



CDW9

Air Circuit Breaker

Newly Launch

“ Delixi Electric Easy Electric ”



Delixi Electric
Easy Electric

easy⁺

Are you an electrician, an electric engineer, a director of technology purchasing, or a project manager?

What you need are globally recognized, reliable, and “easy” electric products and services.

Straightforward and customer-driven product options

Competitive prices

Friendly service

Convenient purchasing process

Unique brand advantage

Dependable execution...

Please visit DELIXI ELECTRIC to find out how unique and “easy” it can be with DELIXI ELECTRIC!



High Performance Platform

Advantage Show | CDW9 Series

- Smart appearance
- Compact industrial design
- Reliable properties

D
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- Bright window, easy to read
- Safety and comfortable hands holder
- Easy push buttons

Smart appearance

High Performance Platform

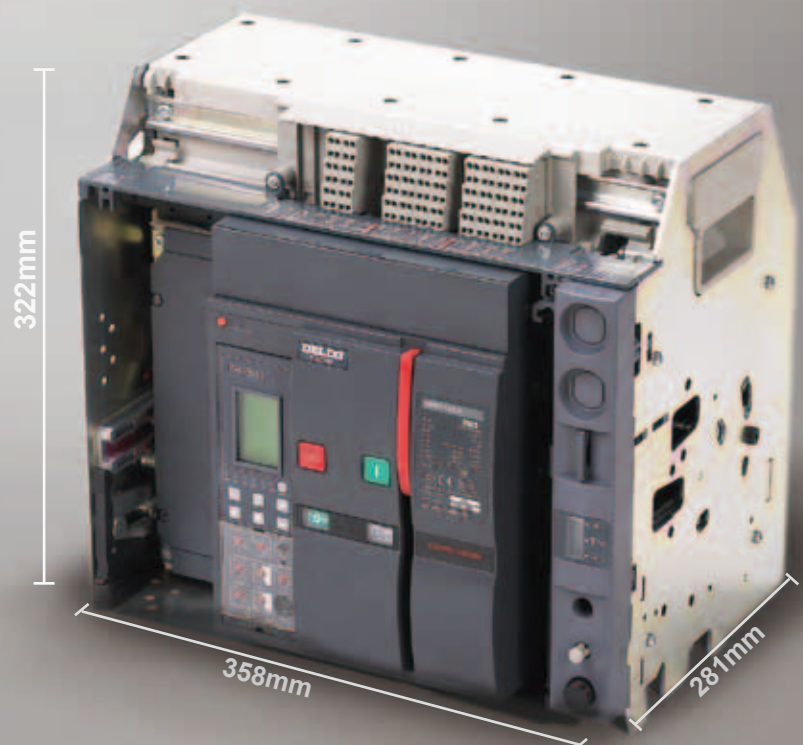


- 50% space saving than before ones
- Optimized volume, smaller power distribution box is sufficient

Optimized volume

Compact industrial design

High Performance Platform





High Performance Platform

Compact industrial design

Simple & practical connection solutions

- Different connection solutions for different situations
- Expend spreaders meet different circuit connection requirements

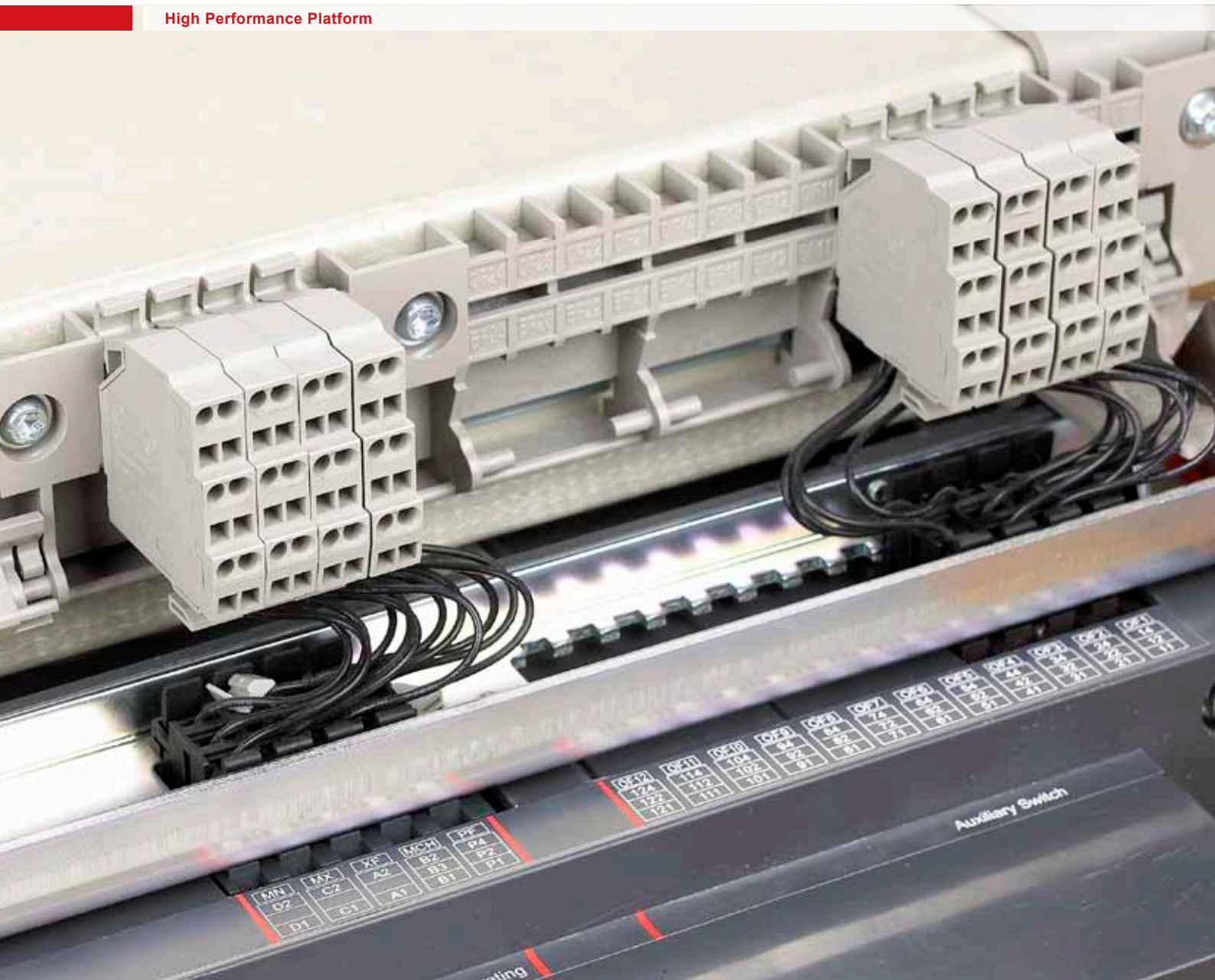
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DELIXI
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- Easy replacement
- Easy connection, no screw is needed

Unique control circuit connection methods

Compact industrial design

High Performance Platform

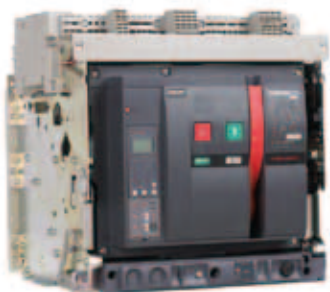


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Product Introduction

Overview



Main Characteristics

- Frame(A):1600N, 4000H1, 4000H2, 6300L
- In (A):630 ~ 6300
- Ue (V):400/415, 690
- Poles: 3P & 4P
- Type: fixed type & draw-out type
- Certificates: CE KEMA
- Standards:IEC 60947-2

Intelligent Control Units

- iTR336
Basic function: L, S, I & G protection

- iTR336E
Basic protection function
Basic measurement function
Assistant function

- iTR336H
Basic & advanced protection function
Multiple measurement function
Assistant function
Specific function
Communication function

- iTR336H-L
Basic & advanced protection function
Multiple measurement function
Assistant function
Specific function
Communication function
Suitable for high and low temperature



iTR336



iTR336E



iTR336H



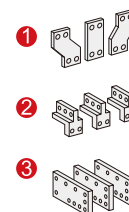
iTR336H-L

Wiring Situations

- Rear connection(horizontal & vertical)
- Front connection
- Mixed connection

Optional accessories

- 1 Spreaders
- 2 Vertical connection adapters
- 3 Cable lug adapters



Accessories

- Remote control: shunt release, closing release, opening release, electric motor
- Indication contacts: Auxiliary contacts, ready to close contact, 3-position indication contacts, fault-trip indication contact, remote reset contact
- Locks: chassis padlock, opening keylock, door interlock, 3-position interlock.
- Mechanical interlock: lever interlocks, cable interlocks
- Operation and protection: door frame, interphase barriers, safety shutters
- Accessories of the control unit: N-phase external CT, ground return CT, earth-leakage CT

Product Introduction

Overview



Applications

CDW9 series air circuit breaker covers from 630A to 6300A with the rated operation voltage AC400/415/690V, 50/60Hz. It is used in distribution circuit to protect the circuit and devices from overload, undervoltage, short-circuit and earth fault breakdowns. It is widely used in power stations, factories, mining and modern constructions, especially using in intelligent construction power distribution system.

Operation Condition

Environmental temperature	-5°C~+40°C with average temperature ≤ +35°C , (1600N, 4000H1&H2). For special models -40°C~+80°C may apply. The atmosphere relative humidity does not exceed 50% at maximum temperature of +40°C . Higher relative humidity is allowed under lower temperature (e.g. 90% at 20°C). The condensation on the surface of the product due to temperature change must be considered.
Altitude	≤ 2000m; special type is used for ≤ 4000m
EMC	Applies to Environment A
Contamination class	Environment contamination class 3 Vertical with inclination with every direction not exceeding 5°C
Installation	IV class for the main circuit of the circuit breaker, under-voltage release, elementary coil of power transformer; III class for auxiliary circuit and control circuit.
Transportation	Reverse placed and severe collision are forbidden.

Identify the Mask

- ① Opening button (O)
- ② Closing button (I)
- ③ Energy storage status indicator
 - Charged, closing allowed
 -
 - Charged, closing not allowed
 -
 - Discharged
 -
- ④ Main contacts position indicator
 - Opening
 - Closing
- ⑤ Mechanic energy storage handle
- ⑥ Intelligent Control Unit (short for controller)
- ⑦ Waving in (out) device
- ⑧ "Connection", "testing" and "separation" position indicator
- ⑨ "Connection", "testing" and "separation" position interlock
- ⑩ Rocker storage

Functions and Characteristics

Circuit Breaker



1600N



4000H1



4000H2



6300L

Technical Characteristic

Circuit Breaker

Common Characteristic

Pole	3□4
Rated operational voltage U_e (V)	400/415, 690
Rated insulation voltage U_i (V)	800/1000
Rated impulse withstand voltage U_{imp} (kV)	8/12

Rated Current

In Frame(A)	1600N	4000H1	4000H2	6300L
630	•			
800	•			
1000	•			
1250	•			
1600	•	•	•	
2000		•	•	
2500		•	•	
3200		•	•	
4000		•	•	•
5000				•
6300				•

Breaking Capacity

		1600N	4000H1	4000H2	6300L
I_{cu} (kA)	415V	50	65	100	120 ^{*1)}
	690V	35	65	75	
I_{cs} (kA)	415V	50	65	100	100 ^{*1)}
	690V	35	65	75	
$I_{cw}(1s)$ (kA)	415V	42	65	85	85 ^{*1)}
	690V	35	65	75	

Service Life(thousand times)

	1600N	4000H1	4000H2	6300L
Electric (400V)	6	5	5	0.8
(690V)	4	3	3	
Mechanical(with maint.)	25	20	20	5
(without maint.)	12.5	10	10	2.5

Dimensions

Size□mm	draw-out	3P	322x288x281	439x441x404	439x441x404	441.5x815x508 ^{*2)} 441.5x930x508 ^{*3)}
		4P	322x358x281	439x556x404	439x556x404	441.5x930x508
Height X wide X deep	fixed	3P	301x276x200.5	352x422x306.5	352x422x306.5	
		4P	301x346x200.5	352x537x306.5	352x537x306.5	
Weight□kg)	draw-out	3P	34	78	78	210
		4P	41	95	95	233
	fixed	3P	14	42	42	
		4P	17	52	52	

Altitude

The technical parameter will change when used for 2000m above sealevel

Altitude□m)	2000	3000	4000
Dielectric resistance voltage□V)	3500	3150	2500
Average isolation level□V)	1000	900	700
Maximum utilisation voltage□V)	690	590	520
Average thermal current40°C	1XIn	0.99XIn	0.87XIn

*1) 400V

*2) Dimensions of 4000A and 5000A

*3) Dimension of 6300A

*4) Contact with factory when used above 5000m.

Functions and Characteristics

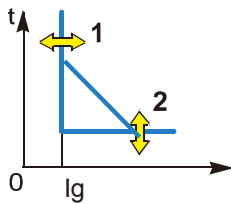
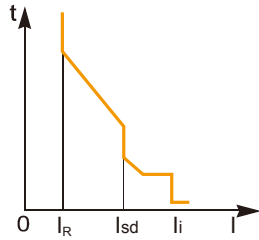
iTR336 Series Intelligent Control Units



Overall View

iTR336

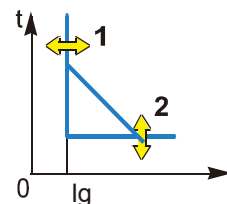
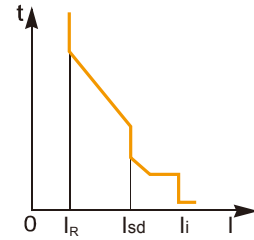
iTR336E



Basic Type

Protection:

Long time + short time + instantaneous + earth fault



Standard Type

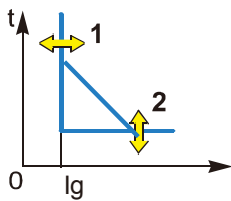
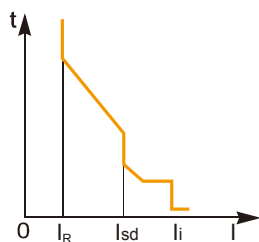
Protection:

Long time + short time + instantaneous + earth fault

LED lights indicate the status of 3 phases

iTR336H

iTR336H-L

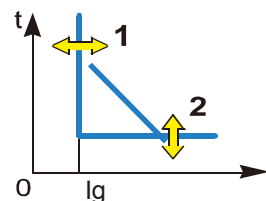
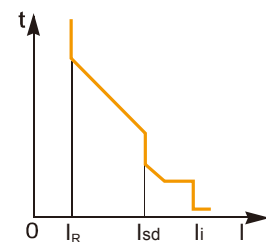


Advanced Type

Protection:

Long time + short time + instantaneous + earth fault

Multiple protection, measurement, maintenance, communication functions.



High-low Temperature Type

Protection:

Long time + short time + instantaneous + earth fault

Multiple protection, measurement, maintenance, communication functions.


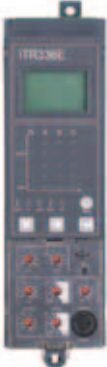


Available in extreme situations, between -40°C and 80°C

Functions and Characteristics

iTR336 Series Intelligent Control Units



Function

	iTR336	iTR336E	iTR336H	iTR336H-L
				
Protection	Long time-L Short time-S Instantaneous-I MCR Ground fault-G	Long time-L Short time-S Instantaneous-I MCR Ground fault-G	Long time-L Short time-S Instantaneous-I MCR Ground fault-G Under-voltage/alarm Over-voltage/alarm 3-phase imbalance/alarm Phase sequence/alarm Under-frequency/alarm Over-frequency/alarm Inverse power protection/alarm Voltage harmonic alarm(THDu) Current harmonic alarm(THDi)	Long time-L Short time-S Instantaneous-I MCR Ground fault-G Under-voltage/alarm Over-voltage/alarm 3-phase imbalance/alarm Phase sequence/alarm Under-frequency/alarm Over-frequency/alarm Inverse power protection/alarm Voltage harmonic alarm(THDu) Current harmonic alarm(THDi)
Measurement		Current Voltage Power Frequency Energy	Current Voltage Power Frequency Energy Harmonic	Current Voltage Power Frequency Energy Harmonic
Auxiliary function	Test function	Pre-Alarm Self-diagnose Fault history record Test function	Pre-Alarm Self-diagnose Fault history record Test function Load monitor ZSI	Pre-Alarm Self-diagnose Fault history record Test function Load monitor ZSI High to low temperature
Communication			Modbus	Modbus

Functions and Characteristics

iTR336 Series Intelligent Control Units



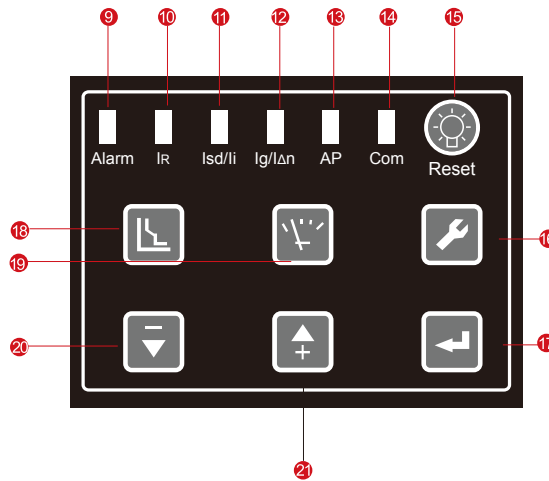
Overall View

- 1 Top fix
- 2 LED indicator light
- 3 Data Sheet
- 4 Control panel
- 5 Bottom
- 6 Terminal connector
- 7 CT connector
- 8 Magnetic flow/micro switch



Direction

- 9 Alarm LED
- 10 Long-time LED
- 11 Short/instantaneous LED
- 12 Leakage LED
- 13 Advanced protect LED
- 14 Communication
- 15 Reset

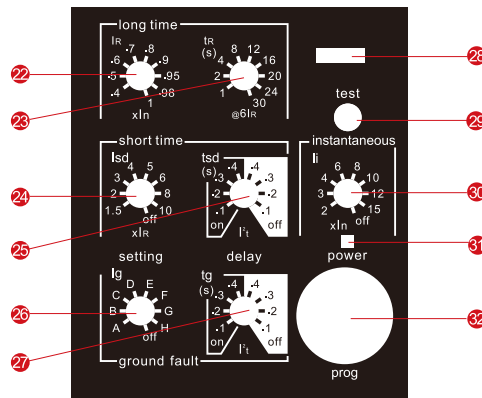


Navigator

- 16 System setting
- 17 Confirm
- 18 Protection interface/return
- 19 Measurement interface/return
- 20 Move down
- 21 Move up

Control Panel

- 22 Long time-current setting
- 23 Long time-time setting
- 24 Short time-current setting Isd
- 25 Short time-time setting tsd
- 26 Ground fault-current setting Ig
- 27 Ground fault-time setting tg
- 28 Padlock
- 29 Test, instantaneous
- 30 Instantaneous current setting
- 31 Power
- 32 Test port



Functions and Characteristics

iTR336 Series Intelligent Control Units



Protect Characteristics

The protect characteristics of intelligent control unit divide to inverse time delayed protection and fixed time delayed protection. The intelligent control unit protect as fixed time delayed protection when the failure current is over inverse time delayed protection settings.

Inverse time delayed protection curve meet the curve of $I^2 t$.

1600N,4000H1,4000H2

Over-load Protect Characteristics

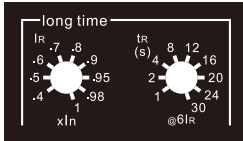
Tripping Characteristics

$<1.05 I_R$; $>2h$ non-tripping;

$>1.2 I_R$; $<1h$ tripping;

$\geq 1.2 I_R$; delay tripping;

I_R setting range: $0.4I_n \square 0.5I_n \square 0.6I_n \square 0.7I_n \square 0.8I_n \square 0.9I_n \square 0.95I_n \square 0.98I_n \square 1.0I_n$



Inverse Time Protection Tripping Characteristics $I^2 t: t=(6/N)^2 * t_R$

Current	Tripping time								
$1.5 I_R$	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

N ---Failure current I/I_R

t ---Failure tripping delayed time

t_R --- Long delayed time setting

Tripping time error $\pm 10\%$

Short-circuit Short Delay Protect Characteristics

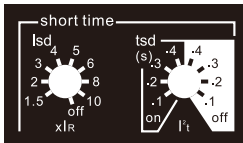
Tripping Characteristics

$<0.9 I_{sd}$; $>2h$ non-tripping;

$>1.1 I_{sd}$; $<1h$ tripping;

$\geq 1.1 I_{sd}$; delay tripping;

I_{sd} setting range: $1.5 I_R \square 2 I_R \square 3 I_R \square 4 I_R \square 5 I_R \square 6 I_R \square 8 I_R \square 10 I_R + OFF$



Current	Tripping Time	$I^2 t=(8I_R)^2 t_{sd}$				
		Setting time s $0.1 \square 0.2 \square 0.3 \square 0.4$				
$I_{sd} < I \leq 8I_R$	Inverse time					
$I \geq 1.1 I_{sd}$	Tripping time of fixed is the minimum time.	Setting time s	0.1	0.2	0.3	0.4
		Min. s	0.08	0.14	0.23	0.35
		Max. s	0.14	0.2	0.32	0.5

I_{sd} ---Short time delay current

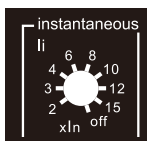
I ---Failure current

I_R ---Long delay current

t ---Tripping time

t_{sd} --- Short delay inverse time

Tripping time error $\pm 20\%$



Short-circuit Instantaneous Protect Characteristics

Tripping Characteristics

$<0.85 I_i$; non-tripping;

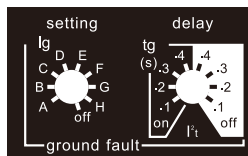
$>1.15 I_i$; tripping;

Instantaneous current: $2I_n \square 3I_n \square 4I_n \square 6I_n \square 8I_n \square 10I_n \square 12I_n \square 15I_n + OFF$

Tripping time error $\leq 50ms$

Functions and Characteristics

iTR336 Series Intelligent Control Units



Ground Return Protect Characteristics

Tripping Characteristics

<0.9 I_g: non-tripping;

>1.1 I_g: tripping;

≥1.1 I_g: delay tripping;

Current	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)	Inverse time	Tripping Characteristics							

$$t = \frac{(I_g)^2}{I^2} \times t_g$$

Tripping time of fixed is the minimum time.	Setting time s	0.1 □ 0.2 □ 0.3 □ 0.4			
	Setting time s	0.1	0.2	0.3	0.4
	Min. s	0.08	0.14	0.23	0.35
	Max.s	0.14	0.2	0.32	0.5

I_g: ground protection current. In ≥ 1250, I_g = 1200A. In < 1250, I_g = In.

