

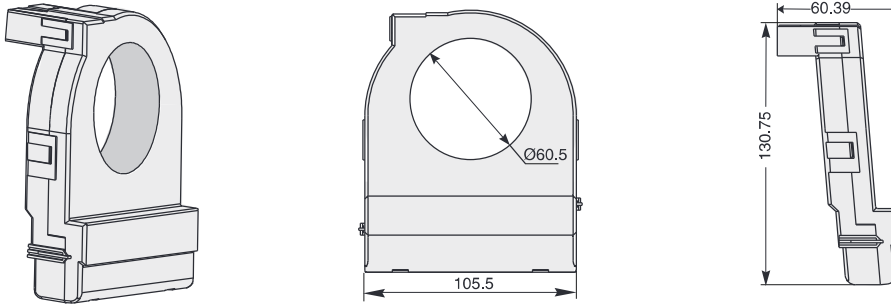
HDW9 Installation Dimensions

HDW9-4000H1 & H2
IEC/EN: 60947-2

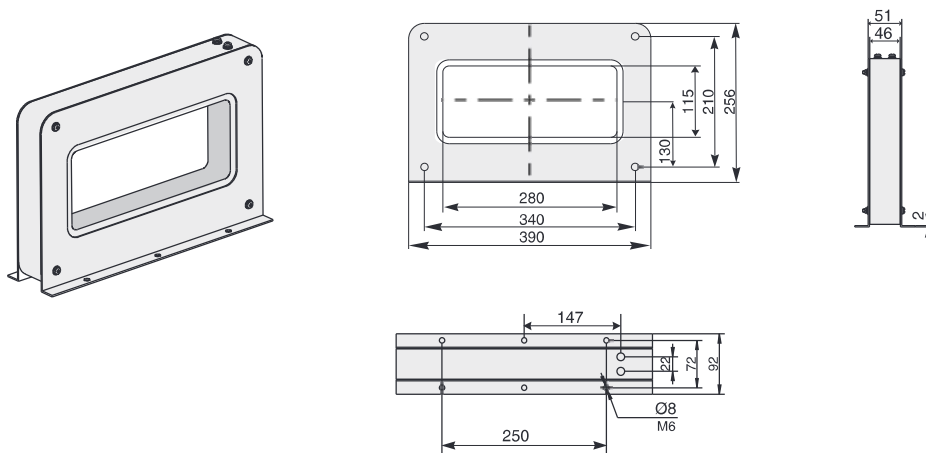


Dimensions of Extend Current Transformers

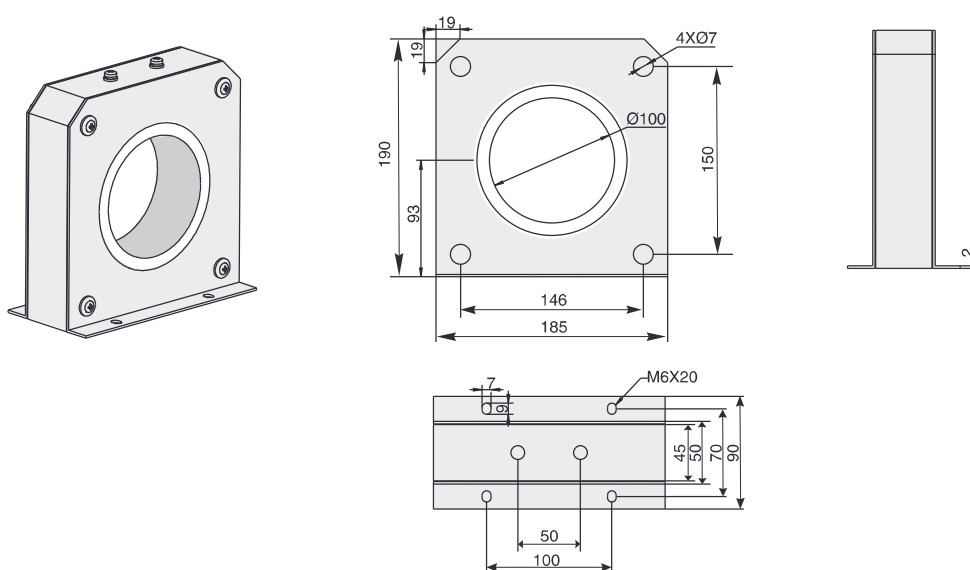
N-phase Extend Current Transformer



Earth-leakage Current Transformer



Ground Return Current Transformer

