	D/FL	Cable interlock (drawer type / fixed type)	□	□	□	□	□	□
	DLBUS	Cable interlock (drawer type buscouple)	-	□	□	□	□	□
	D/FG	Lever interlock (drawer type / fixed type)	□	□	□	□	□	□
Circuit protection type	NCT	External transformer of N phase	□	□	□	□	□	□
	ZT100	Earthed transformer	□	□	□	□	□	□
	ZCT1	Leakage transformer	□	□	□	□	□	□
Operation protection type	CDP	Door frame	■	■	■	■	■	■
	D	Phase partition	■	■	■	■	■	■
	CB	Secondary wiring terminal guard	□	□	□	□	□	□
Wiring method type	H	Horizontal terminal	■	■	■	■	■	■
	V3/4	Vertical extended terminal (3-pole / 4-pole)	-	□	-	-	-	-
	Extended terminal		-	□	□	□	-	-

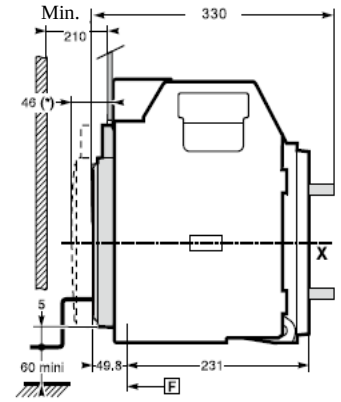
Notes:

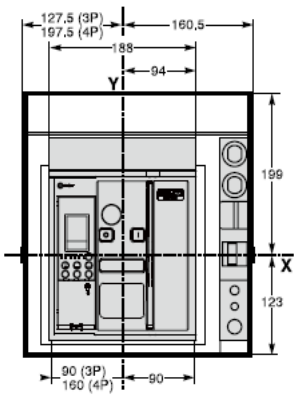
1. "■" indicates standard configuration; "□" indicates optional accessory; "-" indicates not available.
2. Extended size shall be indicated for extended terminal product when ordering.
3. Earthed transformer, leakage transformer, and signal conversion module are only equipped with H type controller for normal operation.
4. Vertical extended terminal is only available for products with rated current less than 2000A.

Installation and Dimensions

CDW6i-1600AF Drawer Type 3-Pole and 4-Pole

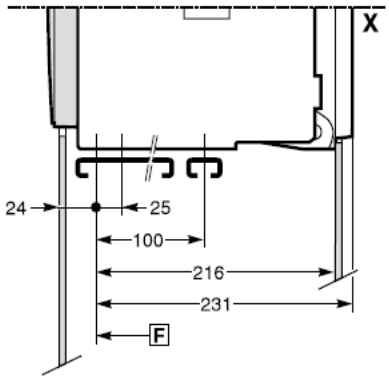
Dimensions

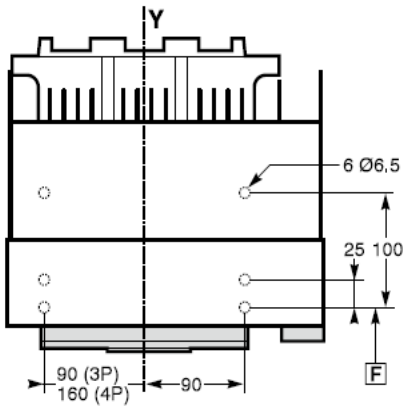




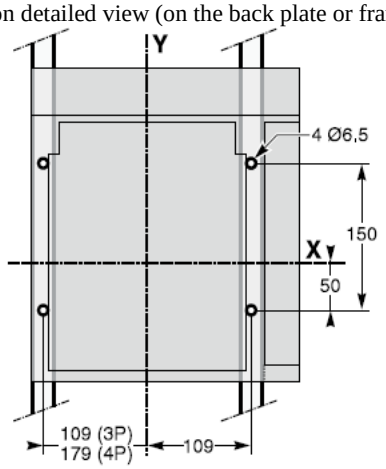
(*) Disconnection position

Horizontally fixed (on the base or rail)

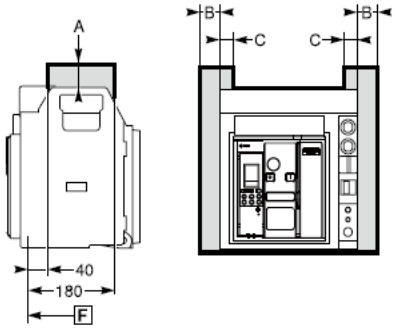




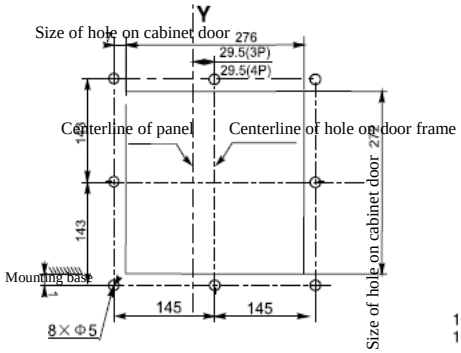
Vertical fixation detailed view (on the back plate or frame)



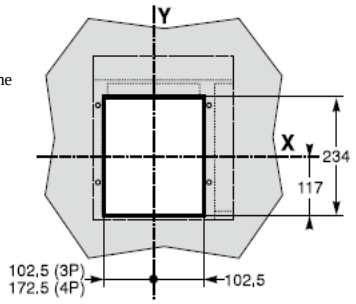
Safety distance



Size of hole on the door



Size of hole on the rear panel



Safety distance (mm)	Drawer type		
	A	B	C
Insulation	0	10	0
Metal	0	10	0
Live conductor	30	60	30

Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.

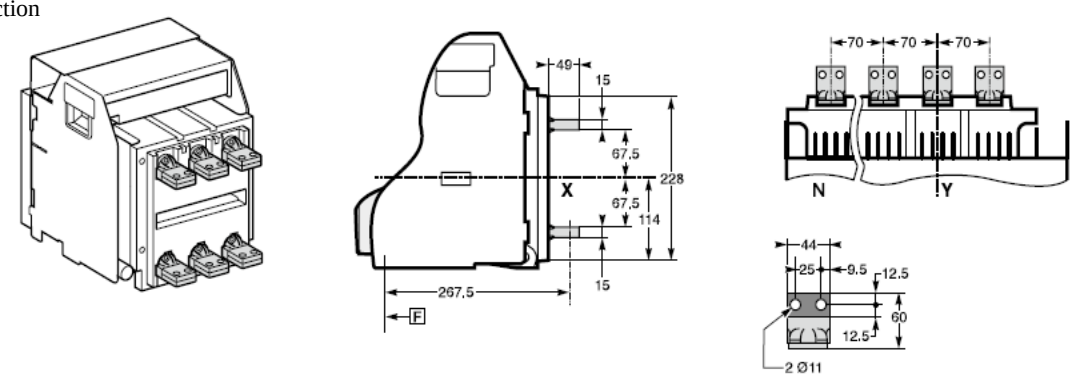
Note 2: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.

Installation and Dimensions

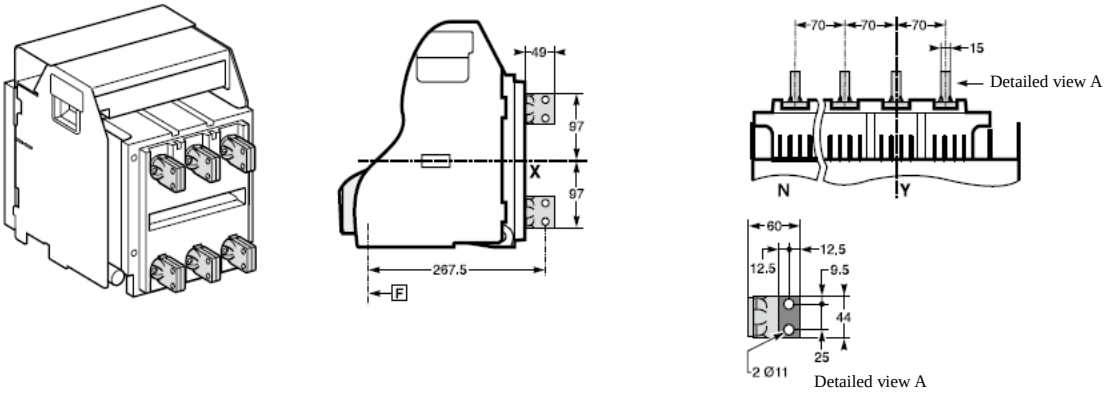
CDW6i-1600AF Drawer Type 3-Pole and 4-Pole

Connection

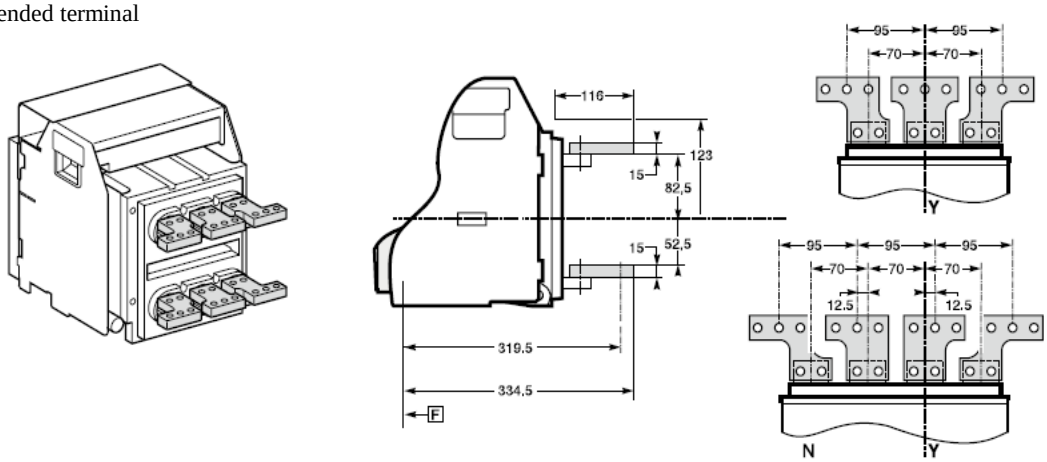
Horizontal rear connection



Vertical rear connection

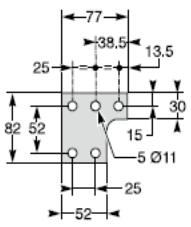


Rear connection with extended terminal

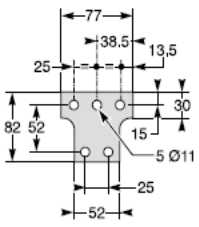


For installation, refer to the “Rear connection with extended terminal”

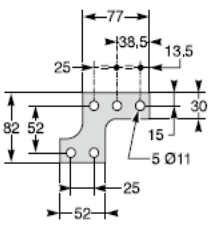
4-pole center-left or center-right extended terminal



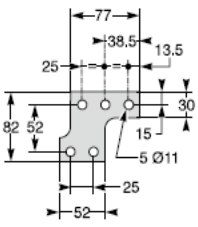
3-pole intermediate extended terminal



4-pole left or right extended terminal



3-pole left or right extended terminal

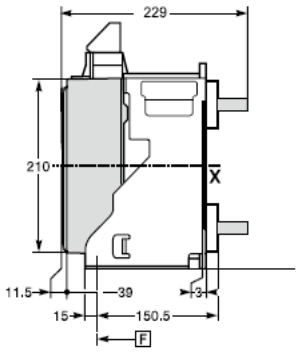


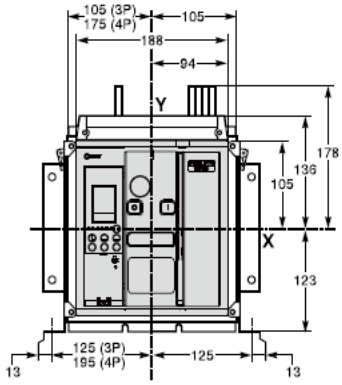
Note: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.