I: Breakdown current

T: Tripping delayed time

t_g: Grounding inverse time

Inverse tripping time error ±20%

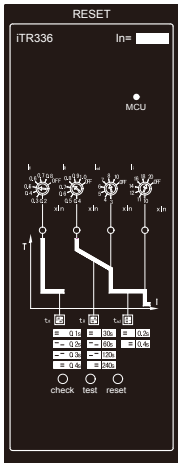
Factory Default Settings

Curve	Long delay		Short delay		Inst.	Ground fault		Memory
I ² t	I _R	t _R	I _{sd}	t _s	I _i	I _g	t _g	
	1In	30s	6In	0.2s	10In	G	0.4s	20min

Details refers to "CDW9 Intelligent Control Unit User Manual-1600N, 4000H1&H2"

Functions and Characteristics

iTR336 Series Intelligent Control Units



6300L

iTR336 Protect Characteristics

Over-load Protect Characteristics

Tripping current I_R \square 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0 \square In+OFF

Delayed time setting t_R 30s, 60s, 120s, 240s

Short-circuit Short Delay Protect Characteristics

Tripping current of fixed time I_{sd} \square 3, 4, 5, 6, 7, 8, 10 \square In+OFF

Delayed time of fixed time t_s 0.2s, 0.4s

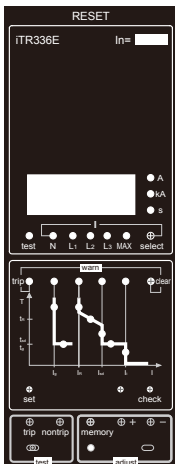
Short-circuit Instantaneous Protect Characteristics

Tripping current I_i (7 \square 8 \square 9 \square 10 \square 11 \square 12 \square 14) In+OFF

Ground Return Protect Characteristics

Tripping current I_g \square 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8 \square In+OFF

Delayed time t_g 0.1s \square 0.2s \square 0.3s \square 0.4s



iTR336E Protect Characteristics

Over-load Protect Characteristics

Tripping current I_R (0.4 \square 1.0) In+OFF

Delayed time setting t_R

Failure Current	Delay Time						
	t_R	15	30	60	120	240	480
$1.5 \times I_R$	15	30	60	120	240	480	
$2 \times I_R$	8.4	16.9	33.8	67.5	135	270	
$7.2 \times I_R$	0.65	1.3	2.6	5.2	10.4	20.8	

$$t = (1.5/N)^2 \times t_R$$

N=Failure Current I/I_R

t=Delayed failure tripping time

t_R =Delayed tripping time

Short-circuit Short Delay Protect Characteristics

Tripping current of fixed time I_{sd} 0.4 \square 15 In+OFF Step: below 10kA: 2A, above 10kA: \leq 10A

Delayed time of fixed time t_s I^2T

Failure Current	Delay Time	t_s (s)			
		0.1	0.2	0.3	0.4
I^2T : OFF	Min.delay(ms)	60	160	255	340
	Max.delay(ms)	140	240	345	460
I^2T : ON	Min.delay(ms)	60	160	255	340
	$I > 8I_R$ Max.delay(ms)	140	240	345	460
I^2T : ON	Inverse time	$t = (8I_R)^2 / I^2 \times t_s$			
$I \leq 8I_R$					

Short-circuit Instantaneous Protect Characteristics

Tripping current I_i 2.0 In \square 100kA+OFF

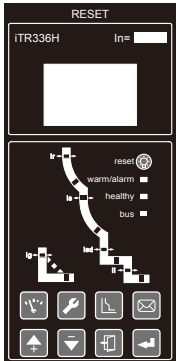
Ground Return Protect Characteristics

Tripping current I_g (0.2 \square 1.0) In+OFF

Delayed time t_g 0.1s \square 0.2s \square 0.3s \square 0.4s \square OFF

Functions and Characteristics

iTR336 Series Intelligent Control Units



iTR336H Protect Characteristics

Over-load Protect Characteristics

Tripping current I_R	OFF+□0.4□1.0□In
Tripping curves	SI: Standard inverse time
Protection type	VI: Rapid Inverse Time
	EI(G): Express inverse time (distribution)
	EI(M): Express inverse time (electromotor)
	HV□High voltage fuse compatibility
	I ² t: Universal inverse time protection
Delayed time setting	C01□C16

Short-circuit Short Delay Protect Characteristics

Tripping current of inverse time I_S	OFF+(0.4□15)In
Tripping current of fixed time I_{sd}	OFF+(0.4□15)In
Delayed time of fixed time t_{sd}	0.1□0.4s

Short-circuit Instantaneous Protect Characteristics

Tripping current I_i	2.0In□100kA+OFF
------------------------	-----------------

Ground Return Protect Characteristics

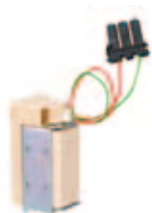
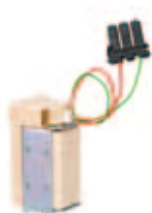
Tripping current I_g	OFF+(0.2□1.0)In
Shearing coefficient of inverse time C_r	(1.5□6)+OFF
Delayed time t_g	0.1□1s

Factory Default Settings

Controller	Curve	Long delay		Short delay			Inst.	Ground fault			Monitoring I_{c1} , I_{c2}	Memory
		I_R	t_R	I_{sd}	I_{sd2}	t_s		I_i	I_g	t_g		
iTR336				4In	/						1In	20min
iTR336E	I ² t	1In	60s			0.2s	10In	0.8In	0.4s			
iTR336H				6In	8In							

Functions and Characteristics

Accessories



Remote Operation

Shunt Release MX

After the circuit breaker is closed, the shunt release can open the circuit breaker instantaneously under required power voltage. The operation can be done remotely.

- Rated control power voltage: AC220V/AC230V, AC380V/AC400V, DC220V
- Operating voltage: (0.7-1.1) U_s
- Break time: 50±10ms (1600N,4000H1&H2)
<30ms (6300L)

Closing Release XF

After the circuit breaker completes energy storage, the closing release can close the circuit breaker under required power voltage. The operation can be done remotely.

- Rated control power voltage: AC220V/AC230V, AC380V/AC400V, DC220V
- Operating voltage: (0.85-1.1) U_s
- Closing time: 55±10ms(1600N)
70±10ms(4000H1&H2,>3200A,80±10ms)

Under-voltage Release MN

The under-voltage release can be divided into under-voltage release and under-voltage delayed release.

After the circuit breaker is closed and the voltage will drop to 70% to 35% of rated voltage, the circuit breaker can be opened, and the breaker can only be closed again when the power voltage of the under-voltage release returns to 85% of rated voltage.

Rated control power voltage: AC220V/AC230V, AC380V/AC400V

- Operating voltage: (0.35-0.7) U_e
- Reliable closing voltage: (0.85-1.1) U_e
- Voltage that can not be closed: $\leq 0.35U_e$
- Delay time: 0.5s, 0.9s, 1.5s, 3s(1600N,4000H1&H2),1s,3s,5s(6300L)

Under-voltage Delayed Release MNR

The under-voltage delay release can open the circuit breaker after 0.5s, 0.9s, 1.5s, 3s (1600N,4000H1&H2),1s,3s,5s(6300L)

Electric Motor MCH

The electric motor can store energy for the circuit breaker automatically when it is power on and the circuit breaker is open. The electric motor can open or close the circuit breaker with the shunt release, under-voltage release and closing voltage release. When there is no power supply, the handle can store energy for the circuit breaker.

- Rated control power voltage: AC220V/AC230V, AC380V/AC400V, DC220V
- Operating voltage: (0.85-1.1) U_s
- Power consumption: 180W(1600N,4000H1&H2),150W(6300L)
- Energy storage time<5s:
- Utilization category: AC15, DC13

Functions and Characteristics

Accessories



Indication Contacts

Auxiliary Contacts OF

Default: 4NO and 4NC(12NO 12NC or 8NO 8NC are for option,5NO 5NC for 6300L)
Auxiliary Contacts can be used to indicate the status of the circuit breaker, e.g. connecting the status indicator of the circuit breaker.
Rated thermal current I_{th}: AC400V/AC380V 0.75A, AC220V/AC230V 1.3A, DC220V 0.15A



Ready to Close Contact PF

Ready to close contact is composed of a mechanical indicating contact and a transferring contact. It can send closing signal and indicate:

- The circuit breaker is disconnected
- The energy is stored
- No continued opening command

AC12/DC12: AC380V/AC400V 3A, DC220V 0.15A



Connection (CE), Separation (CD), Test (CT) Position Indication Contacts

Connection (CE), Separation (CD), Test (CT) position indication contacts are installed on the chassis for indicating the position of the circuit breaker.

Draw-out type only.



Fault-trip Indication Contact(Additional) SWT2

When there is electrical malfunction, the contact provides a set of malfunction signal outputs.



Remote Reset Contact Res

When there is electrical malfunction, after the circuit breaker is opening, the contact can allow malfunction locking device of the circuit breaker to be remotely reset. This contact is not compatible with additional SWT fault-trip indication contact.

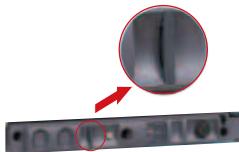
Only for iTR336H, iTR336H-L

Keylocks and Interlocks

OFF Position Padlock

The padlock should be prepared by the client.

The rocker cannot be inserted after the padlock locked, when the circuit breaker is at "separation" position.



OFF Position Keylock

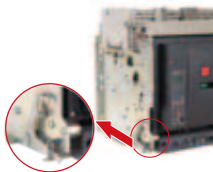
The opening lock can lock the circuit at OFF position. The circuit breaker can only be closed when the lock is opened with a key and the key is not pulled out. The opening lock can be divided into 3 types (the latter 2 types are used in distribution system with two wirings and one contacting):

- 1 lock and 1 key
- 2 locks and 1 key
- 3 locks and 2 keys



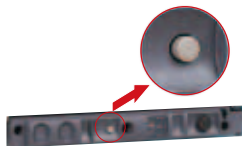
Door Interlock

The interlock is installed at the side of draw-out type circuit breaker and linked with the door of the distribution cabinet. When the circuit breaker is at connection or test position, it ensures that the cabinet door cannot be opened. The cabinet door can be opened at separation position. It can prevent the circuit breaker from slipping and causing damage.



3-position Interlock

For the draw-out type circuit breaker, the "connection", "test" and "separation" position of the circuit breaker can be indicated by the indicator. The in-out button is locked at indicated by the indicator. The in-out button is locked at each position. Push to unlock.



Functions and Characteristics

Accessories



Mechanical Interlock

Lever Interlock and Cable Interlock

- Lever interlock is used for two circuit breakers installed vertically. Cable interlock is used for 2 or 3 circuit breakers installed vertically or horizontally.
- The interlocks is used in distribution system with two wirings and one contacting.
- The interlocks build mechanical links between 2 or 3 circuit breakers.
- If one circuit breaker is closed, the linked circuit breaker will be opened.

Operation Protection

Door Frame

- The door frame is installed on the door of the distribution cabinet, and can increase the protection degree to IP40.
- Suitable for fix-type and draw-out type.

Interphase Barriers

- The Interphase barriers are insulating plates installed in the middle of busbar to increase creepage distance and insulating ability.
- The Interphase barriers are installed between the front and rear connecting terminals.

Safety Shutters

The safety shutters is installed in draw-out type circuit breaker. When the circuit breaker is at test or separation position, the safety shutters can protect contact cables prevent operators from touching live parts.

Accessories of Control Unit

N-phase External Current Transformer

N-phase external current transformer is used to measure neutral phase current in 3P+N grounding system and it is installed on the grounding busbar by the client.

Ground Return Current Transformer

- Ground return current transformer is used to measure the neutral phase current under grounding type of grounding current return. The current transformer can also provide protection for up and down grounding defects of the circuit breaker.
- The grounding current transformer is only suitable for iTR336H and iTR336H-L controller.

Earth-leakage Current Transformer

Earth-leakage current transformer is used for the grounding protection type of leakage protection.

The Earth-leakage Current Transformer is suitable for iTR336H and iTR336H-L controller.

Power Supply Module

- The power supply module can be used in AC220V/AC230V, AC380V/AC400V, DC220V circuits and provide power supply for intelligent controller. And the output is DC24V.
- The power supply module of CDW9-6300L is used in DC220V circuits and provides power supply for intelligent controller. And signal convert module works with power supply module.

Signal Convert Module

Signal convert module is used for communication function, e.g. zone selective interlock function. The iTR336H and iTR336H-L controller are equipped with it.

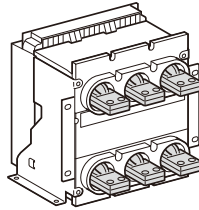
Functions and Characteristics

Connections

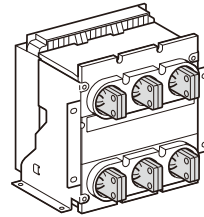


Rear Connections

Horizontal



Vertical

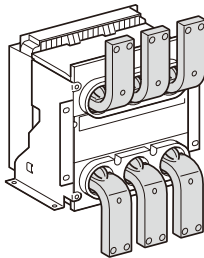


For 1600N, horizontal and vertical connection methods transforms by rotating the connection terminal 90 degree.

For 4000H1&H2, horizontal and vertical connection terminals are different, please remark when order.

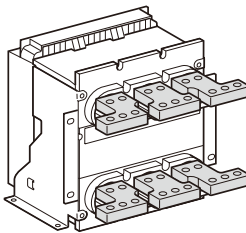
For 6300L, horizontal connection is the only methods.

Front Connections 630A~3200A

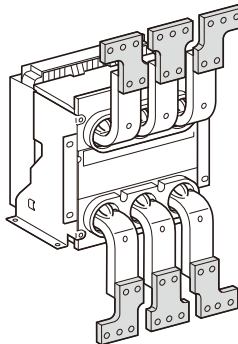


Spreaders (1600N only)

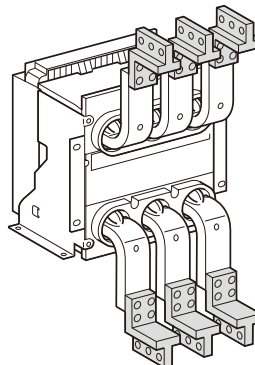
Horizontal Rear Connection with Spreaders



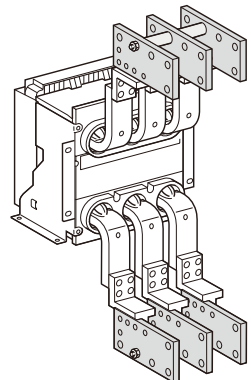
Front Connection with Spreaders



Vertical Adapters



Cable-lug Adapters



Functions and Characteristics

Connections



Optional Connection Solutions

Type	1600N				4000H1 □ 4000H2				6300L	
	Draw-out Type		Fixed Type		Draw-out Type		Fixed Type		Draw-out	
	Rear	Front	Rear	Front	Rear	Front	Rear	Front	Rear	
Spreaders										
Vertical-connection Adapters										
Cable-lug Adapters										
Interphase Barriers *1)										

*1) Interphase barriers must be used over 500V.

*2) 4000A horizontal rear connection is not included.

Selection

Coding System







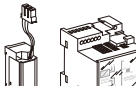
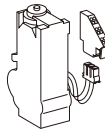
CDW9 Coding System

Product Name	Frame	Rated current	Poles	Installation method	MCH / XF / MX / Power supply module	MN/MNR	Auxiliary contact	Intelligent control unit
W9	40H2	32	3	DH	N	5	F	E
W9:CDW9	16N:1600N(Icu=50kA)	06:630A	3:3P	DH:Drawout Horizontal	N:AC230V	N:MN AC230V	F:4NO4NC	B:iTR336
	40H1:4000H1(Icu=65kA)	08:800A	4:4P	FH:Fixed Horizontal	V:AC400V	V:MN AC400V	E:8NO8NC	E:iTR336E
	40H2:4000H2(Icu=100kA)	10:1000A		DV:Drawout Vertical	D:DC220V	P:MNR AC230V	T:12NO12NC	H:iTR336H
	63L:6300L(Icu=120kA)	12:1250A		FV:Fixed Vertical		T:MNR AC400V	V:5NO5NC	L:iTR336H-L
		16:1600A		DF:Drawout Front-connection		5:None		
		20:2000A		FF:Fixed Front-connection				
		25:2500A						
		32:3200A						
		40:4000A						
		50:5000A						
		63:6300A						

Remarks:

- 1.Front-connection type device is NOT available for CDW9 which rated current is 4000A.
- 2.Fixed type device is NOT available for CDW9-6300L.
- 3.4P type device is NOT available for CDW9 which rated current is 6300A.
- 4.1600N offers 4NO4NC; 4000H offers 4NO4NC, 8NO8NC, 12NO12NC; 6300L offers 5NO5NC.
- 5.iTR336H-L is NOT available for 6300L.

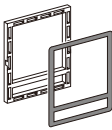
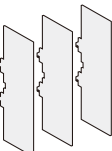
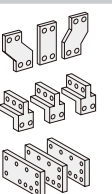
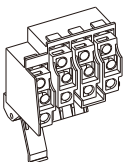
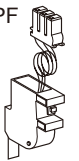
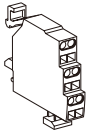
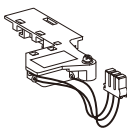
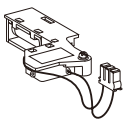
Accessory References

	Reference	Remarks
Intelligent Control Unit		
	CDW9TU0 CDW9TUE CDW9TUH CDW9TUHL	iTR336 iTR336E iTR336H iTR336H-L (1600N,4000H1&H2)
Remote Operation		
Shunt Release MX 	CDW9MX2A CDW9MX4A CDW9MX2D CDW9MX2A63 CDW9MX4A63 CDW9MX2D63	AC230V (1600N,4000H1&H2) AC400V (1600N,4000H1&H2) DC220V (1600N,4000H1&H2) AC230V (6300L) AC400V (6300L) DC220V (6300L)
Closing Release XF 	CDW9XF2A CDW9XF4A CDW9XF2D CDW9XF2A63 CDW9XF4A63 CDW9XF2D63	AC230V (1600N,4000H1&H2) AC400V (1600N,4000H1&H2) DC220V (1600N,4000H1&H2) AC230V (6300L) AC400V (6300L) DC220V (6300L)
Under-voltage Release MN 	CDW9MN2A CDW9MN4A CDW9MN2A63 CDW9MN4A63	AC230V (1600N,4000H1&H2) AC400V (1600N,4000H1&H2) AC230V (6300L) AC400V (6300L)
Under-voltage delayed Release MNR 	CDW9MNR2A CDW9MNR4A CDW9MNR2A63 CDW9MNR4A63	AC230V (1600N,4000H1&H2) AC400V (1600N,4000H1&H2) AC230V (6300L) AC400V (6300L)
Electric motor MCH 	CDW9MCH162A CDW9MCH164A CDW9MCH162D CDW9MCH402A CDW9MCH404A CDW9MCH402D CDW9MCH632A CDW9MCH634A CDW9MCH632D	AC230V (1600N) AC400V (1600N) DC220V (1600N) AC230V (4000H1&H2) AC400V (4000H1&H2) DC220V (4000H1&H2) AC230V (6300L) AC400V (6300L) DC230V (6300L)

Selection

Coding System


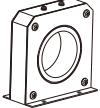
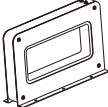


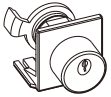
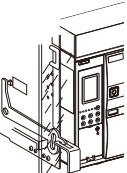


Operation Protection		
Door Frame 	CDW916FCDP CDW916DCDP CDW940FCDP CDW940DCDP CDW963DCDP	1600N fixed type 1600N draw-out type 4000H1&H2 fixed type 4000H1&H2 draw-out type 6300L draw-out type
Interphase Barriers 	CDW916FEIP CDW916DEIP CDW940FEIP CDW940DEIP CDW963DEIP	1600N fixed type 1600N draw-out type 4000H1&H2 fixed type 4000H1&H2 draw-out type 6300L draw-out type
Connection Accessories		
	CDW9V3 CDW9V4 CDW9C3 CDW9C4 CDW9S3 CDW9S4	1600N 3P vertical adapters 1600N 4P vertical adapters 1600N 3P cable-lug adapters 1600N 4P cable-lug adapters 1600N 3P spreaders 1600N 4P spreaders
Indication Contacts		
Auxiliary Contacts OF 	CDW90F4416 CDW90F4440 CDW90F88 CDW90F12 CDW90F55	4NO 4NC--1600N 4NO 4NC--4000H1&H2 8NO 8NC--4000H1&H2 12NO 12NC--4000H1&H2 5NO 5NC--6300L
Ready to Close Contact PF 	CDW916PF CDW940PF	1600N 4000H1&H2
3-Position Indication Contacts(CE, CD, CT) 	CDW916EDT CDW940EDT	1600N 4000H1&H2
Fault-Trip Indication Contact(Additional) SWT2 	CDW916SWT2 CDW940SWT2	1600N 4000H1&H2
Remote Reset Contact Res 	CDW916RES CDW940RES	1600N 4000H1&H2

