# Air Circuit Breaker HDW3

# HDM3 Series

## Molded Case Circuit Breaker

- HDM3-Thermal Magnetic MCCB
- HDM2-Thermal Magnetic MCCB

Himel

*Reliable Made Affordable*

# About Himel

Himel is a multinational manufacturer and provider of electrical products that successfully combines global expertise with local knowledge. We focus on long-term partnership with customers and offer products that meet real needs and ensure adequate compatibility for common usage.

Our global footprint and technology allows to provide the best combination of affordable and reliable offers for low voltage power distribution, industrial automation and home electric in over 50 countries where we are present.

**Reliable made affordable.**

# General contents

## Himel HDW3 Air Circuit Breaker

# Selection Guide

## Selection Guide

| HDW3 | 16 | M | 16 | 3 | FH | 5554M |
|---|---|---|---|---|---|---|
| Product | Frame size | Breaking Capacity | Rated current | Poles | Installation Type | Accessory Part |
| HDW3 | 16:1600<br>20:2000<br>32:3200<br>40:4000<br>63:6300 | M:Icu≠Ics≠Icw<br>S:Icu=Ics=Icw | 04:400A<br>06:630A<br>08:800A<br>10:1000A<br>12:1250A<br>16:1600A<br>20:2000A<br>25:2500A<br>32:3200A<br>40:4000A<br>50:5000A<br>63:6300A(only 3P) | 3:3P<br>4:4P | DH:Draw-out horizontal (1600AF~6300AF)<br>FH:Fixed horizontal (1600AF~4000AF) | |

| HDW316M163FH | 5 | 5 | 5 | 4 | M |
|---|---|---|---|---|---|
| HDW316M163FV | Motor mechanism (MCH)+Closing coil (XF) | Shunt release (MX) | Undervoltage release(MN) | Auxiliary contact | ntelligent controller |
| | D:DC220V<br>N:AC230V<br>V:AC400V<br>5:Without MCH+XF | D:DC220V<br>D:DC220V<br>V:AC400V<br>5:Without shunt release | N:AC230V<br>V:AC400V<br>P:with undervoltage delayed AC230V<br>T:with undervoltage delayed AC400V<br>5:Without undervoltage release | 4:NO+4NC<br>6:6NO+6NC | L:iTR326(50Hz)<br>M: iTR326A(50Hz<br>H:iTR326H((50/60Hz)<br>E:iTR326(60Hz)<br>T:iTR326A(60Hz) |

HDW3 defualt with 4NO+4NC auxiliary contact , door frame, phase partition , power module ,iTR326A

# Overview

## Main Parameters

- Frame size: 1600,2000,3200,4000,6300
- Rated current In (A): 400 ~ 6300
- Rated voltage AC Ue (V): 400/415, 660/690
- Poles: 3 & 4
- Installation method: Fixed type and draw-out type
- Wiring method: Horizontal rear connection, Vertical rear connection

## Intelligent Controllers

iTR326 (basic type)
Basic protection (L, S, I & G)

iTR326A (standard type)
Basic protection
Basic measurement
Auxiliary function

iTR326H (advanced type)
Basic + high level protection
Multiple measurement
Auxiliary function
Advanced function
Communication

iTR326

iTR326A

iTR326H

## Accessories

- Motor operating mechanism: shunt coil, undervoltage coil, closing coil
- Intelligent controller accessories: N phase External transformer, Ground transformer, leakage current transformer, power module, Signal conversion module
- Lock: key lock , door lock
- Mechanical interlocking : cable interlocking
- Operation and protection: door frame, phase partition
- Indicator contact: auxiliary contact, alarm contact

# Overview

## Range of Application

HDW3 series air circuit breaker, the rated current is from 4000A to 6300A, the rated voltage is 400V/415V, 660/690V, suitable for AC 50/60Hz and mainly used in Power distribution system networks, to distribute electric energy and protect the line and power supply equipment far away from the fault hazard of overload, under voltage, short circuit and single-phase grounding.

The circuit breaker can be widely used in power stations, factories, mines and modern high-rise buildings, especially the intelligent building power distribution system.

Application standard: IEC/EN 60947-2

## Normal Working Condition

Environment temperature: Ambient temperature is -5°C ~+40°C(certification); mean value of 24h shall not exceed +35°C. It can also be used at ultimate temperature 40°C ~+70°C(L type, M type controller).

| | |
|---|---|
| Altitude | ≤ 5000m |
| Electromagnetic interference | Applies to Environment A |
| Class of pollution | Class of pollution level 3<br>Installation position shall be vertical, inclination of each direction shall not more than 5° |
| Installation level | Circuit breaker main circuit and undervoltage trip coil, power transformer primary coil are level IV, auxiliary circuit and control circuit is level III |
| Transportation condition | Move gentle, do not put upside down, avoid collision |

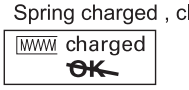
# Overview

## Front Face

1. Open button
2. Closing button
3. Spring charge mechanism status indicator
   - Spring charged , closing is allowed

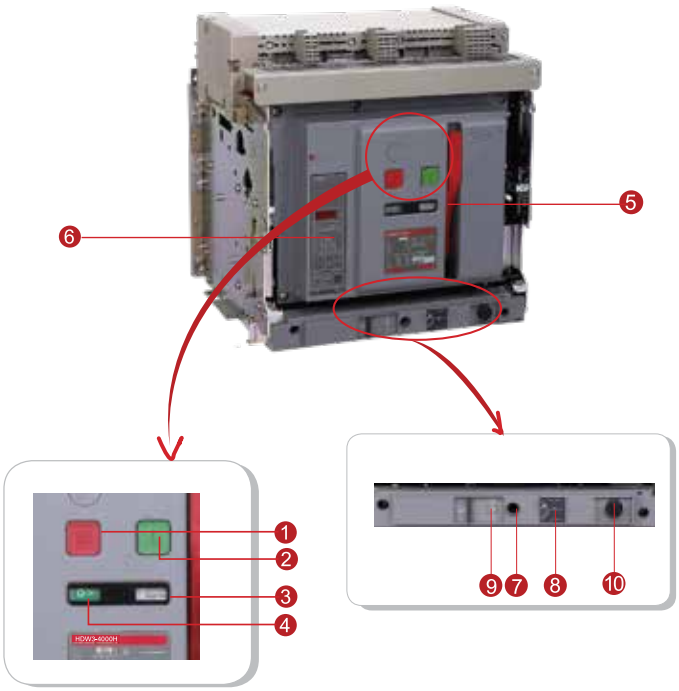
   - Spring charged , closing is not allowed

   - Spring released

4. Main contact position indicator
   - 
     
     Open
   - 
     
     Close
5. Spring charge operation handle
6. Controller
7. Draw in (out) device
8. Connection, test and disconnection position indication
9. Connect, test and disconnection position limiter
10. Rocker storage



# Overview

## Technical Parameters

| Common features | |
|---|---|
| Pole | 3, 4 |
| Rated operational voltage AC Ue(V) | 400/415 660/690V |
| Rated insulation voltage Ui(V) | 1000 |
| Rated impulse withstand voltage Uimp(kV) | 12 |
| Rated frequency (Hz) | 50/60 |
| For isolation |  |
| Standard | IEC 60947-2 |
| Certification | CE KEMA |

| Product | | HDW3 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frame size | | 1600M | | 1600S | | 2000M | | 2000S | | 3200M | | 3200S | | 4000M | | 4000S | | 6300M | 6300S |
| Rated current In(A) | | | | | | | | | | | | | | | | | | | |
| 400 | | ● | | ● | | | | | | | | | | | | | | | |
| 630 | | ● | | ● | | ● | | ● | | | | | | | | | | | |
| 800 | | ● | | ● | | ● | | ● | | | | | | | | | | | |
| 1000 | | ● | | ● | | ● | | ● | | | | | | | | | | | |
| 1250 | | ● | | ● | | ● | | ● | | | | | | | | | | | |
| 1600 | | ● | | ● | | ● | | ● | | | | | | ● | | ● | | | |
| 2000 | | | | | | ● | | ● | | ● | | ● | | ● | | ● | | | |
| 2500 | | | | | | | | | | ● | | ● | | ● | | ● | | | |
| 3200 | | | | | | | | | | ● | | ● | | ● | | ● | | | |
| 4000 | | | | | | | | | | | | | | ● | | ● | | ● | ● |
| 5000 | | | | | | | | | | | | | | | | | | ● | ● |
| 6300 | | | | | | | | | | | | | | | | | | ● | ● |
| Breaking capacity | | 400V | 690V | 400V | 690V | 400V | 690V | 400V | 690V | 400V | 690V | 400V | 690V | 400V | 690V | 400V | 690V | 400V | 690V | 400V | 690V |
| Icu (kA) | | 50 | 35 | 42 | 35 | 80 | 50 | 65 | 40 | 80 | 65 | 65 | 50 | 100 | 65 | 85 | 65 | 120 | 85 | 85 | 75 |
| Ics (kA) | | 42 | 35 | 42 | 35 | 65 | 40 | 65 | 40 | 65 | 50 | 65 | 50 | 85 | 65 | 85 | 65 | 100 | 75 | 85 | 75 |
| Icw(1s)(kA) | | 42 | 35 | 42 | 35 | 65 | 40 | 65 | 40 | 65 | 50 | 65 | 50 | 85 | 65 | 85 | 65 | 85 | 75 | 85 | 75 |
| | | | | | | | | | | | | | | | | | | | | | |
| Mechanical life | Without maintenance | 12500 | | | | 15000 | | | | 10000 | | | | 10000 | | | | 2500 | | | |
| | With maintenance | 25000 | | | | 30000 | | | | 20000 | | | | 20000 | | | | 5000 | | | |
| Electrical life | 400/415V | 6000 | | | | 6500 | | | | 5000 | | | | 5000 | | | | 800 | | | |
| | 690V | 4000 | | | | 4000 | | | | 3000 | | | | 3000 | | | | 500 | | | |
| Dimension(mm) | | | | | | | | | | | | | | | | | | | | | |
| Draw-out | 3P | 322*288*330 | | | | 436*405*425 | | | | 436*465*425 | | | | 439*441*428.6 | | | | 441.5*815*508 | | | |
| | 4P | 322*358*330 | | | | 436*500*425 | | | | 436*580*425 | | | | 439*556*428.6 | | | | 441.5*930*508 | | | |
| Fixed | 3P | 310*276*229 | | | | 397*364*327 | | | | 397*428*327 | | | | 352*422*329.5 | | | | / | | | |
| | 4P | 310*346*229 | | | | 397*459*327 | | | | 397*543*327 | | | | 352*537*329.5 | | | | / | | | |
| Weight(KG) | | | | | | | | | | | | | | | | | | | | | |
| Draw-out type | 3P | 34 | | | | 73.6 | | | | 93.8 | | | | 78 | | | | 233 | | | |
| | 4P | 41 | | | | 85.5 | | | | 115 | | | | 95 | | | | 271.8 | | | |
| Fixed type | 3P | 14 | | | | 41.4 | | | | 53.4 | | | | 42 | | | | / | | | |
| | 4P | 17 | | | | 52 | | | | 68 | | | | 52 | | | | / | | | |
| Tripping time | | | | | | | | | | | | | | | | | | | | | |
| Tripping time with arc extinguishing | | ≤25ms | | | | | | | | | | | | | | | | | | | |
| Closing time | | ≤70ms | | | | | | | | | | | | | | | | | | | |

HDW3-1600

HDW3-2000

HDW3-3200

HDW3-4000

HDW3-6300

# Overview

## Temperature derating table

| Frame | Curr | -5℃ ~+40℃ | +45℃ | +50℃ | +55℃ | +60℃ |
|---|---|---|---|---|---|---|
| HDW3-1600 | 400 | 400 | 400 | 400 | 400 | 400 |
| | 630 | 630 | 630 | 630 | 630 | 550 |
| | 800 | 800 | 800 | 800 | 800 | 700 |
| | 1000 | 1000 | 1000 | 1000 | 950 | 900 |
| | 1250 | 1250 | 1200 | 1200 | 1150 | 1050 |
| | 1600 | 1600 | 1550 | 1500 | 1450 | 1350 |
| HDW3-2000 | 630 | 630 | 630 | 630 | 630 | 630 |
| | 800 | 800 | 800 | 800 | 800 | 700 |
| | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| | 1250 | 1250 | 1250 | 1250 | 1250 | 1150 |
| | 1600 | 1600 | 1600 | 1500 | 1500 | 1300 |
| | 2000 | 2000 | 1900 | 1900 | 1800 | 1700 |
| HDW3-3200 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| | 2500 | 2500 | 2400 | 2300 | 2200 | 2200 |
| | 3200 | 3200 | 3000 | 3000 | 2800 | 2800 |
| HDW3-4000 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| | 2500 | 2500 | 2500 | 2500 | 2500 | 2200 |
| | 3200 | 3200 | 3200 | 3200 | 3000 | 2500 |
| | 4000 | 4000 | 4000 | 3600 | 3400 | 3200 |
| HDW3-6300 | 4000 | 4000 | | | | |
| | 5000 | 5000 | | | | |
| | 6300 | 6300 | | | | |

## Altitude derating table

Altitude below 2000 m will not affect circuit breaker performance. Above this altitude, the diminution of air insulation characteristics and cooling capacity must be considered; The correction coefficients given in the table below are used for installation above 2000 meters:

| Altitude (m) | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 |
|---|---|---|---|---|---|---|---|
| Isolation voltage Ui (V) | 1000 | 910 | 910 | 830 | 830 | 770 | 770 |
| Impulse withstand voltage Uimp (kV) | 12 | 10.5 | 10.5 | 9.5 | 9.5 | 9 | 9 |
| Maximum working voltage Ue(V) | 690 | 690 | 690 | 660 | 600 | 600 | 550 |
| Ambient heat rating In (A) | 1In | 0.98In | 0.93In | 0.91In | 0.87In | 0.84In | 0.81In |

# Overview

## Power loss and resistance per pole

Power loss is measuring at In,50/60Hz, input/output resistance is the value at cold state in per pole.

| Frame | Rated Current (A) | Draw-out type | | Fixed type | |
|---|---|---|---|---|---|
| | | Power Loss (W) | Input/Output resistance(μΩ) | Power Loss (W) | Input/Output resistance(μΩ) |
| HDW3-1600N | 400 | 28.8 | 42.0 | 20.5 | 27 |
| | 630 | 55.6 | 42.0 | 32.8 | 27 |
| | 800 | 98.2 | 42.0 | 53.5 | 27 |
| | 1000 | 153.5 | 42.0 | 82.6 | 27 |
| | 1250 | 250.8 | 42.0 | 131.8 | 27 |
| | 1600 | 460.5 | 38.0 | 220 | 26 |
| HDW3-2000N&H | 630 | 56.8 | 48.5 | 26.5 | 21.9 |
| | 800 | 73.0 | 48.5 | 38.6 | 21.9 |
| | 1000 | 116.3 | 38.0 | 56.9 | 20.2 |
| | 1250 | 179.8 | 38.0 | 90.2 | 20.2 |
| | 1600 | 294.9 | 38.0 | 145.8 | 20.2 |
| | 2000 | 399.6 | 33.7 | 202.5 | 18 |
| HDW3-3200N | 2000 | 200.6 | 18.6 | 99.6 | 15.8 |
| | 2500 | 310.0 | 16.2 | 147.8 | 14.7 |
| | 3200 | 486.9 | 15.8 | 216.3 | 9.2 |
| HDW3-4000N | 1600 | 390.6 | 27.5 | 180.2 | 13 |
| | 2000 | 480.8 | 27.0 | 252.8 | 13 |
| | 2500 | 600.0 | 19.0 | 265 | 9 |
| | 3200 | 670.0 | 13.0 | 423.6 | 8.5 |
| | 4000 | 900.0 | 11.8 | 652.7 | 8 |
| HDW3-6300N | 4000 | 910.7 | 9.5 | / | / |
| | 5000 | 940.0 | 9.0 | / | / |
| | 6300 | 1150.0 | 8.5 | / | / |

# iRT 326 Controller

## Intelligent Controller Introduction

| | iTR326 | iTR326A | iTR326H |
|---|---|---|---|
| |  |  |  |
| | L | M | H |
| Protection function | Overload protection L | Overload protection L | Overload protection L |
| | Short-circuit protection with short delay S | Short-circuit protection with short delay S | Short-circuit protection with short delay S |
| | Short-circuit protection instantaneous I | Short-circuit protection instantaneous I | Short-circuit protection instantaneous I |
| | Ground protection G | Ground protection G | Ground protection G |
| | MCR Protection | MCR protection | MCR protection |
| | HSISC protection | HSISC protection | HSISC protection |
| | | | Under voltage protection/alarm |
| | | | Overvoltage protection/alarm |
| | | | voltage unbalance protection /alarm |
| | | | Phase sequence protection/alarm |
| | | | Low frequency protection/alarm |
| | | | High frequency protection/alarm |
| | | | Reverse power protection/alarm |
| Measurement | | Current measurement | Current measurement |
| | | | Voltage measurement |
| | | | Power measurement |
| | | | Frequency measurement |
| | | | Harmonics measurement |
| Auxiliary | Pre-alarm | Pre-alarm | Pre-alarm |
| | Event record | Self-diagnostic | Self-diagnostic |
| | Test | Event record | Event record |
| | | Test | Test |
| Display | | LED | LCD |
| Special function | | | Load monitoring |
| | | | Zone selective interlock |
| Communication | | | Modbus |