Installation and Dimensions

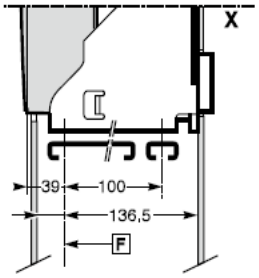
CDW6i-1600AF Fixed 3-Pole and 4-Pole

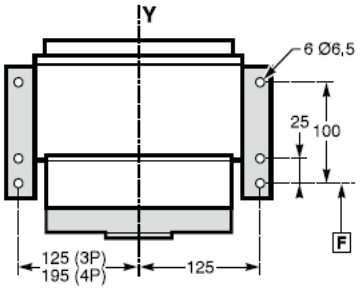
Dimensions



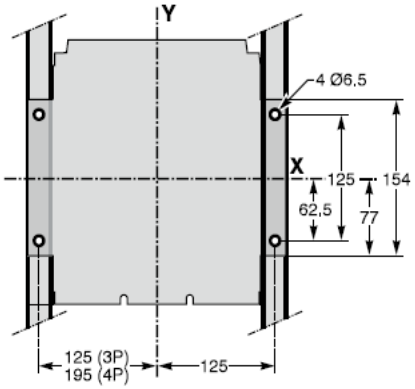


Horizontal fixed (on the base or rail)

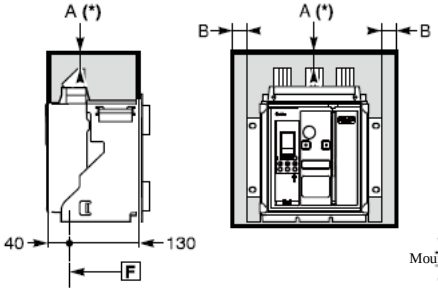




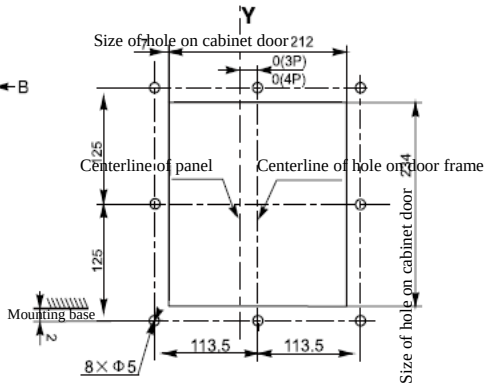
Vertical fixed (on the back plate or frame)



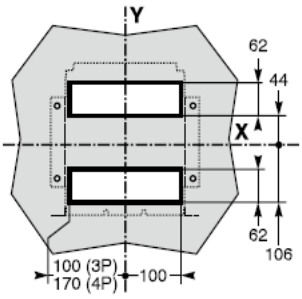
Safety distance



Size of hole on door



Size of hole on rear panel



Safety Distance (mm)	Fixed type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

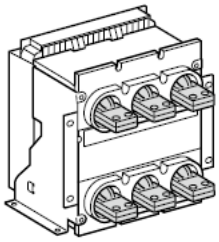
Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.
Note 2: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.
Note 3: (*) For safety distance, the space 50mm required for removal of arc extinguishing shield shall be considered; the safety distance is 20mm for removal of terminal block.

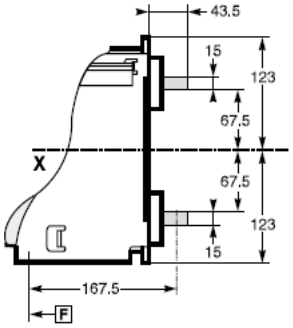
Installation and Dimensions

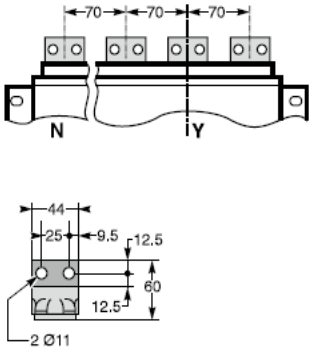
CDW6i-1600AF Fixed 3-Pole and 4-Pole

Connection

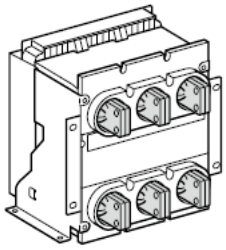
Horizontal rear connection

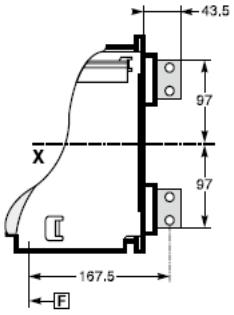


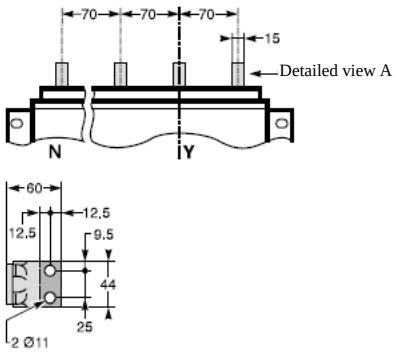




Vertical rear connection

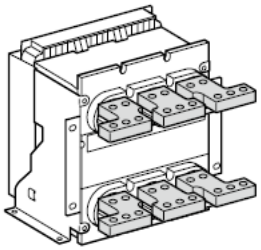


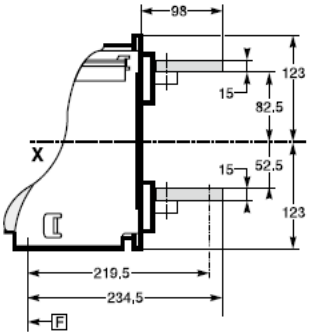


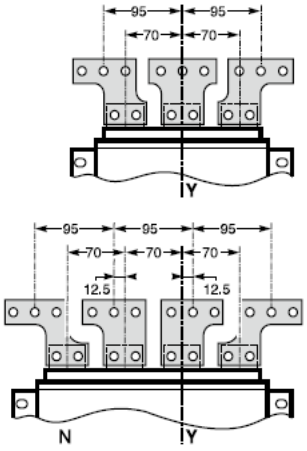


Detailed view A

Rear connection with extended terminal

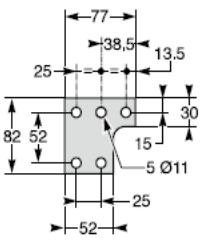




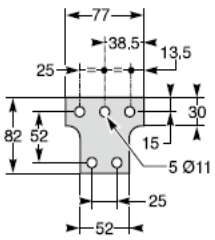


For installation, refer to the “Rear connection with extended terminal”

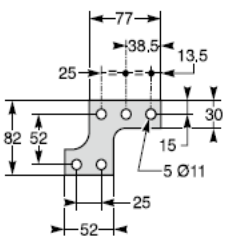
4-pole center-left or center-right extended terminal



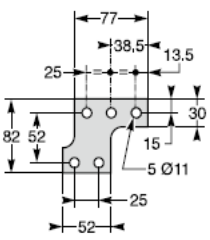
3-pole intermediate extended terminal



4-pole left or right extended terminal



3-pole left or right extended terminal

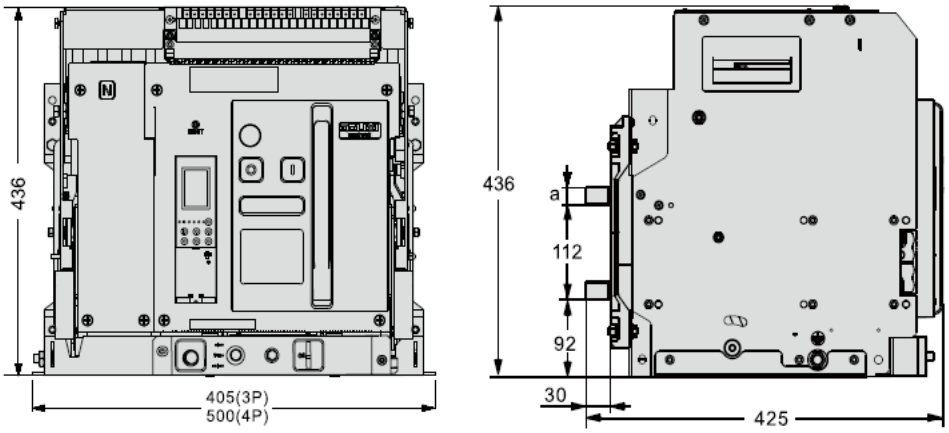


Note: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.

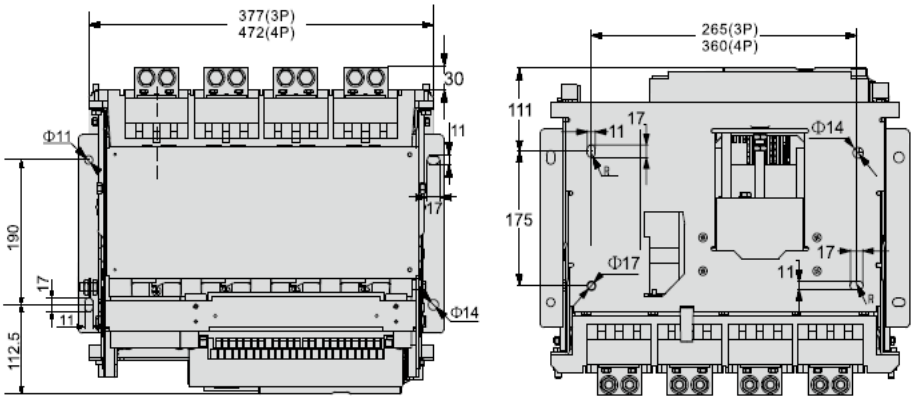
Installation and Dimensions

CDW6i-2000AF Drawer Type 3-Pole and 4-Pole

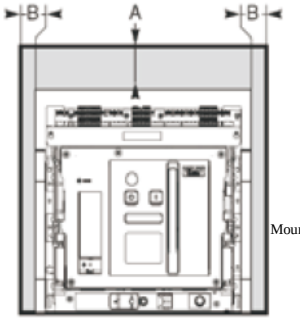
Dimensions



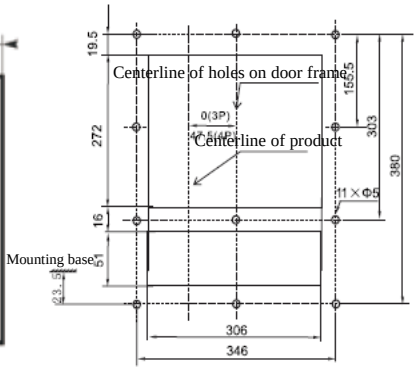
Horizontal fixed (on the base or rail) *The height of cover protruding out of the door frame is 5mm preferably.



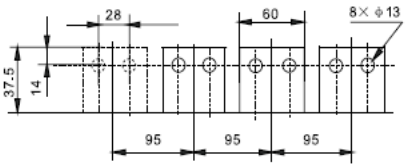
Safety distance



Size of hole on door



Busbar size



Safety Distance (mm)	Drawer type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

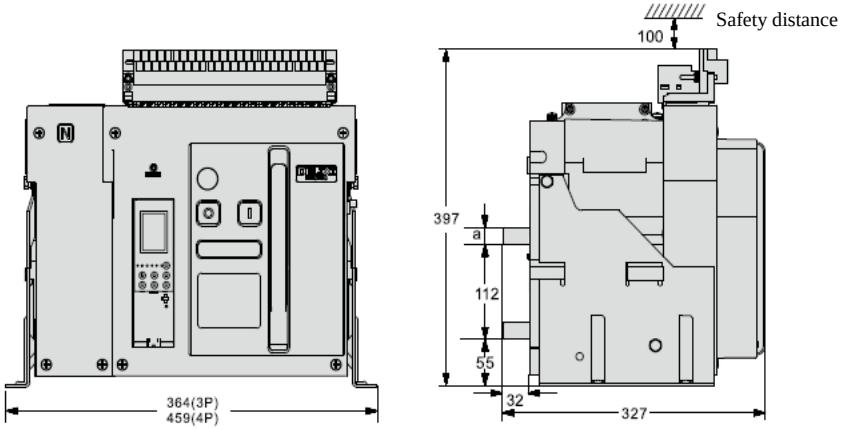
In (A)	a (mm)
630-800	10
1000-1600	15
2000	20

Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.

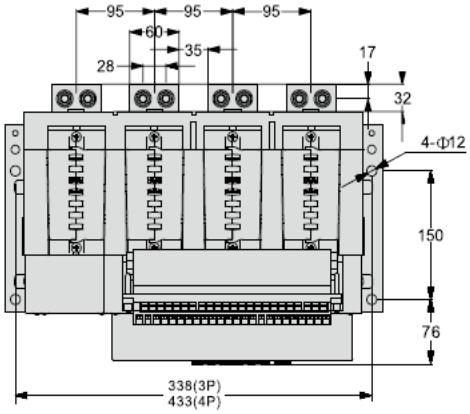
Installation and Dimensions

CDW6i-2000AF Fixed 3-Pole and 4-Pole

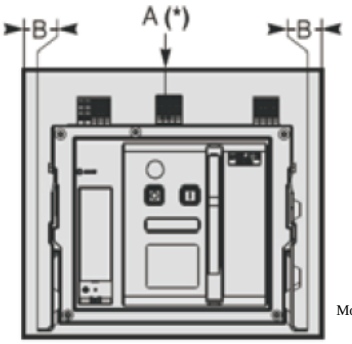
Dimensions



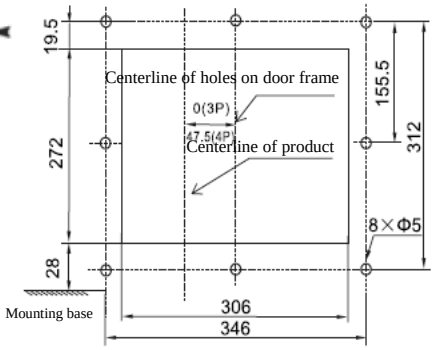
Horizontal fixed (on the base or rail) *The height of cover protruding out of the door frame is 5mm preferably.