Selection

Coding System



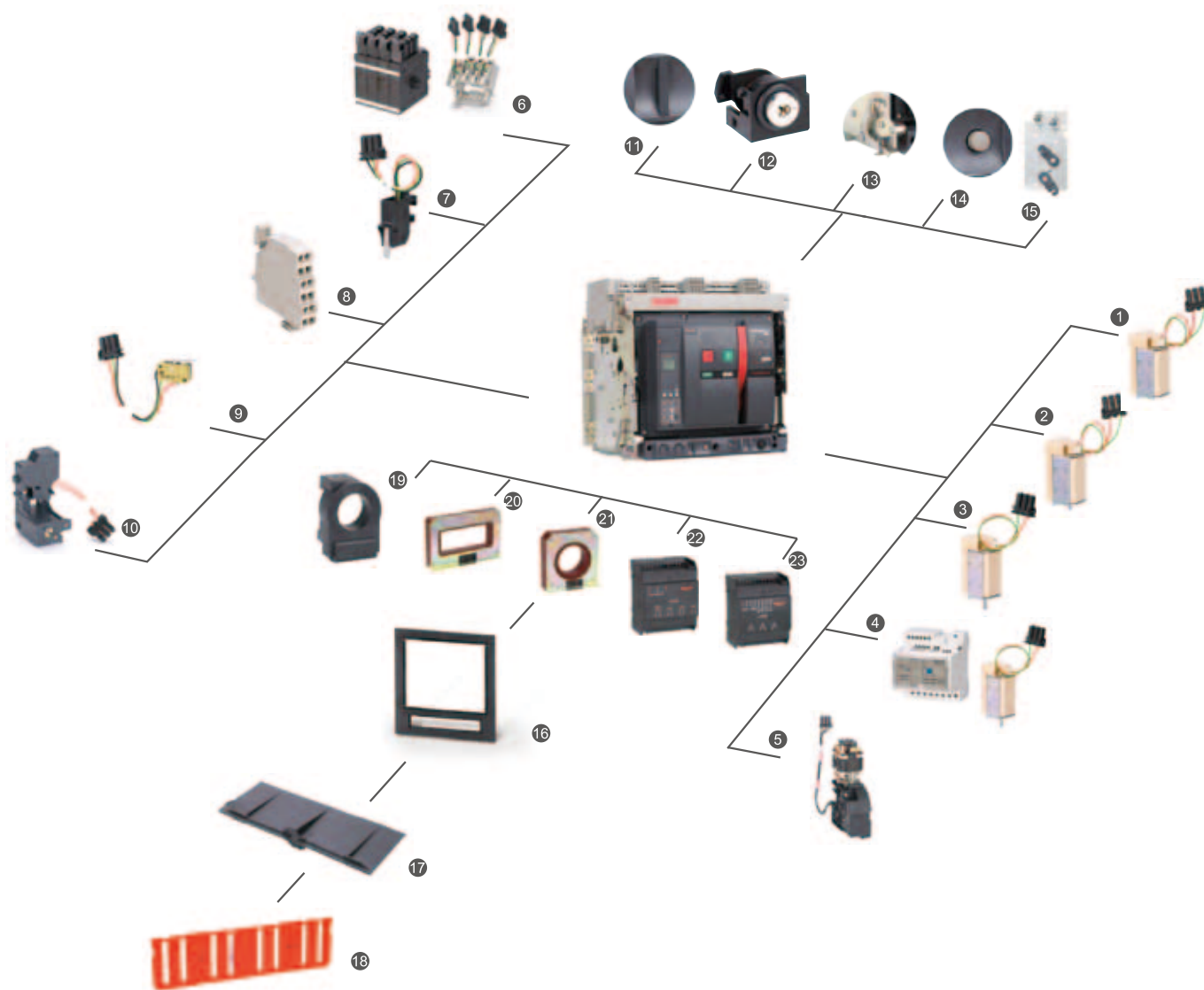
Accessories of the Control Unit		
N-Phase External Current Transformer 	CDW9N16 CDW9N40 CDW9N63	1600N 4000H1&H2 6300L
Ground Return Current Transformer 	CDW9G	
Earth-Leakage Current Transformer 	CDW9L	
Power Supply Module 	CDW92AP CDW94AP CDW92DP	AC230V AC400V DC220V
Signal Convert Module 	CDW9TR	
Keylock and Interlock		
Keylocks 	CDW916L1 CDW916L2 CDW916L3 CDW940L1 CDW940L2 CDW940L3 CDW963L1 CDW963L2 CDW963L3	1600N--1 lock 1 key 1600N--2 locks 1 key 1600N--3 locks 2 keys 4000H1&H2--1 lock 1 key 4000H1&H2--2 locks 1 key 4000H1&H2--3 locks 2 keys 6300L--1 lock 1 key 6300L--2 locks 1 key 6300L--3 locks 2 keys
Door Interlocks 	CDW9DLL16 CDW9DLR16 CDW9DLL40 CDW9DLR40 CDW9DLL63 CDW9DLR63	1600N fixed type--left 1600N draw-out type--right 4000H1&H2 fixed type--left 4000H1&H2 draw-out type--right 6300L draw-out type--left 6300L draw-out type--right
Mechanical Interlock		
Cable Interlocks	CDW916FLL2 CDW916DLL2 CDW940FLL2 CDW940FLL3 CDW940DLL2 CDW940DLL3 CDW963DLL2 CDW963DLL3	1600N fixed type--2 devices 1600N draw-out type--2 devices 4000H1&H2 fixed type--2 devices 4000H1&H2 fixed type--3 devices 4000H1&H2 draw-out type--2 devices 4000H1&H2 draw-out type--3 devices 6300L draw-out type--2 devices 6300L draw-out type--3 devices
Lever Interlocks	CDW916FGL2 CDW916DGL2 CDW940FGL2 CDW940DGL2 CDW963DGL2 CDW963DGL3	1600N fixed type--2 devices 1600N draw-out type--2 devices 4000H1&H2 fixed type--2 devices 4000H1&H2 draw-out type--2 devices 6300L draw-out type--2 devices 6300L draw-out type--3 devices

Selection

Accessories Instruction



CDW9 Accessories Instruction



Remote Operation	Indication Contacts	Locks	Mechanical Interlock	Protection	Controller Accessories
1 Shunt release	6 Auxiliary contacts	11 OFF position padlock	15 Mechanical interlock	16 Door frame	19 N-phase external CT
2 Closing release	7 Ready to close contact	12 OFF position keylock		17 Interphase barriers	20 Ground return CT
3 Under-voltage release	8 3-position indication contacts(CE, CD, CT)	13 Door interlock		18 Safety shutter	21 Earth-leakage CT
4 Under-voltage delayed release	9 Fault-trip indication contact (SWT)	14 3-position interlock			22 Power supply module
5 Electric motor	10 Remote reset contact				23 Signal convert module

Selection

Configuration



Configuration

		1600N	4000H1	4000H2	6300L
Main Body					
Main body of circuit breaker		•	•	•	•
Components					
Intelligent control unit	iTR336	•	•	•	•
	iTR336E	•	•	•	•
	iTR336H	•	•	•	•
	iTR336H-L	•	•	•	
Remote operation	Shunt release	•	•	•	•
	Closing release	•	•	•	•
	Electric motor	•	•	•	•
	Under-voltage release	•	•	•	•
	Under-voltage delayed release	•	•	•	•
Operation protection	Door frame	•	•	•	•
	Interphase barriers *1)	•	•	•	•
Wiring methods	Horizontal rear connection	•	•	•	•
	Horizontal rear connection with spreaders	•			
	Vertical rear connection	•	•	•	
	Front connection *2)	•	•	•	
	Front connection with spreaders	•			
	Front connection with vertical-connection adapters	•			
	Front connection with cable-lug adapters	•			
Indication contacts	Auxiliary contacts	4NO 4NC	•	•	•
		5NO 5NC			•
		8NO 8NC		•	•
		12NO 12NC		•	•
	Ready to close contact	•	•	•	
	Fault-trip indication contact SWT2 (additional)	•	•	•	
	3-position indication contacts *3)	•	•	•	
	Remote reset contact *4)*5)	•	•	•	
	Control unit accessories	N-phase external current transformer	•	•	•
Ground return current transformer *4)		•	•	•	•
Earth-leakage current transformer *4)		•	•	•	•
Power supply module		•	•	•	•
Signal convert module *4)		•	•	•	•
Locks	OFF position keylock	•	•	•	•
	Door interlock	•	•	•	•
Mechanical interlock	Cable interlock	•	•	•	•
	Lever interlock	•	•	•	•

*1) Details refers to P15

*2) Front connection is not available for 4000H1&H2 4000A.

*3) Only for draw-out type

*4) Only for iTR336H, iTR336H-L

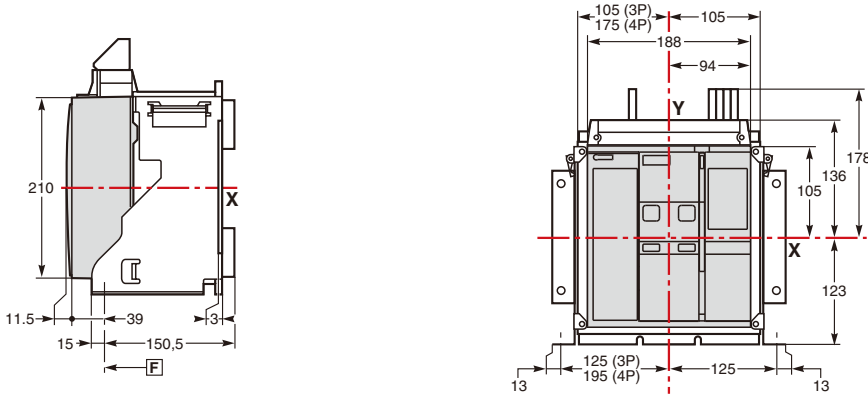
*5) Not compatible with additional fault-trip indication contact(SWT2)

Installation Dimensions

CDW9-1600N Fixed Type 3P&4P

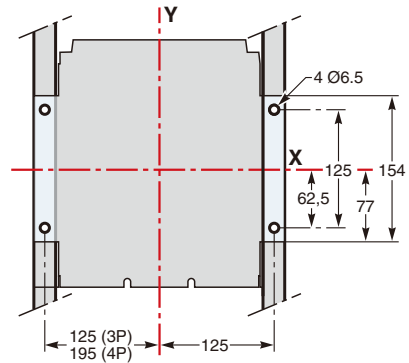
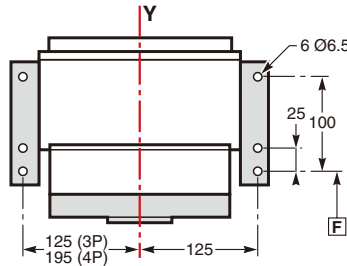
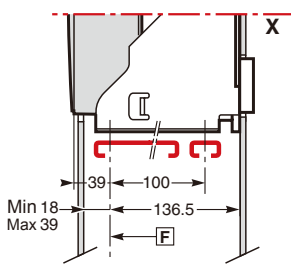


Dimensions



Horizontal installation on board or railway

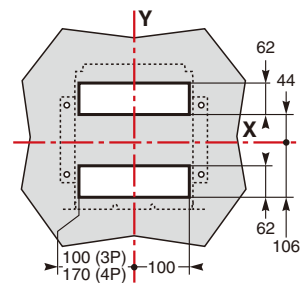
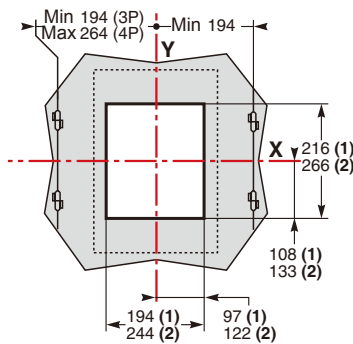
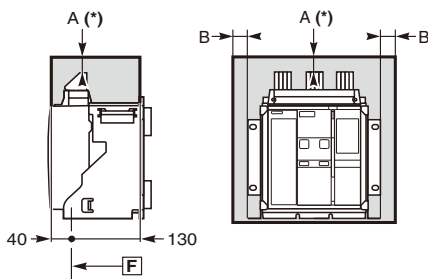
Vertical installation on back board or frame



Safety clearances

Door frame

Rear panel holes dimensions



F: Base point

	Non-conductor	Metals	Electric conductor
A	0	0	100
B	0	0	60

(1) Without door frame
(2) With door frame

Remark: X axis and Y axis are the symmetry axis of 3-pole breaker's mask.
Removing the arc chutes needs 50mm safety clearance.
Removing terminal blocks needs 20mm safety clearance.

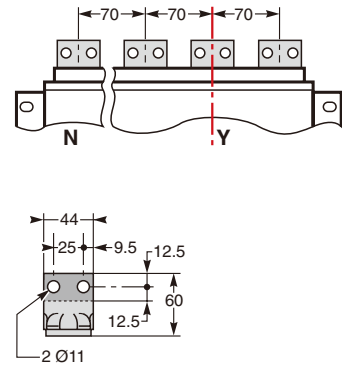
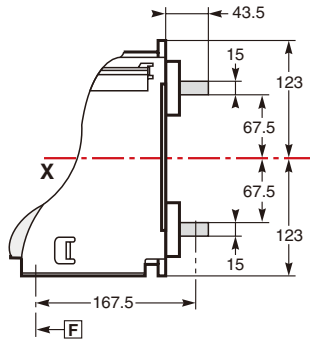
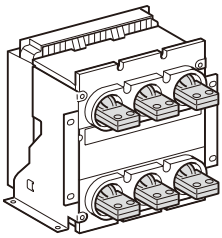
Installation Dimensions

CDW9-1600N Fixed Type 3P&4P

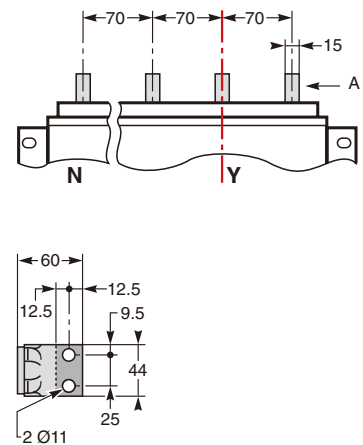
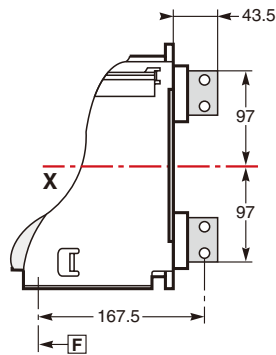
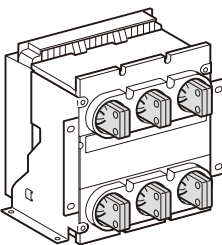


Connections

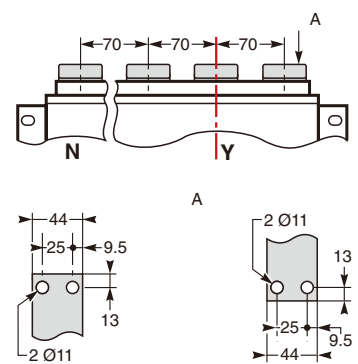
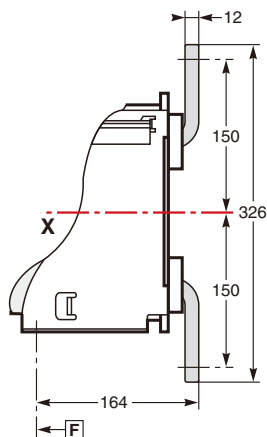
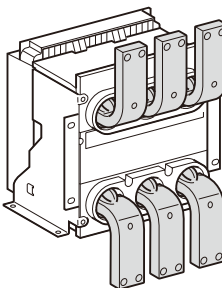
Horizontal rear connection



Vertical rear connection



Front connection



Remarks: Screws: M10 Class8.8

Fasten torque: 50Nm with gasket.

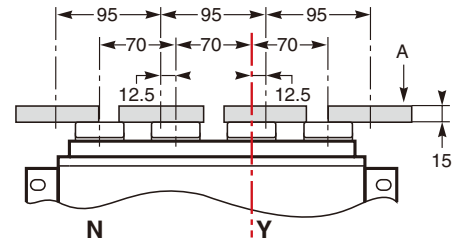
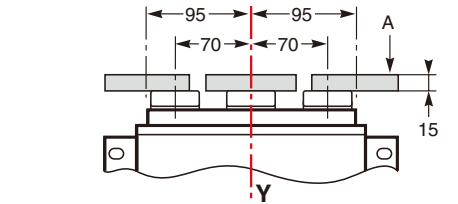
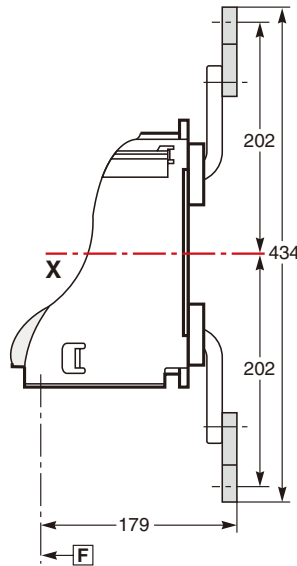
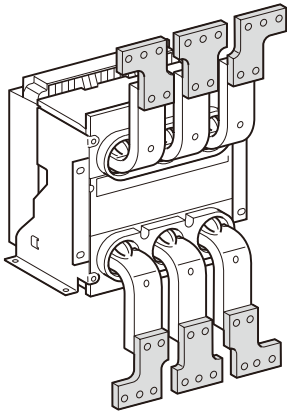
Installation Dimensions

CDW9-1600N Fixed Type 3P&4P

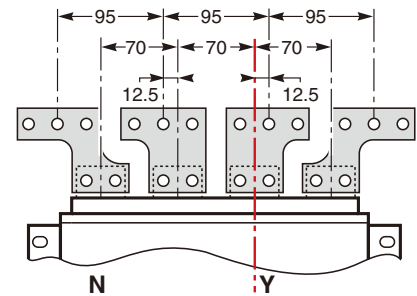
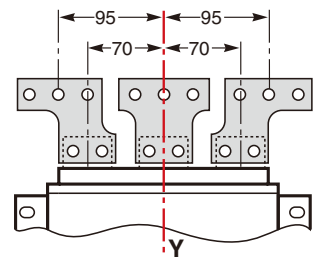
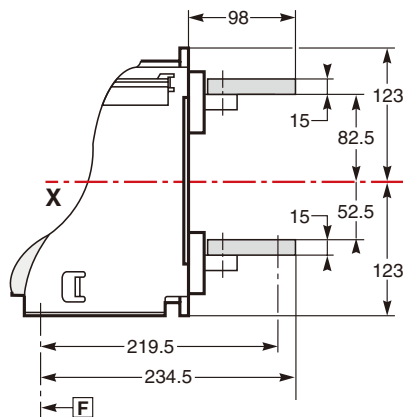
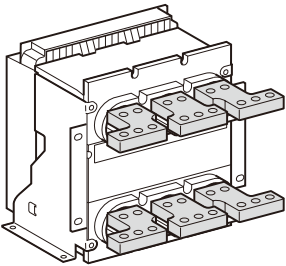


Connections

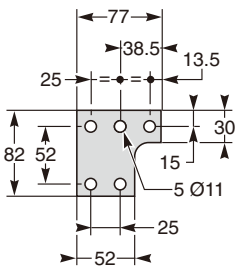
Front connection with spreaders



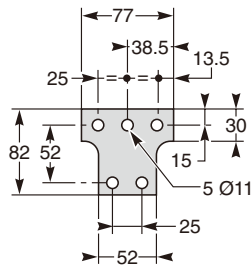
Rear connection with spreaders



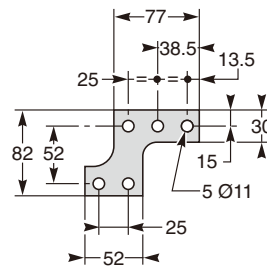
Middle left or right spreader for 4P



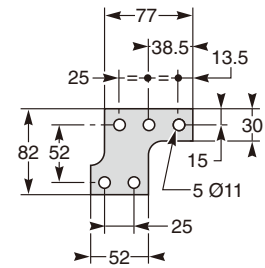
Middle spreader for 3P



Left or right spreader for 4P



Left or right spreader for 3P



F □ Base point

Remark: X axis and Y axis are the symmetry axis of 3-pole breaker's mask.