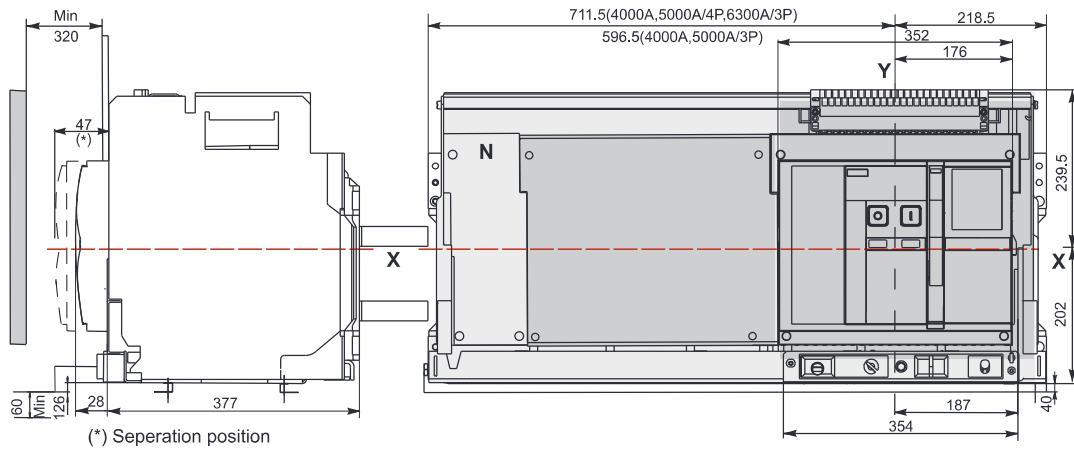


HDW9 Installation Dimensions

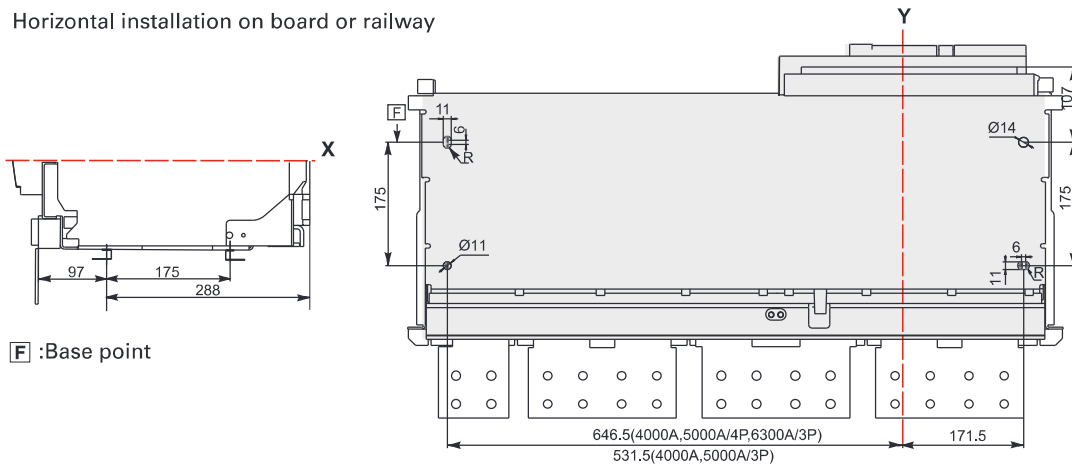
HDW9-6300H1 & H2 Fixed Type 3P & 4P 6300A
IEC/EN: 60947-2



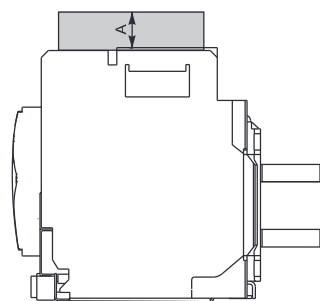
Dimensions



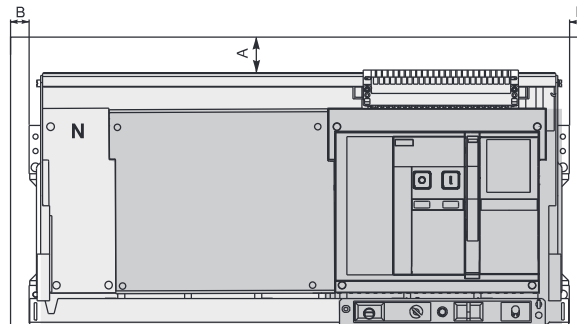
Horizontal installation on board or railway