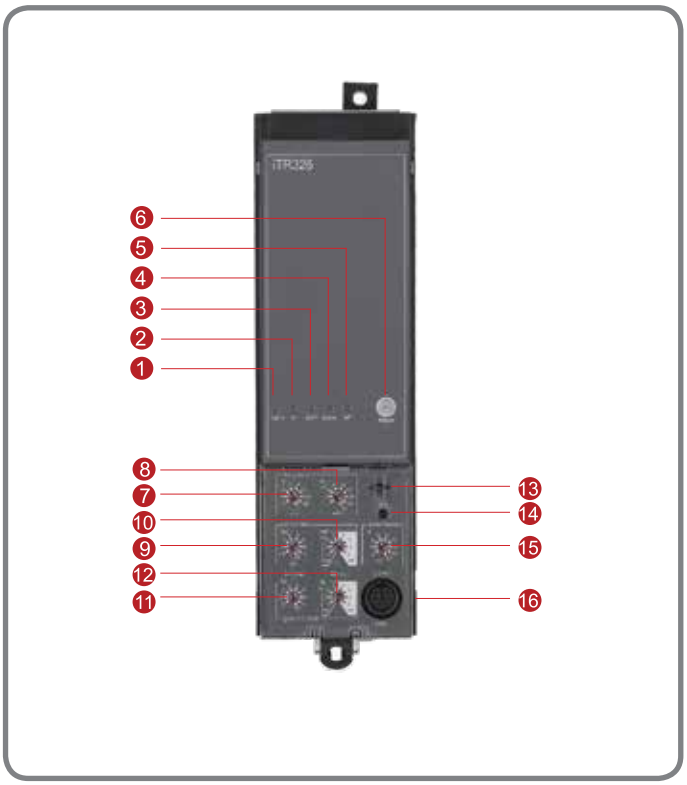
# iRT 326 Controller

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


## L type (basic type)

### Indications

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




### Settings

7. Overload current setting IR
8. Over current time delay tR
9. Short delay tripping Isd
10. Short delay tripping time tsd
11. Ground fault tripping Ig
12. Ground fault tripping time tg
13. Padlock position
14. Test button
15. Instantaneous tripping Ii
16. Test connection

# iRT 326 Controller

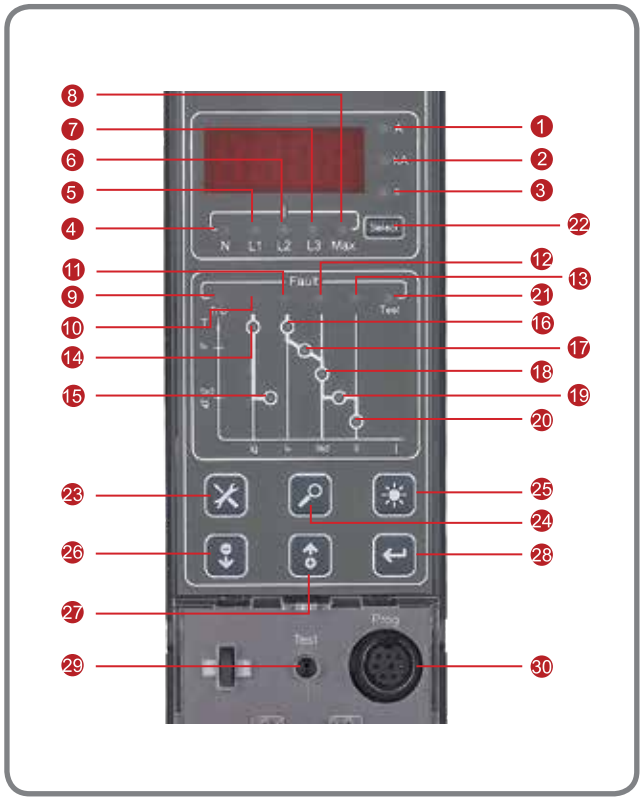
## M type (standard type)

### Indications and Settings

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

### Navigation keys

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



## H type (advanced type)

### Indications

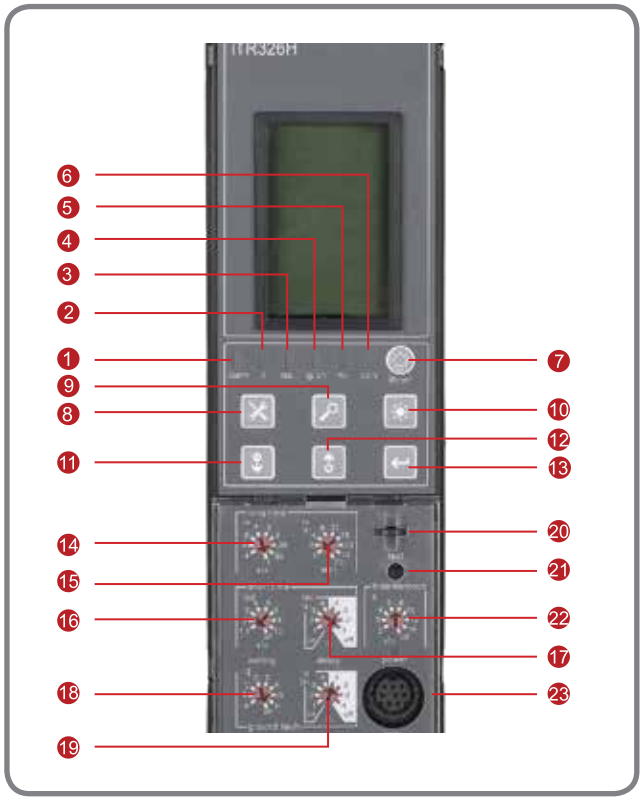
1. Alarm lamp
2. Long delay tripping indication
3. Short delay or instantaneous
4. tripping indication
5. Ground or electric leakage fault
6. tripping indication
7. Advanced protection
8. Communication function
9. Reset button

### Navigation keys

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

### Settings

14. Long delay Current setting IR
15. Long delay tripping time tR
16. Short delay tripping Isd
17. Short delay tripping time tsd
18. Ground fault tripping Ig
19. Ground fault tripping time tg
20. Padlock position
21. Test button
22. Instantaneous tripping Current
23. Test connection
24. Button description adjustment panel



# iRT 326 Controller

## Intelligent Controller Protection

Intelligent controller protection characteristics are inverse time limit and constant time-lag, when fault Current exceeds inverse time limit set value, controller can have delay protection according to the constant time-lag.
Inverse time limit curve conforms to characteristic curve $I^2t$

## Overload protection with long time delay

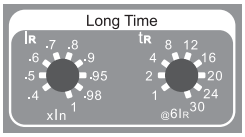
Threshold of overload protection with long time delay Threshold

<1.05 $I_R$: >2h No tripping;
>1.2 $I_R$: <1h Tripping
≥1.2 $I_R$: Tripping with time delay;
$I_R$ Current setting range: 0.4In, 0.5In, 0.6In, 0.7In, 0.8In, 0.9In, 0.95In, 0.98In, 1.0In

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

| Setting electric current | Action time (s) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.5 $I_R$ | 16s | 32s | 64s | 128s | 192s | 256s | 320s | 384s | 480s |
| 2 $I_R$ | 9s | 18s | 36s | 72s | 108s | 144s | 180s | 216s | 270s |
| 6 $I_R$ | 1s | 2s | 4s | 8s | 12s | 16s | 20s | 24s | 30s |

Note: N---- Overload current is divided from the setting current $I/I_R$
t---- time delay of overload current
$t_R$---- time delay of setting value
Allowed tolerance of the tripping time ±10%



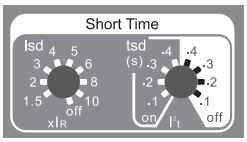

## Short circuit protection with short time delay

Threshold of Short circuit protection with short time delay

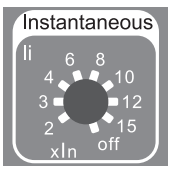
<0.9 Isd: No tripping
>1.1 Isd: Tripping;
≥1.1 Isd: Tripping with time delay

Isd setting range: 1.5 $I_R$ , 2 $I_R$ , 3 $I_R$, 4 $I_R$, 5 $I_R$, 6 $I_R$, 8 $I_R$, 10 $I_R$+OFF

| Short circuit current | Tripping Time | | | | | |
|---|---|---|---|---|---|---|
| Isd<I≤8$I_R$ | Inverse time protection | Formula of tripping curve | $I^2t$: $t=(8I_R)^2$ tsd | | | |
| | | Setting time s | 0.1 | 0.2 | 0.3 | 0.4 |
| I ≥ 1.1Isd | constant time delay protection | 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 |




Note: Isd--- setting short circuit protection value
I---- short circuit current
$I_R$---- setting currente
t---- tripping time of short circuit
tsd---- setting time delay of short circuit protection
Allowed tolerance of the tripping time ±20%




## Short Circuit Instantaneous Protection

Short Circuit Instantaneous Protection Action Threshold

<0.85Ii: No tripping
>1.15Ii: tripping
Instantaneous action current setting:2In, 3In, 4In, 6In, 8In, 10In, 12In, 15In+OFF
Note: tolerance of the tripping time≤50ms

# iRT 326 Controller

## Ground Fault Protection Action

Ground Fault Protection Action Threshold

<0.9 Ig: No tripping

>1.1 Ig: tripping

≥1.1 Ig: Tripping with time delay

| 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 | |

| Ground current | tripping time | | | | | |
|---|---|---|---|---|---|---|
| | Inverse time protection | formula of tripping cuvre | $t = \frac{(I_g)^2}{I^2} \times tg$ | | | |
| tg(s) | constant time delay protection | Setting time | 0.1 | 0.2 | 0.3 | 0.4 |
| | | Setting time | 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 |

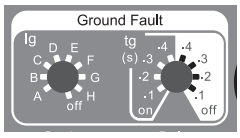
Note: $I_g$ ground protection setting, when In ≥ 1250A, $I_J$=1200A, when In<1250A, $I_J$=In

I Ground fault current

T tripping time with time delay

tg setting tripping time of ground fault

Allowed tolerance of the inverse tripping time ±20%

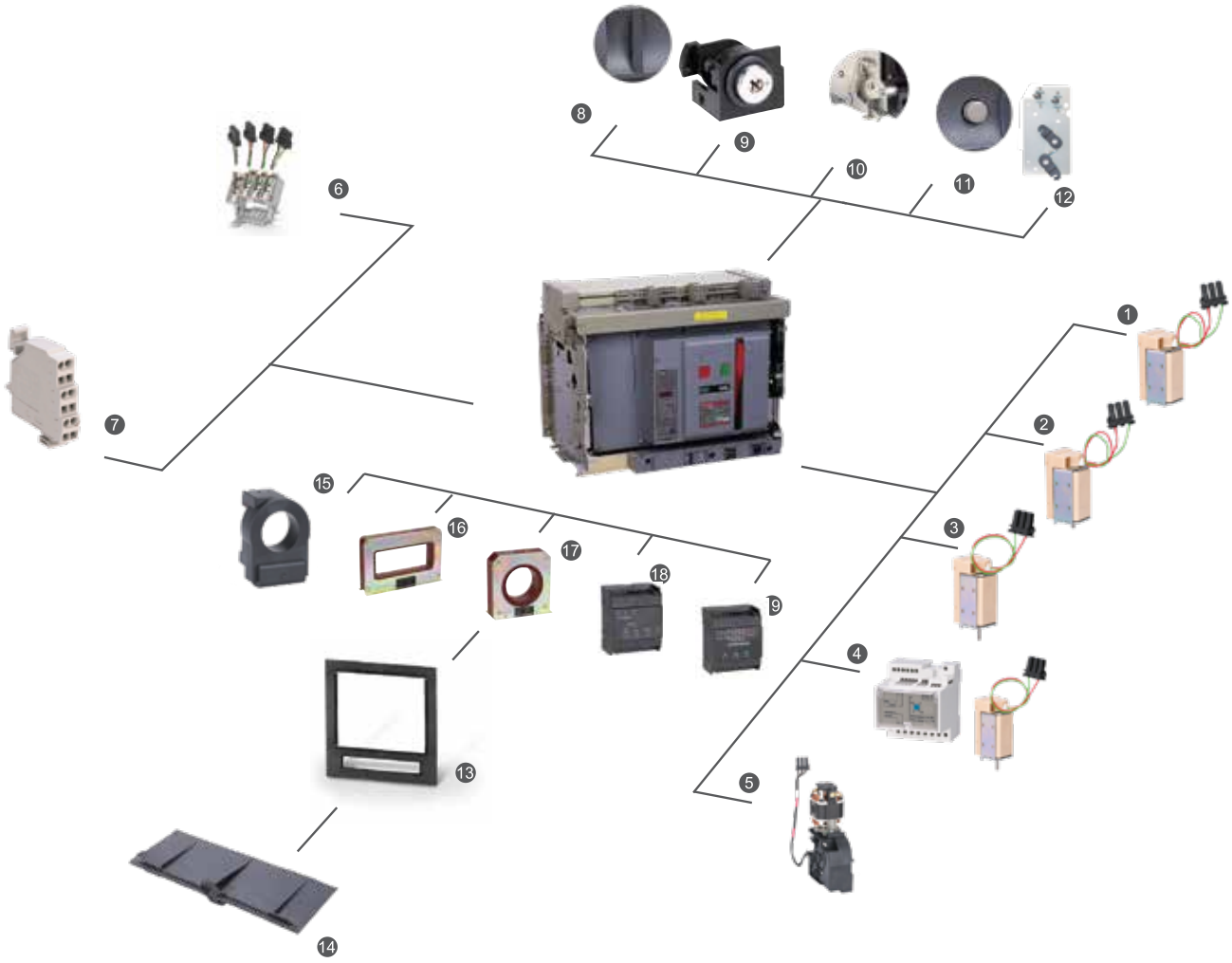



## Factory Settings

| Tripping curves $I^2t$ | over current | | short circuit with time delay | | Inst. | Ground fault | | Thermal memory |
|---|---|---|---|---|---|---|---|---|
| | $I_R$ | $t_R$ | Isd | ts | Ii | Ig | tg | |
| | 1In | 30s | 6In | 0.2s | 10In | Gear G | 0.4s | 20min |

# Accessory and Overview

## HDW3 Breaker Accessory Indicator




| Remote Operation | Indication Contact | Lock and Connection | Operation and protection | Controller accessories |
|---|---|---|---|---|
| 1 Shunt coil | 6 Auxiliary switch OF | 8 Padlock | 13 Door frame | 15 N phase external transformer |
| 2 Closing coil | 7 Secondary terminal | 9 Key lock | 14 Phase partition | 16 Leakage current transformer |
| 3 Undervoltage release | | 10 Door lock | | 17 Ground transformer |
| 4 Undervoltage delay release | | 11 Connection, separation, test position locking mechanism | | 18 Power module |
| 5 Motor operating mechanism | | 12 Mechanical interlocking | | 19 Signal conversion module |

# Accessory and Overview

## Remote Operation

### Shunt release MX

After circuit breaker is switched on, when shunt release is under specified power supply voltage, disconnect the circuit breaker instantaneously by remote operation.

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

### Closing coil XF

After spring be fully charged, Closing coil can make the circuit breaker close under the specified power supply voltage and can have remote operation.

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

### Undervoltage release MN

After the breaker switch on , Undervoltage release will tripped circuit breaker instantaneously when power supply drop dwon between 70%-35% Ue.
The breaker can be switched on when the power supply is 85% Ue.

- Rated control supply voltage AC220/AC230V, AC380/AC400V
- Operation voltage: (0.35-0.7) Ue
- Reliable Closing voltage: (0.85-1.1) Ue
- Non closing voltage: ≤ 0.35Ue
- Delay time: 0.5s, 1s, 1.5s, 3s (1600, 4000), 1s, 3s, 5s (2000, 3200)

### Under voltage release with time delay MNR

The MNR (when voltage drop) will switched off the circuit breaker with certain time delay , 0.5s, 1s, 1.5s, 3s(1600, 4000), 1s, 3s, and 5s (2000, 3200).

### Motor Operating Mechanism MCH

When the circuit breaker is disconnected and power supply is available, motor operating mechanism can automatically charge the spring of the circuit breaker, so that the circuit breaker is disconnected or closed under the action of shunt excitation, undervoltage trip and closing electromagnet. In the absence of power supply, the handle can be used to store energy for the circuit breaker.

- Rated control supply voltage AC220/AC230V, AC380/AC400V, DC220V, DC110V
- Operation voltage: (0.85-1.1) Us
- Power dissipation: 75W/180W(1600), 85W(2000), 110W(3200), 180W(4000)
- Spring charging : <5s
- Utilization category: AC15, DC13

# Accessory and Overview

## Indication Contacts

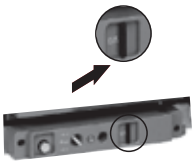
### Auxiliary Contact OF

4NO+4NC by default
(4000H can provide 8NO+8NC and 6NO+6NC, 2000, 3200 also can provide 6NO+6NC)
It can be used to monitor the status of circuit breakers, such as connecting circuit breaker position indicator and disconnecting indicator
Rated thermal current Ith: AC380V/AC400V 0.75A, DC220V 0.15A, AC220V/AC230V 1.3A

## Lock

### Drawer Padlock

Lock provided by user
If the padlock is provided by the user himself, and the circuit breaker is in the position of "separation", pull out the padlock plate. After locking, the crank handle cannot be inserted.



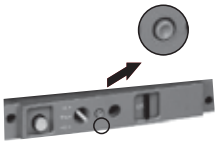
### Keylock

The breaker can be locked by key lock in switch off position . When the key is inserted into the lock and turned on to "on" position, the breaker can be allowed to switched on. (Key turned off or removed from lock, breaker can be switched on)
There are 3 options of key lock available ( availalbe for 2 Breaker Interlock & 3 Breaker Interlock )

- One lock one key
- Two locks one key
- Three locks two key

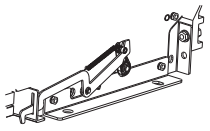
### Drawer Position Locking Mechanism

It is a locker when the breaker is in the position of "connection," "test," and "disconnection" in a drawer type circuit breaker. Circuit breaker three positions are indicated through the indicator, the advance and retreat handle is locked in the exact position and is unlocked through the reset button.