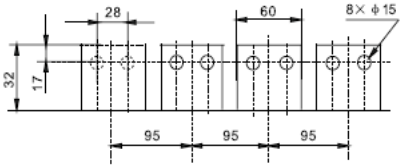
Safety distance



Size of hole on door



Busbar size



Safety Distance (mm)	Drawer type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

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

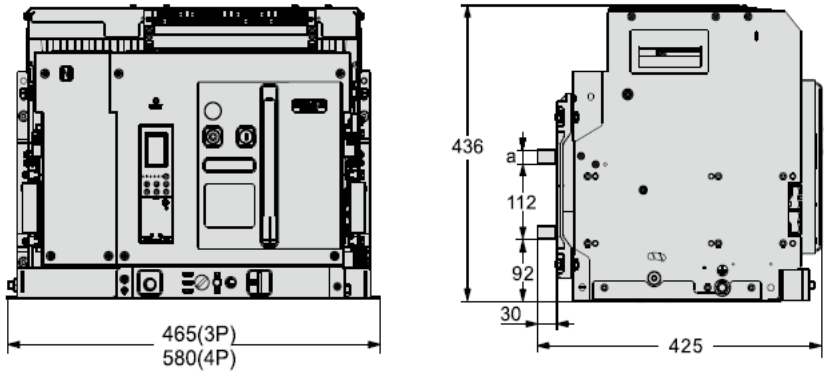
Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.

Note 2: (*) For safety distance, the space 110mm required for removal of arc extinguishing shield shall be considered; the safety distance is 20mm for removal of terminal block.

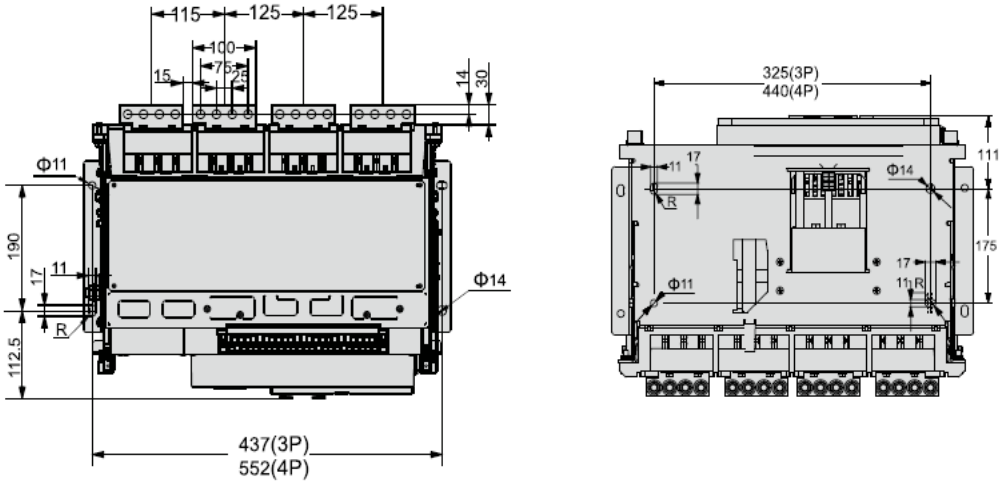
Installation and Dimensions

CDW6i-2500AF Drawer Type 3-Pole and 4-Pole

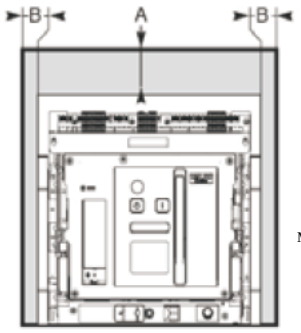
Dimensions



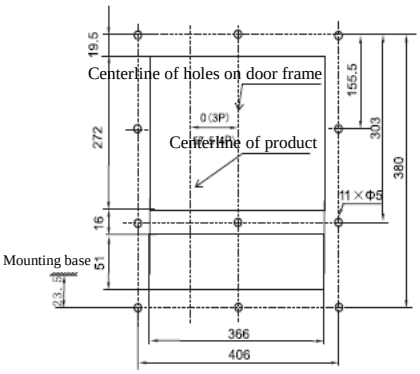
Horizontal fixed (on the base or rail) *The height of cover protruding out of the door frame is 5mm preferably.



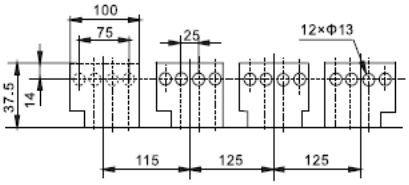
Safety distance



Size of hole on door



Busbar size



Safety Distance (mm)	Drawer type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

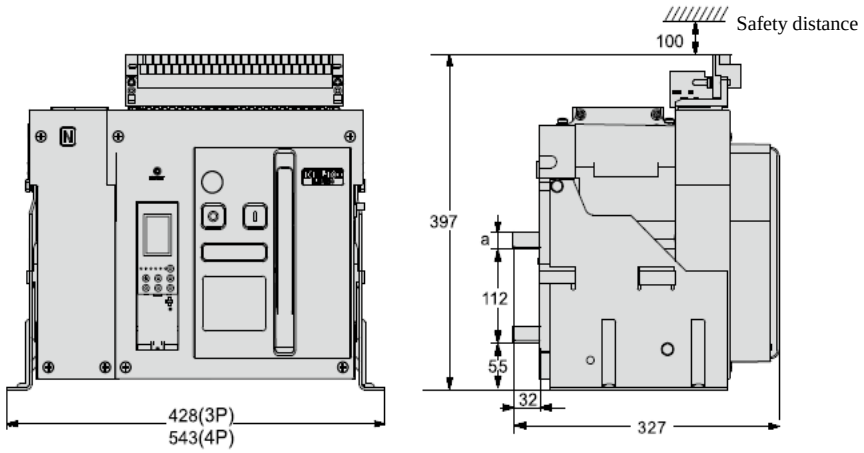
In (A)	a (mm)
630-2500	20

Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.

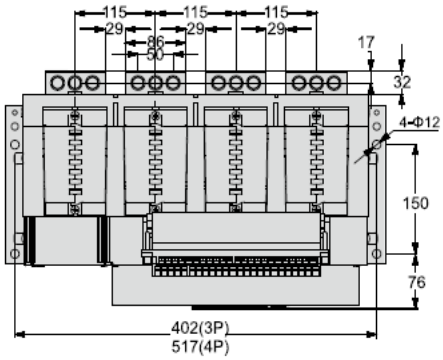
Installation and Dimensions

CDW6i-2500AF Fixed 3-Pole and 4-Pole

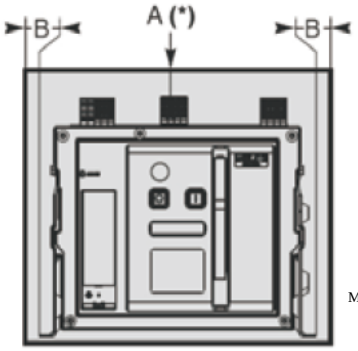
Dimensions



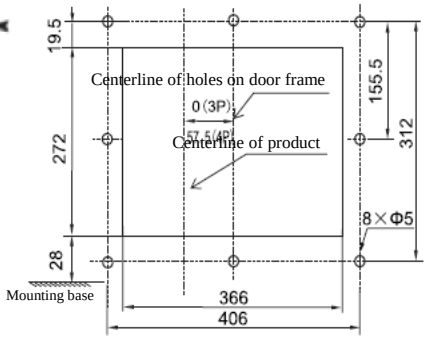
Horizontal fixed (on the base or rail) *The height of cover protruding out of the door frame is 5mm preferably.



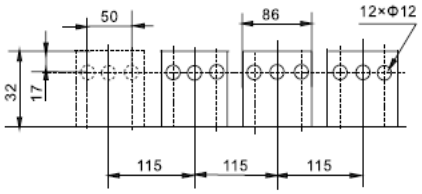
Safety distance



Size of hole on door



Busbar size



Safety Distance (mm)	Fixed type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

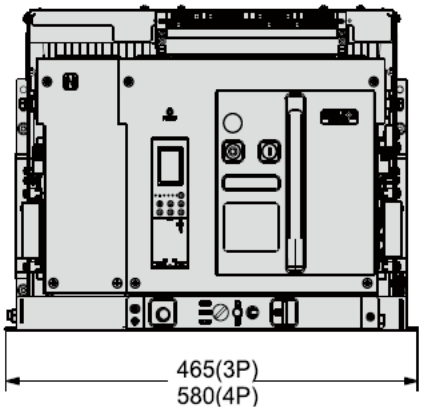
In (A)	a (mm)
630-2500	20

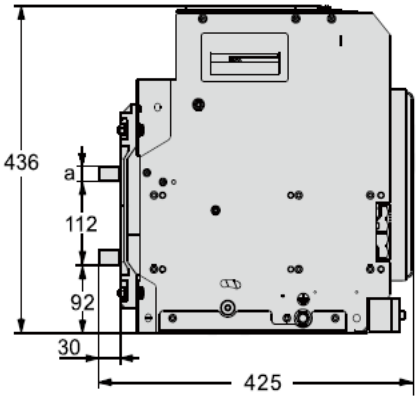
Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.
Note 2: (*) For safety distance, the space 110mm required for removal of arc extinguishing shield shall be considered; the safety distance is 20mm for removal of terminal block.

Installation and Dimensions

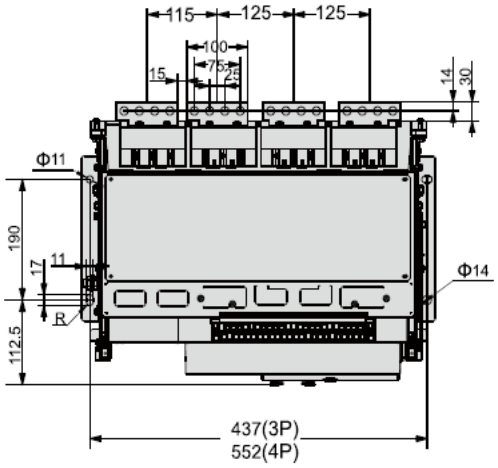
CDW6i-3200AF Drawer Type 3-Pole and 4-Pole

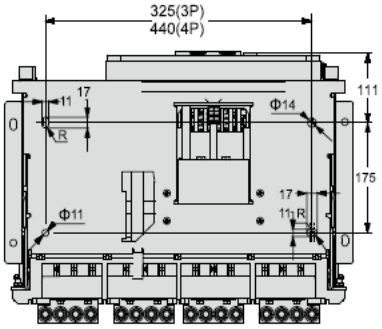
Dimensions



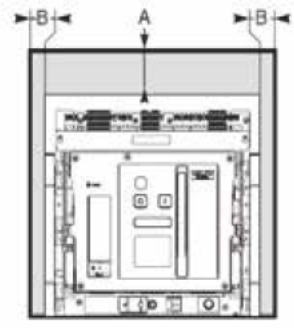


Horizontal fixed (on the base or rail) *The height of cover protruding out of the door frame is 5mm preferably.

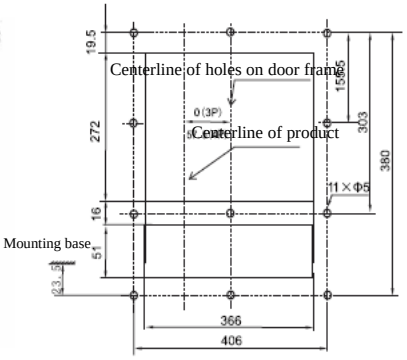




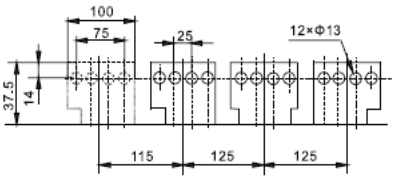
Safety distance



Size of hole on door



Busbar size



Safety Distance (mm)	Drawer type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

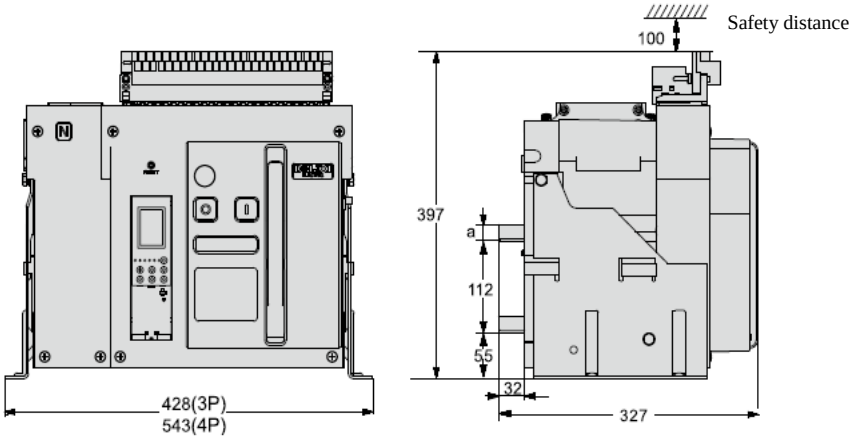
In (A)	a (mm)
2000-2500	20
3200	30

Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.