Safety clearances



Door holes dimensions



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

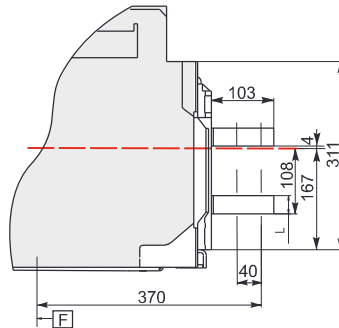
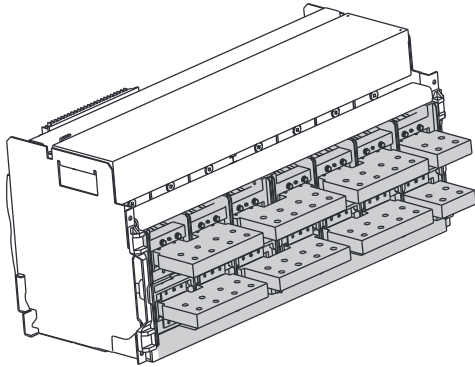
HDW9 Installation Dimensions

HDW9-6300L Draw-out Type 3P & 4P
IEC/EN: 60947-2



Connections

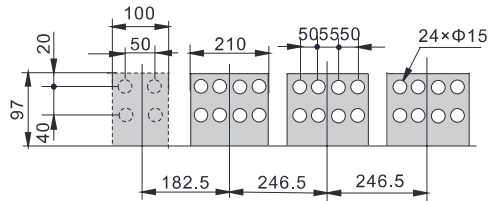
Horizontal rear connection



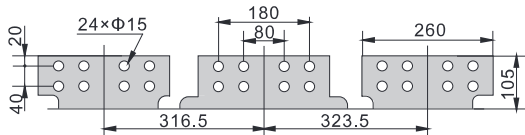
In(A)	L
4000A	20
5000A	30
6300A	30

Busbar dimensions

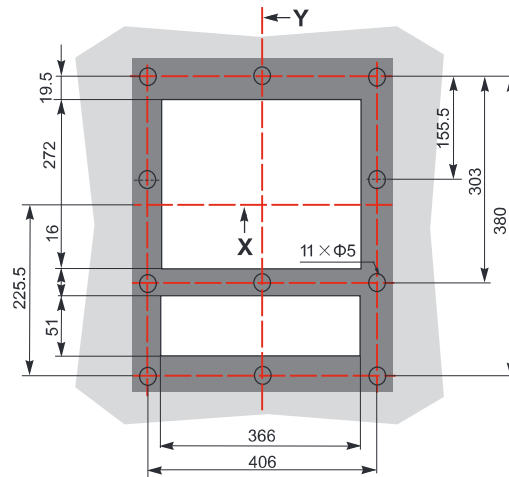
In=4000A、5000A



In=6300A



Rear panel holes dimensions



:Base point

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

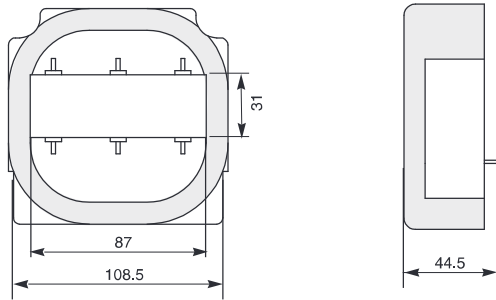
HDW9 Installation Dimensions

HDW9-6300L
IEC/EN: 60947-2

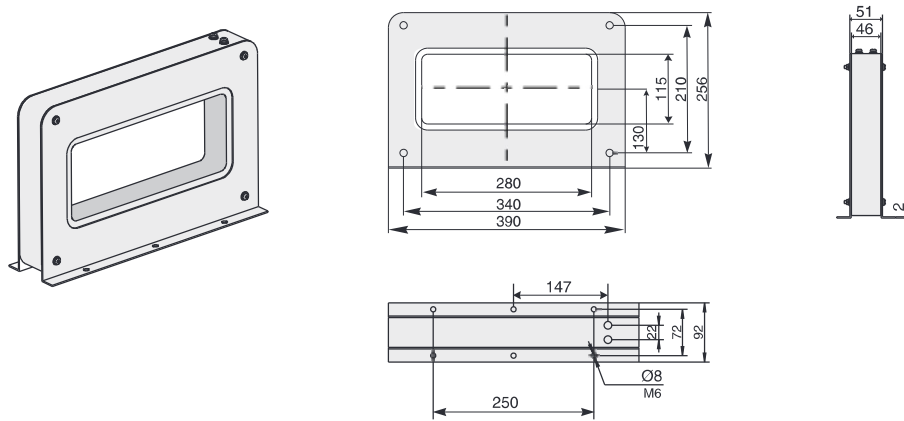


Dimensions of Extend Current Transformers

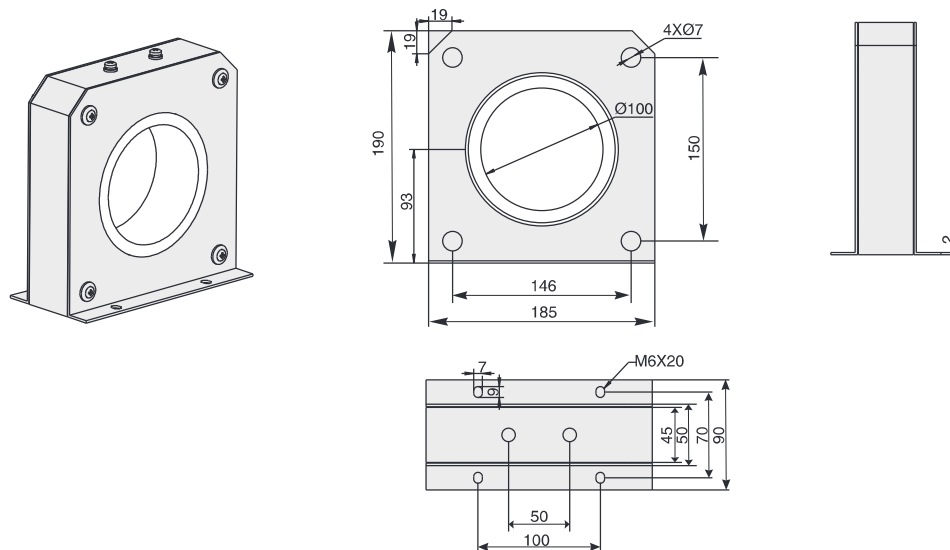