### Door Lock

It is suitable for cabinet frame of 2000 and 3200
In drawer type circuit breaker, it is installed on the side of circuit breaker and linkages to distribution cabinet door. It can not be opened when the circuit breaker is connected or tested. The cabinet door can be opened in the open position. It can prevent the circuit breaker from slipping and causing damage.



# Accessory and Overview

## Operation and Protection

### Mechanical interlock

- The mechanical interlocks are available for fixed and drawout circuit breakers, enabling the direct interlocking of the breakers, mounted side by side or stacked.
- The interlocking systems are available in one configuration for 2 breakers and in three others for 3 breakers.

### Door Frame

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

### Phase Partition

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

## Controller Accessories

### N Phase External Transformer

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

### Ground Transformer

- A special External transformer is used to measure the earth current when the ground current returns. It can protect the upper and lower ground faults of the circuit breaker at the same time
- It is only applicable to iTR326H controller

### Leakage Current Transformer

- When the earth protection is leakage type, a special rectangular transformer is added
- It is only applicable to iTR326H controller

### Power Module

- It can provide auxiliary power for intelligent controller at the circuit of AC220V/AC230V, AC380V/AC400V, DC220V, DC110V
- Input is AC220V/AC230V, AC400V/AC380V, DC220V, DC110V, output is DC24V
  The input fluctuation range is 20%, the output fluctuation range is 5%, and the total power of 4 sets of DC24V is 7W.

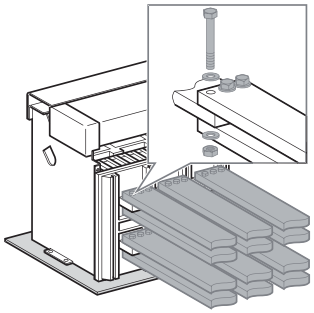
### Signal Conversion Module

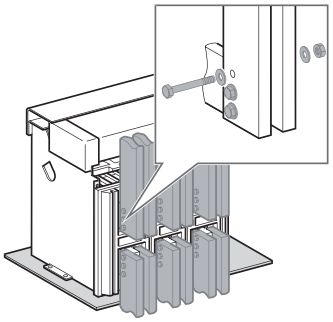
- Output signal unit is applicable to communication function, such as regional interlocking, signal processing of four remote functions or fault alarm or indication, etc.
- It is only applicable to iTR326H controller

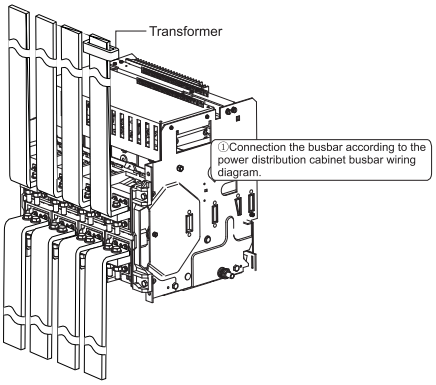
# Installation Dimension

## Busbar connection

Draw-out and fixed type

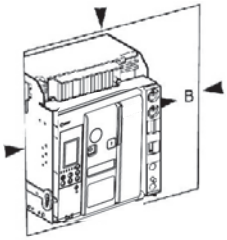


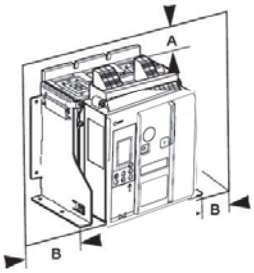





Remark: vertical connection only for 1600AF/4000AF

Safety clearances

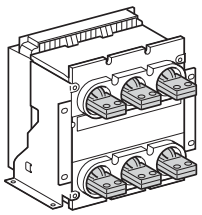


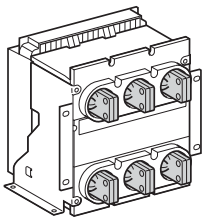

| Safety clearances(mm) | Fixed type | | Draw-out type | |
|---|---|---|---|---|
| | A | B | A | B |
| Non-conductor | 0 | 10 | 0 | 0 |
| Metals | 0 | 10 | 0 | 0 |
| Energized conductor | 30 | 60 | 100 | 60 |

## Rear connection

Horizontal



Vertical



Note:

1. All shell frames are provided with horizontal connections, only 1600&4000 providing vertical connections
2. 1600 horizontal and vertical connections can be made by rotating the bus
3. The vertical connection of 2000 shell frame can be realized by optional vertical L adapter, which is only limited below 2000A.

# Installation Dimension

## Recommended dimension of busbar

Busber type table in different temperatures
Busber max temperature
Material of busbar is copper

| Frame (AF) | Rated Current (A) | ambient temperature +40°C | | | | ambient temperature +50°C | | | | ambient temperature +60°C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5mm Busbar | | 10mm Busbar | | 5mm Busbar | | 10mm Busbar | | 5mm Busbar | | 10mm Busbar | |
| | | Quantity | dimension | Quantity | dimension | Quantity | dimension | Quantity | dimension | Quantity | dimension | Quantity | dimension |
| 1600 | 400 | 2 | 30*5 | 1 | 30*10 | 2 | 30*5 | 1 | 30*10 | 2 | 30*5 | 1 | 30*10 |
| | 630 | 2 | 40*5 | 1 | 40*10 | 2 | 40*5 | 1 | 40*10 | 2 | 40*5 | 1 | 40*10 |
| | 800 | 2 | 50*5 | 1 | 50*10 | 2 | 50*5 | 1 | 50*10 | 2 | 50*5 | 1 | 50*10 |
| | 1000 | 3 | 50*5 | 2 | 40*10 | 3 | 50*5 | 2 | 40*10 | 3 | 50*5 | 2 | 40*10 |
| | 1250 | 4 | 40*5 | 2 | 40*10 | 4 | 50*5 | 2 | 50*10 | 4 | 50*5 | 2 | 50*10 |
| | 1600 | 4 | 50*5 | 2 | 50*10 | 4 | 50*5 | 2 | 50*10 | 4 | 50*5 | 2 | 50*10 |
| 2000 | 630 | 2 | 40*5 | 1 | 40*10 | 2 | 50*5 | 1 | 50*10 | 2 | 60*5 | 1 | 60*5 |
| | 800 | 2 | 50*5 | 1 | 50*10 | 2 | 50*5 | 1 | 50*10 | 2 | 60*5 | 1 | 60*5 |
| | 1000 | 3 | 50*5 | 2 | 40*10 | 3 | 50*5 | 2 | 40*10 | 3 | 60*5 | 2 | 50*5 |
| | 1250 | 3 | 60*5 | 2 | 50*10 | 3 | 60*5 | 2 | 50*10 | 3 | 60*5 | 2 | 50*5 |
| | 1600 | 4 | 60*5 | 2 | 60*10 | 4 | 60*5 | 2 | 60*10 | 4 | 60*5 | 2 | 60*5 |
| | 2000 | 6 | 60*5 | 3 | 60*10 | 6 | 60*5 | 3 | 60*10 | 6 | 60*5 | 3 | 60*5 |
| 3200 | 2000 | 4 | 100*5 | 2 | 100*10 | 4 | 100*5 | 2 | 100*10 | 4 | 100*5 | 2 | 100*10 |
| | 2500 | 4 | 100*5 | 2 | 100*10 | 4 | 100*5 | 2 | 100*10 | 4 | 100*5 | 2 | 100*10 |
| | 3200 | 8 | 100*5 | 4 | 100*10 | 8 | 100*5 | 4 | 100*10 | 8 | 100*5 | 4 | 100*10 |
| 4000 | 1600 | 2 | 100*5 | 1 | 100*10 | 2 | 100*5 | 1 | 100*10 | 2 | 100*5 | 1 | 100*10 |
| | 2000 | 4 | 100*5 | 2 | 100*10 | 4 | 100*5 | 2 | 100*10 | 4 | 100*5 | 2 | 100*10 |
| | 2500 | 4 | 100*5 | 2 | 100*10 | 4 | 100*5 | 2 | 100*10 | 4 | 100*5 | 2 | 100*10 |
| | 3200 | 8 | 100*5 | 4 | 100*10 | 8 | 100*5 | 4 | 100*10 | 8 | 100*5 | 4 | 100*10 |
| | 4000 | | | 5 | 100*10 | | | 5 | 100*10 | | | 6 | 100*10 |
| 6300 | 4000 | | | 5 | 100*10 | | | 5 | 100*10 | | | 6 | 100*10 |
| | 5000 | | | 7 | 100*10 | | | 7 | 100*10 | | | 8 | 100*10 |
| | 6300 | | | 8 | 100*10 | | | 8 | 100*10 | | | | |

## Screw table

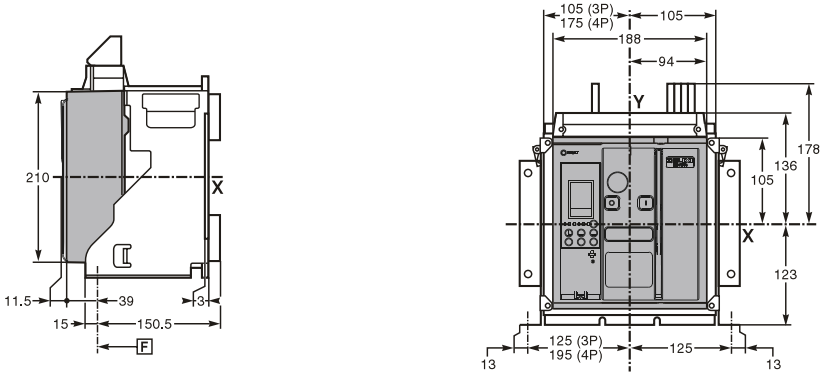
| | 1600M&S | 2000M&S | 3200M&S | 4000M&S | 6300M&S |
|---|---|---|---|---|---|
| Screw dimension | M10 | M12 | M12 | M10 | M12 |
| Torque | 50N·m | 95N·m | 95N·m | 50N·m | 95N·m |

## Holes dimension on busbar and installation torque

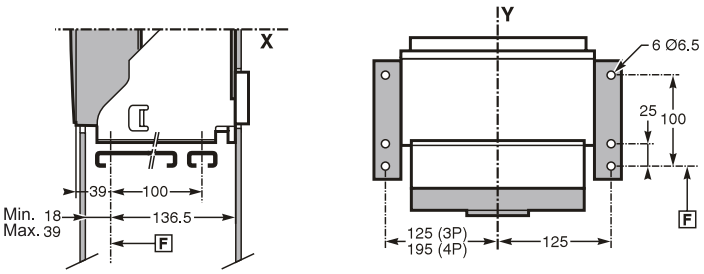
| | 1600M&S | 2000M&S | 3200M&S | 4000M&S | 6300M&S |
|---|---|---|---|---|---|
| Hole dimension | Ø11 | Ø13 | Ø13 | Ø11 | Ø13 |
| Torque | 50N·m | 95N·m | 95N·m | 50N·m | 95N·m |

# Installation Dimension

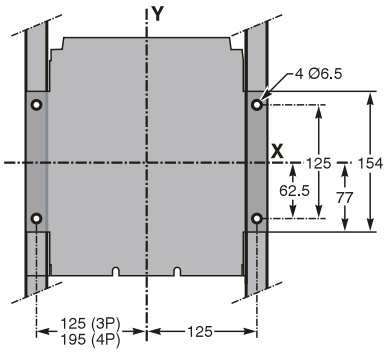
## Dimensions HDW3-1600 Fixed type 3P&4P



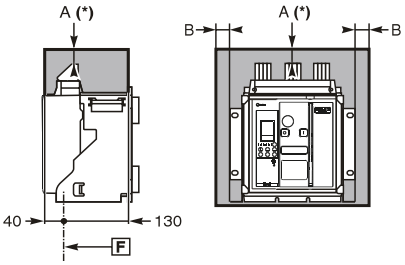

Horizontal Fixed (On a substrate or track)



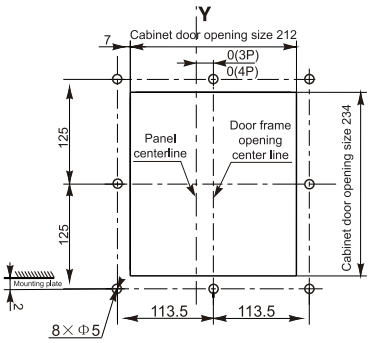

Vertical Fixed diagram (On the back or rack)



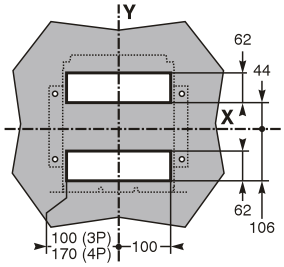

Safety clearance




Door open dimension




Back panel open dimension




F : Datum point

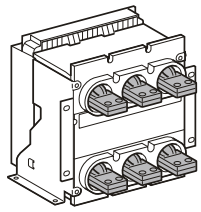
| | Insulation parts | Metal parts | Energized parts |
|---|---|---|---|
| A | 0 | 0 | 100 |
| B | 0 | 0 | 60 |

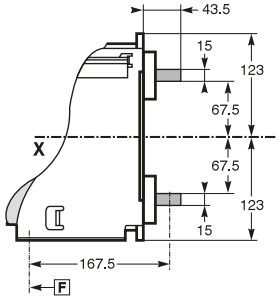
Note: the X and Y axes of the 3-pole breaker are symmetrical with the breaker front face mask.
(*) For the safety distance, the space required for removing the arcing mask shall be considered as 50mm, and the safety distance for removing the terminal block shall be 20mm.

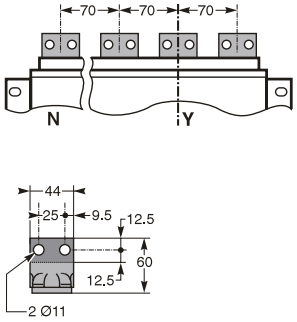
# Installation Dimension

## Connection HDW3-1600M&S fixed type

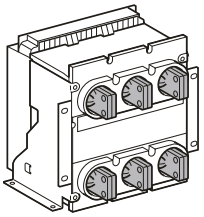
### Horizontal back connection

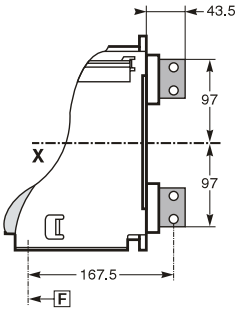


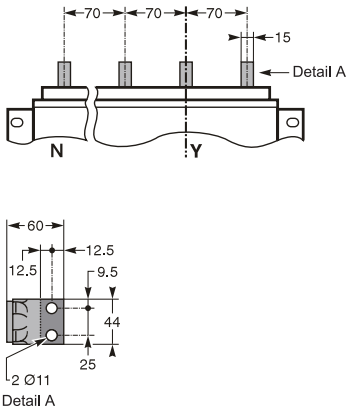


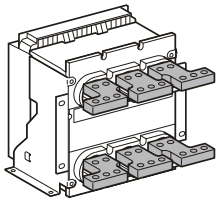

### Vertical back connection

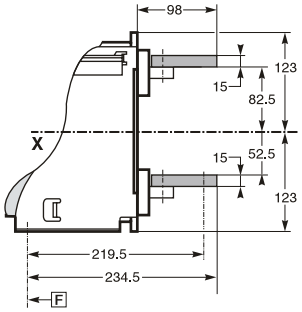


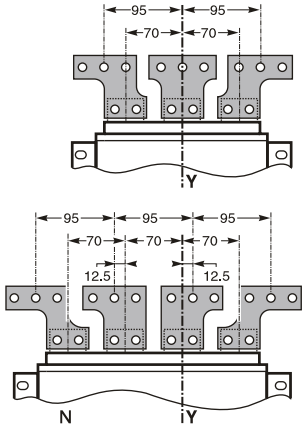


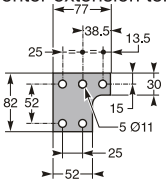

### Back connection with expanding terminal



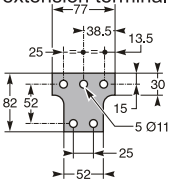


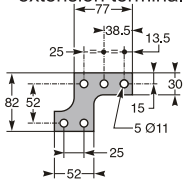

4-pole Left-center or right-center extension terminal



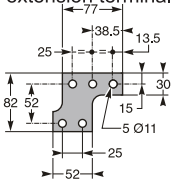

3-pole Intermediate extension terminal




4-pole Left or right extension terminal




3-pole Left or right extension terminal

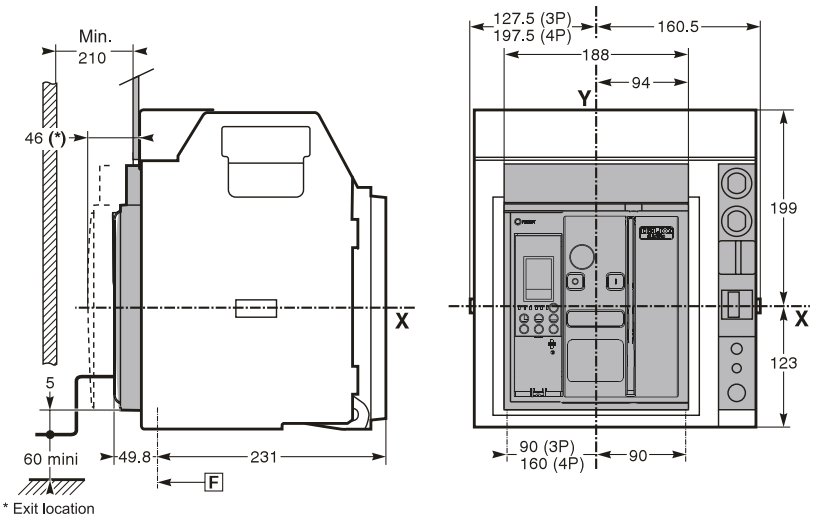



Note: The X and Y axes of the 3-pole breaker are symmetrical with the breaker noumenon front face mask.