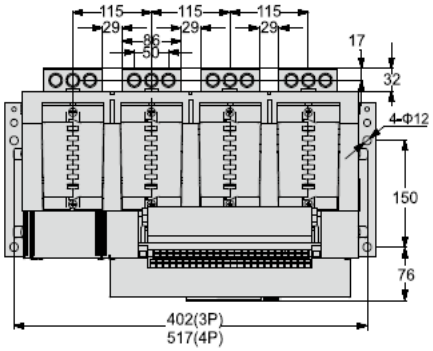
Installation and Dimensions

CDW6i-3200AF Fixed 3-Pole and 4-Pole

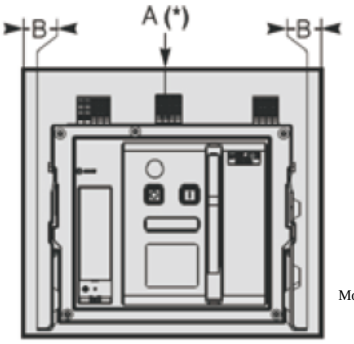
Dimensions



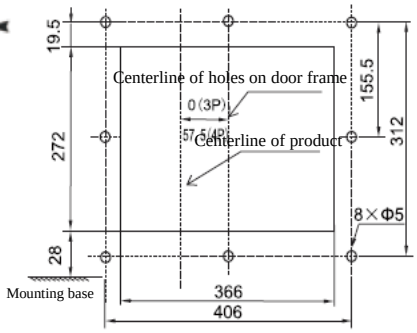
Horizontal fixed (on the base or rail) *The height of cover protruding out of the door frame is 5mm preferably.



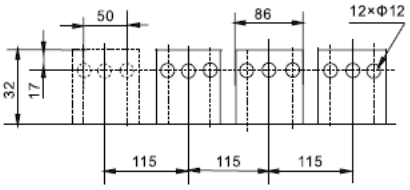
Safety distance



Size of hole on door



Busbar size



Safety Distance (mm)	Fixed type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

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

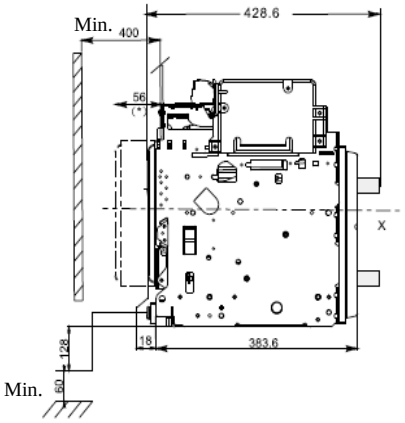
Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.

Note 2: (*) For safety distance, the space 110mm required for removal of arc extinguishing shield shall be considered; the safety distance is 20mm for removal of terminal block.

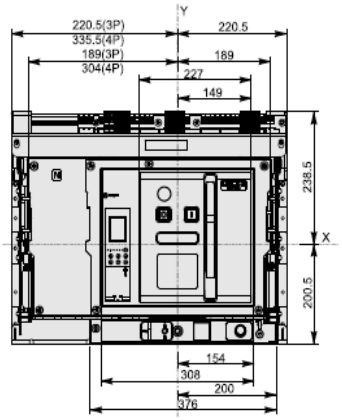
Installation and Dimensions

CDW6i-4000AF Drawer Type 3-Pole and 4-Pole

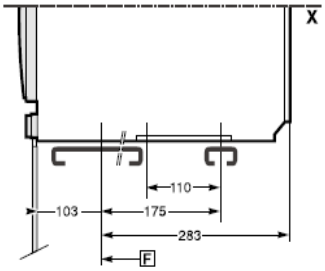
Transformer Dimensions

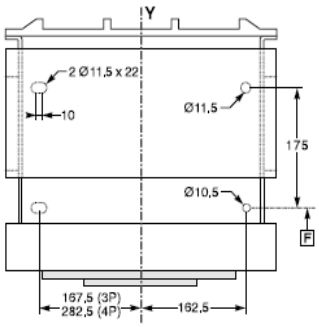


(*) Disconnection position

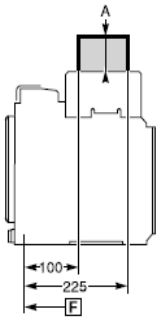


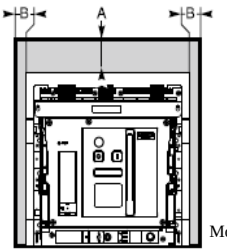
Horizontally fixed (on the base or rail)



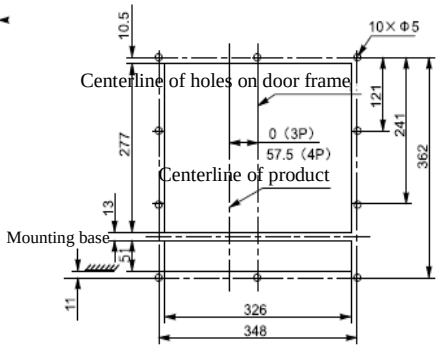


Safety distance





Size of hole on the door



Safety Distance (mm)	Drawer type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.
Note 2: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.

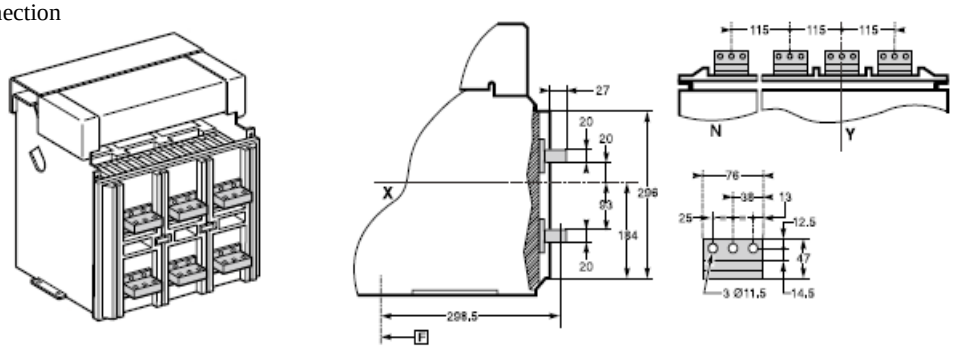
Installation and Dimensions

CDW6i-4000AF Drawer Type 3-Pole and 4-Pole

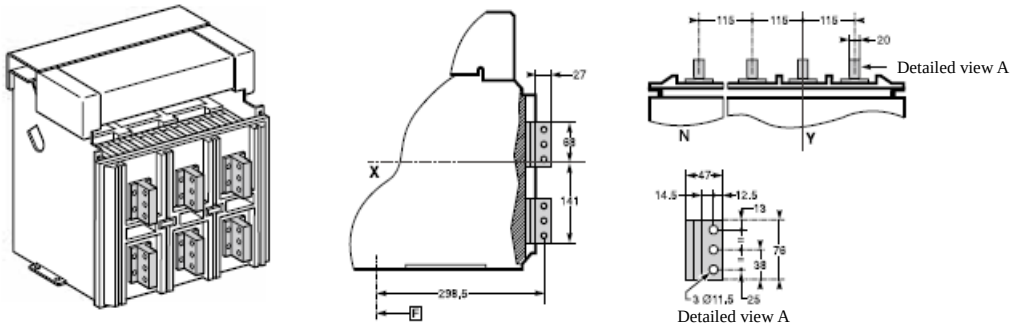
Dimensions

1600A-3200A

Horizontal rear connection

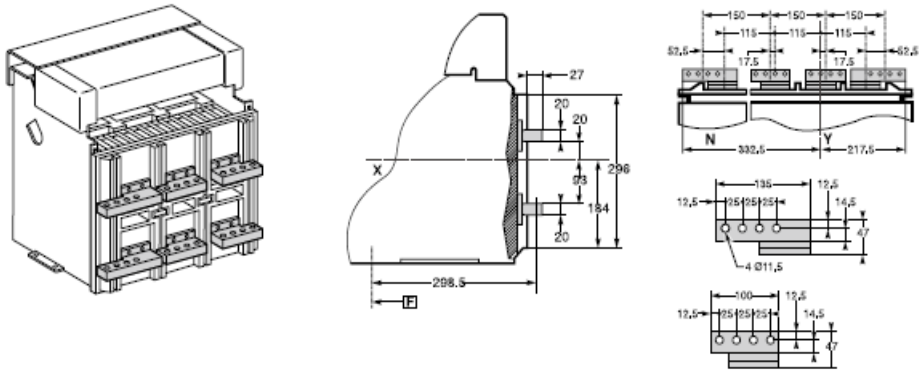


Vertical rear connection

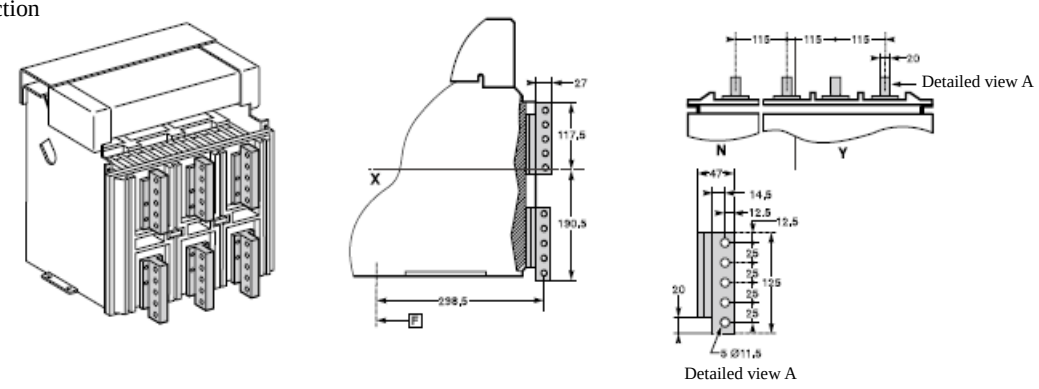


4000A

Horizontal rear connection



Vertical rear connection

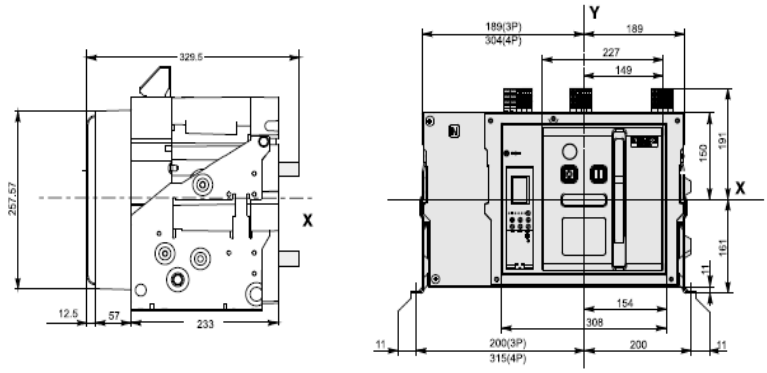


Note: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.

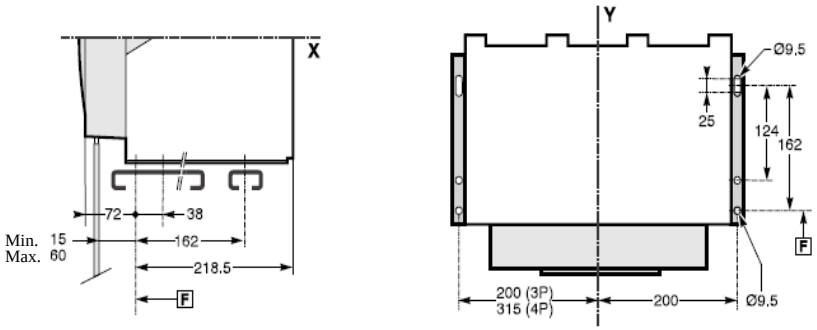
Installation and Dimensions

CDW6i-4000AF Fixed 3-Pole and 4-Pole

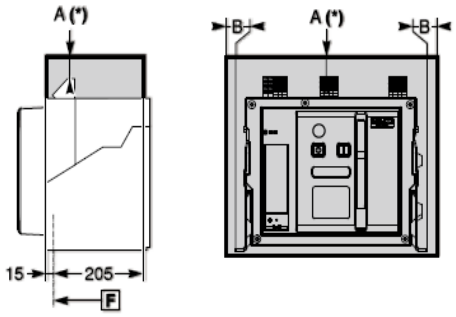
Dimensions



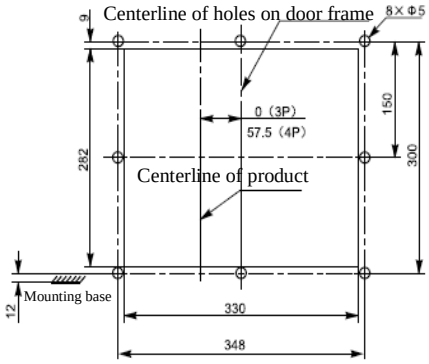
Horizontally fixed (on the base or rail)



Safety distance



Size of hole on the door



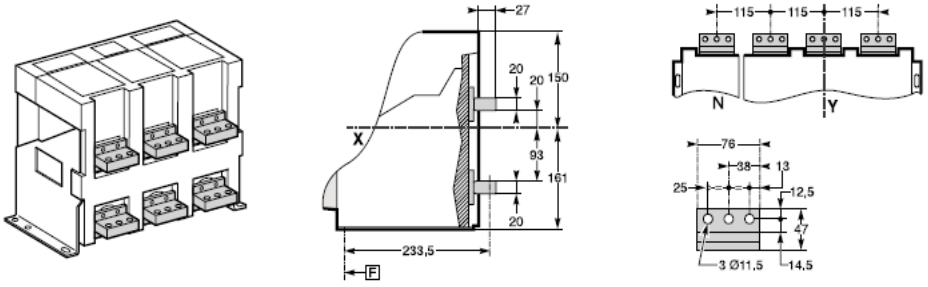
Safety Distance (mm)	Fixed type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.
Note 2: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.
Note 3: (*) For safety distance, the space 110mm required for removal of arc extinguishing shield shall be considered; the safety distance is 20mm for removal of terminal block.