N-phase Extend Current Transformer



Earth-leakage Current Transformer



Ground Return Current Transformer



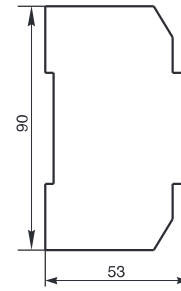
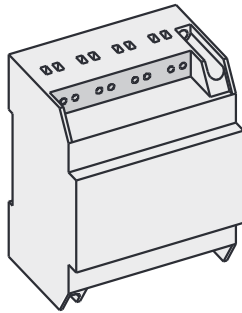
HDW9 Installation Dimensions

1600N, 4000H1, 4000H2, 6300L
IEC/EN: 60947-2

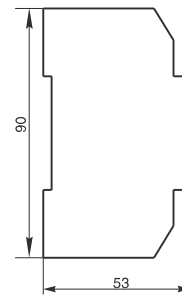
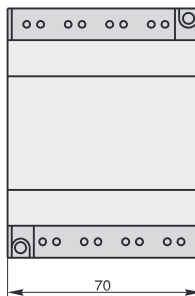
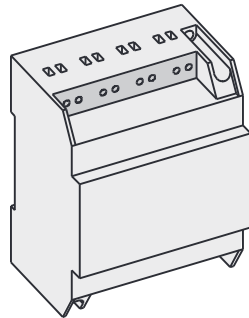


Dimensions of Power Supply Module and Signal Convert Module

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

HDW9 Appendix

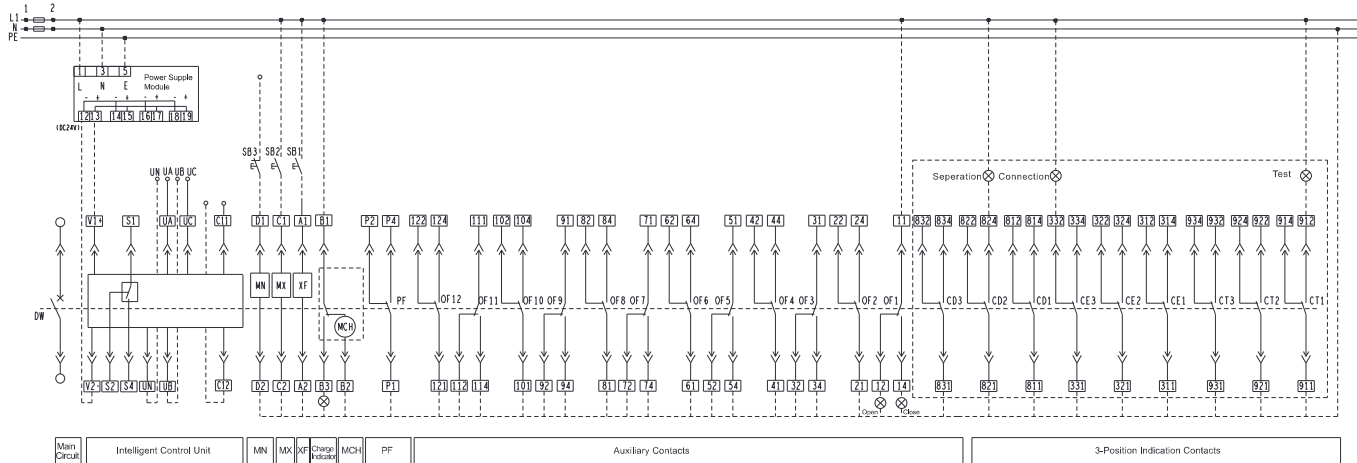
Electrical Schematic Diagram
IEC/EN: 60947-2



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 voltage of iAPU331 is AC220/230V;

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

Remark 2: HDW9-1600N offers 4NO 4NC auxiliary contacts. HDW9-4000H1&H2 offer 4NO 4NC auxiliary contacts as standard.