F : Datum point

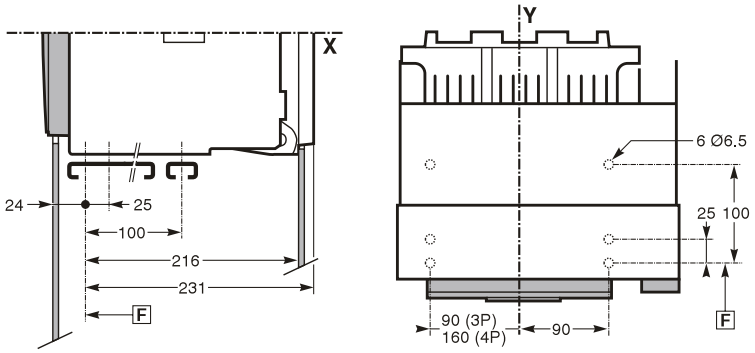
# Installation Dimension

## Dimensions HDW3-1600 draw-out type
## 3P&4P

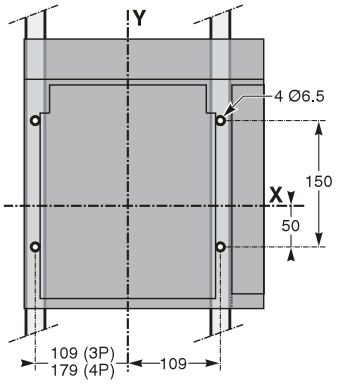



(*) is separation position

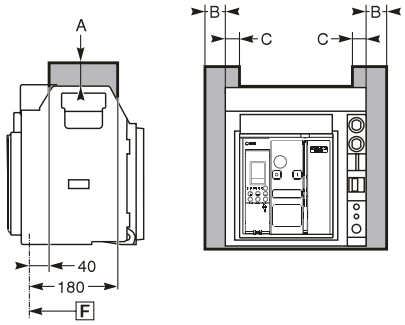
Horizontal Fixed (On a substrate or track)



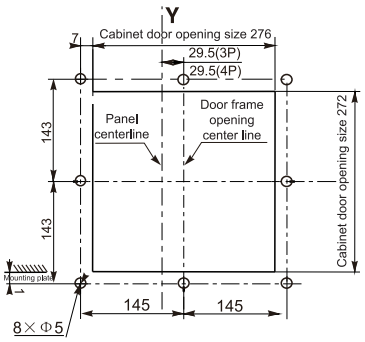

Vertical fixation diagram (On the back or rack)



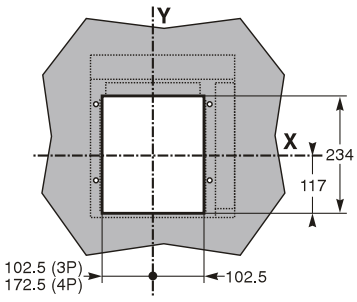

Safety clearance




Door open dimension




Back panel open dimension




| | Insulation parts | Metal parts | Energized parts |
|---|---|---|---|
| A | 0 | 0 | 30 |
| B | 10 | 10 | 60 |
| C | 0 | 0 | 30 |

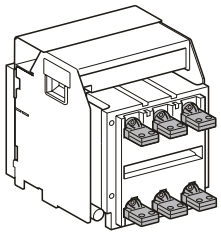
Note: The X and Y axes of the 3-pole breaker are symmetrical with the breaker noumenon front face mask.

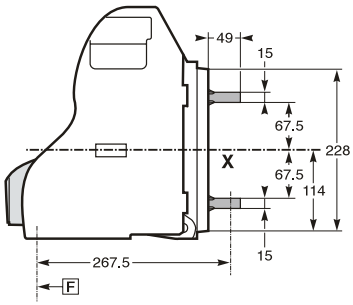
F : Datum point

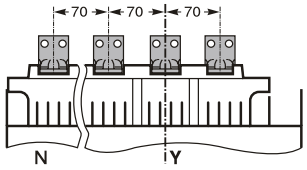
# Installation Dimension

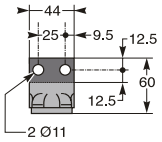
## Connection HDW3-1600M&S drawout type

Horizontal rear connection

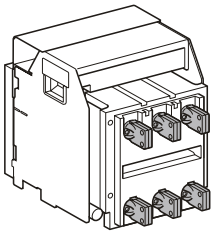


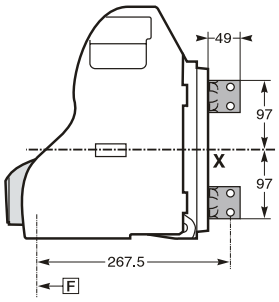


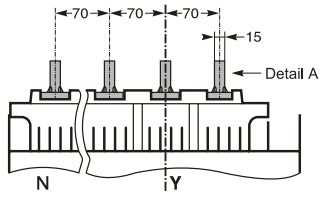



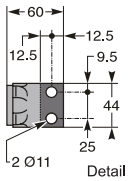




Vertical rear connection

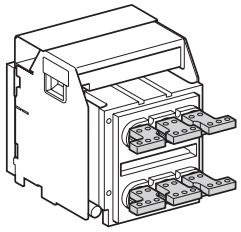


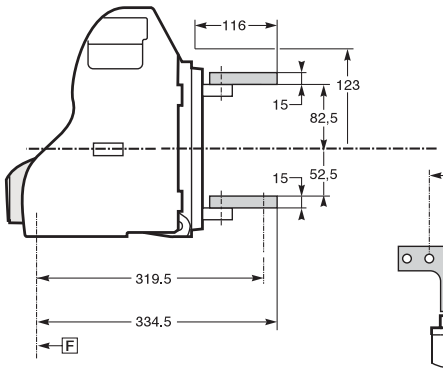


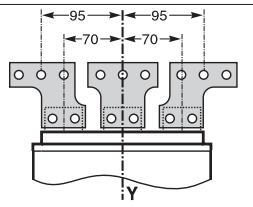



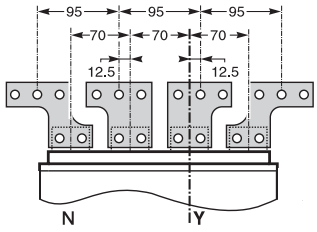




Rear connection with expanding terminal

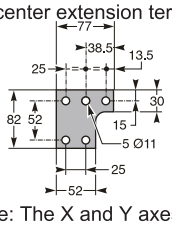




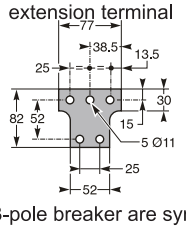



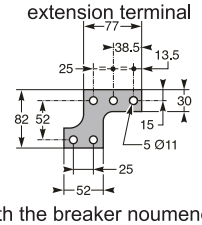

4-pole Left-center or right-center extension terminal



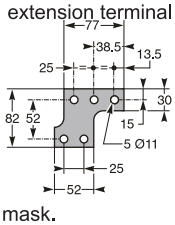

3-pole Intermediate extension terminal




4-pole Left or right extension terminal




3-pole Left or right extension terminal




Note: The X and Y axes of the 3-pole breaker are symmetrical with the breaker noumenon front face mask.

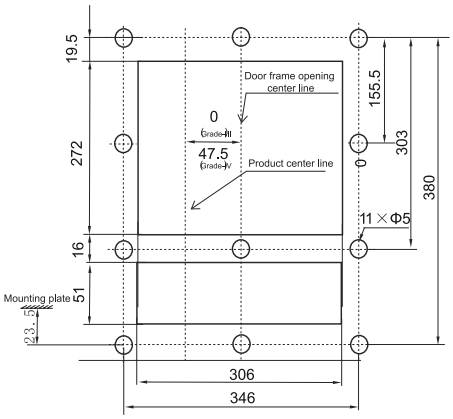
F : Datum point

# Installation Dimension

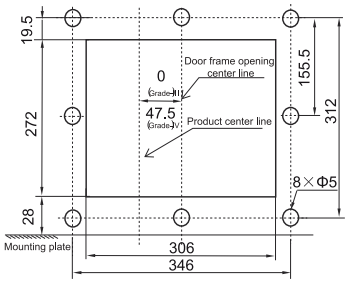
## Dimensions of HDW3-2000 3P&4P

Door frame

- Draw-out type

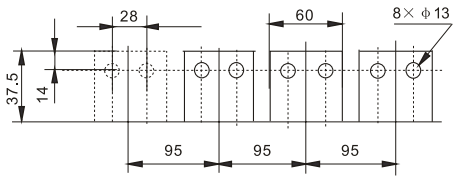



- Fixed type

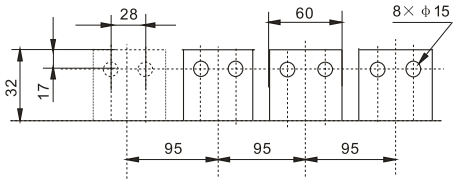



Busbar size

- Draw-out type

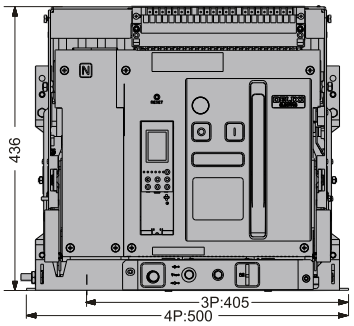


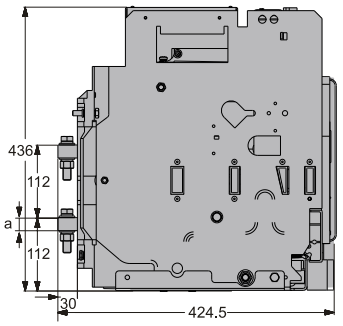

- Fixed type

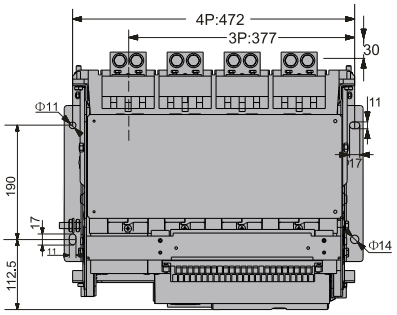


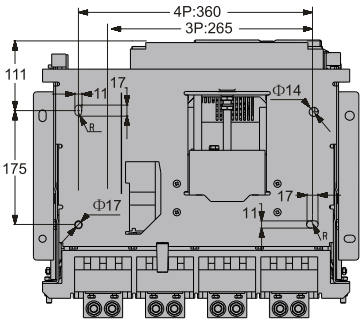

Volume

- Draw-out type



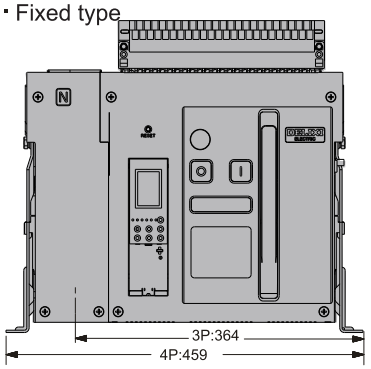



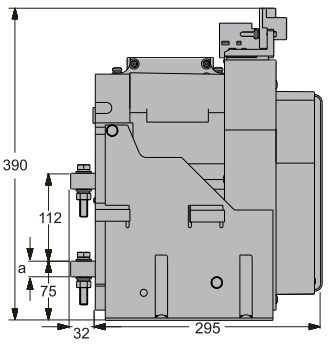



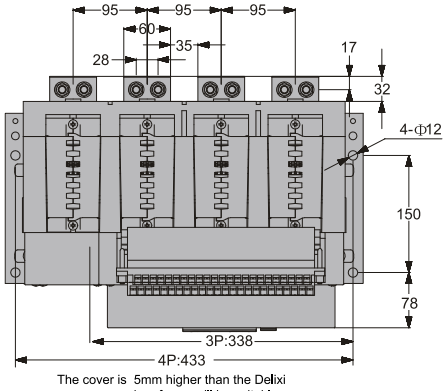




The cover is 5mm higher than the Delixi accessory door frame will be suitable

- Fixed type



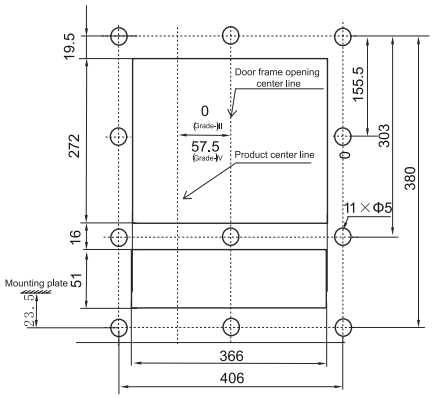

The cover is 5mm higher than the Delixi accessory door frame will be suitable

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

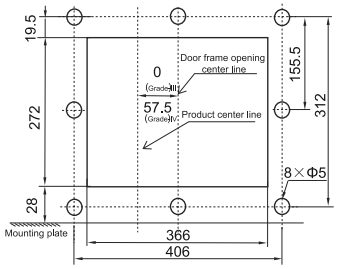
# Installation Dimension

## Dimensions of HDW3-3200 3P&4P

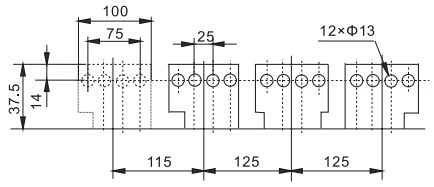
Door frame
- Draw-out type



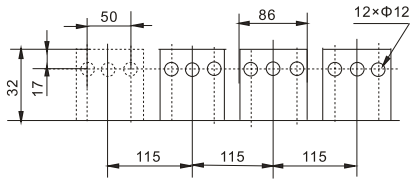

- Fixed type



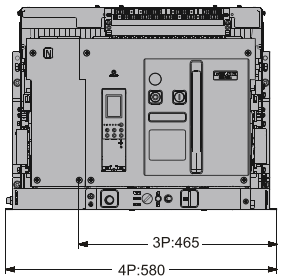

Busbar size
- Draw-out type

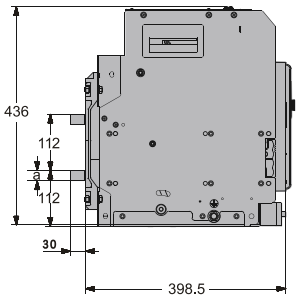


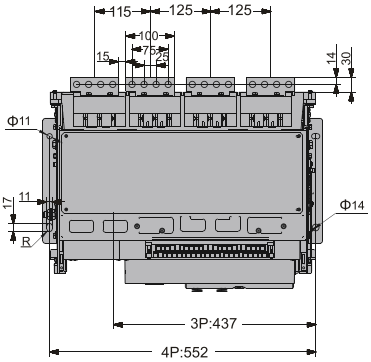

- Fixed type

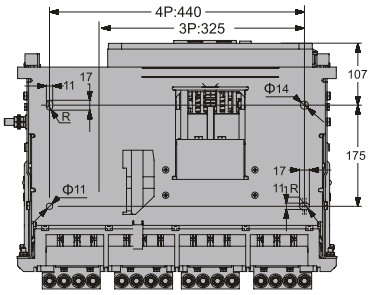



Volume
- Draw-out type



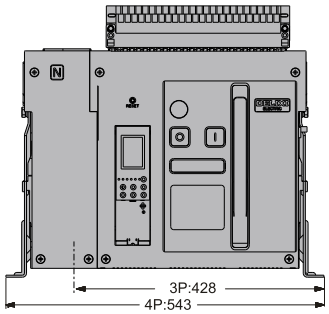



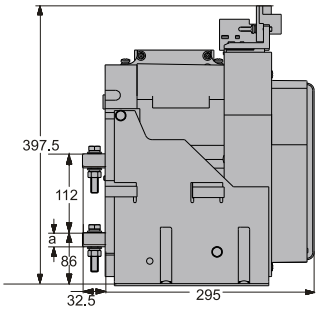



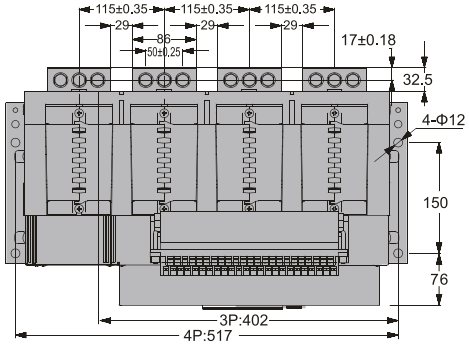




The cover is 5mm higher than the Delixi accessory door frame will be suitable

- Fixed type



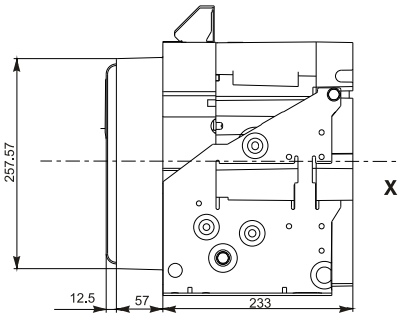



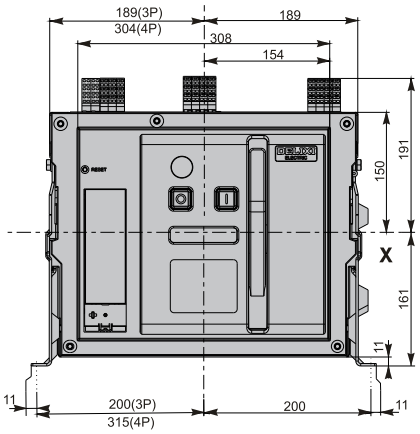




| In(A) | a(mm) |
|---|---|
| 2000~2500 | 20 |
| 3200 | 30 |

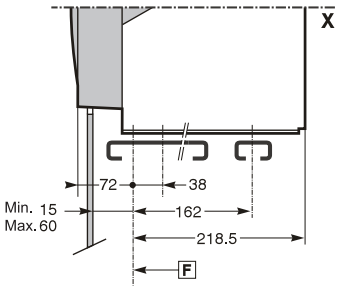
# Installation Dimension

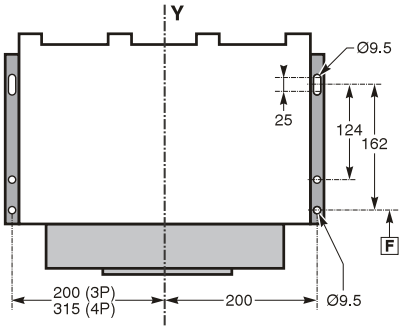
## Dimensions of HDW3-4000 fixed type 3P&4P