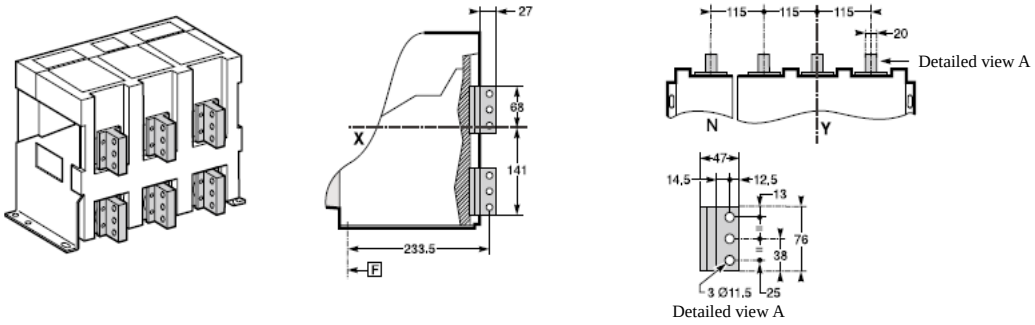
Transformer Dimensions

1600A-3200A

Horizontal rear connection

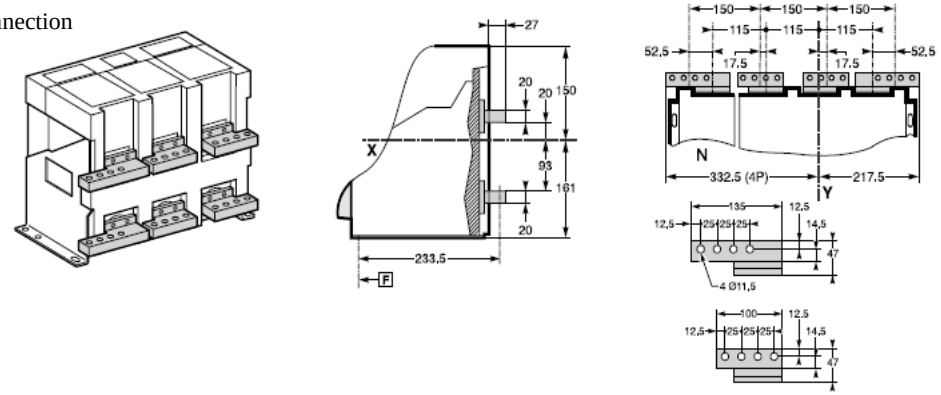


Vertical rear connection

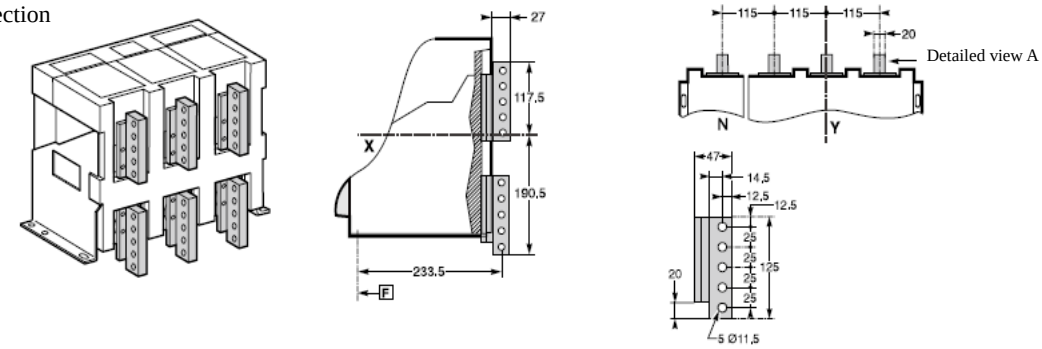


4000A

Horizontal rear connection



Vertical rear connection

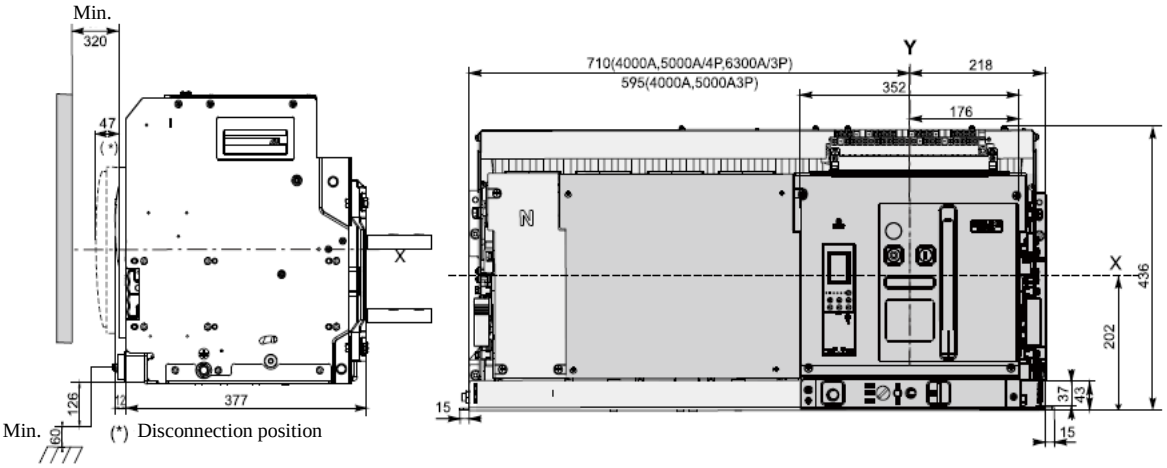


Note: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.

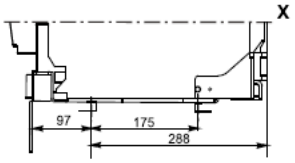
Installation and Dimensions

CDW6i-6300AF Drawer Type 3-Pole and 4-Pole

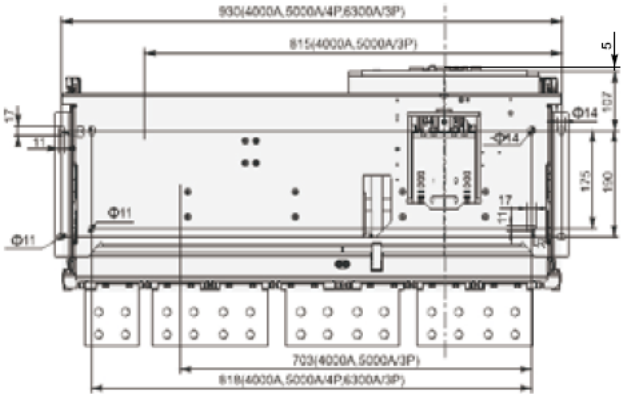
Dimensions



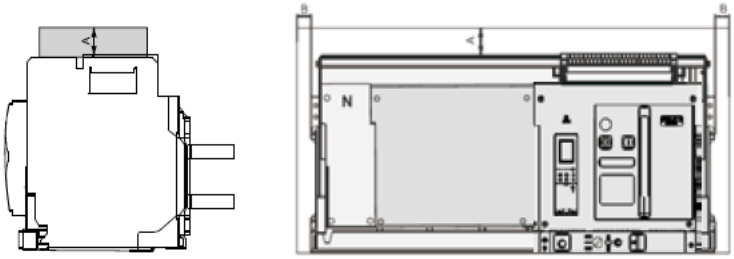
Horizontal fixed (on the base or rail) *The height of cover protruding out of the door frame is 5mm preferably.



F : Datum point

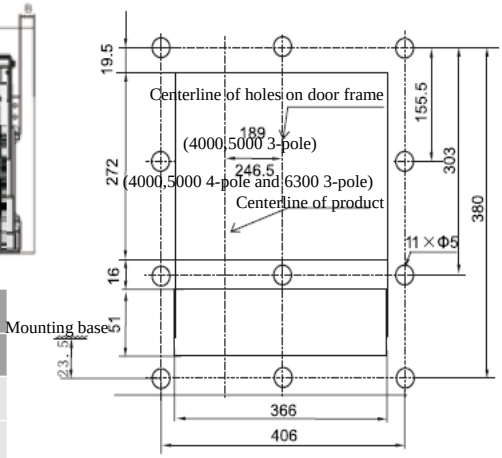


Safety distance



Safety Distance (mm)	Drawer type	
	A	B
Insulation	0	0
Metal	0	0
Live conductor	100	60

Size of hole on door



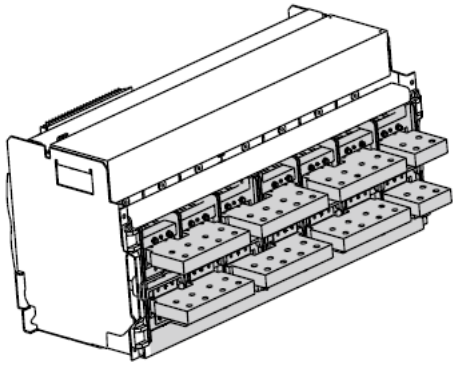
Note 1: The safety distance diagram is for reference only, and the actual circuit breaker will prevail.

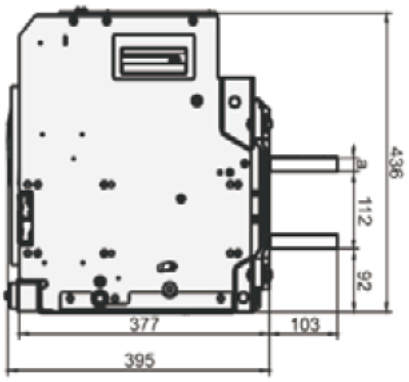
Note 2: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.

Dimensions

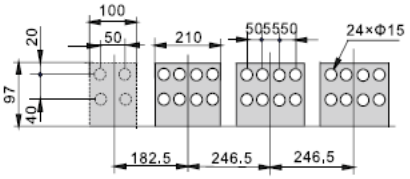
4000A-6300A

Horizontal rear connection

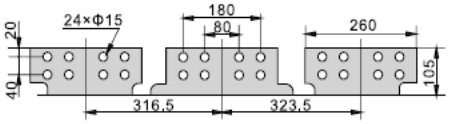




In=4000A/5000A



In=6300A



In (A)	a (mm)
4000	20
5000	30
6300	30

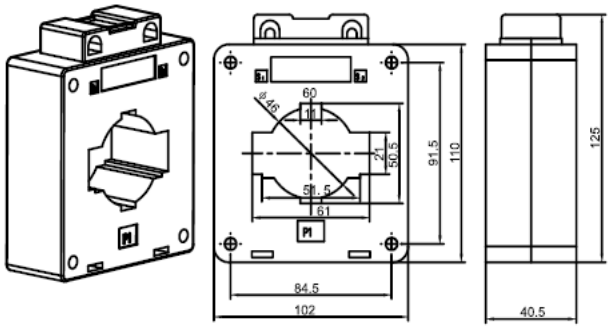
Note: X shaft and Y shaft of 3-pole circuit breaker are symmetrical with the front cover of circuit breaker.