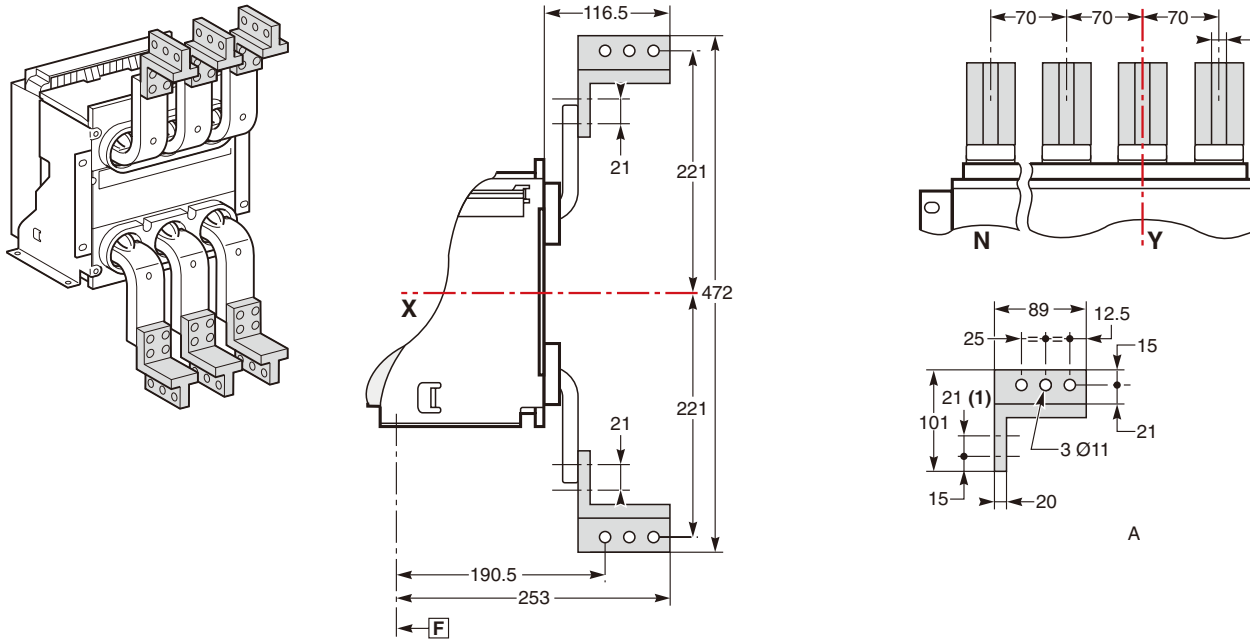
Installation Dimensions

CDW9-1600N Fixed Type 3P&4P

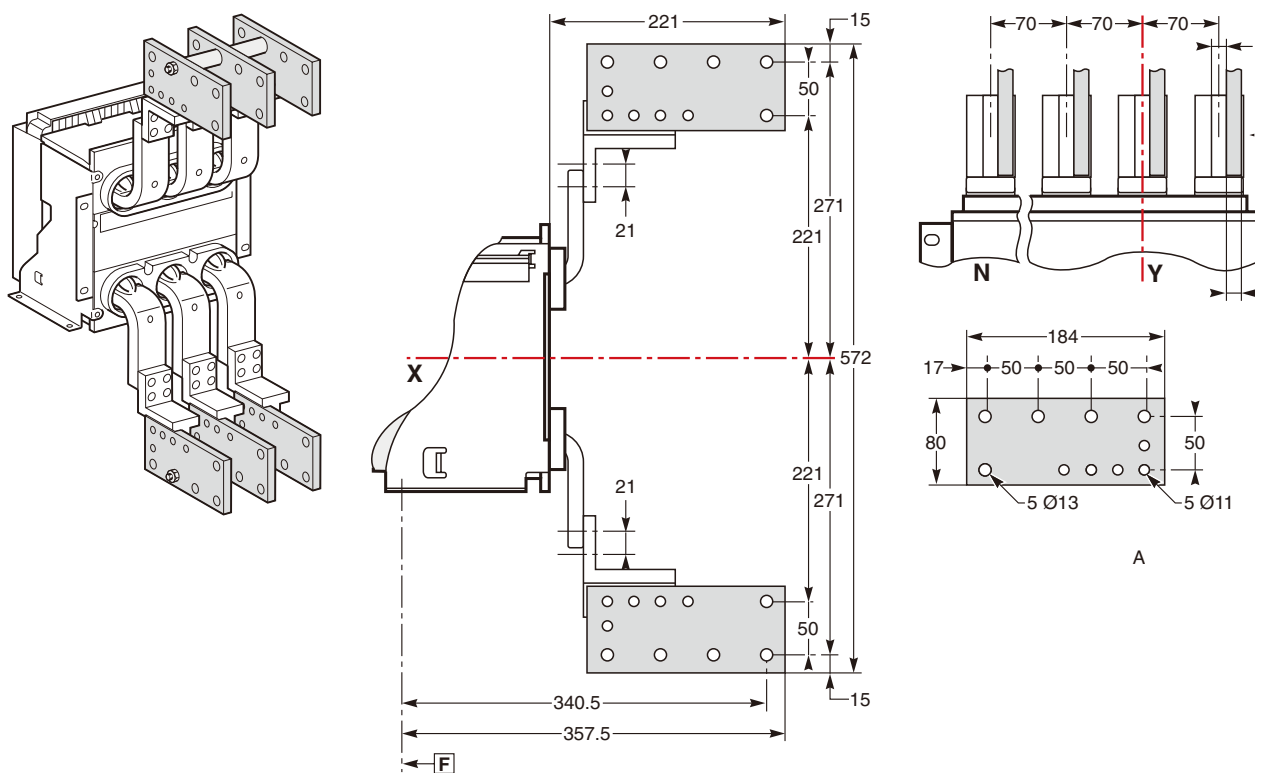


Connections

Front connection with vertical-connection adapters



Front connection with vertical-connection adapters and cable-lug adapters and cable-lug adapters



Remarks: Screws: M10 Class 8.8

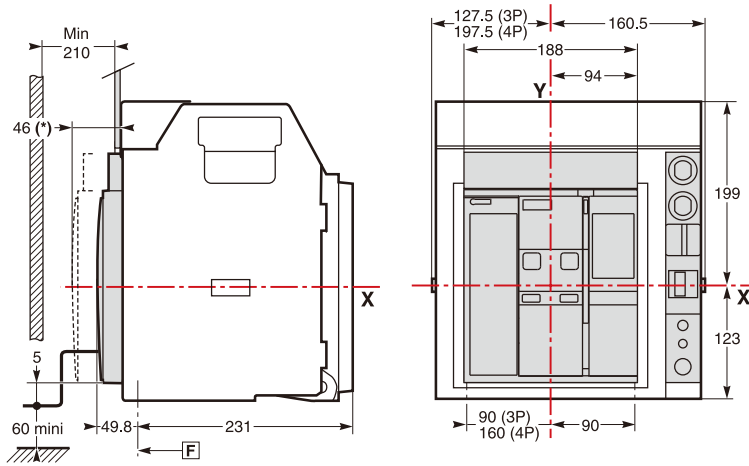
Fasten torque: 50Nm with gasket.

Installation Dimensions

CDW9-1600N Draw-out Type 3P&4P

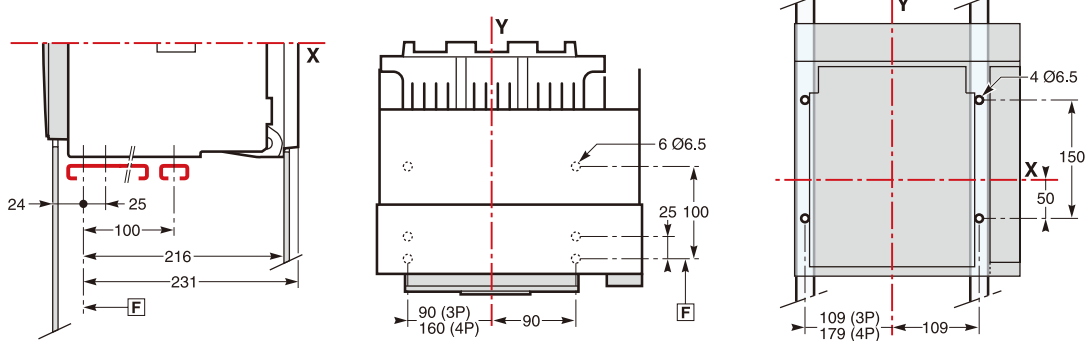


Dimensions



Horizontal installation on board or railway

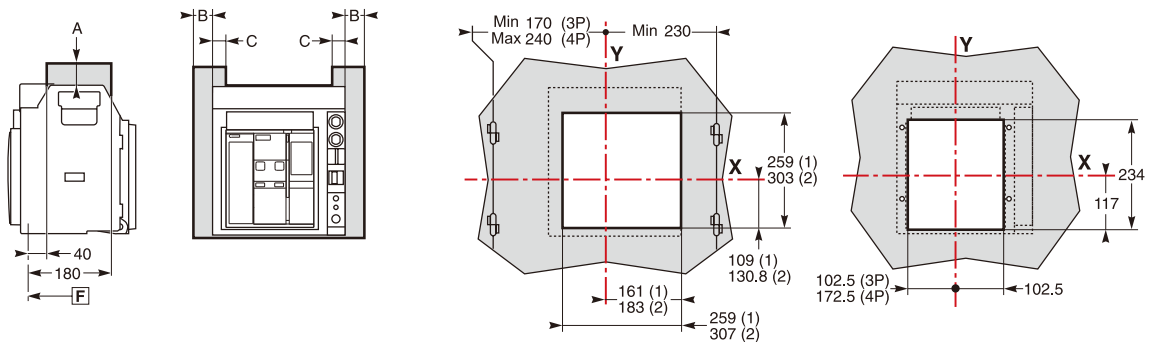
Vertical installation on back board or frame



Safety clearances

Door holes dimensions

Rear panel holes dimensions



	Non-conductor	Metals	Electric conductor
A	0	0	90
B	10	10	60
C	0	0	90

(1) Without door frame

(2) With door frame

Remark: X axis and Y axis are the symmetry axis of 3-pole breaker's mask.

F □ Base point

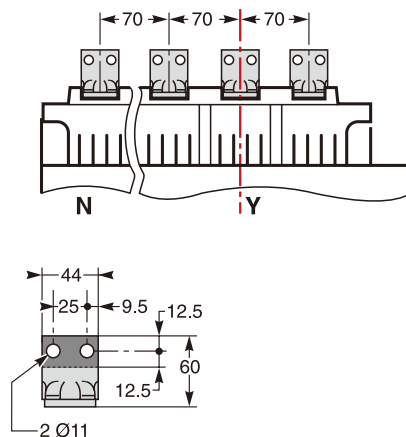
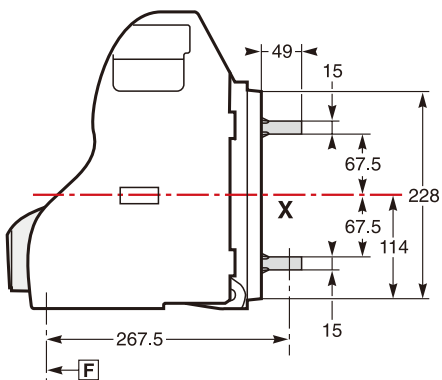
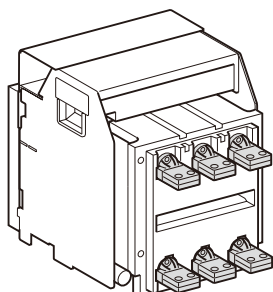
Installation Dimensions

CDW9-1600N Draw-out Type 3P&4P

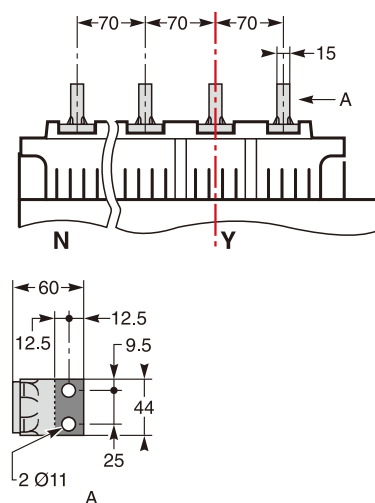
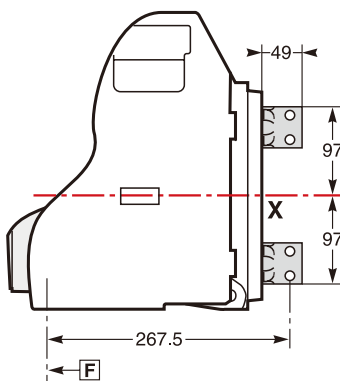
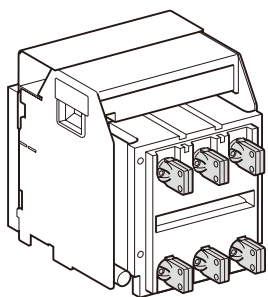


Connections

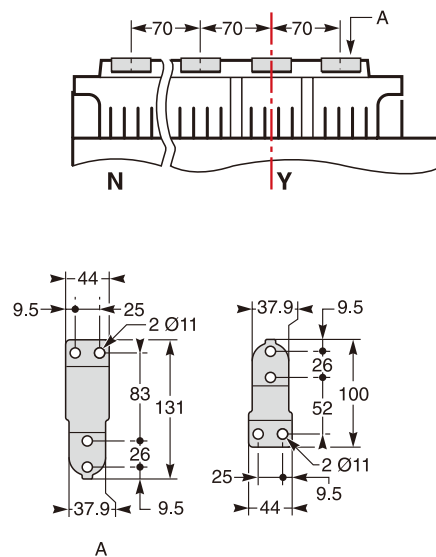
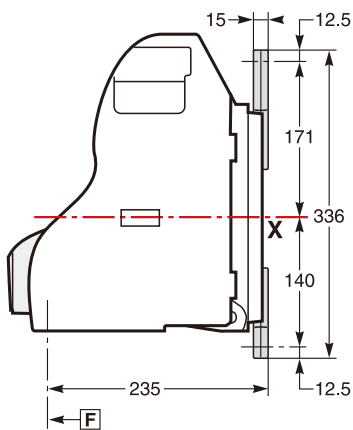
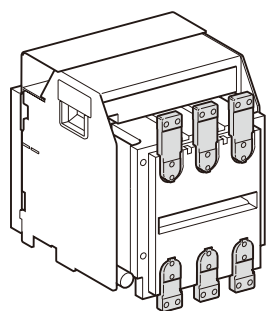
Horizontal rear connection



Vertical rear connection



Front connection



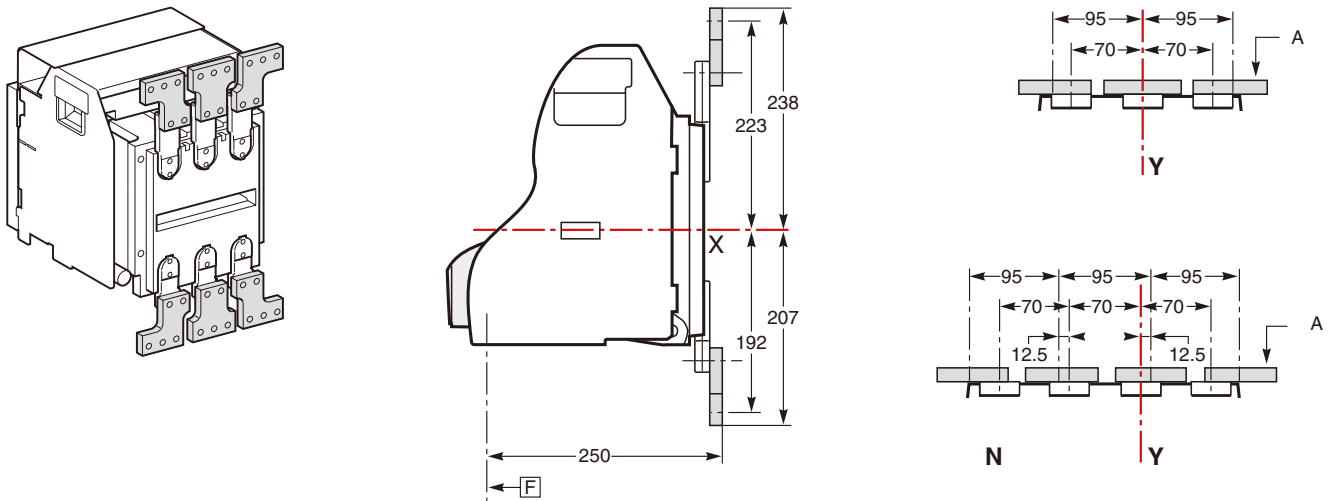
Installation Dimensions

CDW9-1600N Draw-out Type 3P&4P

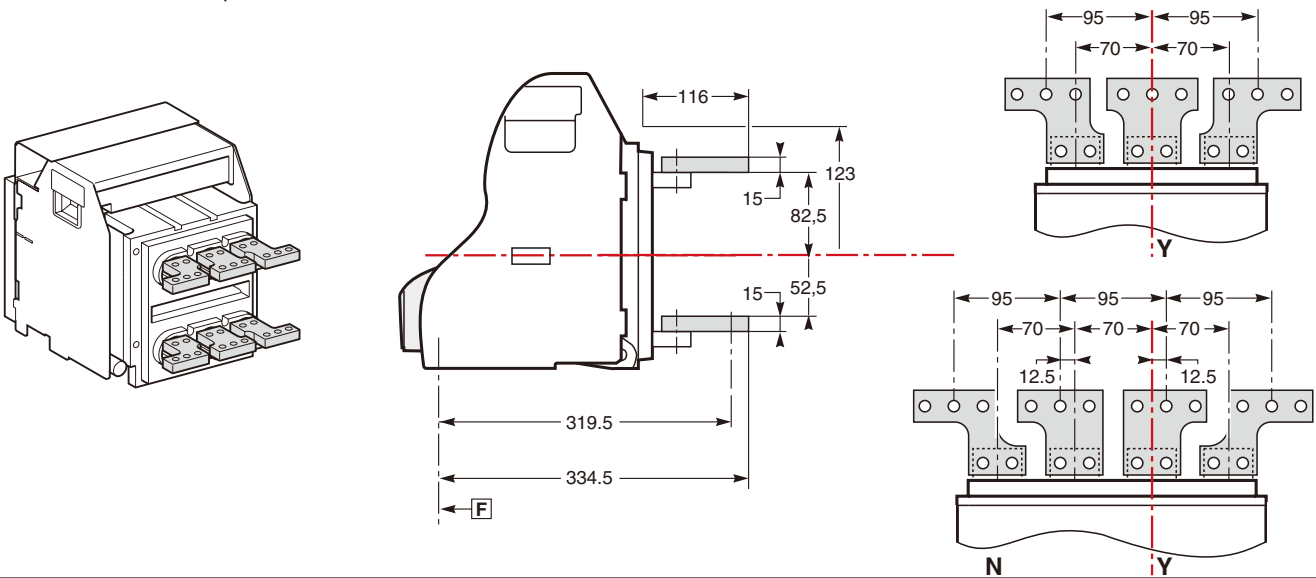


Dimensions

Front connection with spreaders



Rear connection with spreaders

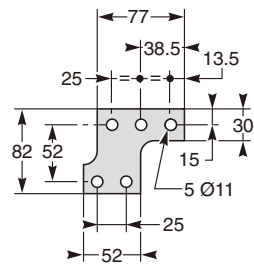
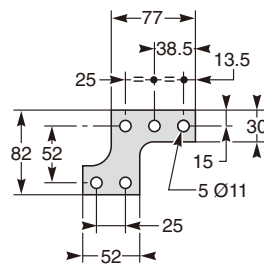
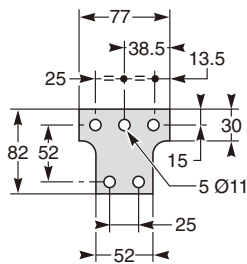
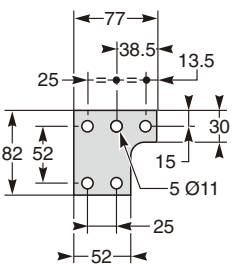


Middle left or right spreader for 4P

Middle spreader for 3P

Left or right spreader for 4P

Left or right spreader for 3P



F □ Base point

Remark: X axis and Y axis are the symmetry axis of 3-pole breaker's mask.