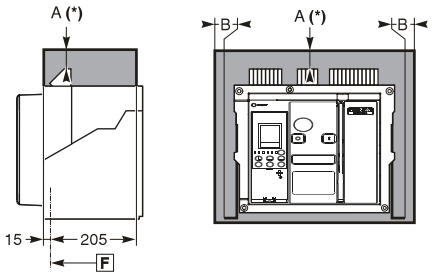




Horizontal Fixed (On a substrate or track)

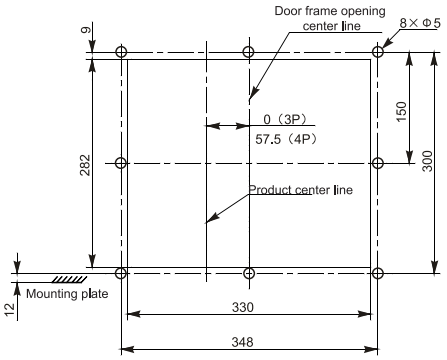



Safety clearance




Door open dimensio




| | Insulated part | Metal part | Live part |
|---|---|---|---|
| A | 0 | 0 | 100 |
| B | 0 | 0 | 60 |

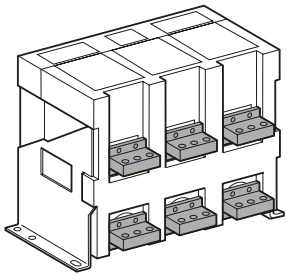
F : Datum point

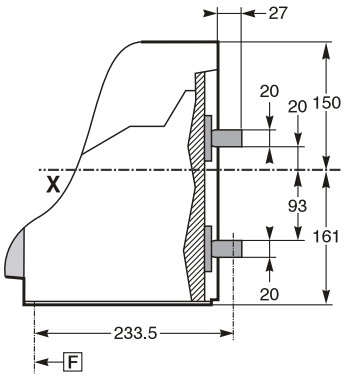
Note: The X and Y axes of the 3-pole breaker are symmetrical with the breaker noumenon front face mask.
* The safe distance should consider the space needed to remove the arcing shield 110mm, the safe distance when removing the terminal block is 20mm

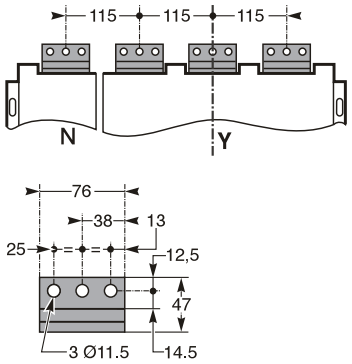
# Installation Dimension

## Connection HDW3-4000 fixed type 3P&4P 1600A~3200A

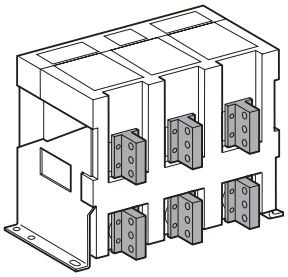
Horizontal rear connection

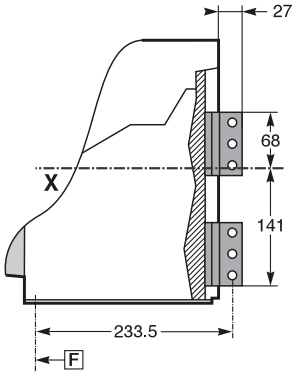


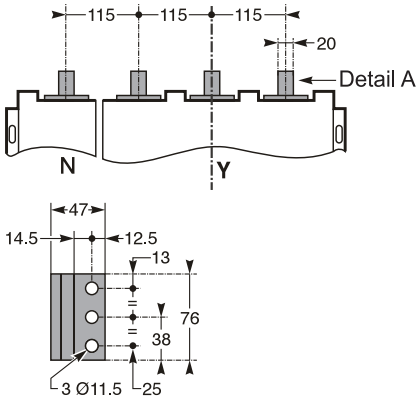



Vertical rear connection





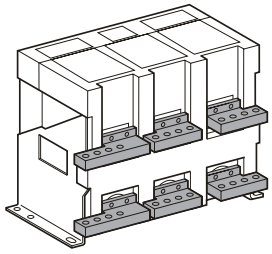



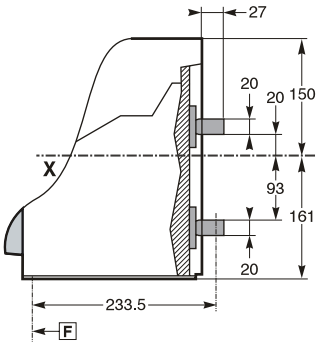

Detail A

# Installation Dimension

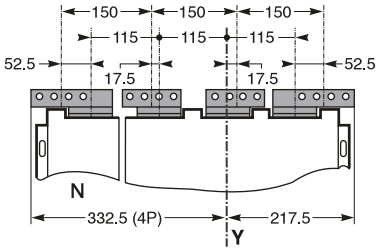
## Connections HDW3-4000 fixed type 3P&4P 4000A

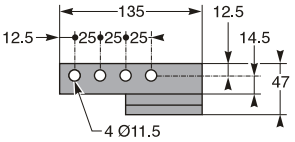
Horizontal rear connection

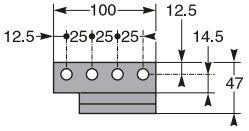




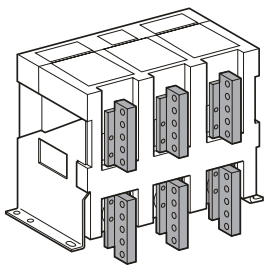

Detail

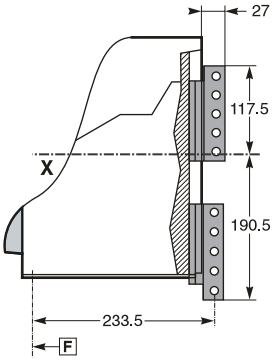


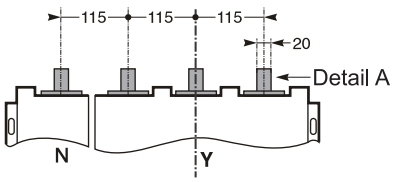



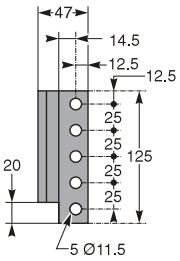




Vertical rear connection





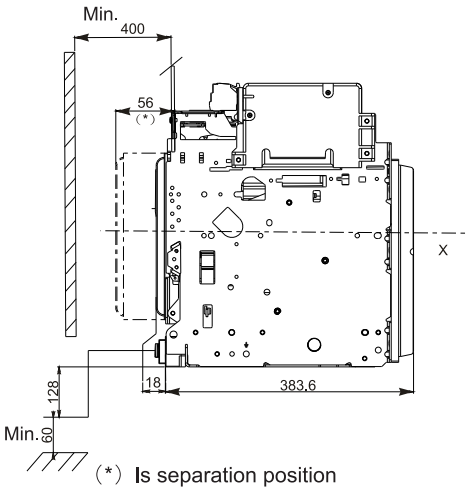



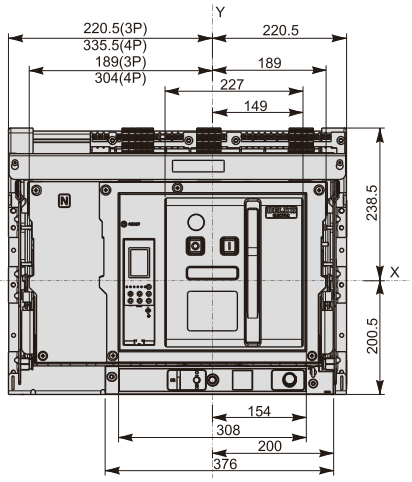




F : Datum point

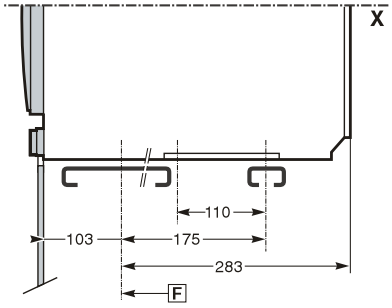
# Installation Dimension

## Dimensions of HDW3-4000 draw-out type 3P&4P

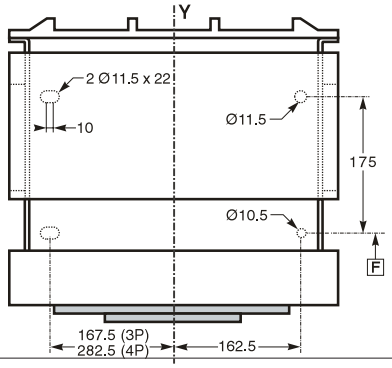


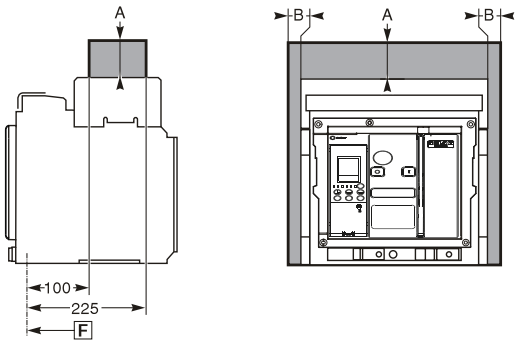

Horizontal Fixed(On a substrate or track)




Safety clearance

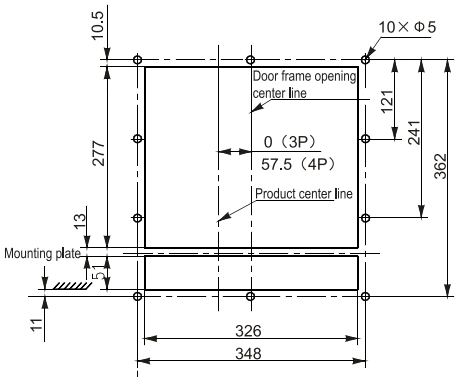



Door open dimension




| | Insulated part | Metal part | Live part |
|---|---|---|---|
| A | 0 | 0 | 0 |
| B | 0 | 0 | 60 |

F: Datum point

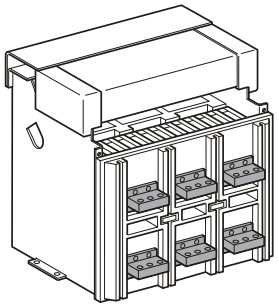


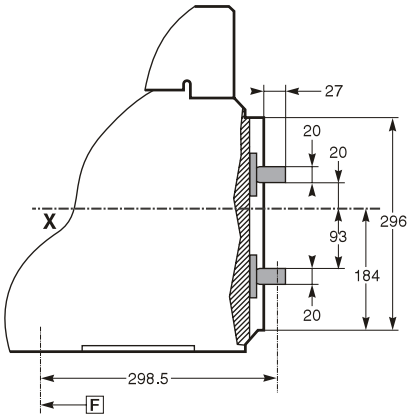

* Note: The X and Y axes of the 3-pole breaker are symmetrical with the breaker noumenon front face mask. The safe distance should consider the space needed to remove the arcing shield

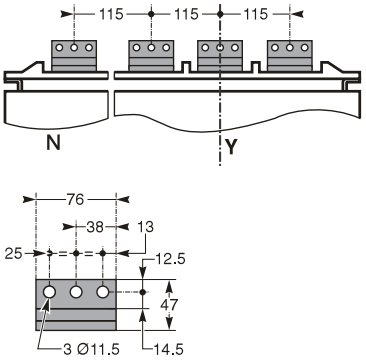
# Installation Dimension

## Connections HDW3-4000 draw-out type 3P&4P 1600A~3200A

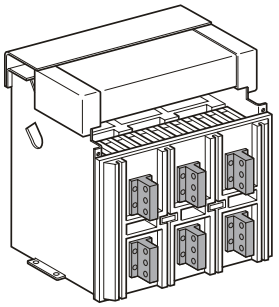
Horizontal rear connection

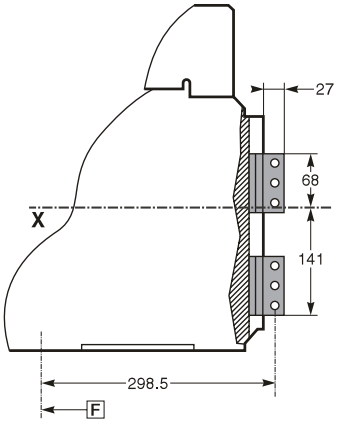


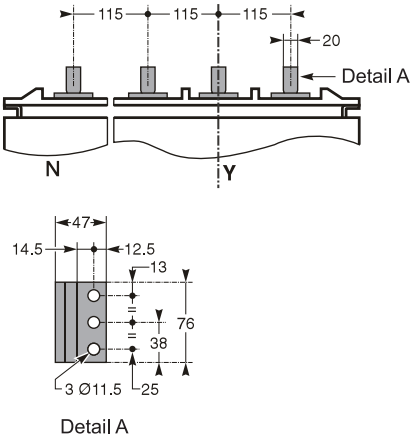



Vertical rear connection



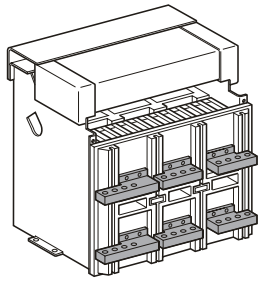


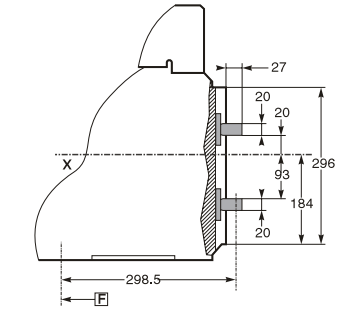



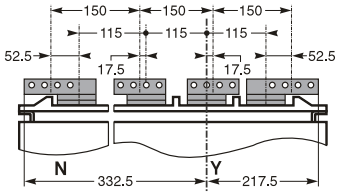
# Installation Dimension

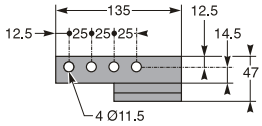
## Connections HDW3-4000 draw-out type 3P&4P 4000A

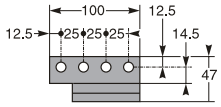
Horizontal rear connection



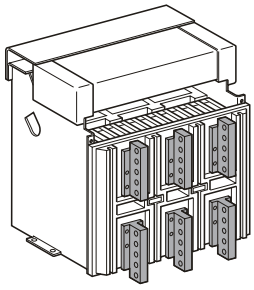


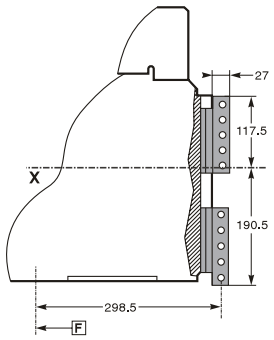



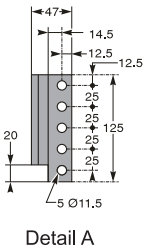



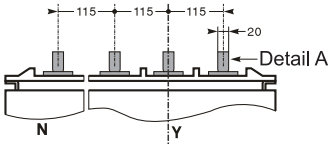




Vertical rear connection






F: Datum point

It is suggested to connect the circuit breaker with guide line

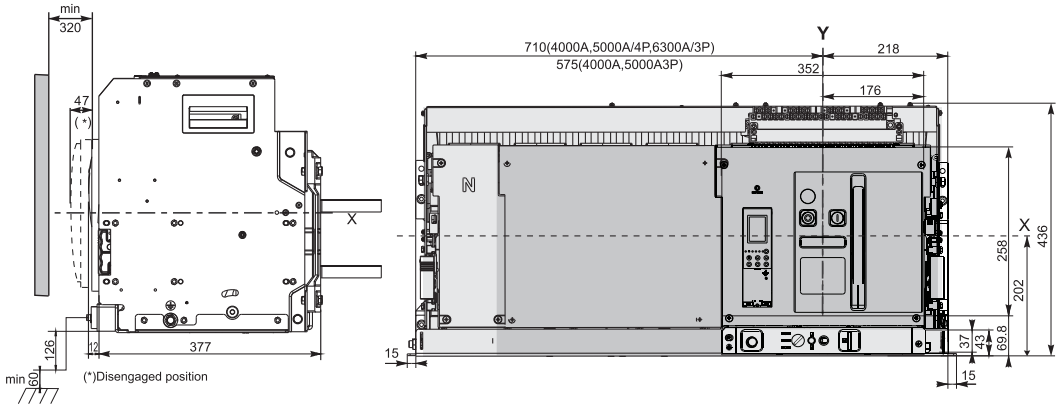
| Rated current A | Specification of external copper platoon | Pole number | Sectional areamm$^2$ |
|---|---|---|---|
| 400 | None | 1 | 240 |
| 630 | 40×5 | 2 | 400 |
| 800 | 50×5 | 2 | 500 |
| 1000 | 60×5 | 2 | 600 |
| 1250 | 80×5 | 2 | 800 |
| 1600 | 100×5 | 2 | 1000 |
| 2000 | 100×5 | 3 | 1500 |
| 2500 | 100×5 | 4 | 2000 |
| 3200 | 120×10 | 3 | 3600 |
| 4000 | 100×10 | 5 | 5000 |

Detailed information please refer to the specification

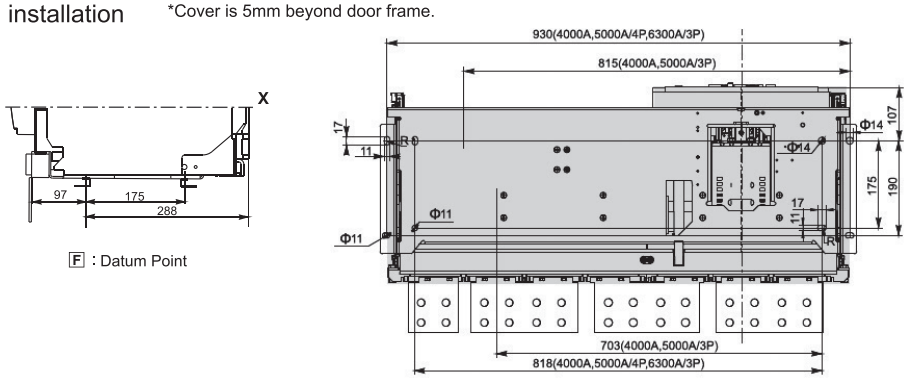
# Installation Dimension

## Connections HDW3-6300M&S

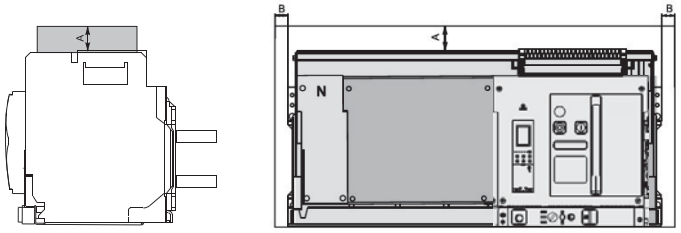
6300M&S Draw-out type 3P&4P Dimension F Datum Point




Horizontal installation *Cover is 5mm beyond door frame.