Installation and Dimensions

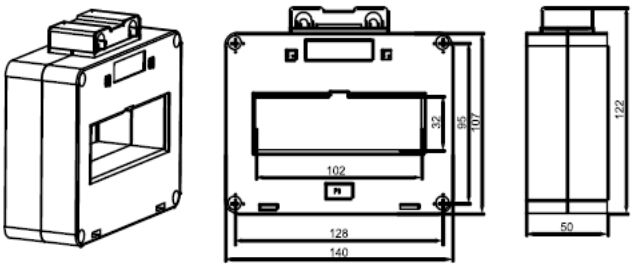
External Transformer Installation Dimensions

External transformer of N phase

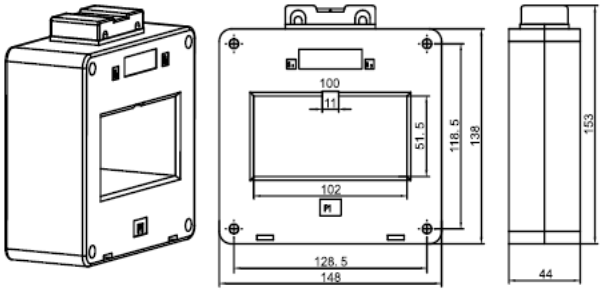
1600AF



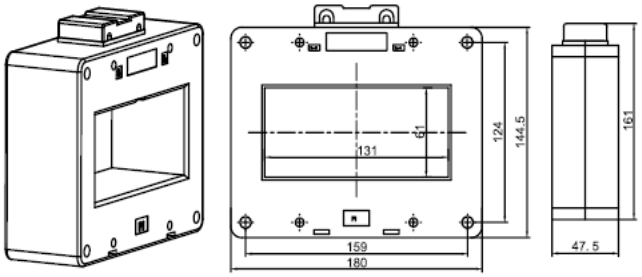
2000AF



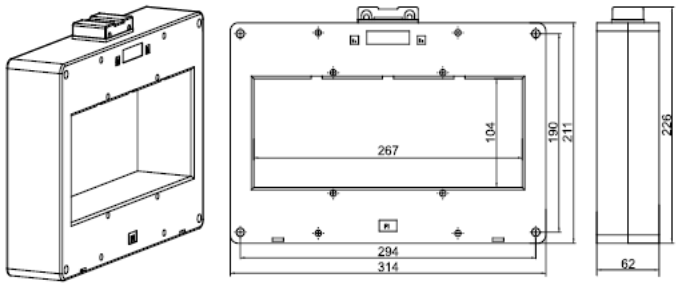
2500AF 3200AF



4000AF



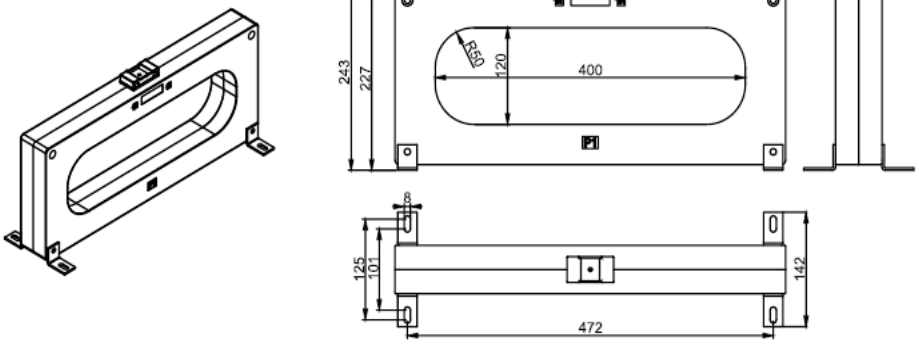
6300AF



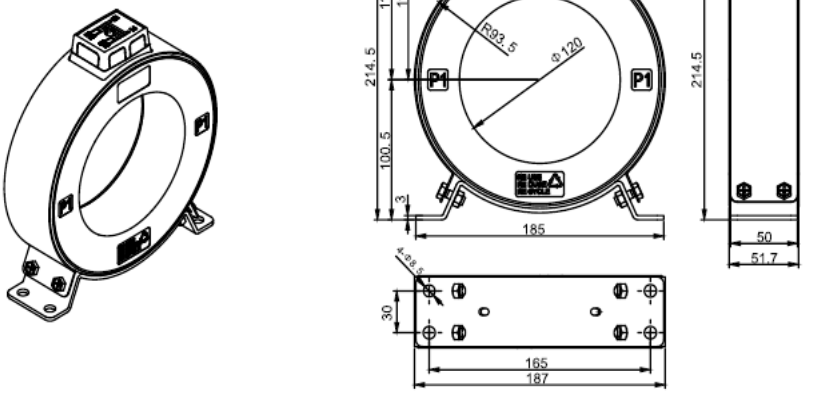
Installation and Dimensions

External Transformer Installation Dimensions

Leakage transformer



Earthed current transformer

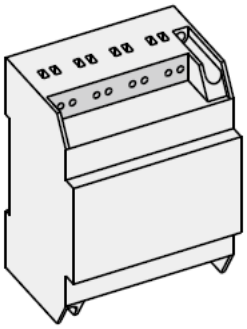


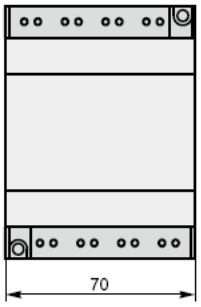
Installation and Dimensions

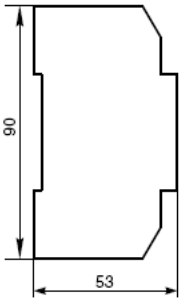
Power module, signal conversion module

Dimensions of power module and signal conversion module

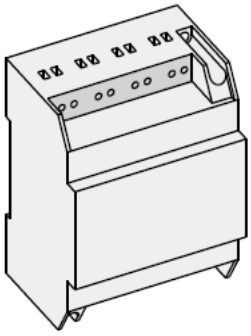
Power module

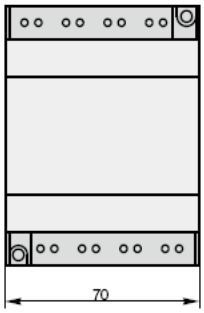


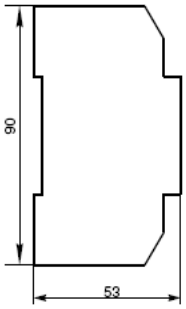




Signal conversion module







Shell frame current (AF)	Rated current (A)	Ambient temperature +40℃				Ambient temperature +50℃				Ambient temperature +60℃			
		5mm busbar		10mm busbar		5mm busbar		10mm busbar		5mm busbar		10mm busbar	
		Qty.	Spec.	Qty.	Spec.	Qty.	Spec.	Qty.	Spec.	Qty.	Spec.	Qty.	Spec.
1600	400	2	30×5	1	30×10	2	30×5	1	30×10	2	30×5	1	30×10
	630	2	40×5	1	40×10	2	40×5	1	40×10	2	40×5	1	40×10
	800	2	50×5	1	50×10	2	50×5	1	50×10	2	50×5	1	50×10
	1000	3	50×5	2	40×10	3	50×5	2	40×10	3	50×5	2	40×10
	1250	4	40×5	2	40×10	4	50×5	2	50×10	4	50×5	2	50×10
	1600	4	50×5	2	50×10	4	50×5	2	50×10	4	50×5	2	50×10
2000	630	2	40×5	1	40×10	2	50×5	1	50×10	2	60×5	1	60×10
	800	2	50×5	1	50×10	2	50×5	1	50×10	2	60×5	1	60×10
	1000	3	50×5	2	40×10	3	50×5	2	40×10	3	60×5	2	50×10
	1250	3	60×5	2	50×10	3	60×5	2	50×10	3	60×5	2	50×10
	1600	4	60×5	2	60×10	4	60×5	2	60×10	4	60×5	2	60×10
	2000	6	60×5	3	60×10	6	60×5	3	60×10	6	60×5	3	60×10

Installation and Dimensions

Power module, signal conversion module

Shell frame current (AF)	Rated current (A)	Ambient temperature +40℃				Ambient temperature +50℃				Ambient temperature +60℃			
		5mm busbar		10mm busbar		5mm busbar		10mm busbar		5mm busbar		10mm busbar	
		Qty.	Spec.	Qty.	Spec.	Qty.	Spec.	Qty.	Spec.	Qty.	Spec.	Qty.	Spec.
2500	630	2	40×5	2	40×10	2	50×5	1	50×10	2	60×5	1	60×10
	800	2	50×5	2	50×10	2	50×5	1	50×10	2	60×5	1	60×10
	1000	2	60×5	3	60×10	3	60×5	2	50×10	3	60×5	2	50×10
	1250	2	40×5	3	40×10	3	60×5	2	50×10	3	60×5	2	50×10
	1600	2	100×5	2	100×10	2	100×5	1	100×10	2	60×5	1	100×10
	2000	4	100×5	4	100×10	4	100×5	2	100×10	4	100×5	2	100×10
	2500	4	100×5	4	100×10	4	100×5	2	100×10	4	100×5	2	100×10
3200	2000	4	100×5	2	100×10	4	100×5	2	100×10	4	100×5	2	100×10
	2500	4	100×5	2	100×10	4	100×5	2	100×10	4	100×5	2	100×10
	3200	8	100×5	4	100×10	8	100×5	4	100×10	8	100×5	4	100×10
4000	1600	2	100×5	1	100×10	2	100×5	1	100×10	2	100×5	1	100×10
	2000	4	100×5	2	100×10	4	100×5	2	100×10	4	100×5	2	100×10
	2500	4	100×5	2	100×10	4	100×5	2	100×10	4	100×5	2	100×10
	3200	8	100×5	4	100×10	8	100×5	4	100×10	8	100×5	4	100×10
	4000			5	100×10			5	100×10			6	100×10
6300	4000			5	100×10			5	100×10			6	100×10
	5000			7	100×10			7	100×10			8	100×10
	6300			8	100×10			8	100×10				

Note: Ti refers to ambient temperature

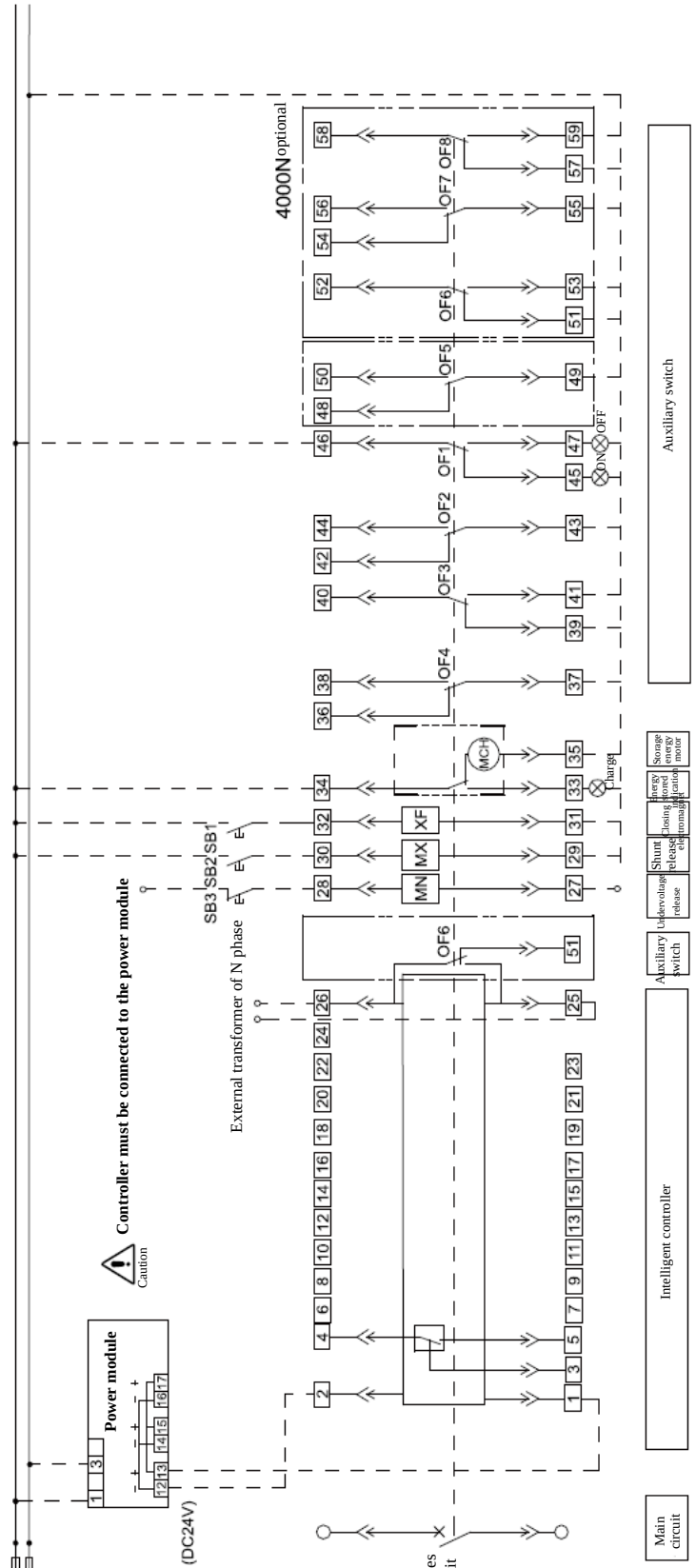
Table reference

Busbar is made of bare copper.

Appendix

Electrical Schematic Diagram

Secondary circuit wring diagram



Controller wiring annotations:

UM: Voltage test signal input

21#(UN), 22#(UA), 23#(UB), and 24#(UC) represent the input ends of N, A, B, C phase voltages, respectively.

POW: DC24V is power input, connected to the dedicated power module of controller

1#(V1+), 2#(V2-), and DC24V are power inputs; 1#(V1+) is positive pole when DC to supply the power to the controller.

SWT: Fault trip contact output

3#(S2), 4#(S1), 5#(S3): Fault trip contact output (4#(S1) is the common terminal); contact capacity: AC400V, 5A

CT: External transformer

25#-26#: For the input of external transformer

PF: Closing ready indication contact

CD, CT, CE: Disconnection, test, and connection position indication contacts

Elements: MN-Undervolage release MX- Shunt release XF-Closing electromagnetic MCH-Motor operating mechanism

OF1-OF8-Auxiliary switch SB1-ON button SB2-OFF button SB3-Emergency OFF button

⚠ Caution Intelligent controllers 1# and 2# must be connected to the DC24V port of the dedicated power module of controller, otherwise this may cause failure or damage to controller.