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

Remark 3: HDW9-1600N 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-Separation position indication contacts

MX-Opening release

OF1~OF12-Auxiliary 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

HDW9 Appendix

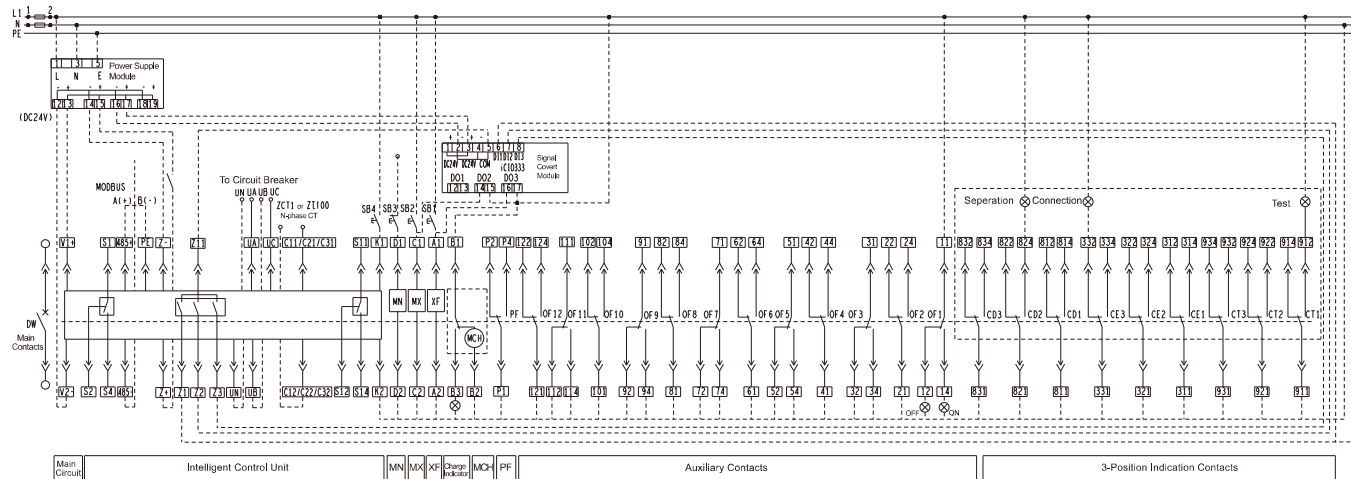
Electrical Schematic Diagram
IEC/EN: 60947-2



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	Component	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, iC1033 signal convert module is necessary. The contact capacity of the module is AC240V 10A, DC24V 10A.
- Remark 4:** HDW9-1600N offers 4NO 4NC auxiliary contacts. HDW9-4000H1&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:** HDW9-1600N offers CT1, CD1 and CD2.
- Remark 7:** Res and SWT2 are optional parts, they are not compatible with each other.

HDW9 Appendix

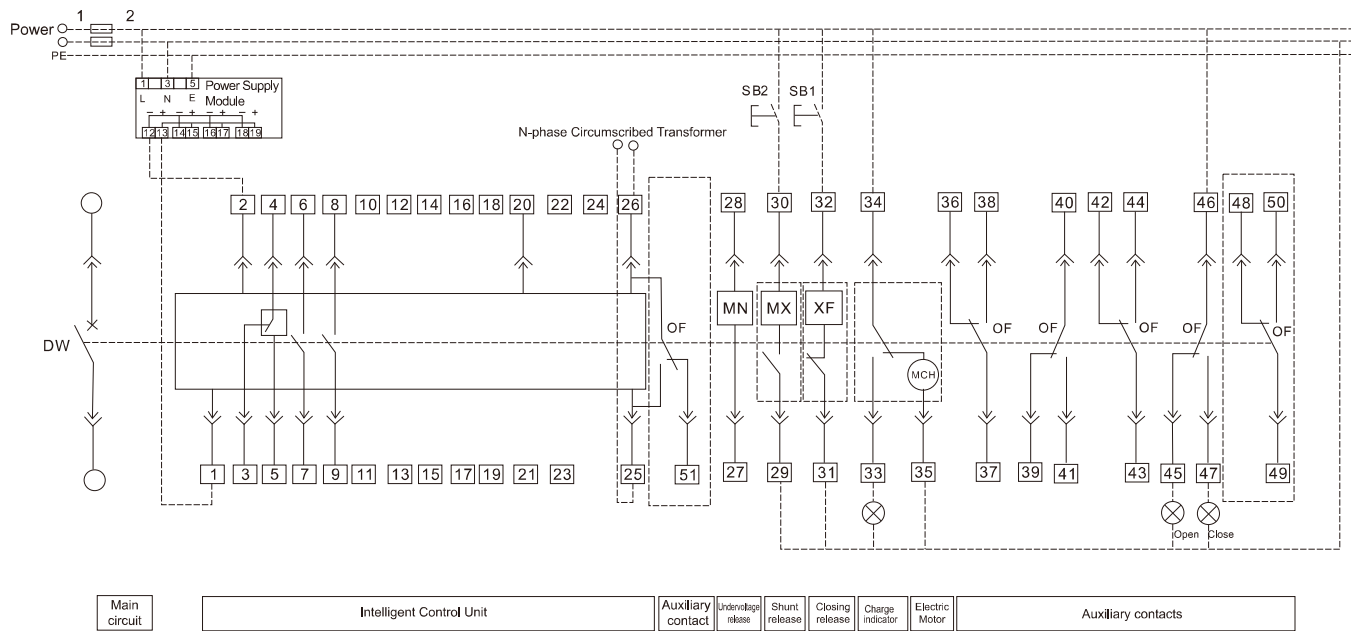
Electrical Schematic Diagram
IEC/EN: 60947-2