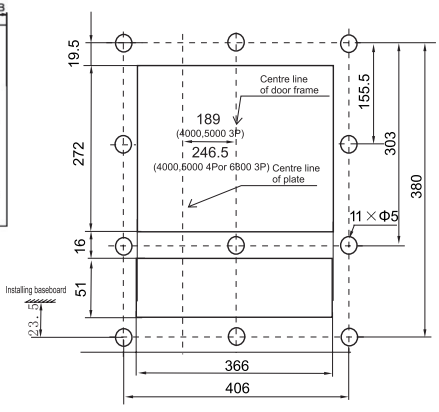



Safety clearance




| Safety clearance (mm) | Draw-out type | |
|---|---|---|
| | A | B |
| Non-conductor | 0 | 0 |
| Metals | 0 | 0 |
| Energized conductor | 100 | 60 |

Holes size on door



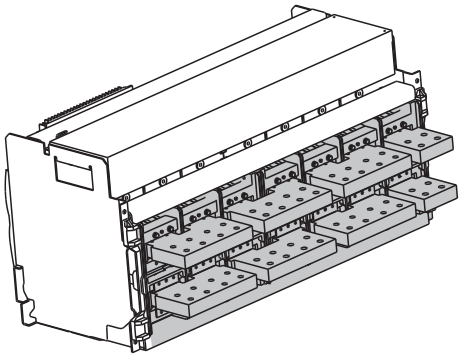
# Installation Dimension

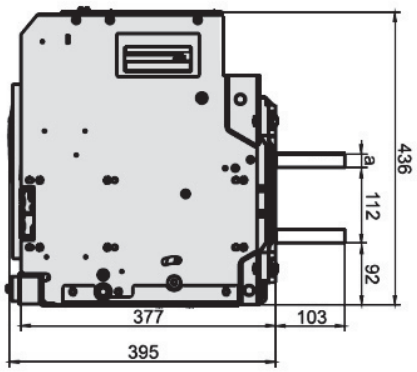
## Connections HDW3-6300M&S

6300M&S Draw-out type connection F Datum Point

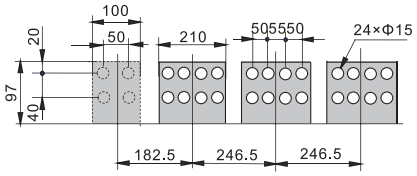
4000A-6300A

Horizontal connection

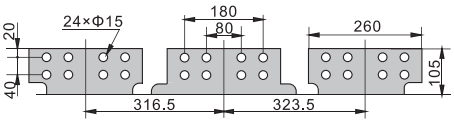





In=4000A/5000A




In=6300A

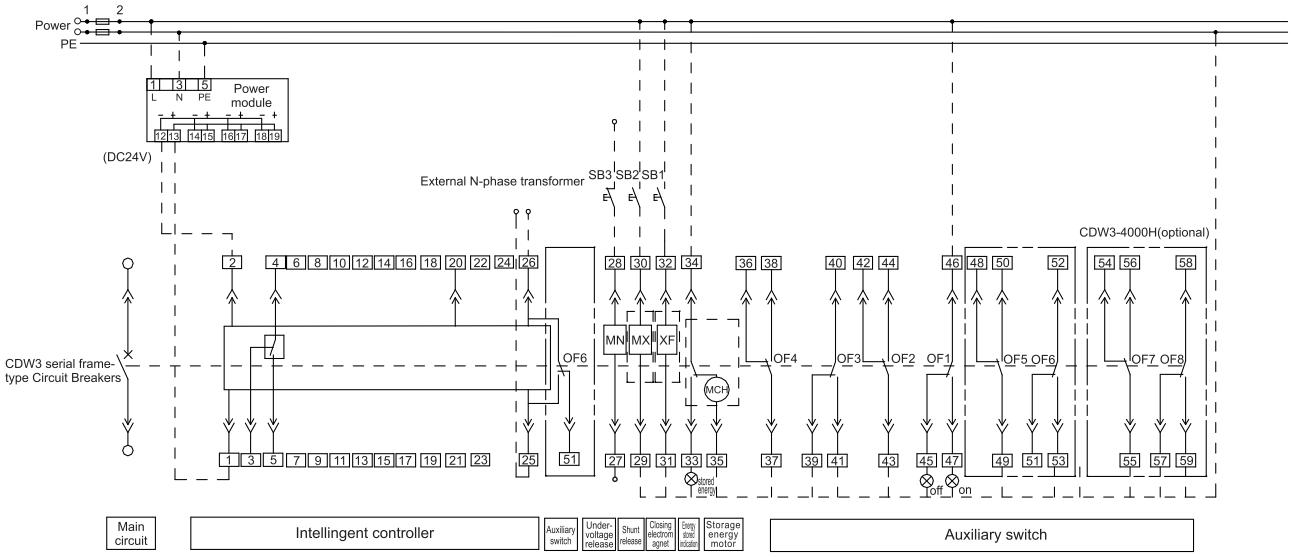



| In ( A ) | a ( mm ) |
|---|---|
| 4000 | 20 |
| 5000 | 30 |
| 6300 | 30 |

# Electrical Schematic Diagram

## iTR326、iTR326A Electrical schematic diagram

Wiring diagrams of iTR326, iTR326A intelligent controllers




Controller wiring annotations

UM：Voltage test signal input

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

POW：External power input

1#(V1+), 2#(V2-): Auxiliary power input/output terminals, 1#(V1) is the positive terminal for DC

SWT：Fault trip contact output

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

CT：External transformer, including external N-phase transformer or ZT100 or ZCT1(one out of three), where

25# - 26#：apply to external N-phase transformer input;

25# - 26#：apply to external ground transformer ZT100 input;

25# - 26#：apply to external leakage transformer ZCT1 input;

Note 1：MN under-voltage release 27#，28# wired on the main circuit line

Note 2：Different powers can be applied respectively if the control power voltages for MN, MX, XF, MCH are different from each other, HDW3-1600 auxiliary switch offer 4a4b only; HDW3-2000&HDW3-3200 auxiliary switches can offer 4a4b and 6a6b; HDW3-4000 auxiliary switch can offer 4a4b, 6a6b and 8a8b，where 4a4b is a standard configuration，others need to to be purchased separately (the dashed parts in the diagram are connected by the users);

Note 3：Terminal 35# not only can be connected directly to the power (pre-store energy automatically), but also can be connected with the NO button in series then connected to the power (hand control energy pre-storage)

Note 4：The controller should be connected to the power module, adopt iPAU331 power module when the power voltage is AC220V/AC230V; adopt iPAU332 power module when the power voltage is AC380V/AC400V; adopt iPAU332D when the power voltage is DC110V and DC220V;

Note 5：The auxiliary switch is 4a4b when HDW3-2000 and HDW3-2000 are circuit 47;

Note 6：The auxiliary switch is 6a6b (5a5b) when HDW3-2000 and HDW3-3200 are circuit 51：25#, 26#, 51# can not take the external transformer after forming a NO NC contact.

Elements:

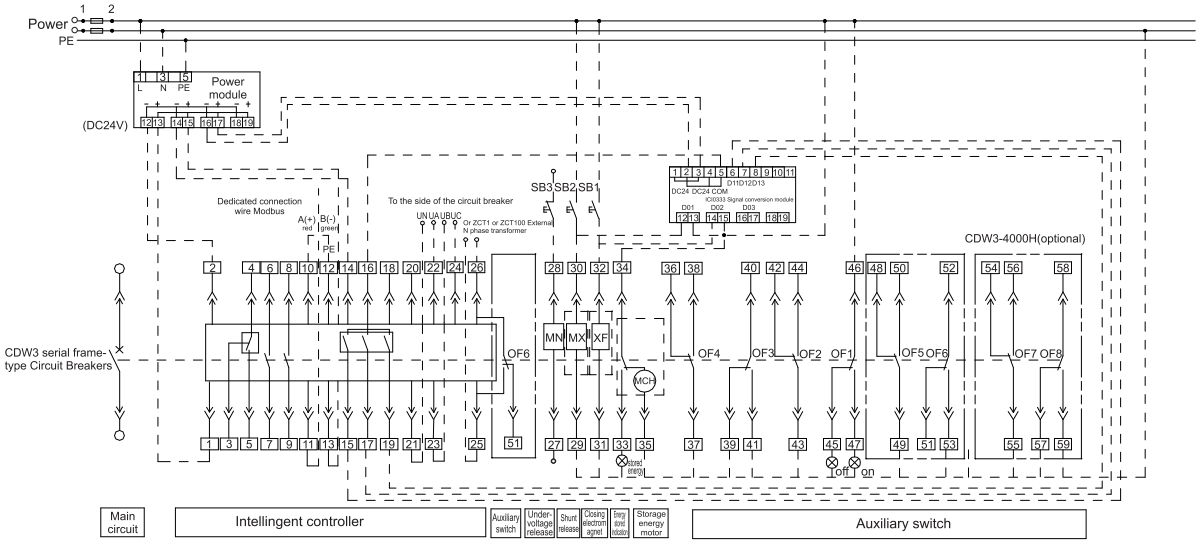
| | |
|---|---|
| MN | Under-voltage release |
| MX | Shunt release |
| XF | Closed electromagnet |
| OF1—OF8 | auxiliary switch |
| SB1 | closing button |
| SB2 | opening button |
| SB3 | emergent disconnect button |

| Equal No. |
|---|
| 27=D2 |
| 28=D1 |
| 29=C2 |
| 30=C1 |
| 31=A2 |
| 32=A1 |
| 33=B3 |
| 34=B1 |
| 35=B2 |

# Electrical Schematic Diagram

## iTR326H Electrical schematic diagram

Wiring diagrams of iTR326H intelligent controllers




Controller wiring annotations:

UM：Voltage test signal input
21#(UN), 22#(UA), 23#(UB), 24#(UC) represent the input ends of N, A, B, C phase voltage respectively.

ZSI：Zone selective interlock
13#(Z+) ,14#(Z-) are the zone selective interlock input DC24V
16#(Z11),15#(Z1),17#(Z2),19#(Z3) are 3D0 output, adopt the optocoupler output, where16# (Z11) is the common terminal

POW：External power input
1#(V1+) , (2# V2- ): Auxiliary power input/output terminals, 1#(V1+) is the positive pole for DC.

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

COM：Communication output
10#, 11#：Communication outgoing lines of RS485A(485+),RS485B(485-) respectively, 12#：PE line, shield ground wire

CT：External transformer, including an external N-phase transformer or ZT100 or ZCT1(one out of three), where
25# - 26#：Apply to external N-phase transformer input;
25# - 26#：Apply to external ground transformer ZT100 input;
25# - 26#：Apply to external leakage transformer ZCT1 input;

Note 1：MN under-voltage release 27#, 28#, wired on the main circuit line

Note 2：Different powers can be applied respectively if the control power voltages for MN, MX, XF, MCH are different from each other, HDW3-1600 auxiliary switch offer 4a4b only；HDW3-2000 and HDW3-3200 auxiliary switches can offer 4a4b and 6a6b；HDW3-4000 auxiliary switch can offer 4a4b, 6a6b and 8a8b，where 4a4b is a standard configuration others need to to be purchased separately (the dashed parts in the diagram are connected by the users);

Note 3：Terminal 35# not only can be connected directly to the power (pre-store energy automatically), but also can be connected with the NO button in series then connected to the power (hand control energy pre-storing)

Note 4：The controller should be connected to the power module, adopt iPAU331 power module when the power voltage is AC220V/AC230V; adopt iPAU332 power module when the power voltage is AC380V/AC400V; adopt iPAU332D when the power voltage is DC110V and DC220V;

Note 5：The auxiliary switch is 4a4b when HDW3-2000 and HDW3-3200 are circuit 47;
25#, 26# are the external transformer input terminals, used for ground fault protection (3P+N)T;

Note 6：The auxiliary switch is 6a6b (5a5b) when HDW3-2000 and HDW3-3200 are circuit 51：
25#, 26#, 51# can not take the external transformer after forming a NO NC contact.

Note 7: When the remote control is working, the signal conversion modules are needed, signal conversion module contact capacity is AC240V，10A

Note 8: The communication protocol is Modbus, iCAU486 or iCAU485 is needed to be ordered when Profibus or Devicenet protocol is used, the module uses DC24V electricity supply, the input end is connected to the secondary circuit 10#(485+), terminal 11#(485-) , the output end is connected to the corresponding protocol bus.

Elements:

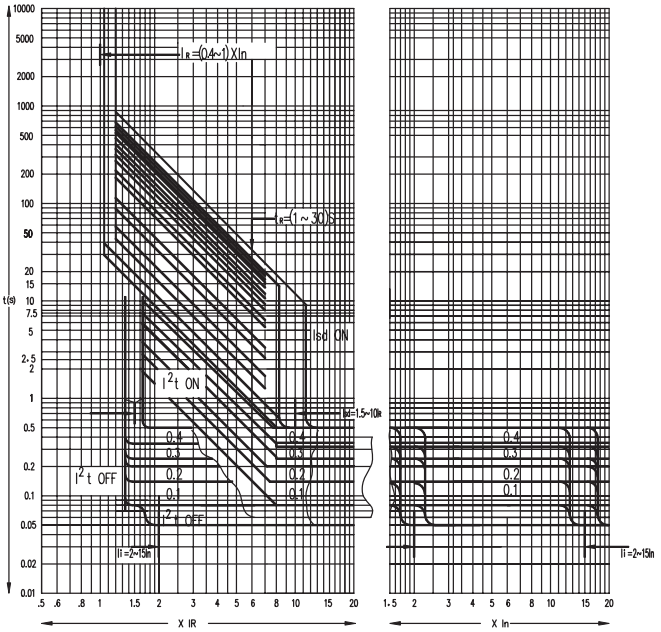
| | |
|---|---|
| MN | Under-voltage release |
| XF | Closed electromagnet |
| OF1—OF8 | Auxiliary switch |
| ZT100 | Ground transformer |
| SB1 | Closing button |
| SB2 | Opening button |
| SB3 | Emergent disconnect button |
| MX | Shunt release |
| MCH | Motor |
| ZCT1 | Leakage transformer |

| Equal No. |
|---|
| 27=D2 |
| 28=D1 |
| 29=C2 |
| 30=C1 |
| 31=A2 |
| 32=A1 |
| 33=B3 |
| 34=B1 |
| 35=B2 |

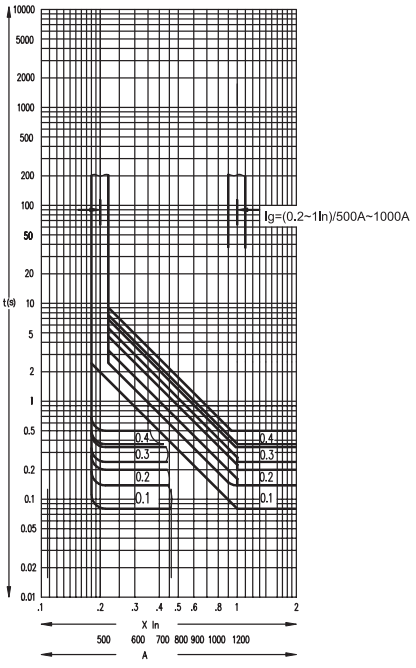
# Tripping Curve

## Tripping Curve

3 phases protection




Ground protection



# HDW3 ATS Controller

## Product Introduction

**HDW3 automatic transfer controller** is an intelligent ATSE controller with programmable functions, automatic measuring, LCD menu display, and digital communication. It can automatically realize voltage, frequency, phase etc. electrical parameters measurement and automatic control according to setting strategy which can reduce human operation error. It is an ideal product of ATSE.