Note 1: MN undervolage releases 27# and 28# are wired to the main circuit; wiring connection if there is a undervoltage delay unit: a. 1600/4000 frames 27# and 28# are connected to the delay unit 3# and 6#, respectively; the delay units 10# and 12# are connected to main circuit; for detailed wiring diagram, see Fig. 1 shown on Page 42; b. The MNR undervoltage release 27#/28# of 2000/2500/3200 shell is connected to main circuit; for detailed wiring diagram, see Fig. 2 shown on Page 42;

Note 2: MN, MX, XF, and MCH can be connected to the different power supply if their control power voltages are different.

Note 3: 4a4b is only provided for auxiliary switch 1600N; 4a4b and 6a6b are provided for 2000/2500/3200/6300 frame; 4a4b, 6a6b, and 8a8b are provided for 4000 frame; among them, 4a4b is as standard configuration, and others shall be ordered additionally by user.

Note 4: The terminal 35# can be connected to the power supply (auto pre-storage of energy) directly and can be connected to the power supply after connecting with the normally-ON button in series.

Note 5: ⚠ Caution The controller must be connected to power module.

When the power voltage is AC220V~400V, iAPU334 power module must be used

When the power voltage is DC110V/220V, iAPU332D power module must be used

Note 6: When 2000/2500/3200 frame is circuit 47, the auxiliary switch is 4a4b;

When 2000/2500/3200/6300 frame is circuit 51, the auxiliary switch is 6a6b (5a5b): If 25#, 26#, and 51# form a normally-ON and normally-OFF contact, no external transformer is connected.

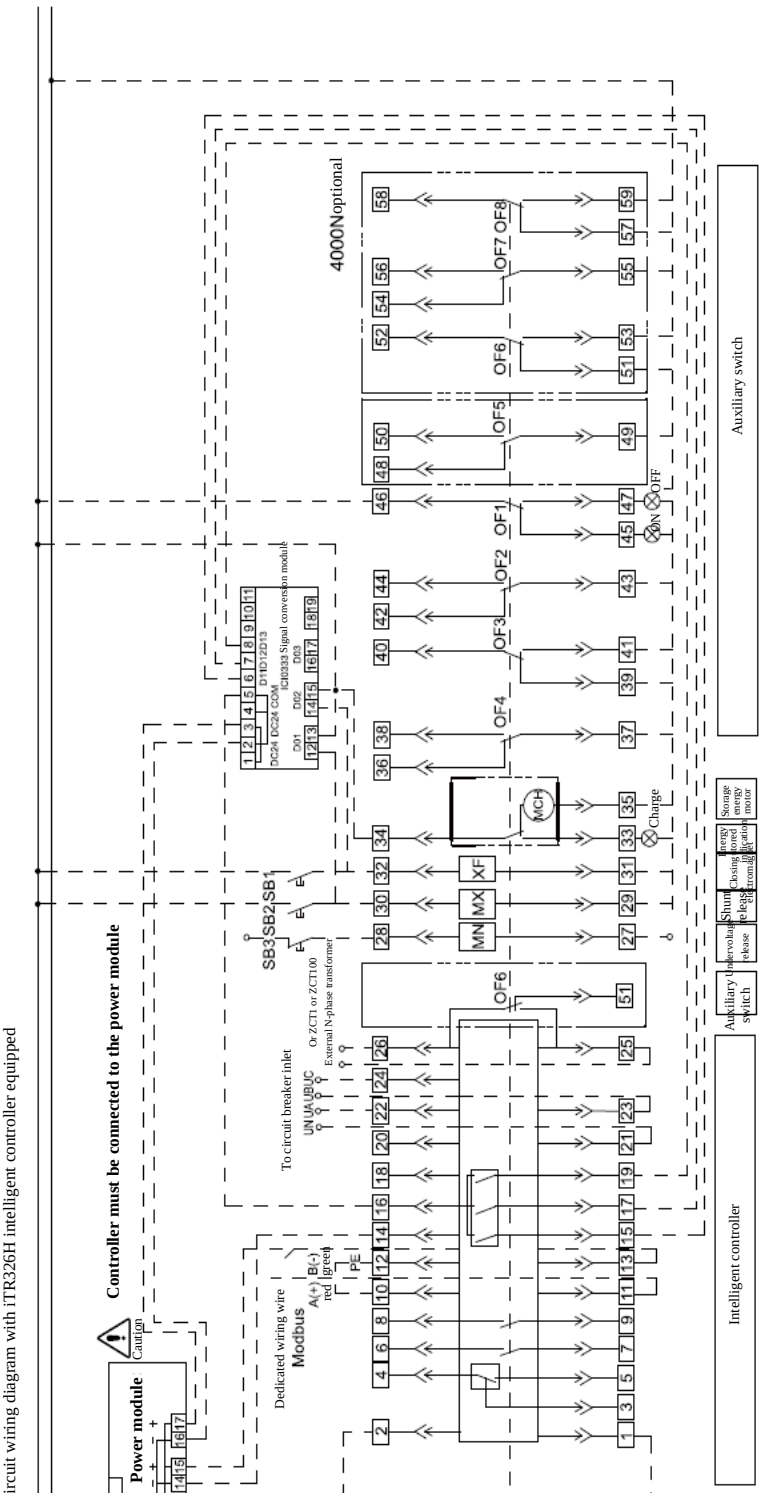
Note 7: Those in the dashed box shall be connected by suer.

Note 8: For wiring diagrams of closing ready indication contact PF and three-position indication contact, see Fig. 3, Fig. 4, Fig. 5, and Fig. 6 shown on Page 45.

Appendix

Electrical Schematic Diagram

iTR326H Electrical Schematic Diagram



Controller wiring annotations:
UM: Voltage test signal input
21#(UN), 22#(UA), 23#(UB), and 24#(UC) represent the input ends of N, A, B, C phase voltages, respectively.
POW: DC24V is power input, connected to the dedicated power module of controller
1#(V1+), 2#(V2-), and DC24V are power inputs; 1#(V1+) is positive pole when DC to supply the power to the controller.
SWT: Fault trip contact output
3#(S2), 4#(S1), 5#(S3): Fault trip contact output (4#(S1) is the common terminal); contact capacity: AC400V, 5A
CT: External transformer, including an external N-phase transformer or ZT100 or ZCT1 (one out of three), where,
25#-26#: For inputs 25#-26# of external transformer; for inputs of external earthed transformer ZT100
25#-26#: For inputs of external leakage transformer ZCT1.
ZSI: Zone selective interlocking
13#(Z+), 14#(Z-) are input DC24V of zone selective interlocking
16#(Z11), 15#(Z1), 17#(Z2), 19#(Z3) are outputs of 3DO; optocoupled outputs are used; among them, 16#(Z11) is common terminal.
COM: Communication output
10# and 11# are communication lead-out wires of RS485A(485+) and RS485B(485-), respectively; 12# is PE wire, and ground wire is shielded.
PF: Closing ready indication contact
CD, CT, CE: Disconnection, test, and connection position indication contacts

Elements: MN-Undervoltage release MX- Shunt release XF-Closing electromagnetic MCH-Motor operating mechanism
OF1-OF8-Auxiliary switch SB1-ON button SB2-OFF button SB3-Emergency OFF button

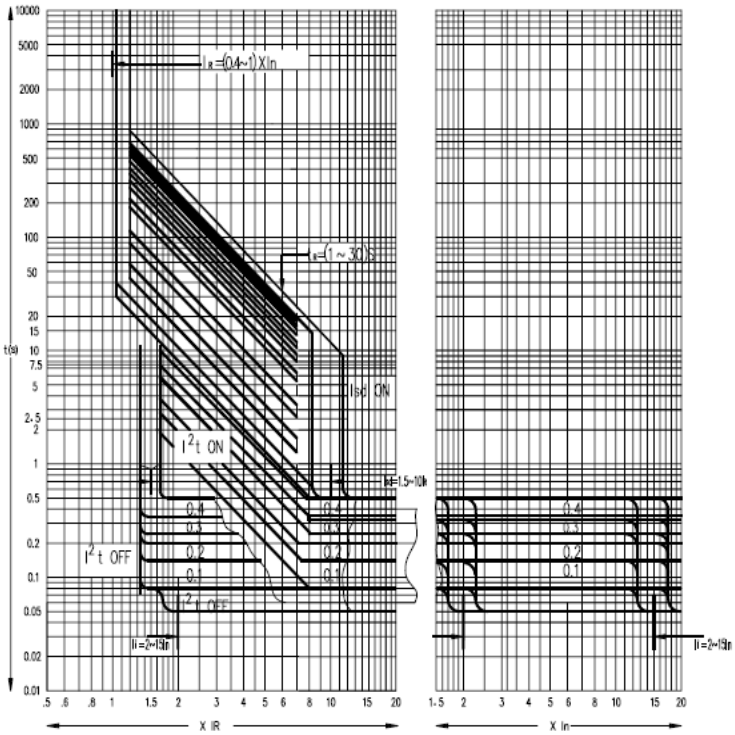
⚠ Caution Intelligent controllers 1# and 2# must be connected to the DC24V port of the dedicated power module of controller, otherwise this may cause failure or damage to controller.

Note 1: MN undervoltage releases 27# and 28# are wired to the main circuit; wiring connection if there is a undervoltage delay unit: a. 1600/4000 frames 27# and 28# are connected to the delay unit 3# and 6#, respectively; the delay units 10# and 12# are connected to main circuit; for detailed wiring diagram, see Fig. 1 shown on Page 42; b. The MNR undervoltage release 27#/28# of 2000/2500/3200 shell is connected to main circuit; for detailed wiring diagram, see Fig. 2 shown on Page 42;
Note 2: MN, MX, XF, and MCH can be connected to the different power supply if their control power voltages are different.
Note 3: only 4a4b is provided for auxiliary switch 1600N; 4a4b and 6a6b can be provided for 2000/2500/3200/6300 frame; 4a4b, 6a6b, and 8a8b can be provided for 4000 frame; among them, 4a4b is as standard configuration, and others shall be ordered additionally by user.
Note 4: The terminal 35# can be connected to the power supply (auto pre-storage of energy) directly and can be connected to the power supply after connecting with the normally-ON button in series (manual pre-storage of energy).
Note 5: ⚠ Caution The controller must be connected to power module.
When the power voltage is AC220V~400V, iAPU334 power module must be used
When the power voltage is DC110V/220V, iAPU332D power module must be used
Note 6: When 2000/2500/3200 frame is circuit 47, the auxiliary switch is 4a4b;
When 2000/2500/3200/6300 frame is circuit 51, the auxiliary switch is 6a6b (5a5b): If 25#, 26#, and 51# form a normally-ON and normally-OFF contact, no external transformer is connected.
Note 7: For remote control, an additional iCIO333 signal conversion module must be required; the signal conversion module contact capacity is AC240V, 10A.
Note 8: The communication protocol is Modbus; if Profibus or Devicene protocol is used, the iCAU486 or iCAU485 module shall be ordered. DC24V power is supplied to module. The input end is connected to the secondary circuit 10#(485+) and 11#(485-) terminal, and the output end is connected to the corresponding protocol bus.
Note 9: Those in the dashed box shall be connected by suer.
Note 10: For wiring diagrams of closing ready indication contact PF and three-position indication contact, see Fig. 3, Fig. 4, Fig. 5, and Fig. 6 shown on Page 45.

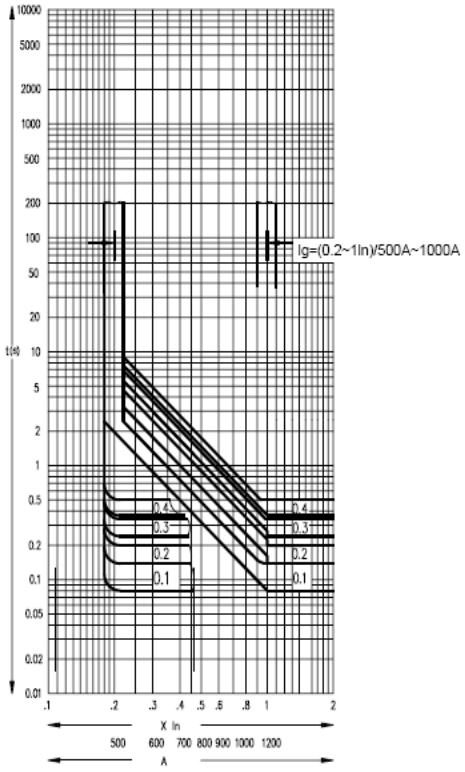
Appendix
Tripping Curve

Tripping curve

Three-segment protection



Ground Protection



Appendix

CDW6i Dual-Power Controller

Overview

CDW6i dual-power controller is an intelligent dual-power switching product integrating with programmable function, automatic measurement, LCD menu display, and digital communication for automatic measurement of electrical parameters such as voltage, frequency, and phase. It is an ideal product for switching double power supplies for automatic control according to the setting strategy to reduce human error.