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# cannot 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.

HDW9 Appendix

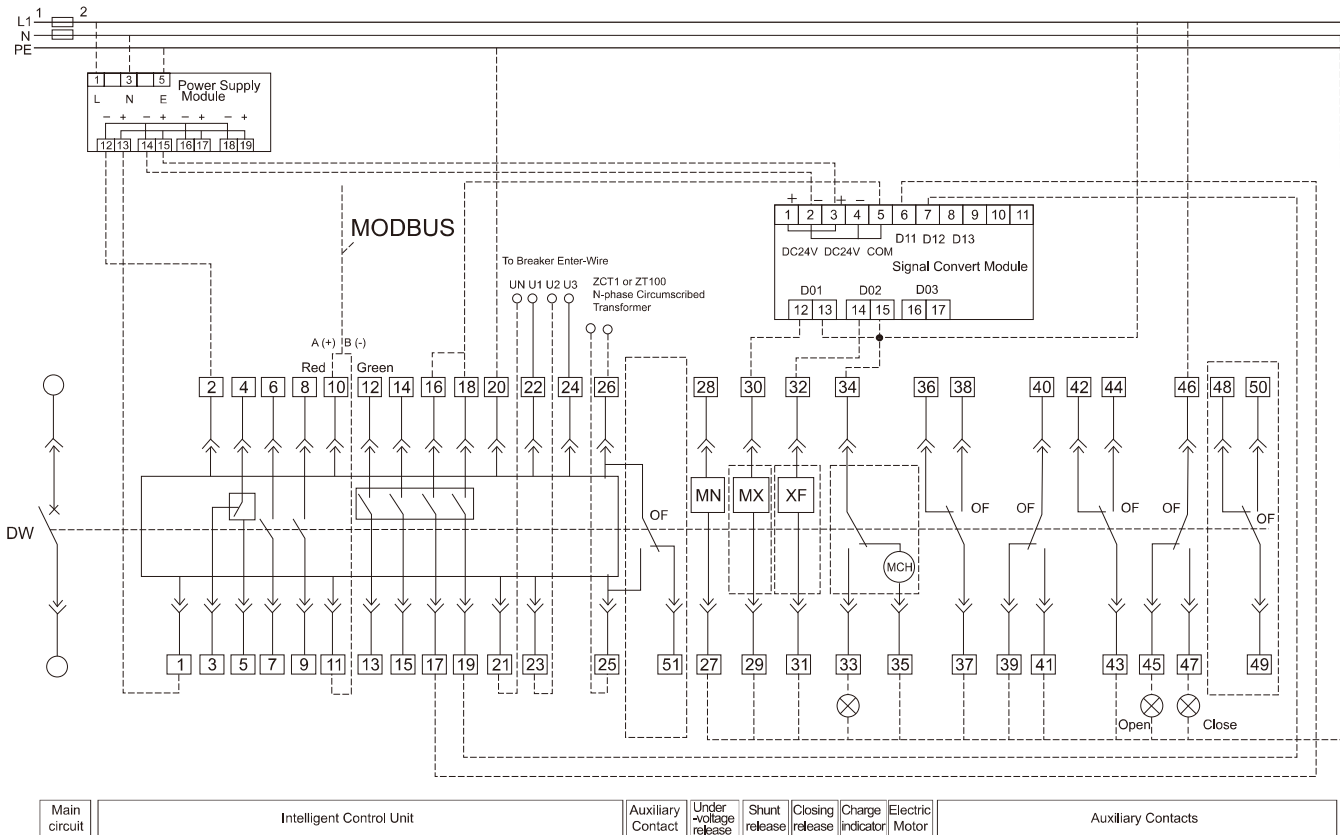
Electrical Schematic Diagram
IEC/EN: 60947-2



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 (extra order required).