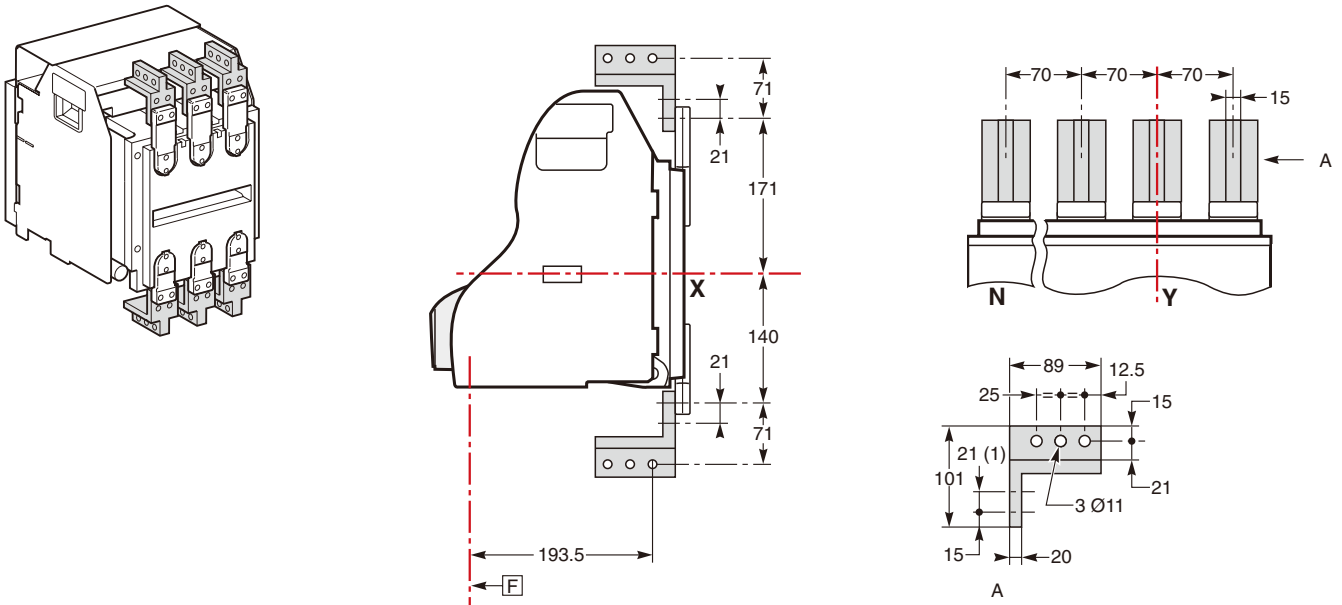
Installation Dimensions

CDW9-1600N Draw-out Type 3P&4P

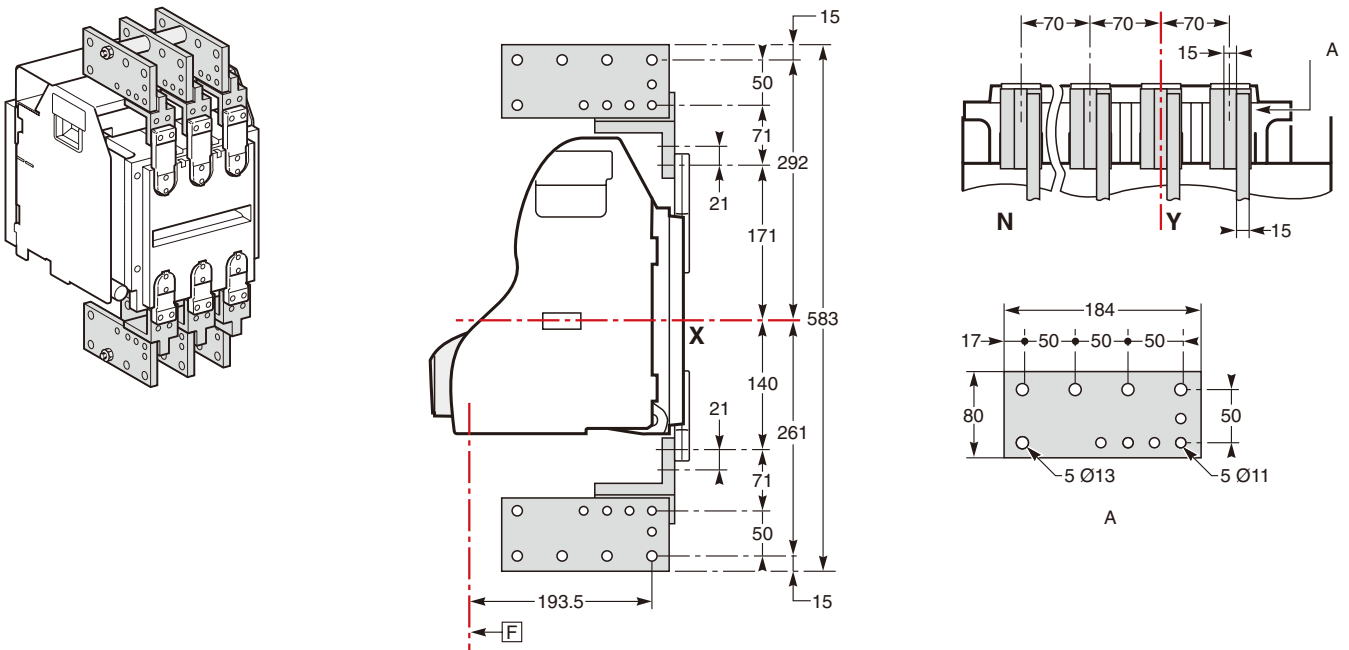


Connections

Front connection with vertical-connection adapters



Front connection with vertical-connection adapters and cable-lug adapters



F □ Base point

Remark: Screws: M10 Class8.8

Fasten torque: 50Nm with gasket

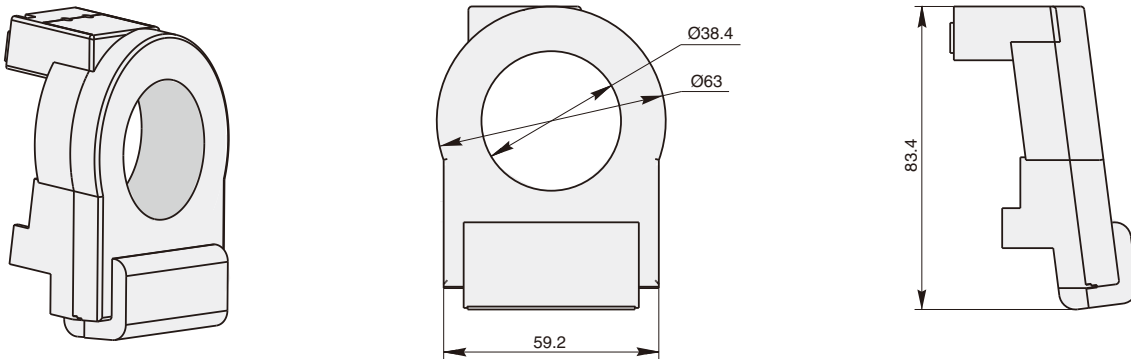
Installation Dimensions

CDW9-1600N Draw-out Type 3P&4P

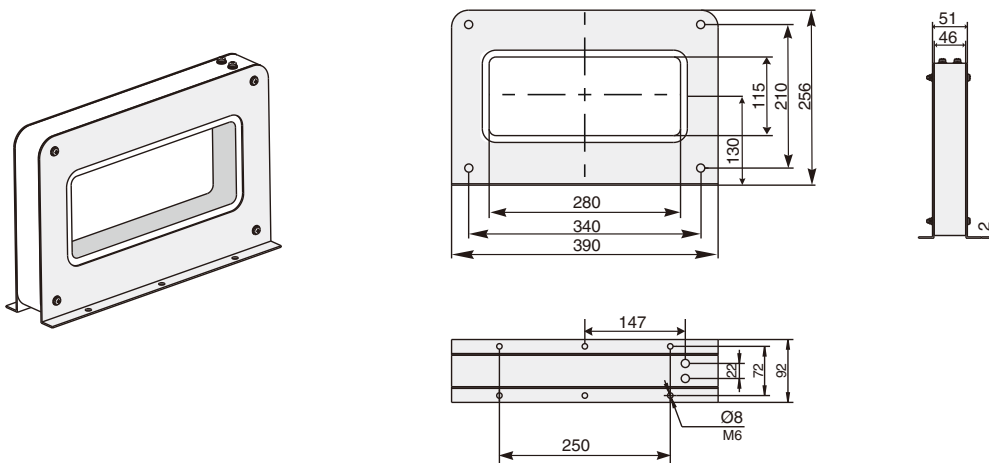


Dimensions of Extend Current Transformers

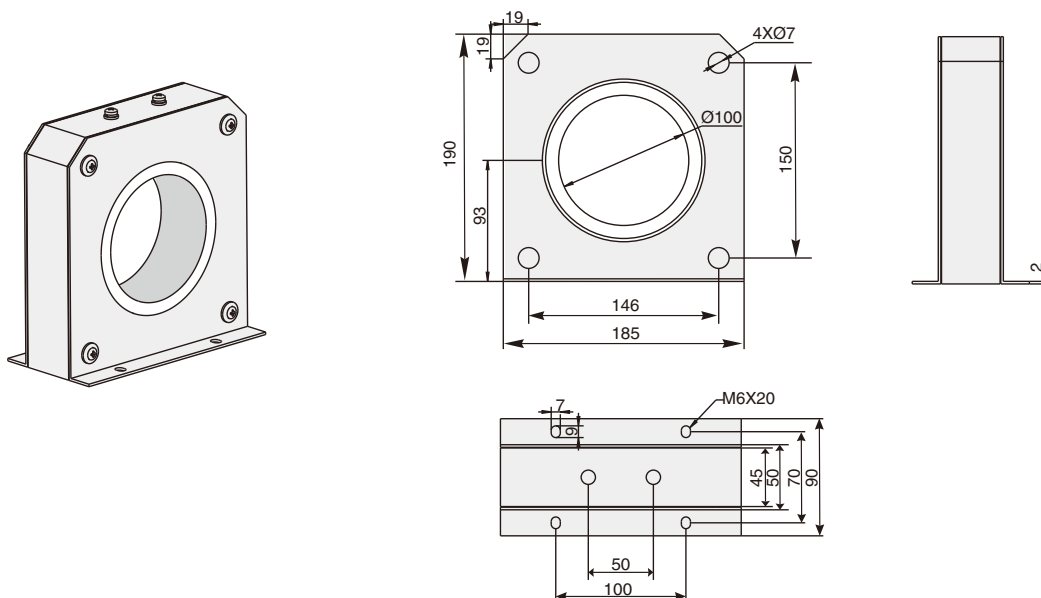
N-phase Extend Current Transformer



Earth-leakage Current Transformer



Ground Return Current Transformer

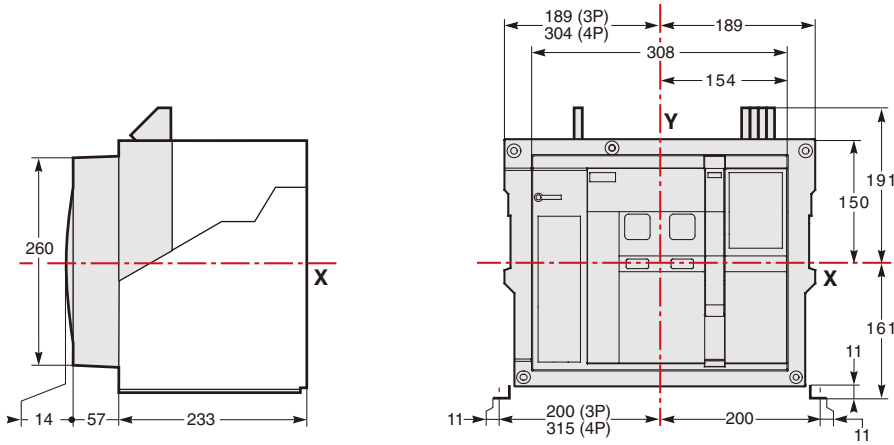


Installation Dimensions

CDW9-4000H1&H2 Fixed Type 3P&4P 1600A~3200A

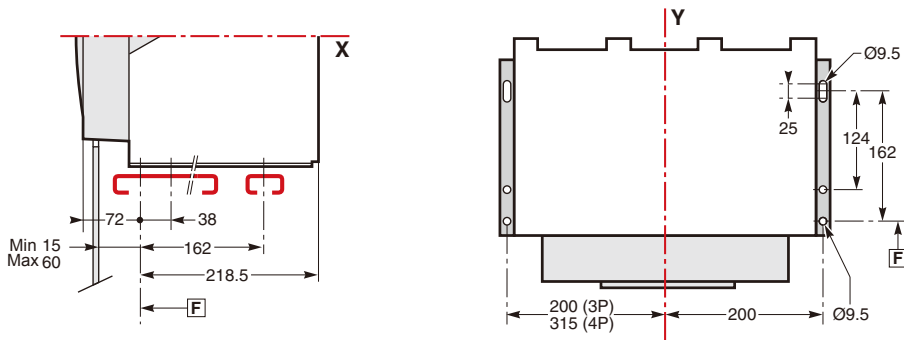


Dimensions



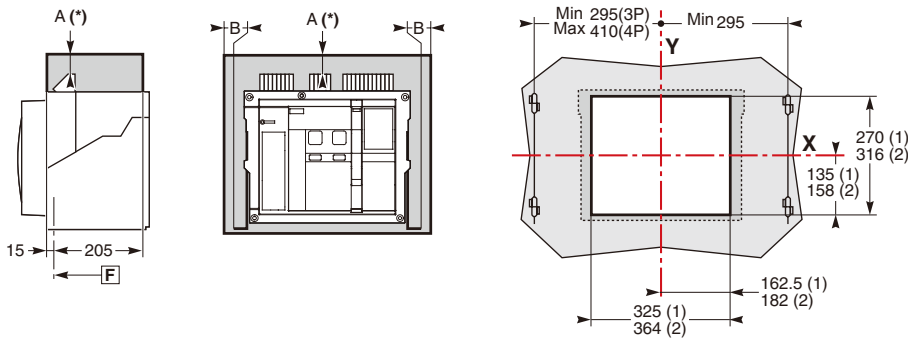
Horizontal installation on board or railway

Vertical installation on back board or frame



Safety clearances

Door holes dimensions



	Non-conductor	Metals	Electric conductor
A	0	0	100
B	0	0	60

F □ Base point

(1) Without door frame

(2) With door frame

Remark: X axis and Y axis are the symmetry axis of 3-pole breaker's mask.

Removing the arc chutes needs 110mm safety clearance.

Removing terminal blocks needs 20mm safety clearance.

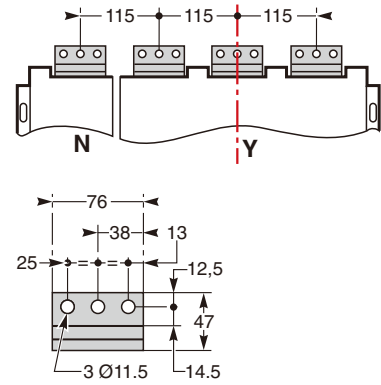
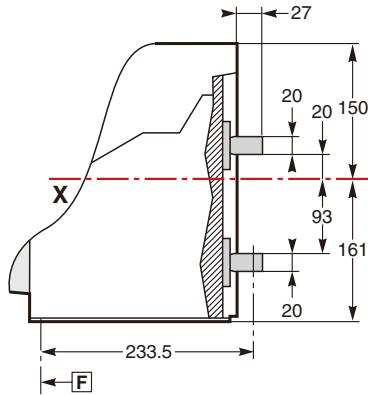
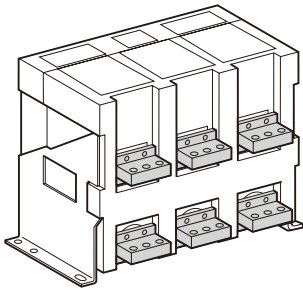
Installation Dimensions

CDW9-4000H1&H2 Fixed Type 3P&4P 1600A~3200A

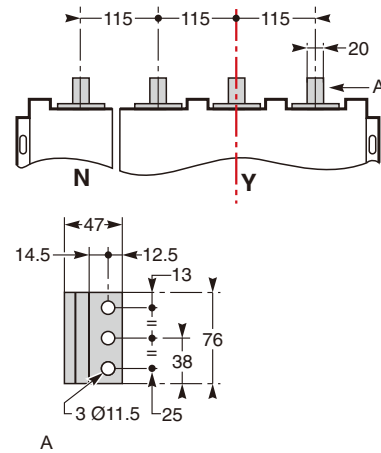
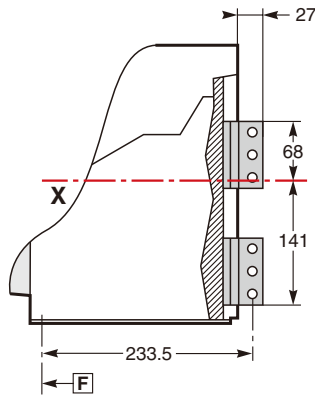
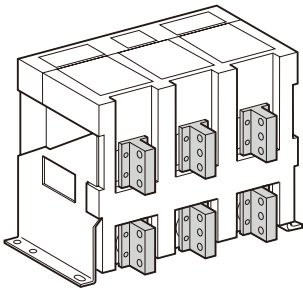


Connections

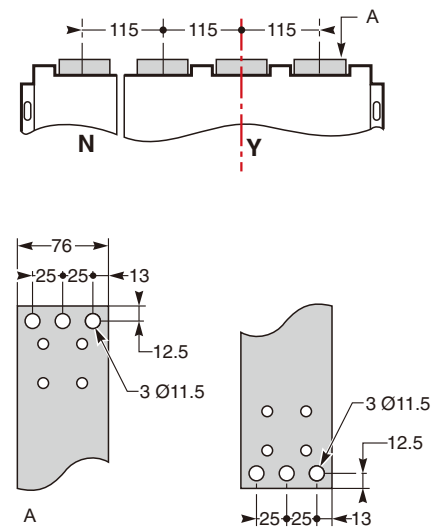
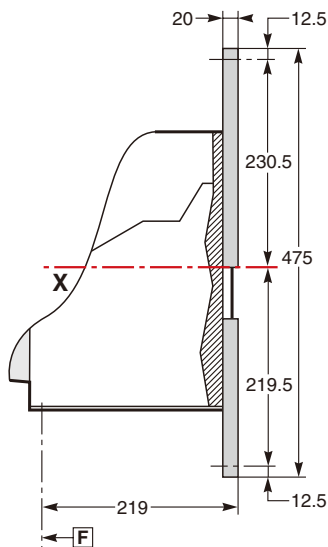
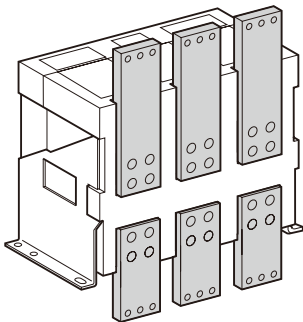
Horizontal rear connection



Vertical rear connection



Front connection



F □ Base point

Remarks: Screws: M10 Class8.8

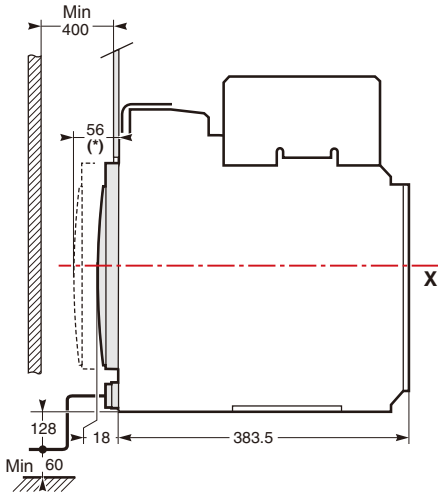
Fasten torque: 50Nm with gasket.

Installation Dimensions

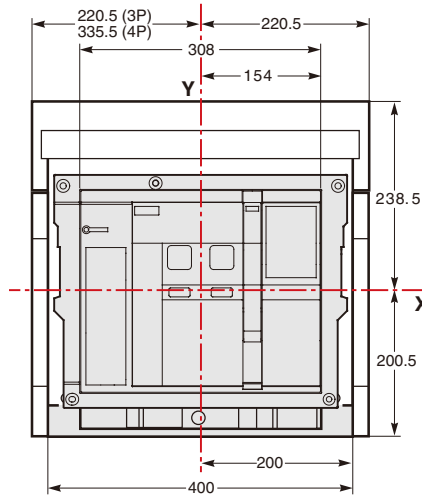
CDW9-4000H1&H2 Draw-out Type 3P&4P 1600A~3200A



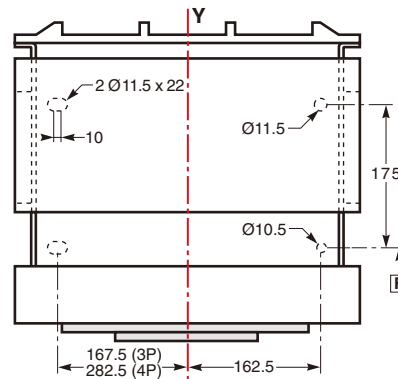
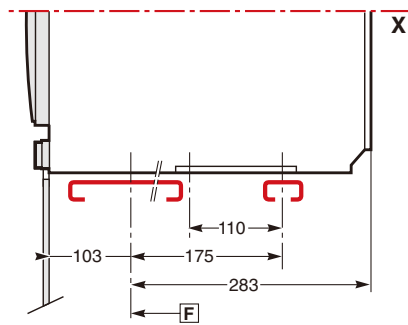
Dimensions



Horizontal installation on board or railway

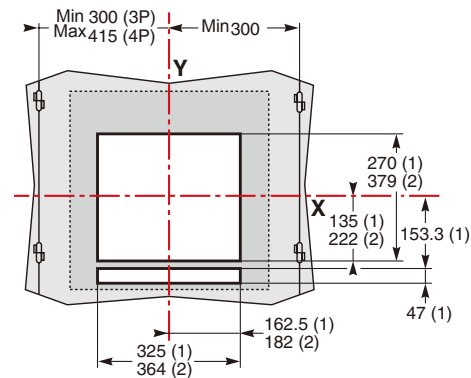
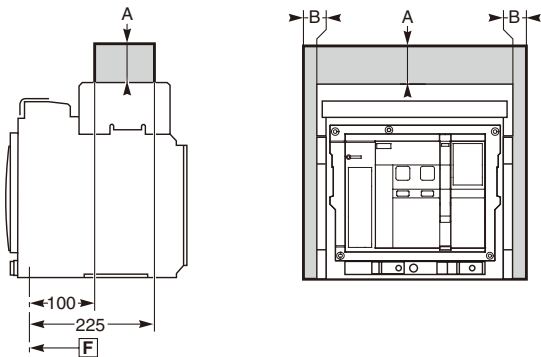


Vertical installation on back board or frame



Safety clearances

Door holes dimensions



	Non-conductor	Metals	Electric conductor
A	0	0	0
B	0	0	60

F □ Base point

(1) Without door frame

(2) With door frame

Remark: X axis and Y axis are the symmetry axis of 3-pole breaker's mask.

Removing the arc chutes needs 110mm safety clearance.

Removing terminal blocks needs 20mm safety clearance.

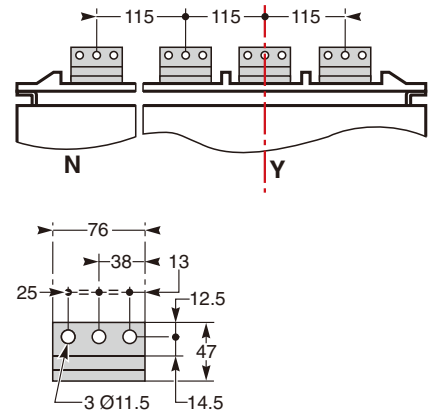
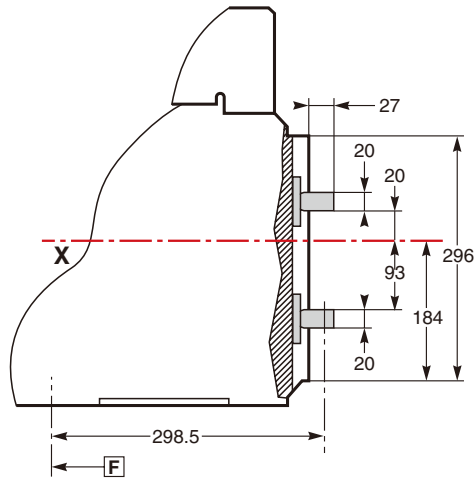
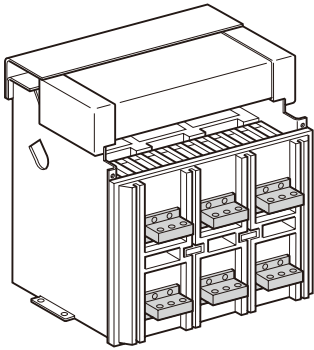
Installation Dimensions

CDW9-4000H1&H2 Draw-out Type 3P&4P 1600A~3200A

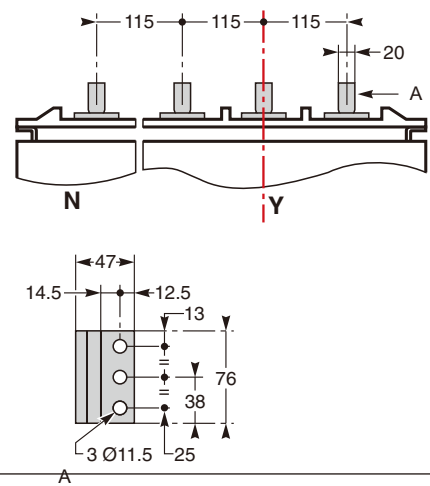
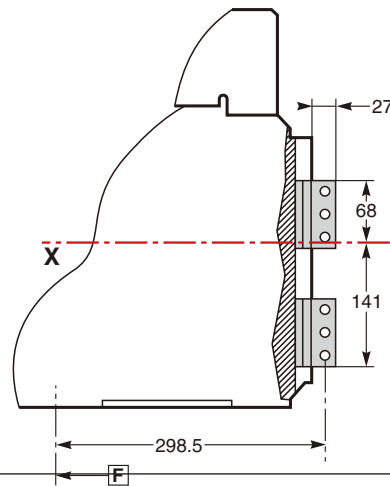
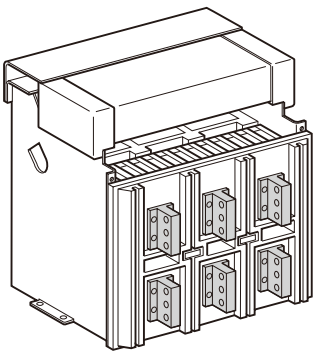


Connections

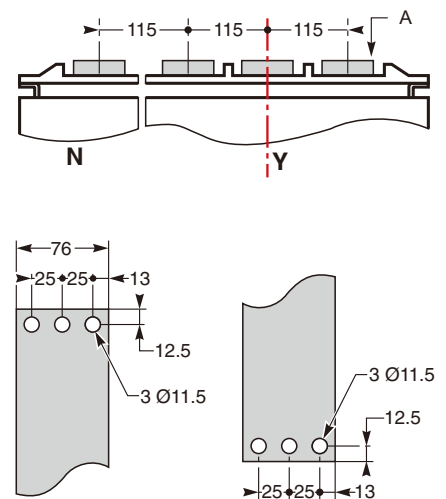
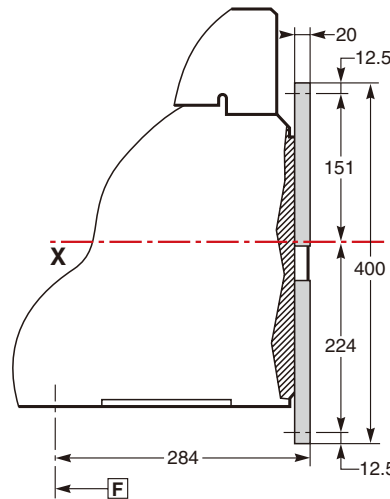
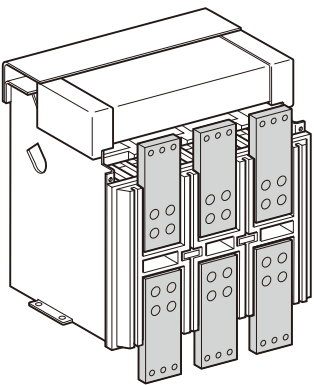
Horizontal rear connection



Vertical rear connection



Front connection



F □ Base point

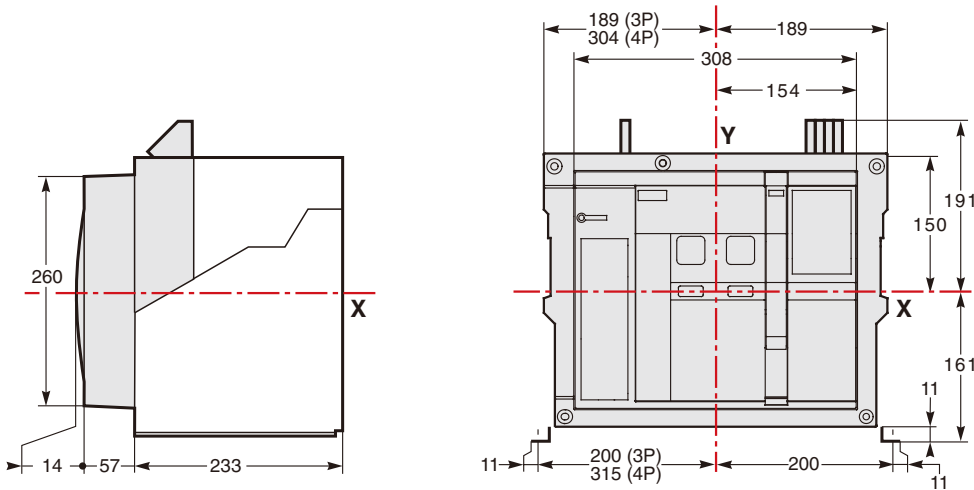
Remarks: Screws: M10 Class8.8
Fasten torque: 50Nm with gasket.