**HDW3 automatic transfer controller** consists of microprocessor as core. 3-phase voltage and make precise recognition about abnormal voltage (over-voltage, under-voltage, missing phase, over-frequency, under-frequency) . This device considers fully the application with compact structure, advanced circuit, simple wiring, highly reliable, it can be widely applied to electrical devices, automatic control and debug system in industry of power, post and telecommunications, petroleum, coal, metallurgical, railway, mu

### ATSEC2

Two-source AC power input
Main power source and standby power source

### ATSECM

Two-source AC power input
Two Main power source and tie bus interlock

### ATSEC3

Three-source AC power input
Main power source and two standby power source

# HDW3 ATS Controller

## Main fucntion of ATS controller

ATSEC2
Two-source AC power input
Main power source and standby power source
functional parameter

- Graphic LCD 128x64 pixel;
- Two-source AC power input: 1-phase 2-wire, 2-phase 3-wire, 3-phase 3-wire, 3-phase 4-wire;
- Measured values, settings, and message texts are supported in English and Chinese
- 10~30VDC power supply.
- Detection function for over-voltage, under-voltage, phase loss, reverse phase sequence, over-frequency, under-frequency;
- 8-channel programmable digital input (grounding effective);
- 10-channel programmable digital output;
- Integrated RS-485 isolation interface, MODBUS protocol;
- Storage of last 200 events;
- Real time clock
- All parameters are field programmable, use password access to avoid misoperation by unprofessional persons;
- The fixed washer is IP65 degree of protection
- Module structure design, Retardant PC cover, pluggable terminal, embedded installation mode, compact structure and easy installation;

## Main fucntion of ATS controller

ATSECM
Two-source AC power input
Two Main power source and tie bus interlock
functional parameter

ATSEC3
Three-source AC power input
Main power source and two standby power source

- Graphic LCD 128x64 pixel, 5 inch TFT;
- Two-source AC power input: 3-phase 4-wire; (Three -source AC power input-ATSEC3 )
- Measured values, settings, and message texts are supported in English and Chinese;
- 12~48VDC power supply;
- Detection function for over-voltage, under-voltage, phase loss, reverse phase sequence, over-frequency, under-frequency;
- 8-channel programmable digital input (grounding effective);
- 10-channel programmable digital output;
- Integrated RS-485 isolation interface, MODBUS protocol;
- Storage of last 200 events;
- Real time clock;
- All parameters are field programmable, use password access to avoid misoperation by unprofessional persons;
- The fixed washer is IP65 degree of protection;
- Module structure design, Retardant PC cover, pluggable terminal, embedded installation mode,compact structure and easy installation;

# HDW3 ATS Controller

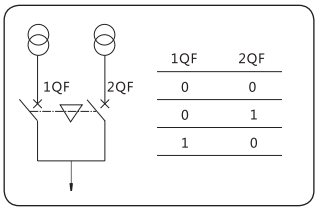
## HOW T0 order complete set of ATS with ACB

the complete set must including 2 or 3 set ACB with 220V AC motor , shunt release ,closing coil , and ATS Controller
Do not install key lock with ACB, it will damaged the ACB when automatic transfer
Do not install the undervoltage release with ACB, It will interference ATS automatic transfer
Do not use MODBUS or remote operate breaker MX/XF, It will interference the ATS controller

## Cable Interlocking

### Two Breaker Interlock C2

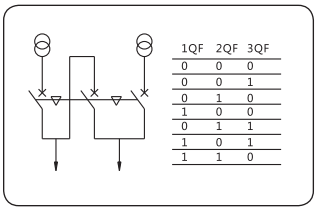
Interlock type A in which one of the two breakers (B1 or B2)can be switched ON. Each breaker must be equipped with a factory mounted interlock type A. Two cables are needed.




| 1QF | 2QF |
|---|---|
| 0 | 0 |
| 0 | 1 |
| 1 | 0 |

### Three Breaker Interlock C3

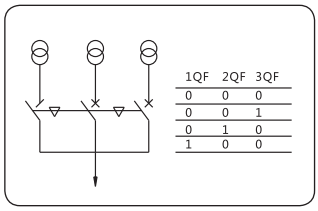
Interlock type B in which one of the three breakers (B1, B2 or B3) can be switched ON. Each breaker must be equipped with a factory mounted interlock type B. Six cables are needed.



| 1QF | 2QF | 3QF |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

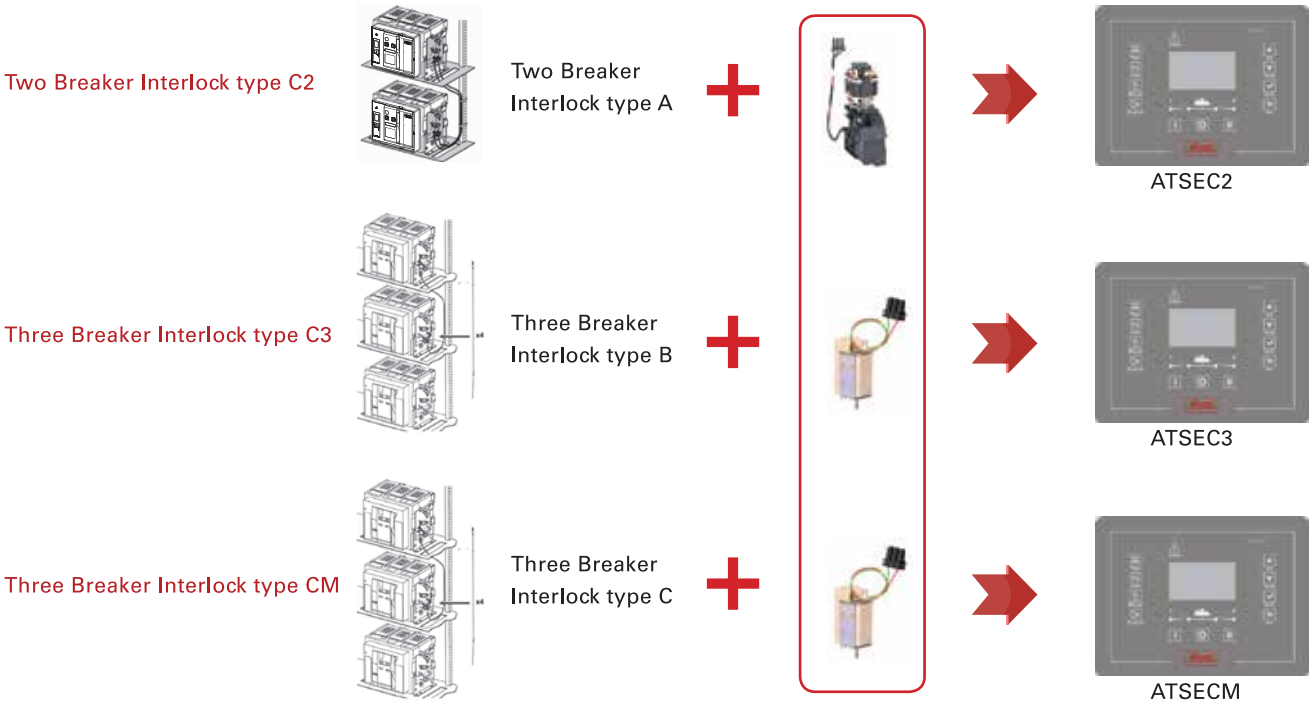
### Three Breaker Interlock type CM

Interlock type A in which one of the two breakers (B1 or B2)can be switched ON. Each breaker must be equipped with a factory mounted interlock type A. Two cables are needed.



| 1QF | 2QF | 3QF |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |

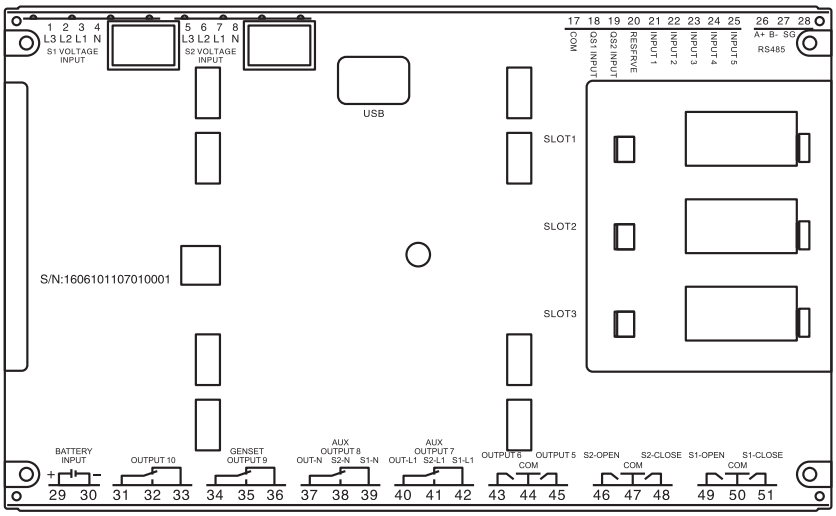
## ATS controller + ACB + Mechanical interlock



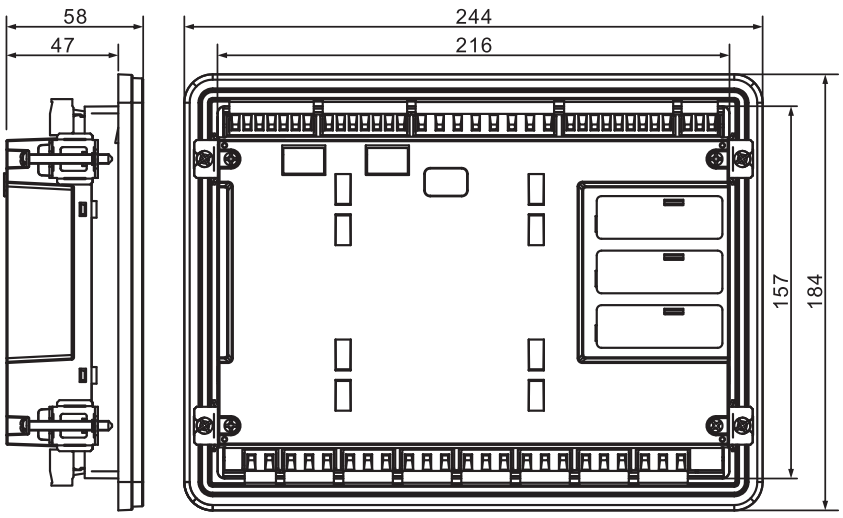
# HDW3 ATS Controller

## ATS controller-Wiring diagram -ATSEC2

Terminal diagrom



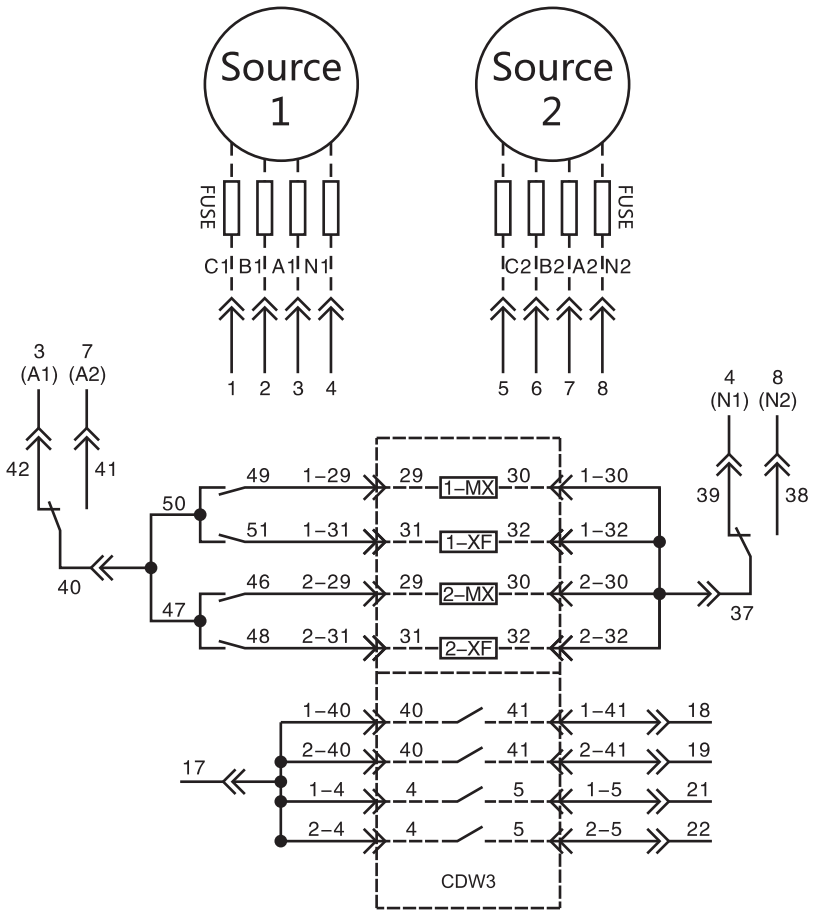

Installation Dimension



# HDW3 ATS Controller

## ATS controller-Wiring diagram -ATSEC2

Electrical Schematic Diagram




1 - MX Source 1 breaker - shunt release
1 - XF Source 1 breaker - closing coil

2 - MX Source 2 breaker - shunt release
2 - XF Source 2 breaker - closing coil

1-40 1-41 Source 1 breaker - Auxiliary contact
2-40 2-41 Source 2 breaker - Auxiliary contact

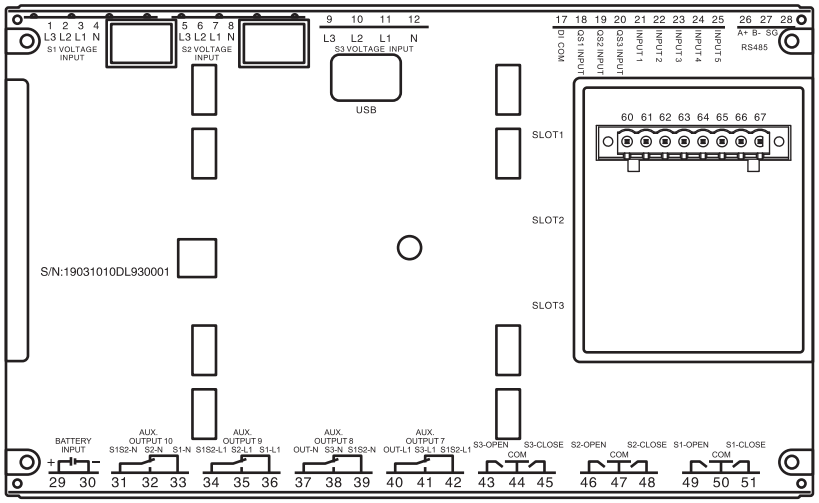
1-4 1-5 Source 1 breaker - Alarm contact
2-4 2-5 Source 2 breaker - Alarm contact

Note
1: Default 2m cable
2: MX - shunt release 220VAC
XF - Closing coil 220VAC
OF3- Auxilary contact
AL - Alarm contact
3: The ACB must install with cabel interlock
4: out of dotted line is connect to ACB terminal by customer
5: ATS already have under & over voltage protection, do not install undervoltage release into ACB
6: Intelligent controller iTR326H, don't use MODBUS control ACB ON/OFF( MX+XF)

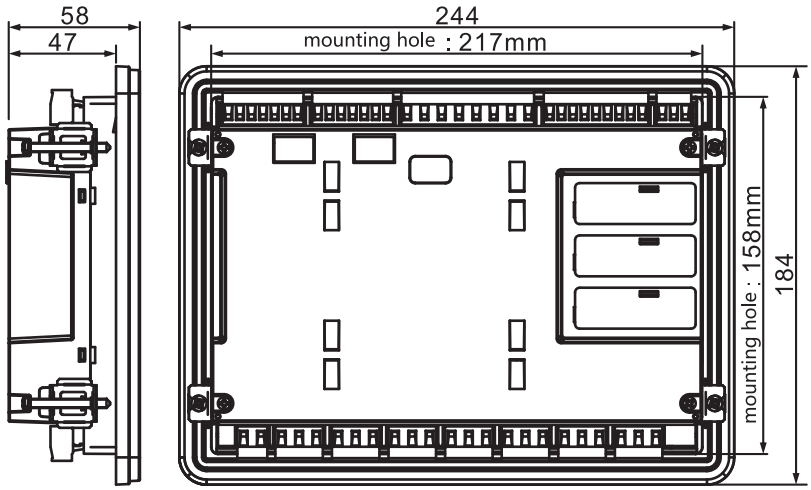
# HDW3 ATS Controller

## ATS controller-Wiring diagram –ATSEC3

Terminal diagrom



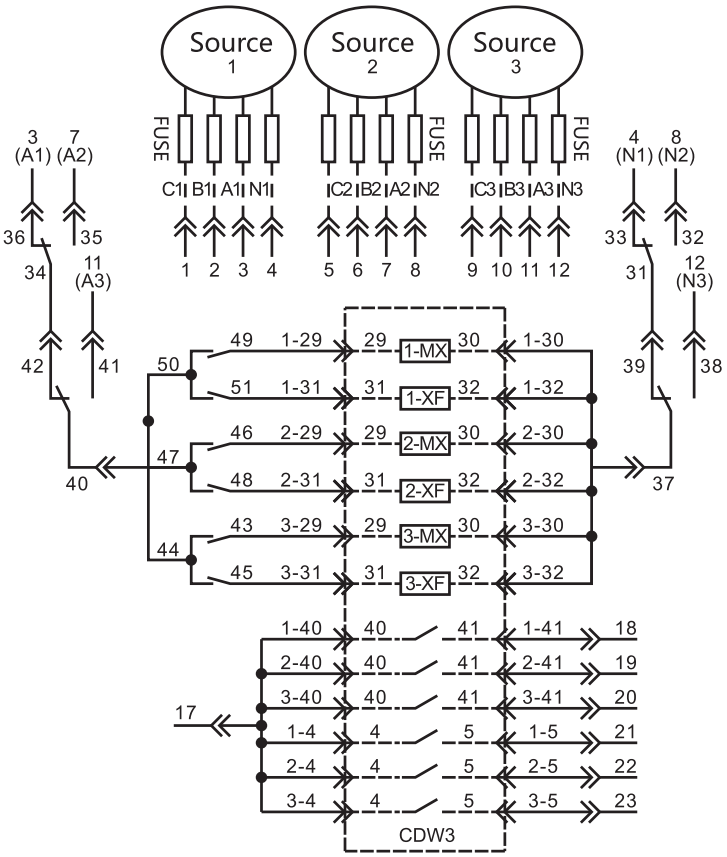

Installation Dimension

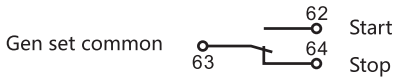


# HDW3 ATS Controller

## ATS controller-Wiring diagram –ATSEC3

Electrical Schematic Diagram




1 - MX Source 1 breaker - shunt release
1 - XF Source 1 breaker - closing coil

2 - MX Source 2 breaker - shunt release
2 - XF Source 2 breaker - closing coil

3 - MX Source 3 breaker - shunt release
3 - XF Source 3 breaker - closing coil

1-40 1-41 Source 1 breaker - Auxiliary contact
2-40 2-41 Source 2 breaker - Auxiliary contact
3-40 3-41 Source 3 breaker - Auxiliary contact