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

Remarks 8: Communication agreement is Modbus. If use Profibus or other arrangement, an additional order needs to be made. Power module and signal module also needs an additional order.

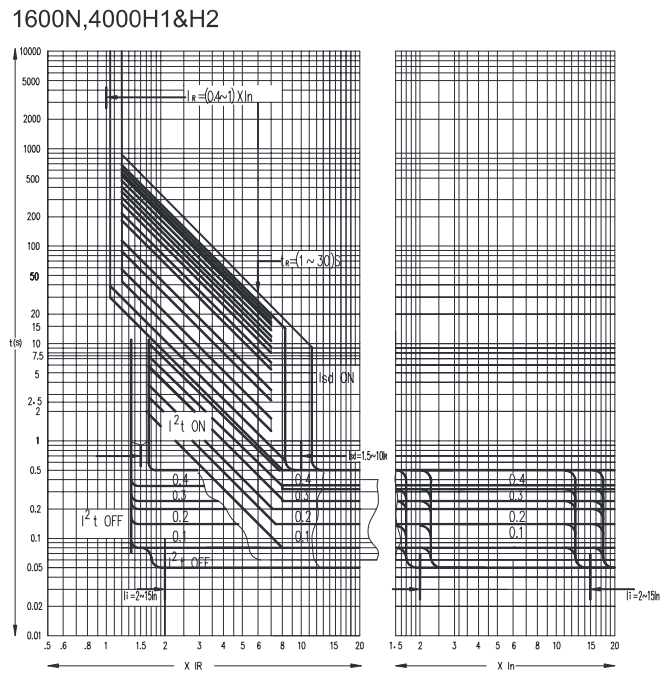
HDW9 Appendix

Electrical Schematic Diagram
IEC/EN: 60947-2

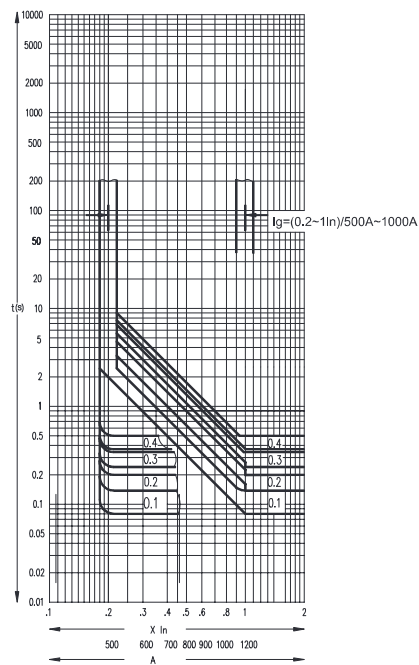


Tripping Curves

Normal Protections



Ground Return Protection



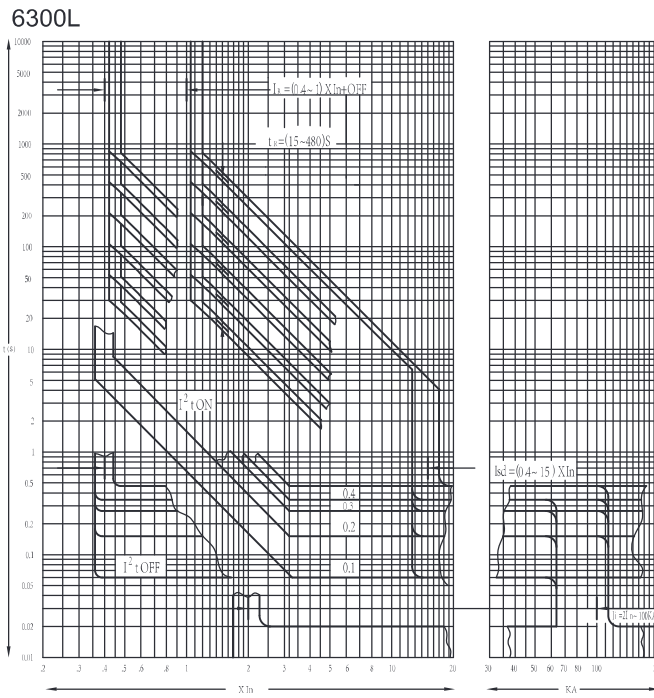
HDW9 Appendix

Tripping Curves
IEC/EN: 60947-2

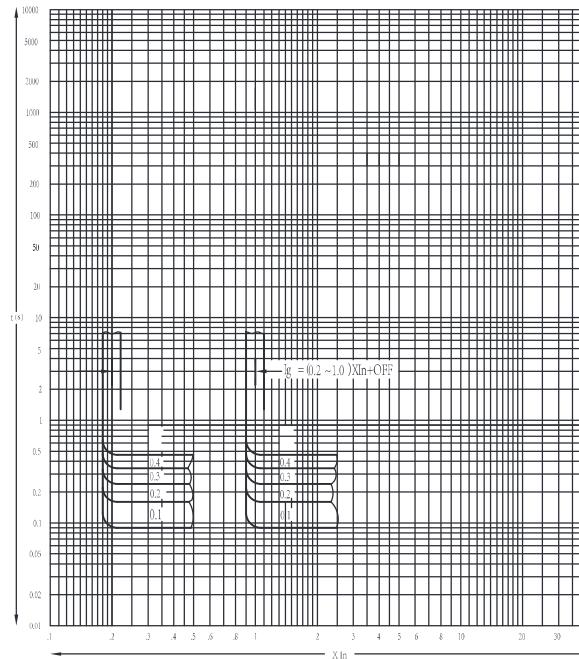


Tripping Curves

Normal Protections



Ground Return Protection



Miniature Circuit Breaker & Switch Disconnectors Product Overview

Miniature Circuit Breaker (MCB)

Type	In (A)																				AC/DC		Phase -neutral
	1A	2A	3A	4A	5A	6A	8A	10A	13A	16A	20A	25A	32A	40A	50A	63A	80A	100A	125A	AC	DC		
HDB3w	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					✓		
HDB3wH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					✓		
HDB6s	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					✓		
HDB9	✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓					✓		
HDB9Z	✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓						✓	
HDB3w-125																✓	✓	✓	✓	✓	✓		
HDB3wP						✓		✓		✓	✓	✓	✓	✓							✓		✓
HDB3wPH						✓		✓		✓	✓	✓	✓	✓							✓		✓
HDB3wZ	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						✓	