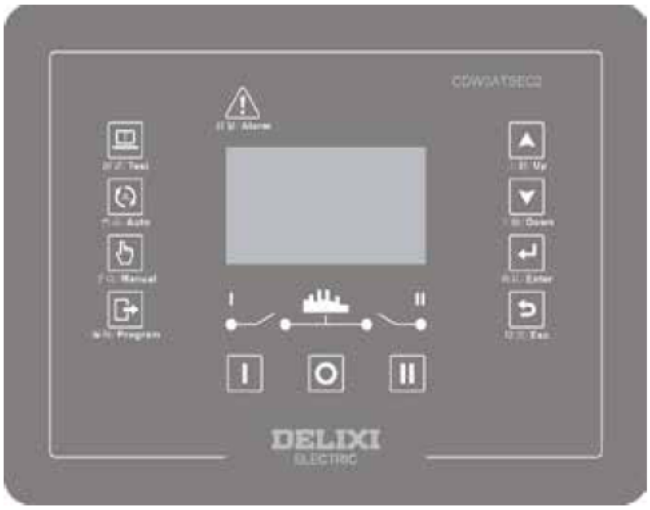
CDW6i dual-power controller has a microprocessor as its core for accurate detection of two-way three-phase voltage to accurately judge the voltage abnormity (overvoltage, undervoltage, phase loss, over-frequency, and under-voltage) and output the passive control switching value. With its compact structure, advanced circuit, simple wiring, and high reliability, it is widely used in electric power, post and telecommunications, petroleum, coal, metallurgy, railway, municipal, intelligent building, electrical installations of department, automatic control, and two-way power supply system.

Dual-power available frame

Full-frame

Model of dual-power controller

CDW6iATSEC2



Installation Conditions

Two air circuit breakers of the dual-power system are horizontally installed in two adjacent power distribution cabinets, and the maximum distance between the left side plates of two circuit breakers does not exceed 2m. Two circuit breakers are mechanically interlocked together through the steel cable. Two air circuit breakers of the dual-power system are upper and lower installed in a distribution cabinet, and the maximum distance between the base plate of two circuit breakers does not exceed 0.9m. Cable interlock or lever interlock is used between two circuit breakers for installation.

The dual-power controller is panel-installed, and is connected to the circuit breaker through the dedicated connecting cable. The standard length of dedicated cable is 2m (suitable for three-phase four-wire product; control circuit voltage is AC230V/AC380V); the extended cable can be ordered according to the actual wire length (with one meter as an increment).

Appendix

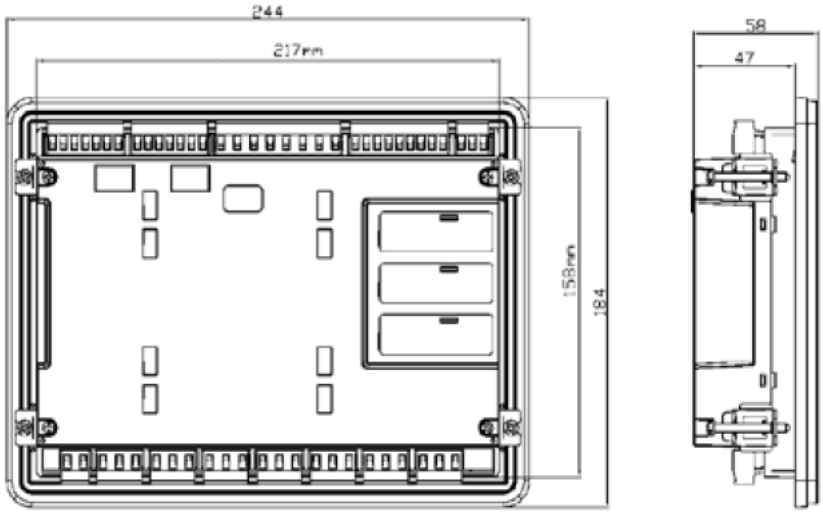
CDW6i Dual-Power Controller

Environment Requirements

Ambient temperature: -25℃ to +70℃

Altitude: ≤2000 m

Outline and Installation Dimensions



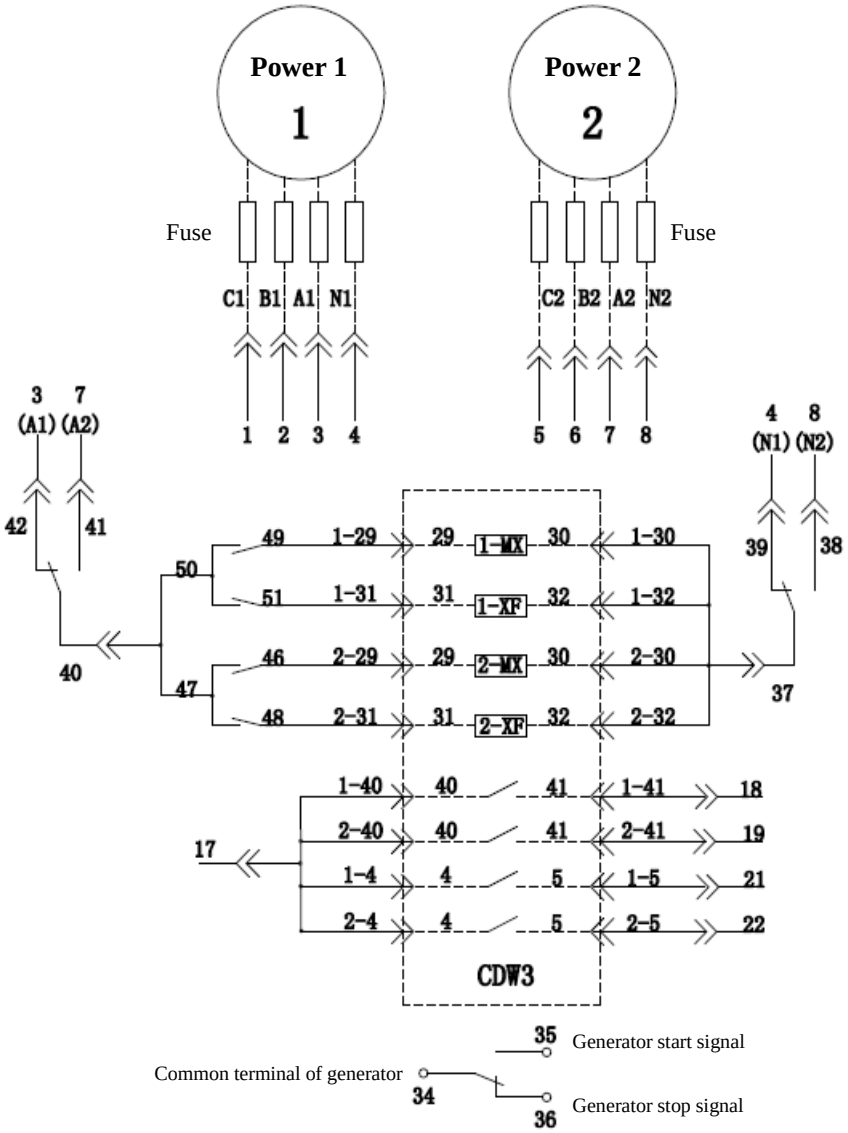
Precautions

1. Mechanical cable interlock must be ordered when ordering the CDW6i dual-power controller;
2. There are four sets of conversion contacts in circuit breaker. One set of conversion contact is used in dual-power controller, and only three sets of conversion contacts are available for user;
3. The length of the dedicated cable of dual-power controller is 2m. If extended cable is required or there is special requirement, please specify this when ordering;
4. For circuit breaker with a dual-power controller, a key lock is prohibited, otherwise this may cause damage to the internal elements of circuit breaker;
5. For circuit breaker with a dual-power controller, a ON/OFF state door interlock is prohibited;
6. When the circuit breaker of dual-power controller is equipped with a H type controller, the remote control of ON/OFF operation of circuit breaker is disabled;
7. Because the dual-power controller has undervoltage and overvoltage protection functions, the undervoltage release is not recommended for circuit breaker;

Appendix

CDW6i Dual-Power Controller Wiring Diagram

CDW6i dual-power controller wiring diagram (three-phase four-wire wiring diagram)



Notes:

1. **MX-Shunt release XF-Closing electromagnet**
2. **H type intelligent controller (on the circuit breaker body) does not require a signal conversion module (IC10333) or 201 relay module**
3. **The undervoltage release MN is not recommended for clients**
4. **Dual-power controller must work with a mechanical interlock**
5. **Those in dashed box must be connected by user**

Appendix
Model Table

Model table

Qty._____

Circuit breaker (required)

Frame spec.	1600AF	□	2000AF	□	2500AF	□	3200AF	□	4000AF	□	6300AF	□
Breaking capacity	N	□	H	□	M	□	Note: M type is only available for 2500AF and 4000AF, and N type is only for 6300AF					
Rated current	400A	□	630A	□	630A	□	2000A	□	630A	□	4000A	□
	630A	□	800A	□	800A	□	2500A	□	800A	□	5000A	□
	800A	□	1000A	□	1000A	□	3200A	□	1000A	□	6300A	□
	1000A	□	1250A	□	1250A	□			1250A	□		
	1250A	□	1600A	□	1600A	□			1600A	□		
	1600A	□	2000A	□	2000A	□			2000A	□		
					2500A	□			2500A	□		
									3200A	□		
									4000A	□		
Number of poles	3P	□	4P	□								
Frequency	50Hz	□	60Hz	□								
Installation method	Drawer horizontal	□	Drawer vertical	□	Fixed horizontal	□	Fixed vertical	□				
Note: Vertical wiring is only for 1600N&H, 2500M, and 4000N&H&M					Note: No fixed type is available for 6300AF							
Controller	iTR326	□	iTR326A (Standard)	□	iTR326H	□	Note: No iTR326 is available for 6300AF					
Communicaiton protocol (only for iTR326H)	Modbus (Defatul)	□	Profibus	□	Devicenet	□						
Remote operation												
Shunt coil	AC220V/AC230V	□	AC380V/AC400V	□	DC110V	□	DC220V	□				
Closing coil	AC220V/AC230V	□	AC380V/AC400V	□	DC110V	□	DC220V	□				
Motor mechanism	AC220V/AC230V	□	AC380V/AC400V	□	DC110V	□	DC220V	□				
Undervoltage coil	No undervoltage	□	AC220V/AC230V	□	AC380V/AC400V	□						
Delay seconds provided (for 1600AF/4000AF)	0.5s	□	1s	□	1.5s	□	3s	□				
Delay seconds provided (for 2000AF/2500AF/3200AF/6300AF)	1s	□	3s	□	5s	□	7.5s	□				

Indicator contact

Auxiliary switch	Frame	Auxiliary switch						
	1600N&H	4-ON 4-OFF	□					
Note:	2500N&H&M	4-ON 4-OFF	□	6-ON 6-OFF	□			
The default	2500N&H	4-ON 4-OFF	□	6-ON 6-OFF	□			
configuration is	3200N&H	4-ON 4-OFF	□	6-ON 6-OFF	□			
4-ON 4-OFF	4000N&H&M	4-ON 4-OFF	□	6-ON 6-OFF	□	8-ON 8-OFF	□	12-ON 12-OFF □
	6300N	4-ON 4-OFF	□	6-ON 6-OFF	□	Note: For 12-ON 12-OFF, please contact the manufacturer		
Three-position indication contact	□	Closing ready indication contact	□					

Common accessory – lock

OFF lock:	One lock one key	□	Mechanical interlock: Cable interlock	□	Across-frame mechanical interlock:	□	Button lock □
	Two locks one key	□	Lever interlock	□	Drawer type door interlock:	□	
	Three locks two keys	□	2 units	□			
	Key lock	□	3 units	□			

Note: No cable interlock (3 units) and lever interlock (3 units) are available for 1600AF Note: The key lock or mechanical interlock can be selectable. If splice lock is selected, this product shall work with the key lock or mechanical interlock selected above.

Common accessory-controller accessory

External transformer:	Power module	□	Ground transformer	□	External transformer of N phase	□	
	Signal conversion module	□	Leakage transformer	□	Voltage-detected reclosing	□	

Note: Power module is standard accessory Note: External transformer of N phase is only available for 3P+N Note: Leakage transformer, ground transformer, and signal conversion module are only available for iTR326H controller.

Common accessory-protection and connection accessory

Phase partition (standard)	□	(No phase partition is provided for 4000A in 4000AF)	Vertical L type adapter	□	(only for 2000AF)	Safety shield lock	□ (only for 4000AF)
Door frame (standard)	□	Extended terminal		□	(only for 1600AF)	Secondary terminal guard	□ (only for drawer type product)

Manual

Power module installation manual	□	Undervoltage delay unit installation manual	□	Mechanical interlock installation manual	□

Note: The following standard configurations are available for general applications: shunt coil, closing coil, motor mechanism, phase partition, door frame, power module, auxiliary switch 4-ON 4-OFF, and iTR326A controller; if other special application accessories are required, please check this option in the Model Table and Configuration Table.