Installation Dimensions

CDW9-4000H1&H2 Fixed Type 3P&4P 4000A

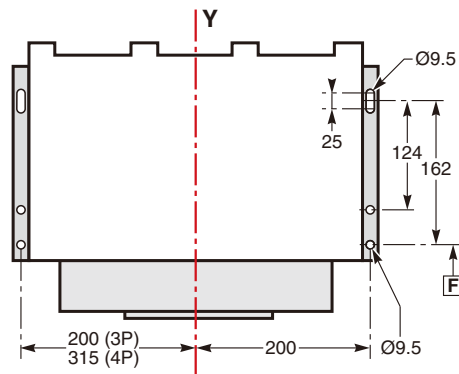
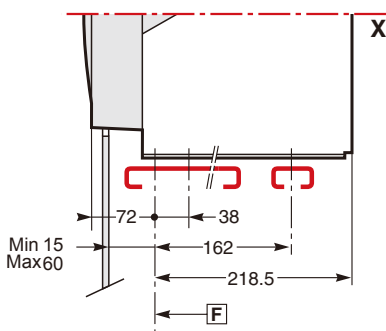


Dimensions



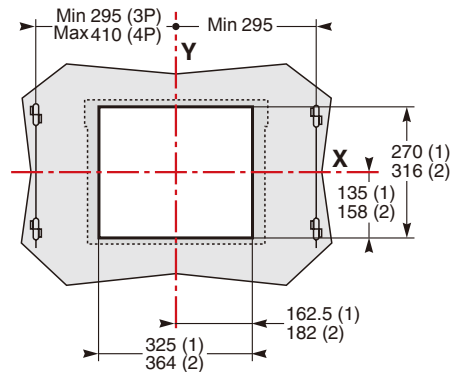
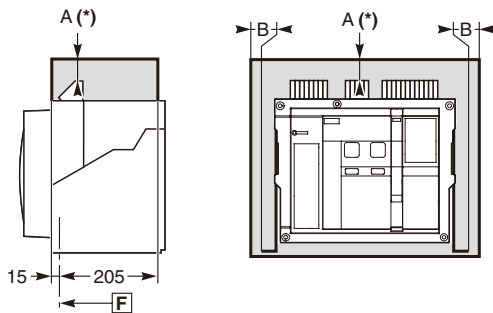
Horizontal installation on board or railway

Vertical installation on back board or frame



Safety clearances

Door holes dimensions



	Non-conductor	Metals	Electric conductor
A	0	0	100
B	0	0	60

(1) Without door frame

(2) With door frame

Remark: X axis and Y axis are the symmetry axis of 3-pole breaker's mask.

Removing the arc chutes needs 110mm safety clearance.

Removing terminal blocks needs 20mm safety clearance.

F □ Base point

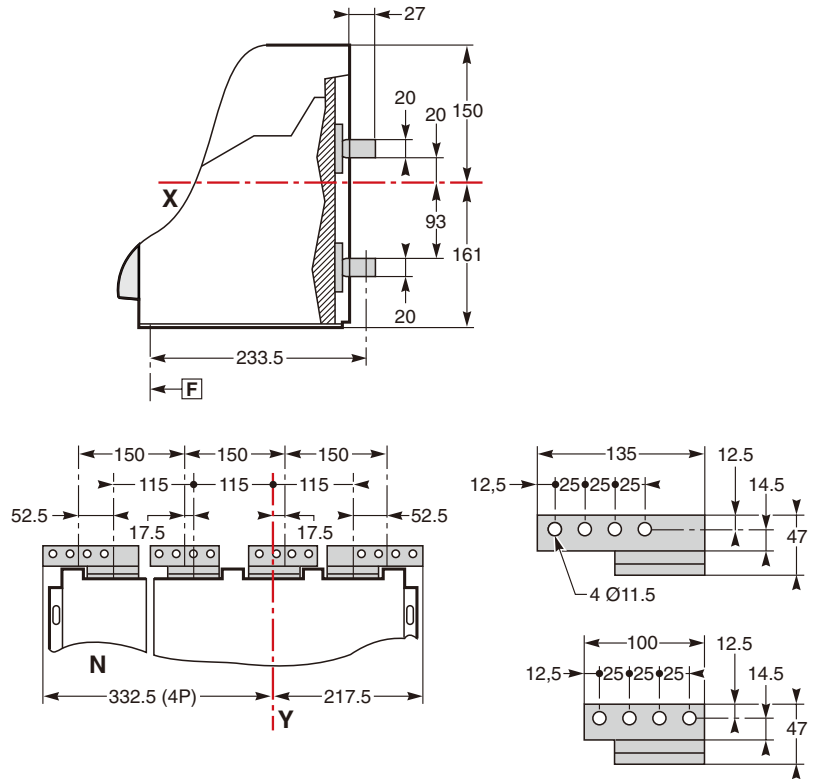
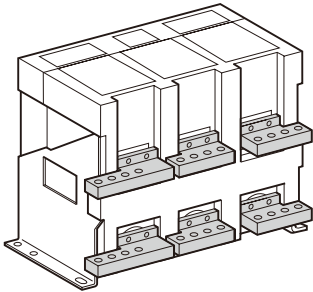
Installation Dimensions

CDW9-4000H1&H2 Fixed Type 3P&4P 4000A

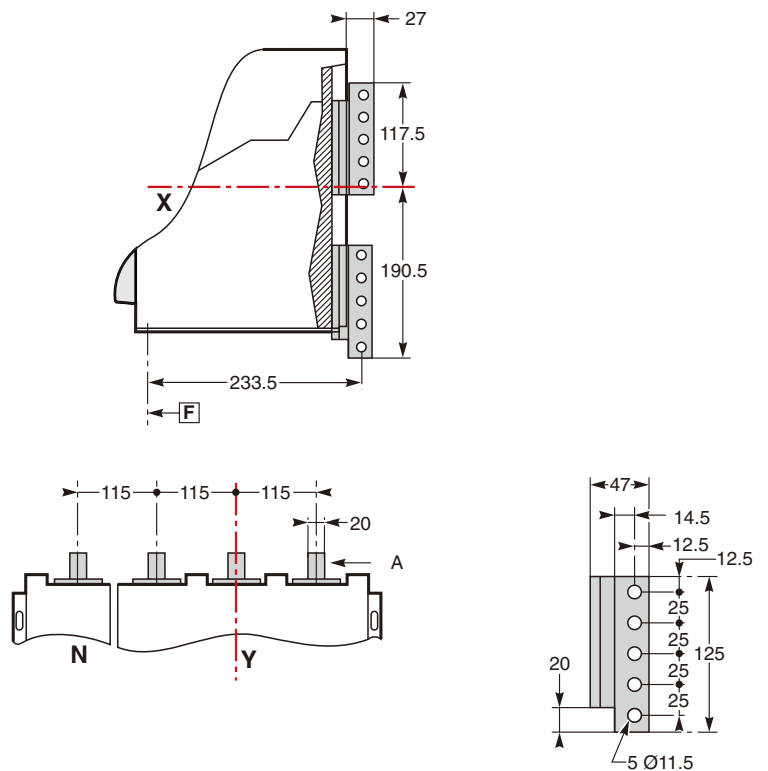
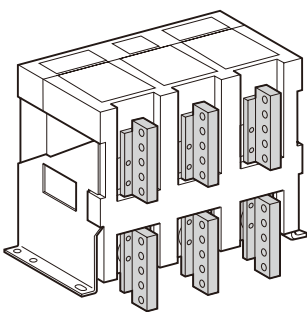


Connections

Horizontal rear connection



Vertical rear connection



F □ Base point

Remarks: Screws: M10 Class8.8

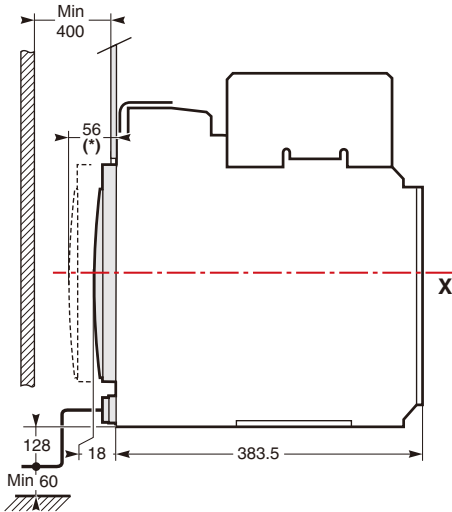
Fasten torque: 50Nm with gasket.

Installation Dimensions

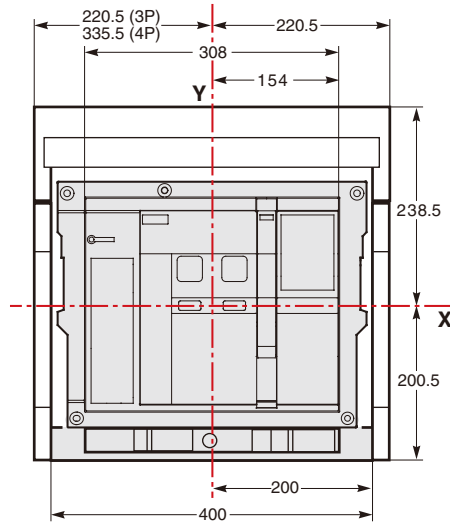
CDW9-4000H1&H2 Draw-out Type 3P&4P 4000A



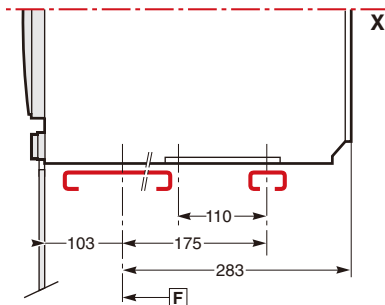
Dimensions



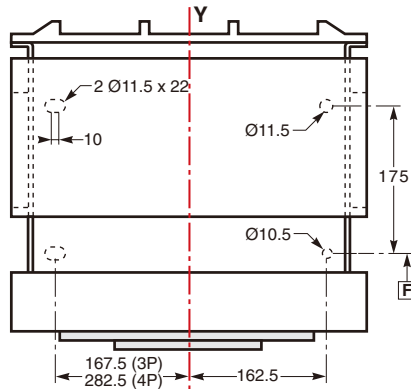
Horizontal installation on board or railway



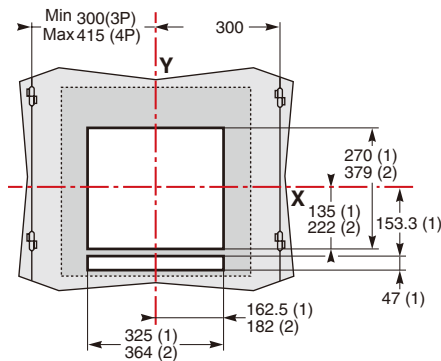
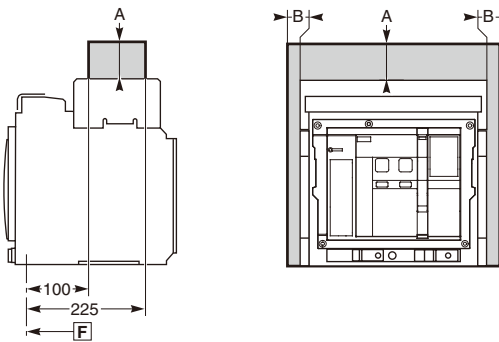
Vertical installation on back board or frame



Safety clearances



Door holes dimensions



	Non-conductor	Metals	Electric conductor
A	0	0	0
B	0	0	60

F □ Base point

(1) Without door frame

(2) With door frame

Remark: X axis and Y axis are the symmetry axis of 3-pole breaker's mask.

Removing the arc chutes needs 110mm safety clearance.

Removing terminal blocks needs 20mm safety clearance.

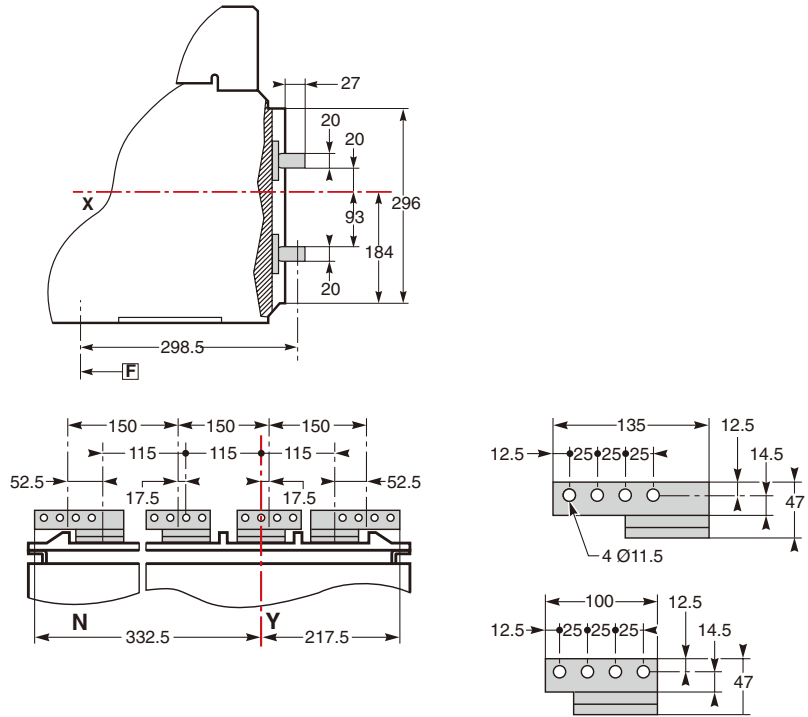
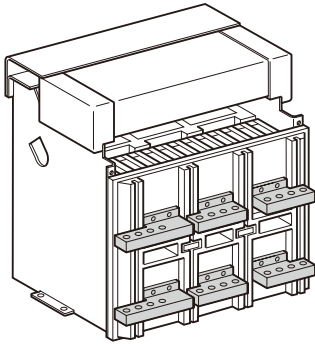
Installation Dimensions

CDW9-4000H1&H2 Draw-out Type 3P&4P 4000A

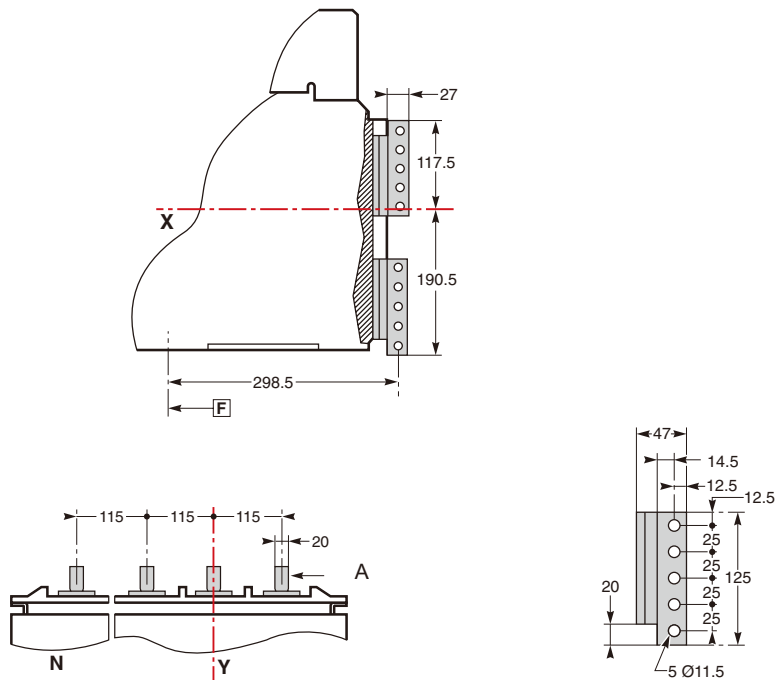
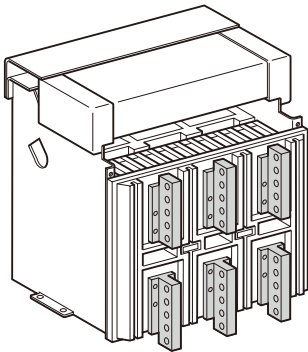


Connections

Horizontal rear connection



Vertical rear connection



F: Base point

Remarks: Screws: M10 Class8.8

Fasten torque: 50Nm with gasket.