HDB6P						✓		✓		✓	✓	✓	✓								✓		✓
HDB9P						✓		✓		✓	✓	✓	✓	✓							✓		✓

Accessories

Type	OF	SD	MX+OF	MV	MN	MVMN
HDB3w HDB3wH ACC	✓	✓	✓	✓	✓	✓
HDB6s ACC	✓	✓	✓			
HDB9 ACC	✓	✓	✓	✓	✓	✓

Switch Disconnector

Type	In (A)																				AC/DC	
	1A	2A	3A	4A	5A	6A	8A	10A	13A	16A	20A	25A	32A	40A	50A	63A	80A	100A	125A	AC	DC	
HDB6IS											✓		✓			✓			✓	✓		
HDG3											✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	
HDG9													✓			✓		✓	✓	✓	✓	

Size		Poles						Breaking Capacity				Tripping Curve			Certificate						Temperature	
18mm	27mm	1P	1P+N	2P	3P	3P+N	4P	3kV	4.5kV	6kV	10kV	B	C	D	CE	IEC-CB	TUV	KEMA	SEMKO	RoHS		
✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					-20°C ~+60°C
✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓				✓	-35°C ~+70°C
✓		✓		✓	✓		✓		✓	✓		✓	✓	✓	✓	✓		✓				-5°C ~+40°C
✓		✓		✓	✓		✓			✓	✓	✓	✓	✓	✓	✓		✓			✓	-30°C ~+70°C
✓		✓		✓			✓			✓	✓	✓	✓		✓	✓			✓	✓		-30°C ~+70°C
	✓	✓		✓	✓		✓			✓	✓		✓	✓	✓	✓	✓					-20°C ~+60°C
✓			✓					✓	✓				✓	✓	✓	✓	✓					-20°C ~+60°C
✓			✓					✓	✓				✓	✓	✓	✓	✓				✓	-35°C ~+70°C
✓		✓		✓	✓					✓		✓	✓		✓	✓						-25°C ~+60°C
✓			✓						✓				✓		✓	✓				✓		-5°C ~+40°C
✓			✓						✓	✓			✓		✓	✓	✓				✓	-25°C ~+70°C

Size		Poles						Certificate						Temperature
18mm	27mm	1P	1P+N	2P	3P	3P+N	4P	CE	IEC-CB	TUV	KEMA	SEMKO	RoHS	
✓		✓		✓	✓		✓	✓	✓			✓		-5°C ~+40°C
✓		✓		✓	✓		✓	✓	✓					-20°C ~+60°C
✓		✓		✓	✓		✓	✓	✓	✓			✓	-30°C ~+70°C