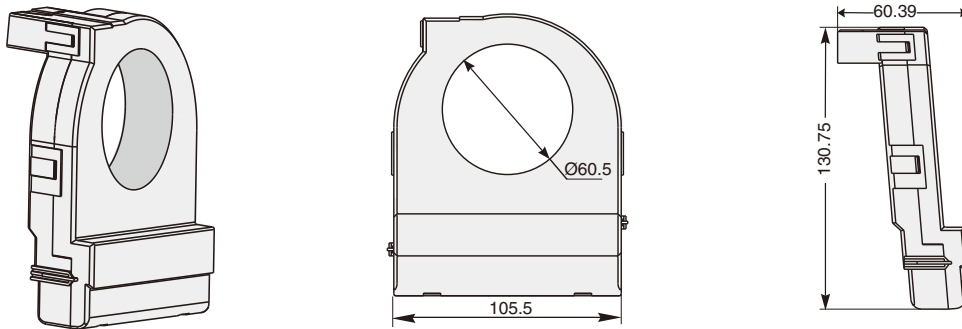
Installation Dimensions

CDW9-4000H1&H2 Draw-out Type 3P&4P 4000A

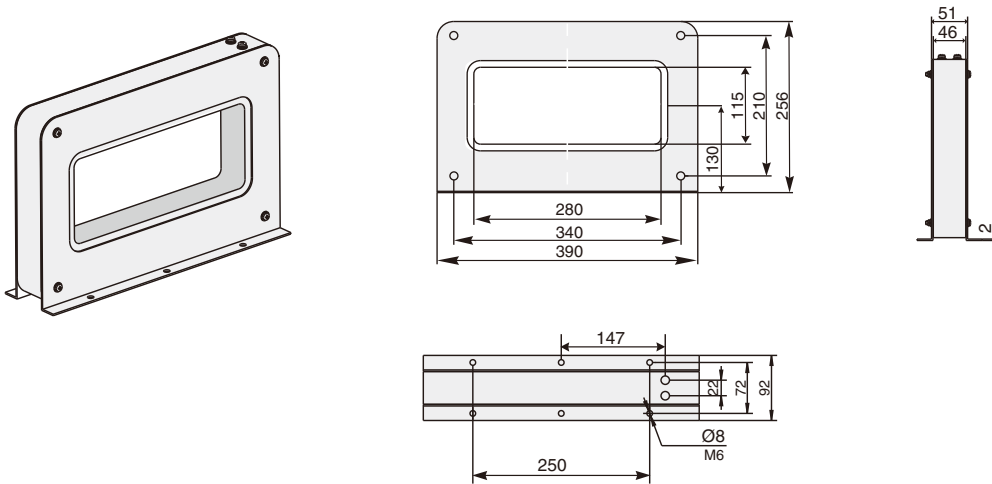


Dimensions of Extend Current Transformers

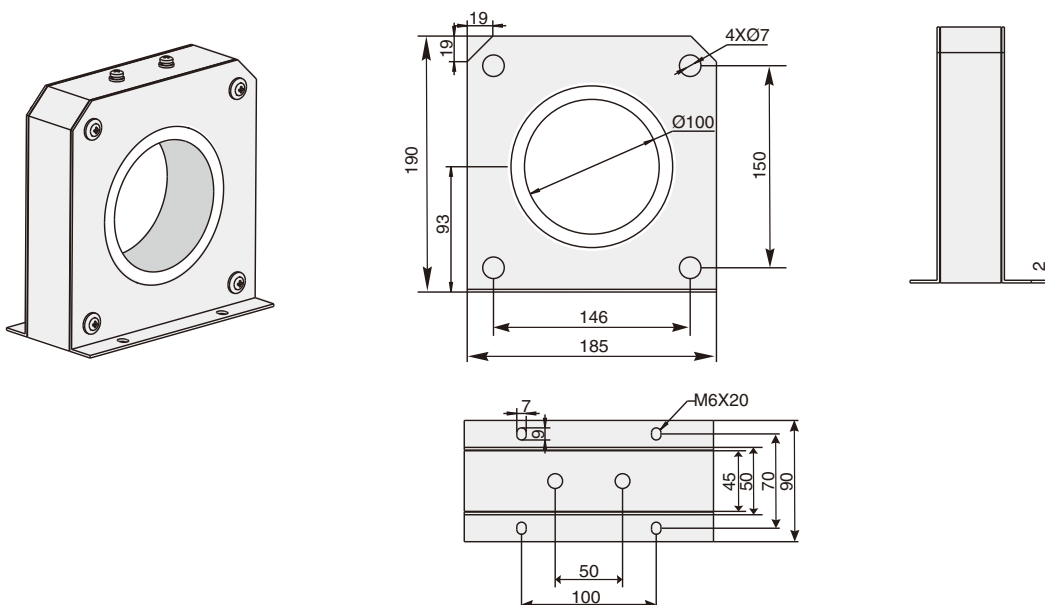
N-phase Extend Current Transformer



Earth-leakage Current Transformer



Ground Return Current Transformer

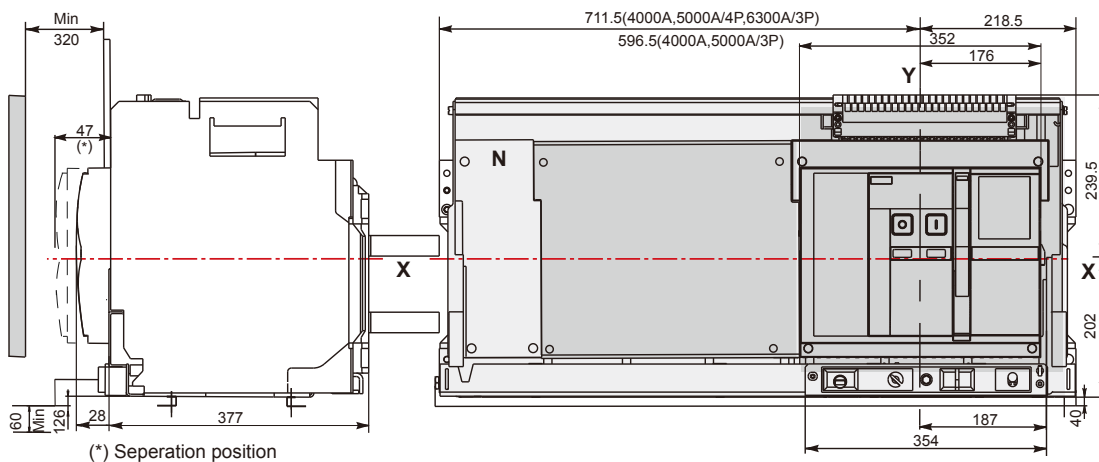


Installation Dimensions

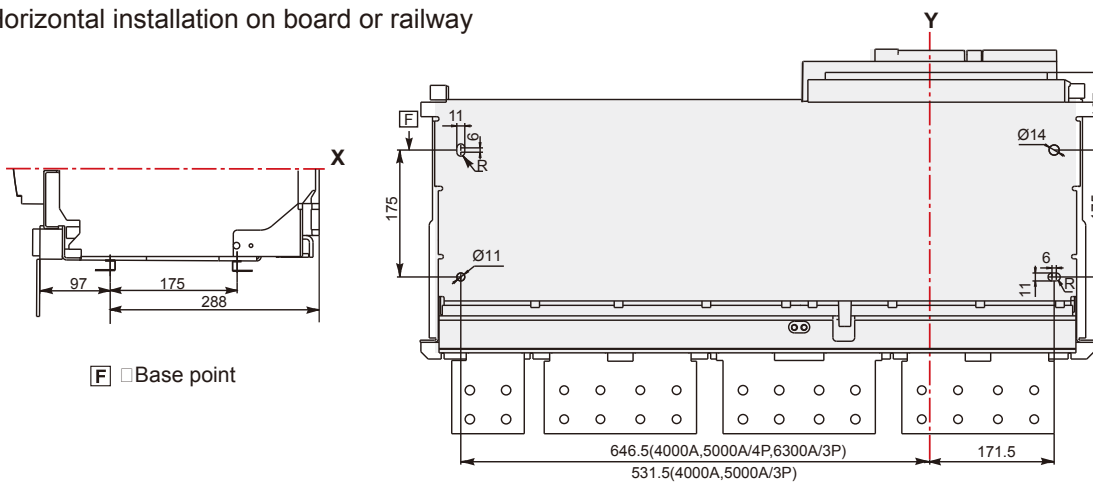
CDW9-6300L Draw-out Type 3P&4P



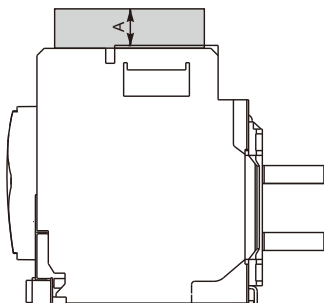
Dimensions



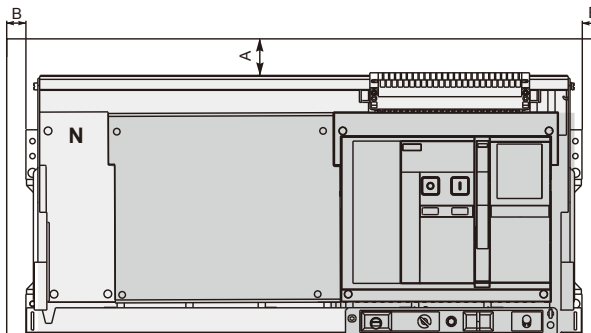
Horizontal installation on board or railway



Safety clearances



Door holes dimensions



	Non-conductor	Metals	Electric conductor
A	0	0	0
B	0	0	60

F □ Base point

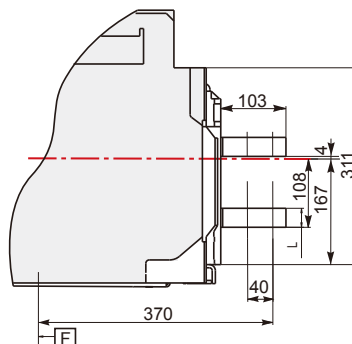
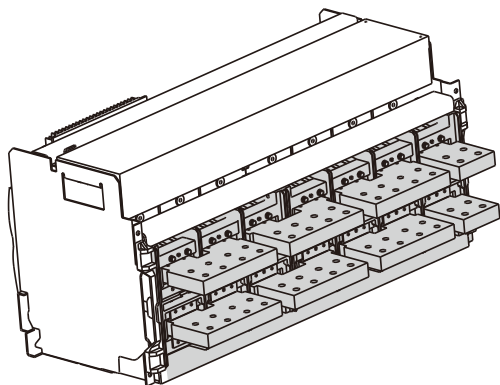
Installation Dimensions

CDW9-6300L Draw-out Type 3P&4P



Connections

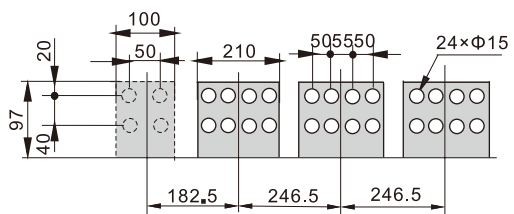
Horizontal rear connection



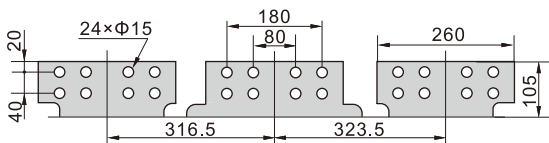
In(A)	L
4000A	20
5000A	30
6300A	30

Busbar dimensions

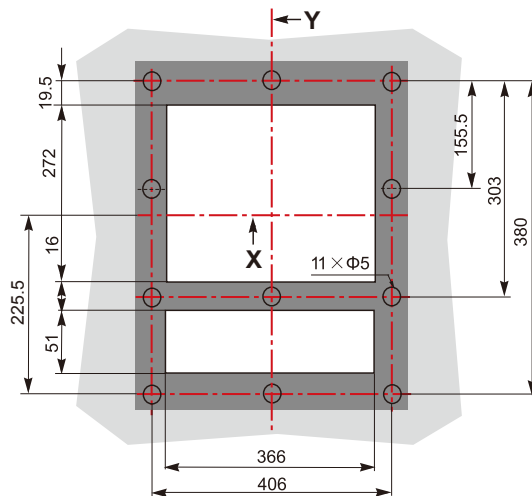
In=4000A、5000A



In=6300A



Rear panel holes dimensions



Remark: X axis and Y axis are the symmetry axis of breaker's mask.

F □ Base point

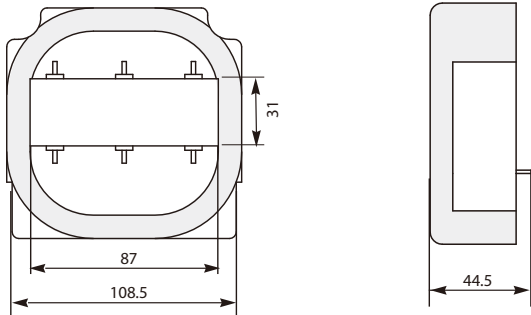
Installation Dimensions

CDW9-6300L Draw-out Type 3P&4P

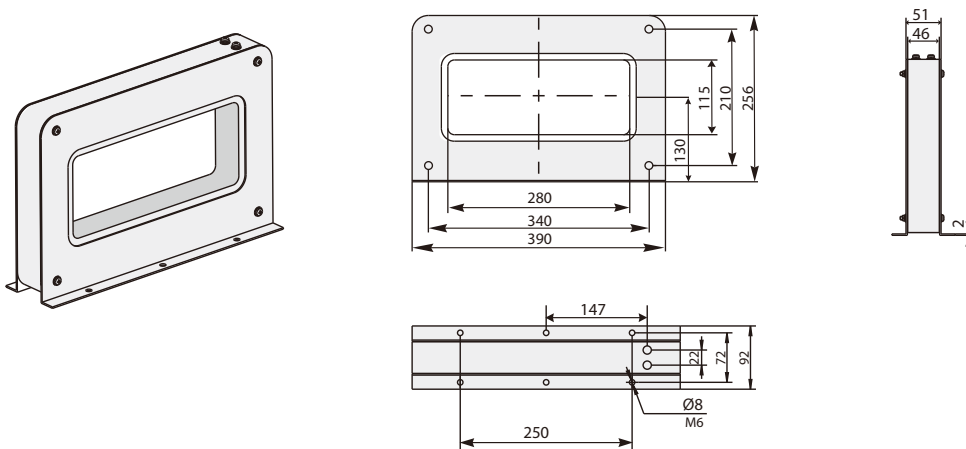


Dimensions of Extend Current Transformers

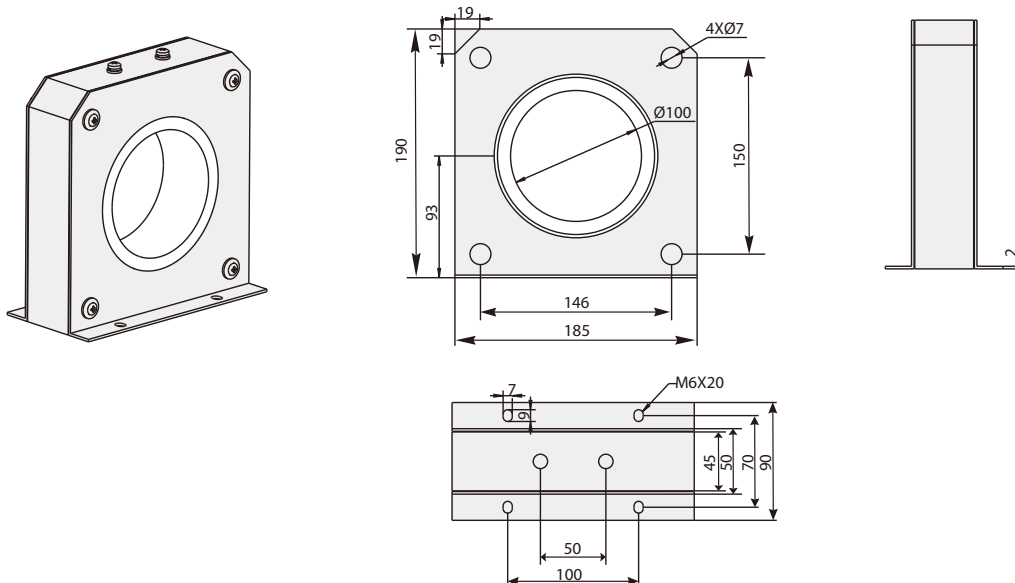
N-phase Extend Current Transformer



Earth-leakage Current Transformer



Ground Return Current Transformer



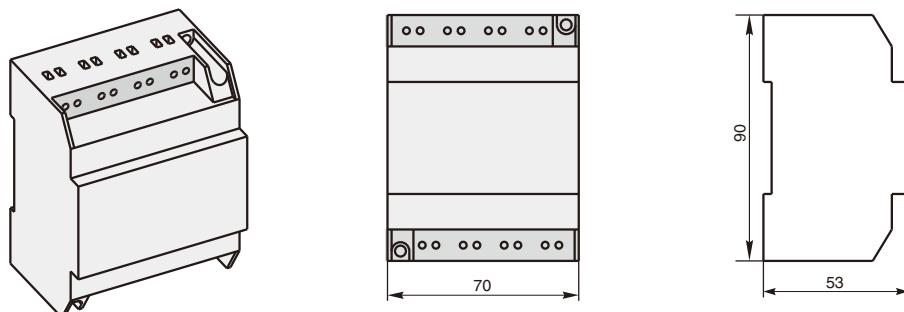
Installation Dimensions

1600N, 4000H1, 4000H2, 6300L

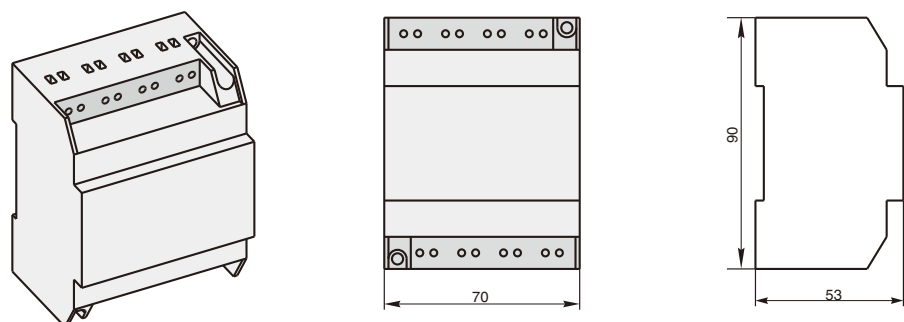


Dimensions of Power Supply Module and Signal Convert Module

Power Supply Module



Signal Convert Module



Busbar Dimensions

In(A)	Ti=40 °C			Ti=50 °C			Ti=60 °C		
	Qty	Size(mm×mm)	Section□mm ² □	Qty	Size□mm×mm□	Section□mm ² □	Qty	Size□mm×mm□	Section□mm ² □
630	2	40×5	400	2	40×5	400	2	40×5	400
800	2	50×5	500	2	50×5	500	2	50×5	500
1000	2	60×5	600	3	50×5	750	3	60×5	900
1250	2	80×5	800	2	80×5	800	3	60×5	900
1600	2	100×5	1000	3	80×5	1200	3	80×5	1200
2000	3	100×5	1500	3	100×5	1500	3	100×5	1500
2500	4	100×5	2000	4	100×5	2000	4	100×5	2000
3200	3	100×10	3000	3	100×10	3000	4	100×10	4000
4000	5	100×10	5000	5	100×10	5000	6	100×10	6000
5000	5	120×10	6000	6	120×10	7200			
6300	6	120×10	7200	7	120×10	8400			

Remark: Ti stands for ambient temperature.

The material of busbar is bare copper.

Appendix

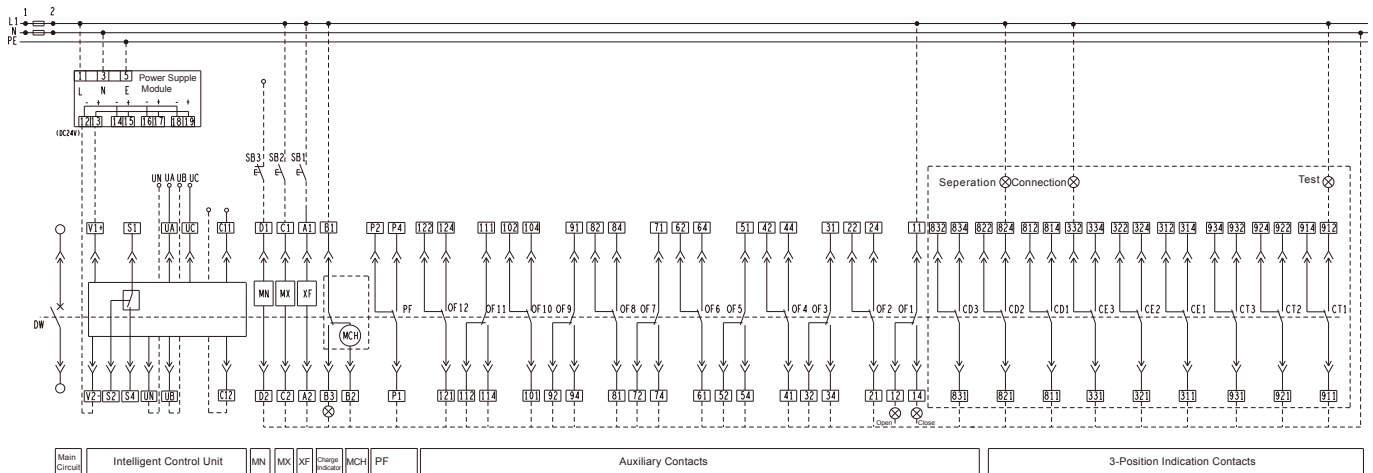
Electrical Schematic Diagram



1600N,4000H1,4000H2

Electrical Schematic Diagram

iTR336, iTR336E



Note:

UM: Voltage test signal input

UN, UA, UB, UC stands for voltage signal form N, A, B, C.

Pow: Power input

Connect V1+, V2- to positive and negative poles on power supply module.

SWT: Fault-trip indication output

S1, S2, S4 are switch contacts, S1 is common port. Contact capacity: AC400V 5A

CT: External current transformer

C11, C12 are input port of CT

Remark 1: Intelligent control units work with power supply module. The input volatage of iAPU331 is AC220/230V;

The input voltage of iAPU332 is AC380/400V; The input volatage of iAPU332D is DC220V.

Remark 2: CDW9-1600N offers 4NO 4NC auxiliary contacts.CDW9-4000H1&H2 offer 4NO 4NC auxiliary contacts as standard.

8NO 8NC or 12NO 12NC offer as optional.

Remark 3: CDW9-1600N offers CT1, CD1 and CD2.

Remark 4: Voltage measure function only for iTR336E.

Remark 5: ZT100 and ZCT1 offer as optional. The CT port can connect with one kind of CT only.

Client Preparation

SB1-Closing button

SB2-Opening button

SB3-Emergency stop button

Component

MN-Under-voltage release

PF-Ready to close contact

CD1~CD3-Seperation position indication contacts

MX-Opening release

OF1~OF12-Auxillary contacts

CT1~CT3-Test position indication contacts

XF-Closing release

ZCT1-Earth-leakage CT

CE1~CE3-Connect position indication contacts

MCH-Electric motor

ZT100-Ground return CT

Appendix

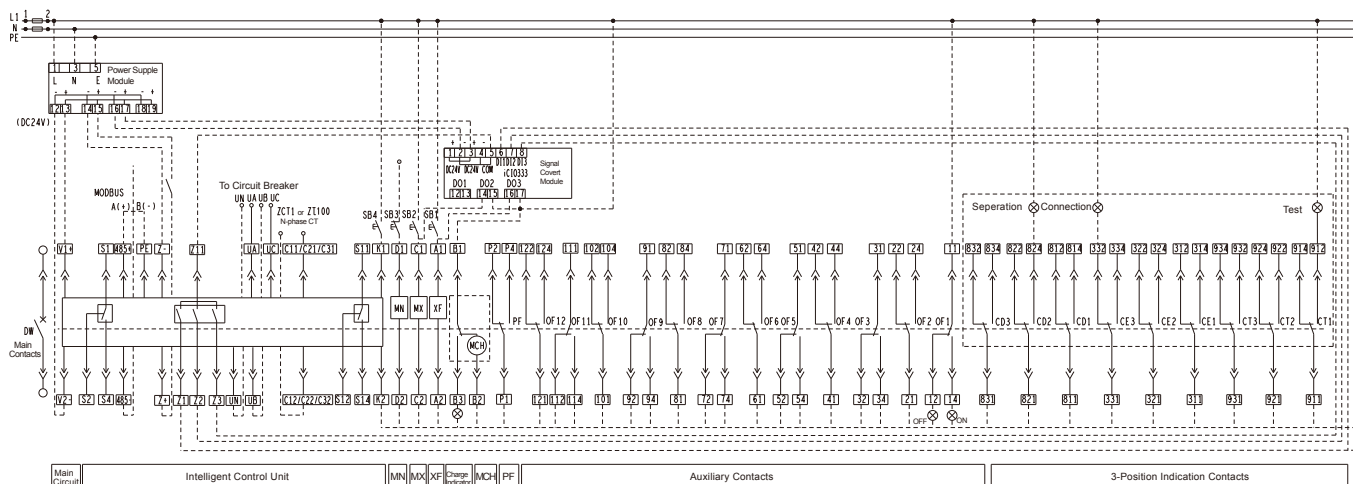
Electrical Schematic Diagram



1600N,4000H1,4000H2

Electrical Schematic Diagram

iTR336H, iTR336H-L



Note:

UM: Voltage test signal input

UN, UA, UB, UC stand for voltage signal form N, A, B, C.

ZSI: Zone selective interlock

Z+, Z- are ZSI input port, AC24V .

Pow: Power input

Connect V1+, V2- to positive and negative poles on power supply module.

SWT: Fault-trip indication output

S1, S2, S4 are switch contacts, S1 is common port. Contact capacity: AC400V 5A

COM: Communication output

485+, 485- are communication output port; PE is protecting earth of the communication wire.

CT: External current transformer

C11, C12 are input port of CT

C21, C22 are input port of ZT100

C31, C32 are input port of ZCT1

Res: Remote reset

K1, K2 are the input port of remote reset.

SWT2: Fault-trip indication output 2

S11, S12, S14 are switch contacts, S11 is common port. Contact capacity: AC400V 5A

Client Preparation

Component

SB1-Closing button	MN-Under-voltage release	PF-Ready to close contact	CD1~CD3-Seperation position indication contacts
SB2-Opening button	MX-Opening release	OF1~OF12-Auxillary contacts	CT1~CT3-Test position indication contacts
SB3-Emergency stop button	XF-Closing release	ZCT1-Earth-leakage CT	CE1~CE3-Connect position indication contacts
SB4-Remote reset button	MCH-Electric motor	ZT100-Ground return CT	

Remark 1: Intelligent control units work with power supply module. The input volatage of iAPU331 is AC220/230V;

The input voltage of iAPU332 is AC380/400V; The input volatage of iAPU332D is DC220V.

Remark 2: ZT100 and ZCT1 offer as optional. This CT port can connect with one kind of CT only.

Remark 3: For remote control, iCIO333 signal convert module is necessary. The contact capacity of the module is AC240V 10A, DC24V 10A.

Remark 4: CDW9-1600N offers 4NO 4NC auxiliary contacts.CDW9-4000H1&H2 offer 4NO 4NC auxiliary contacts as standard.

8NO 8NC or 12NO 12NC offer as optional.

Remark 5: Communication protocol is Modbus as standard. Profibus module and Devicenet module should order for additional.

Power supply module is necessary when communication module is used.

Remark 6: CDW9-1600N offers CT1, CD1 and CD2.

Remark 7: Res and SWT2 are optional parts, they are not compatible with each other.

Appendix

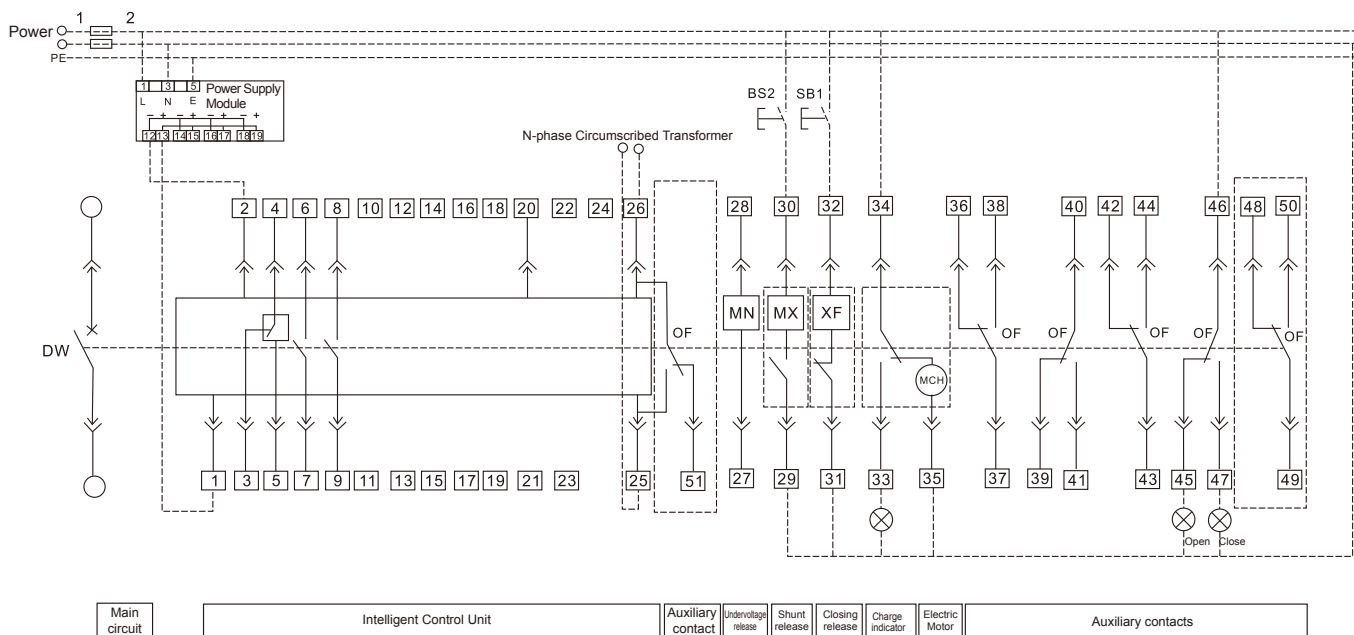
Electrical Schematic Diagram



6300L

Electrical Schematic Diagram

iTR336, iTR336E



Pin Function:

- 1# and 2#: auxiliary supply input terminal, 1# for positive terminal when being DC
- 3#, 4# and 5#: contact output of tripping fault (4# refers to shared terminal); contact capacity: AC 380V, 16A
- 6#, 7#, 8# and 9#: two groups of auxiliary terminals with circuit breaker status; contact capacity: AC 380V, 16A
- 20#: PE wire, protection earthing wire
- 25# ~26#: output for circumscribed transformer

Components:

- MN — Undervoltage Release
- MX — Shunt Release
- XF — Closing Release
- OF — Auxiliary Contacts
- MCH — Electric Motor
- SB1 — Closing Button
- SB2 — Opening Button

Remarks 1: terminal 27# ~ 28# of MN undervoltage release connect to main circuit

Remarks 2: MN, MX, XF and MCH shall be connected with different powers because of control supply voltage. Auxiliary contact OF is 5a5b, MX shunt release and XF Closing release have been tandem connected with normal open and normal close auxiliary contacts in the factory.

Remarks 3: Terminal 35# can not only be connected to the power supply directly (automatic pre-storing energy), but also to the power supply after adopting tandem connection with normal open button (manual pre-storing energy)

Remarks 4: Terminal 6# ~ 7# can output normal close contacts, if the users put forward.

Remarks 5: Power Module 1 is DC Power Module. No DC power Module when the power is AC power supply. The input & output terminals cannot be connected reversely (the draw-out type output terminal has been connected in the factory).

Remarks 6: The auxiliary contact is 5NO 5NC, 25# and 26# are circumscribed transformer, applied for (3P+N) T type earthing failure protection.

Appendix

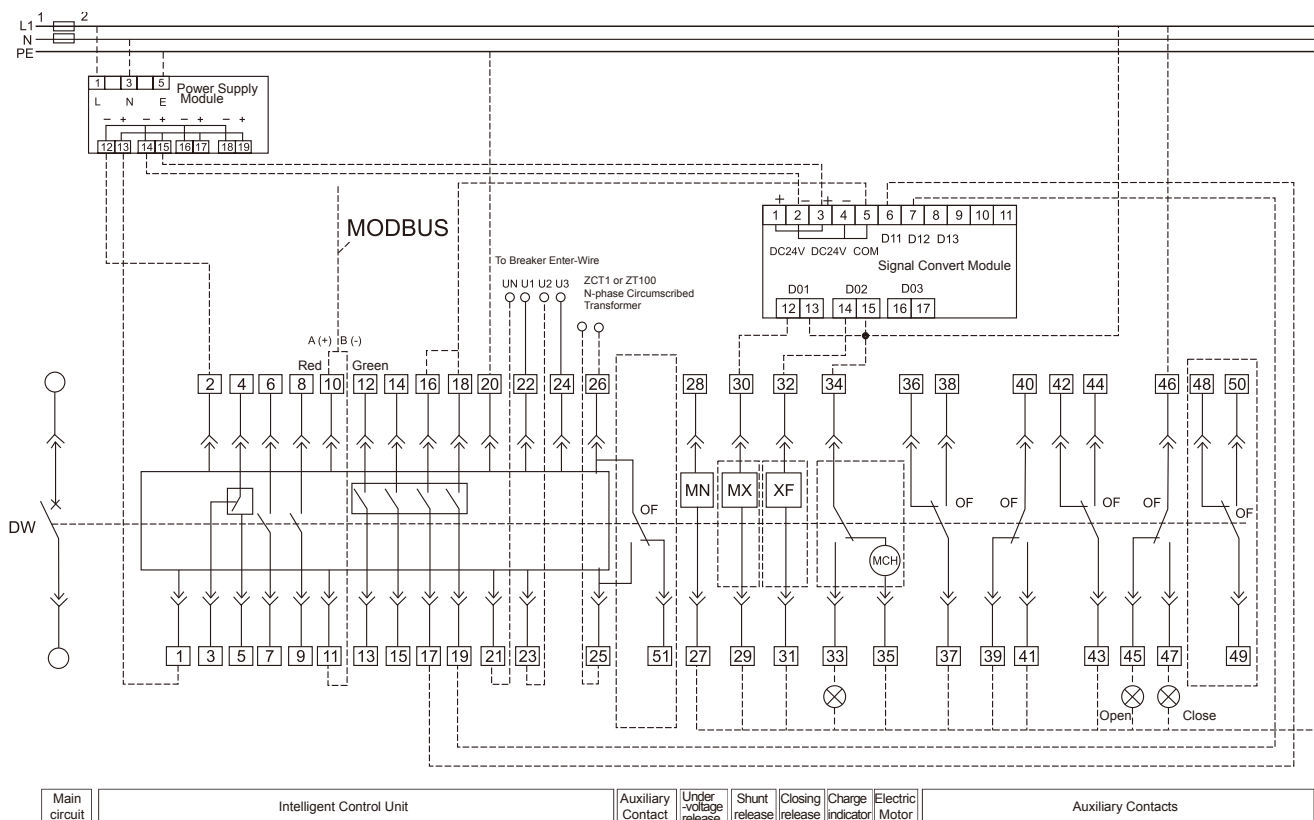
Electrical Schematic Diagram



6300L

Electrical Schematic Diagram

iTR336H



Pin Function:

- 1# and 2#: auxiliary supply input terminal, 1# for positive terminal when being DC
- 3#, 4# and 5#: contact output of tripping fault (4# refers to shared terminal); contact capacity: AC 380V, 16A
- 6#, 7#, 8# and 9#: two groups of auxiliary terminals with circuit breaker status; contact capacity: AC 380V, 16A
- 10# and 11#: respective output wire of RS485A and RS485B communication
- 12#, 13#: alarm signal output
- 14#, 15#: error tripping signal output
- 16#, 17#: communication remote control shunt release output
- 18#, 19#: communication remote control make output
- 20#: PE Line, shielding earthing line.
- 21#: Neuter line voltage signal (N phase)
- 22#: voltage signal A phase
- 23#: voltage signal B phase
- 24#: voltage signal C phase
- 25#, 26#: input of circumscribed transformer

Components:

- MN — Under-voltage Release
- MX — Shunt Release
- XF — Closing Release
- OF — Auxiliary Contact
- MCH — Electric Motor
- ZCT1 — Earth-leakage CT
- ZT100 — Earthing Transformer

Remarks 1: terminal 27# ~ 28# of MN undervoltage release connect to main circuit

Remarks 2: MN, MX, XF and MCH shall be connected with different powers because of control supply voltage. Auxiliary contact OF is 5NO5NC, MX Shunt-trip Release and XF Closing release have been tandem connected with normal open and normal close auxiliary contacts in the factory.

Remarks 3: Terminal 35# can not only be connected to the power supply directly (automatic pre-storing energy), but also to the power supply after adopting tandem connection with normal open button (manual pre-storing energy)

Remarks 4: Terminal 6# ~ 7# can output normal close contacts, if the users put forward.

Remarks 5: iAPU332D is DC power supply module, and there is no such module when the power is AC power supply. The input & output terminals cannot be connected reversely (the draw-out type output terminal has been connected in the factory)

Remarks 6: The auxiliary contact is five-open and five-close, 25# and 26# are circumscribed transformer, applied for (3P+N) T type earthing failure protection, or connect Z CT1 or ZT100 (should order extra)

Remarks 7: long-range control should add signal module and power module capacity of signal module is: AC230V, 10A; DC24V, 10A

Remarks 8: communication agreement is Modbus. If use Profibus or other agreement, it needs extra order. Power module and signal module needs extra order.

Appendix

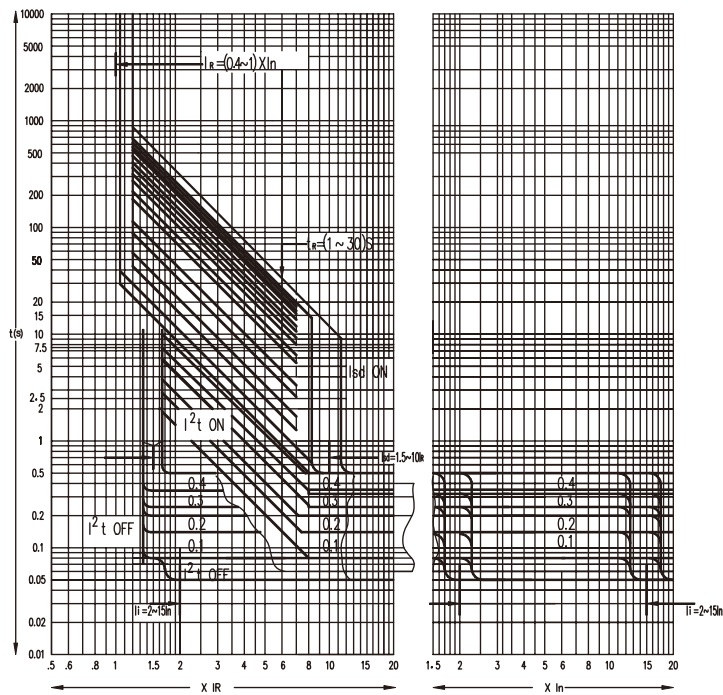
Tripping Curves



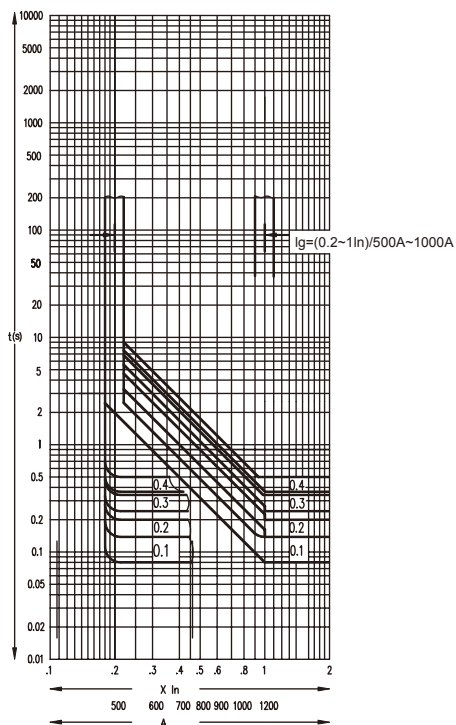
Tripping Curves

Normal Protections

1600N, 4000H1&H2



Ground Return Protection



Appendix

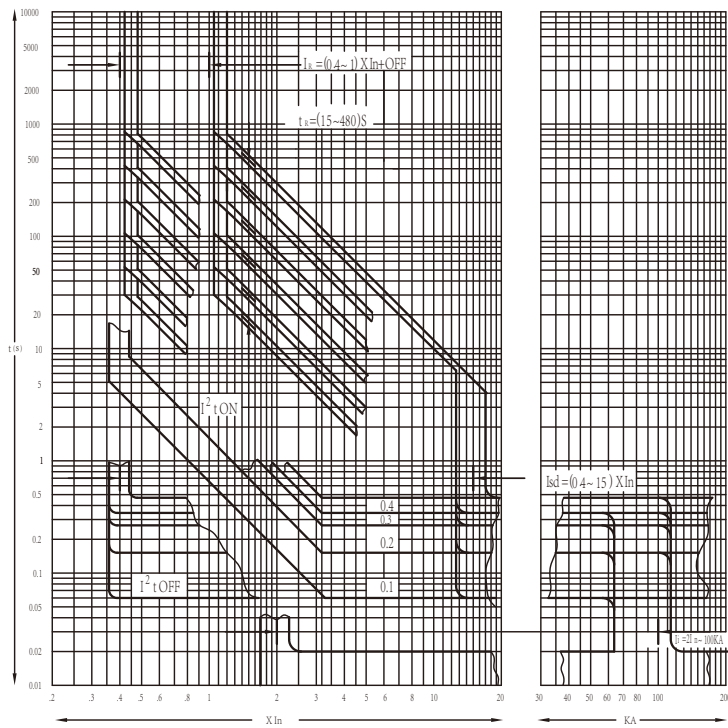
Tripping Curves



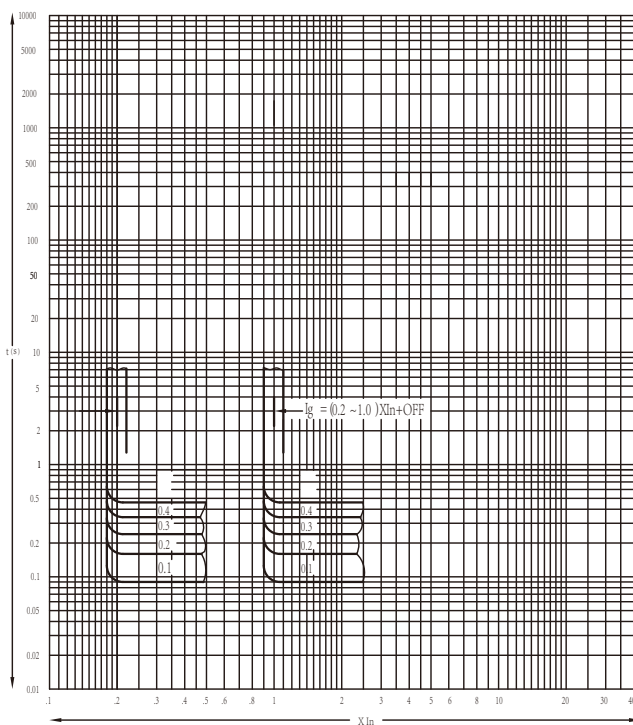
Tripping Curves

Normal Protections

6300L



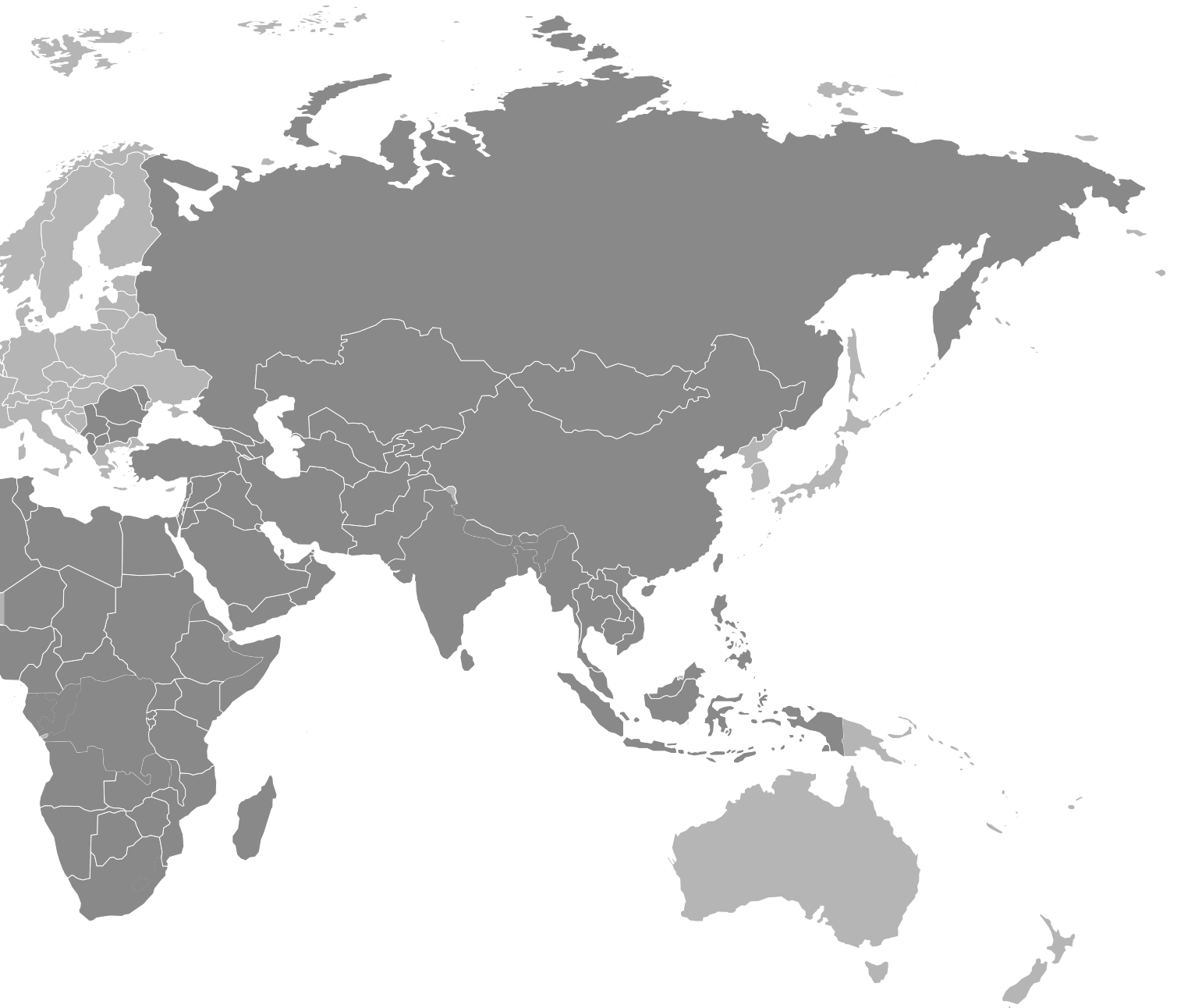
Ground Return Protection



A Company to Serve



You Where You Are



E-mail Address: info.OBD@delixi-electric.com