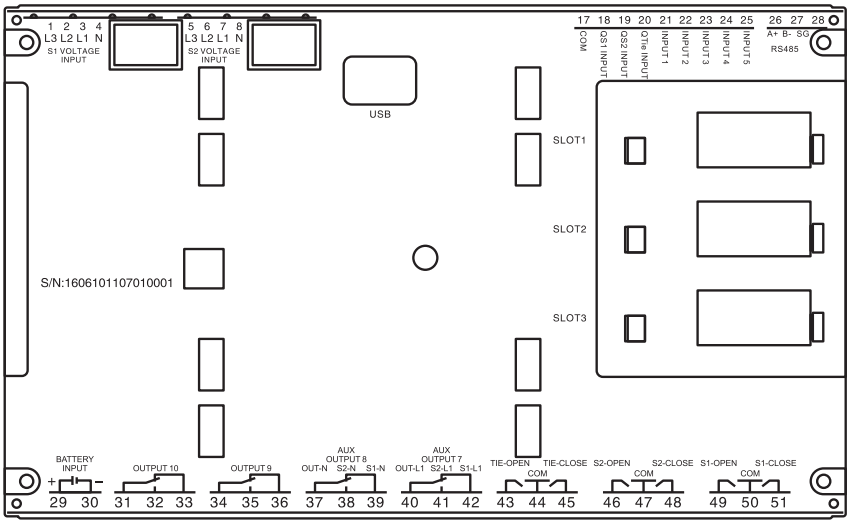
1-4 1-5 Source 1 breaker - Alarm contact
2-4 2-5 Source 2 breaker - Alarm contact
3-4 3-5 Source 3 breaker - Alarm contact

Note
1: Default 4m cable
2: MX - shunt release 220VAC
XF - Closing coil 220VAC
OF3- Auxilary contact
AL - Alarm contact
3: The ACB must install with cabel interlock
4: out of dotted line is connect to ACB terminal by customer
5: ATS already have under & over voltage protection, do not install undervoltage release into ACB
6: Intelligent controller iTR326H, don't use MODBUS control ACB ON/OFF( MX+XF)
7: Not suitable for 1600 frame size

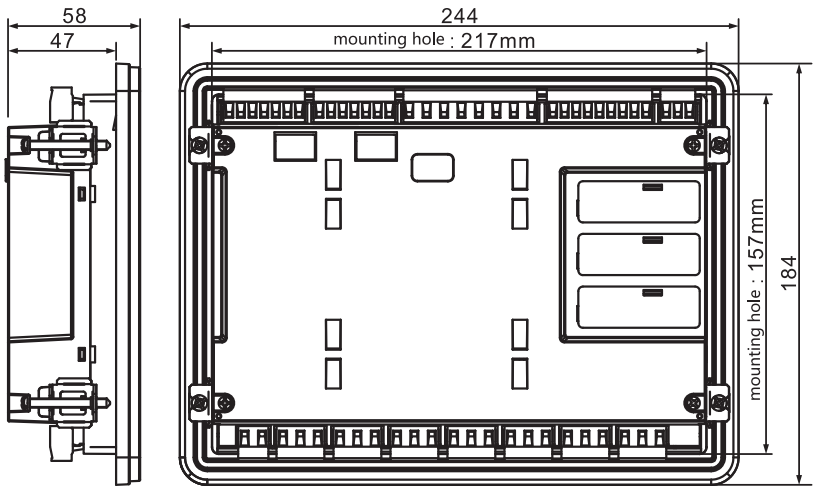
# HDW3 ATS Controller

## ATS controller-Wiring diagram –ATSECM

Terminal diagrom



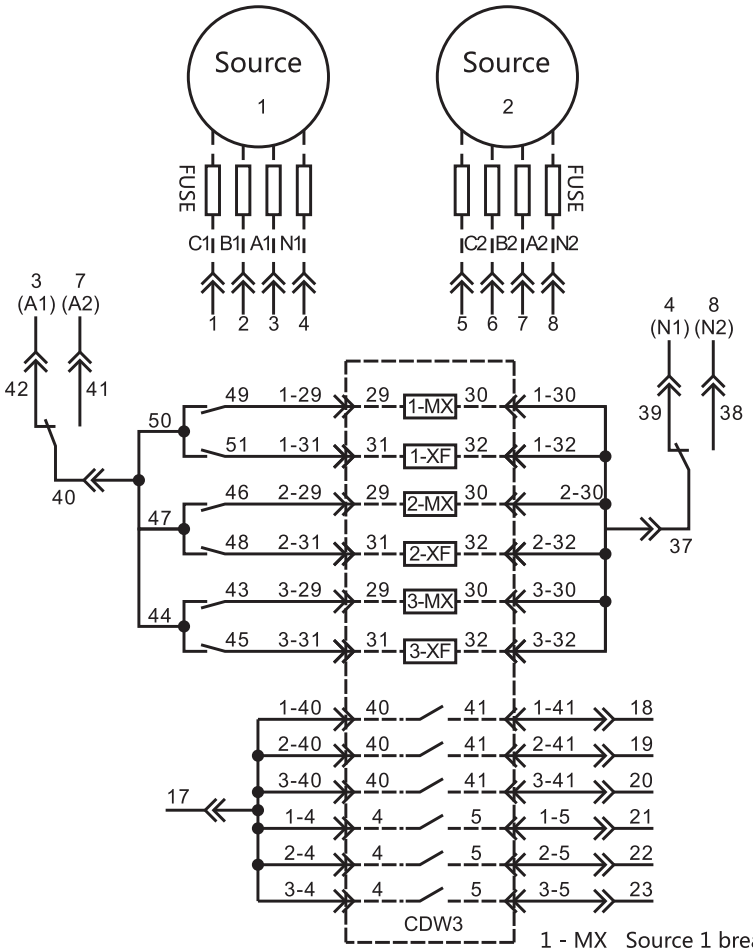

Installation Dimension



# HDW3 ATS Controller

## ATS controller-Wiring diagram –ATSECM

Electrical Schematic Diagram




1 - MX Source 1 breaker - shunt release
1 - XF Source 1 breaker - closing coil

2 - MX Source 2 breaker - shunt release
2 - XF Source 2 breaker - closing coil

3 -MX bus tie breaker - shunt release
3 - XF bus tie breaker - closing coil

1-40 1-41 Source 1 breaker - Auxiliary contact
2-40 2-41 Source 2 breaker - Auxiliary contact
3-40 3-41 bus tie breaker - Auxiliary contact

Note
1: Default 4m cable
2: MX - shunt release 220VAC
XF - Closing coil 220VAC
OF3- Auxilary contact
AL - Alarm contact
3: The ACB must install with cabel interlock
4: out of dotted line is connect to ACB terminal by customer
5: ATS already have under & over voltage protection, do not install undervoltage release into ACB
6: Intelligent controller iTR326H, don't use MODBUS control ACB ON/OFF( MX+XF)
7: Not suitable for 1600 frame size

# Contents

# Molded Case Circuit Breaker Product Overview

## Molded Case Circuit Breaker


HDM3 Page 02

**Current:** 10~1250A
**Breaking Capacity:** S, L, F, M, N, T


HDM2 Page 43

**Current:** 10~100A
**Breaking Capacity:** L

# HDM3 Molded Case Circuit Breaker

Product selection
Standard:IEC/EN 60947-2

## Material code: M363S6333102FR
## Material description: HDM3-63S/33102 63A Fixed at rear

| Product | Framesize | Breaking Capacity | Rated Current | Poles | Tripping Type | Product accessories | Protection Type | Operation Type | Product Inner Acc | Installation Type | Temperature |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HDM3 | 63: 63A | S | 10:10A | 3: 3 Poles | 2: Mag | xx:No accessories | Default: Power Distribution | Default:Toggle | Default: MX/MN AC400V | Default: Fixed Front | Default:40℃ |
| | 100: 100A | L | ... | A: 4 Poles A type | 3: Mag-therm | 08: Alarm | 2: Motor Protection | P: MCH | A: MX/MN AC230V | FR: Fixed Rear | T:50℃ |
| | 160: 160A | F | 1250:1250A | (The N phase is | | 10: Shunt | | Z:Turning Toggle | B: MX DC24V | PF: Plug-in Front | |
| | 250: 250A | M | | directly connected | | 20: Auxiliary | | | C: MX AC230V MN AC230V | PR: Plug-in Rear | |
| | 400: 400A | N | | with a wire, and | | 30: Undervoltage | | | D: MX AC400V MN AC230V | D: Draw-out | |
| | 630: 630A | T | | without contacts. | | 40: Shunt+auxiliary | | | E: MX DC24V MN AC230V | | |
| | 800: 800A | | | It's always | | 50: Shunt+undervoltage | | | F: MX AC230V MN AC400V | | |
| | 1250: 1250A | | | closed.) | | 60:Two groups of auxiliary | | | G: MX AC400V MN AC400V | | |
| | | | | B: 4 Poles B type | | 70: Undervoltage+auxiliary | | | H: MX DC24V MN AC400V | | |
| | | | | (The N phase is | | 18: Shunt+alarm | | | I: MX DC110V | | |
| | | | | equipped with | | 28: Auxiliary+alarm | | | J: MX DC220V | | |
| | | | | contacts, but | | 38: Undervoltage+alarm | | | K: MX DC110V MN AC230V | | |
| | | | | without magnetic | | 48: Shunt+auxiliary alarm | | | L: MX DC110V MN AC400V | | |
| | | | | protection | | 68: Auxiliary+auxiliary | | | M: MX DC220V MN AC230V | | |
| | | | | or thermal | | alarm | | | N: MX DC220V MN AC400V | | |
| | | | | protection. It | | 78: Undervoltage+auxiliary | | | | | |
| | | | | closes earlier and | | alarm | | | | | |
| | | | | opens later than | | | | | | | |
| | | | | the other 3 poles.) | | | | | | | |

Remark:
1. Shunt/auxiliary/alarm contacts are classified into terminals and standard configured leadsTwo types for Shunt/auxiliary/alarm contacts: Terminals and configured leads (standard offer)
2. Standard configuration of connection mode: fixed front connection
3. Standard configuration of conventional products: interphase barriers and mounting screw (without wiring copper bar)
4. As customized models, DC110V and DC220V shall be described specially
5. HDM3-100M/F/T/N minimum rated current is 40A.

# HDM3 Molded Case Circuit Breaker

Product selection
Standard:IEC/EN 60947-2

## Selection of accessories
## HDM3-100 H1

| Name | Current frame | Breaking Capacity | Product Inner Accessories | Voltage Type | Installation Position | Poles |
|---|---|---|---|---|---|---|
| HDM3 | 100 | FN | AL1 | A2 | L | 3P |
| | 63:63A | S | AL1:Alarm (with wire) | MX shunt: | L:Left | 3P:3P |
| | 100:100A | L | AL2:Alarm (with terminal) | A2:AC230V | R:Right | 4P:4P |
| | 160:160A | F | MX1:Shunt release (with wire) | A3:AC400V | | |
| | 250:250A | M | MX2:Shunt release (with terminal) | D1:DC110V | | |
| | 400:400A | N | OF11K1B:Auxiliary contact 1K1B(with wire) | D2:DC24V | | |
| | 630:630A | T | OF:21K1B:Auxiliary contact 1K1B(with terminal) | D3:DC220V | | |
| | 800:800A | | OF12K2B:Auxiliary contact 2K2B(with wire) | MN under- | | |
| | 1250:1250A | | OF22K2B:Auxiliary contact 2K2B(with terminal) | voltage: | | |
| | | | MN:Undervoltage release | A2:AC230V | | |
| | | | C3:Expanding terminal 3P(3pcs) | A3:AC400V | | |
| | | | C4:Expanding terminal 4P(4pcs) | | | |
| | | | IB3:Interphase clapboard 3P(4pcs) | | | |
| | | | IB4:Interphase clapboard 4P(6pcs) | | | |
| | | | OFAL1:Auxiliary contact&Alarm (with wire) | | | |
| | | | OFAL2:Auxiliary contact&Alarm (with terminal) | | | |
| | | | CD1:AC Electric operating mechanism | | | |
| | | | CD2:DC Electric operating mechanism | | | |
| | | | H1: Round direct handle | | | |
| | | | H2: Square direct handle | | | |
| | | | HL1:Round extended rotation handle | | | |
| | | | HL2:Square extended rotation handle | | | |

Remark:
1. The extension terminal is all called accessory plate or wiring copper bus
2. AL/MX/OF is equipped with terminal or lead can mount in the left and right position, and MN only mount in the left the default wiring length is 500mm, and when choose terminal type mount in the right, please remark the product is 3P or 4P. AL/OF default mount in the left, MX default mount in the right.
3. 100AF and the accessories of type S breaker and F/N breaker are different and shall be distinguished
4. MX shunt voltage type: AC230V、AC400V、DC24V、DC110V、DC220V
5. MN under-voltage type: AC230V、AC400V
6. Shunt: installed on the right
Under-voltage: installed on the left
Auxiliary, alarm and auxiliary alarm: optional on left or right
7. CD1:HDM3-1250 CD2:HDM3-63~800
8. HDM3-800 internal accessories (alarm, auxiliary, shunt, undervoltage) does not provide single selling
9. HDM3-1250 only provide motor mechanism selling separately

# HDM3 Molded Case Circuit Breaker

Product Features
Standard:IEC/EN 60947-2

## Product Features

### Standard
·IEC 60947-1
·IEC 60947-2

### Pollution Degree
HDM3 products operate in the environment (industrial environment) with pollution class 3 defined in IEC/EN 60947-1 and IEC/EN 60947-2 standards.

### Wet and heat resistance
Dry and cold
Dry and heat
Wet and heat

### Environment temperature
- HDM3 series can work for a long time under normal environment and operating temperature between -5°C and 50°C.
- Refer to the temperature derating factor table or contact us if the operating ambient temperature exceeds 40°C (motor protection exceeds 60°C).
- Storage temperature ranges between -20°C and 70°C.

### Altitude
- Altitude at normal installation site does not exceed 2000m.
- If the altitude exceeds 2000m, the changes in the dielectric strength and the air temperature drop must be considered. Refer to the altitude derating factor table or contact us.

### Humidity
The following conditions must be met during normal operation:
- The relative humidity of atmosphere does not exceed 50% if the ambient air temperature is +40°C. The product can be used at a high relative humidity if the temperature is low.
- The monthly average relative humidity at the wettest month is 90%.
- The impact of the condensation generated on the product surface on the product property shall be considered.

### Reliable contact indication with isolating function
HDM3 Molded case circuit breaker complies with the isolation defined in IEC standard 60947-2
- The isolated location corresponds to O (OFF)
- The operating handle can indicate “OFF" only when the contact is open
- The rotation handle or electric operating mechanism will not change the reliability of the contact indication system. Through the test, the isolating function must guarantee:

- Mechanical reliability of contact indication system
- No leakage current
- There is a certain overvoltage resistance capacity between the input and output terminals.

### Protection class
- IP protection class of circuit breaker body: IP20
- Circuit breaker installed in the switch cabinet:
  circuit breaker with a toggle handle IP40
  circuit breaker with an electric operating mechanism IP40





# HDM3 Molded Case Circuit Breaker

Technical parameters
Standard:IEC/EN 60947-2

## Technical parameters

| Shell frame current | | HDM3-63 | | | | HDM3-100 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rated voltage Ue(V) | | 400/415 | | | | 400/415 | | | | | |
| Rated insulation voltage Ui(V) | | 690 | | | | 800 | | | | | |
| Rated impulse withstand voltage Uimp(kV) | | 6 | | | | 8 | | | | | |
| Rated current In(A) | | 10--63 | | | | 10--100 | | 40--100 | | | |
| Number of poles Pole (3P,4P-A/B) | | 3/4 | | | | 3/4 | | 3/4 | | 3 | |
| | | L | S | M | F | L | S | M | F | T | N |
| Rated ultimate short circuit breaking capacity Icu (kA) | 50/60Hz AC 400/415V | 18 | 25 | 30 | 50 | 18 | 25 | 26 | 35 | 30 | 50 |
| Rated operating short circuit breaking capacity Ics (kA) | 50/60Hz AC 400/415V | 18 | 18 | 30 | 30 | 18 | 18 | 26 | 26 | 30 | 30 |
| Mechanical life | Mechanical with maintenance | 20000 | | | | 20000 | | | | | |
| | Mechanical without maintenance | 10000 | | | | 10000 | | | | | |
| Electrical life | AC 400/415V | 4000 | | | | 4000 | | | | | |
| Protection type | Power distribution protection | ■ | | | | ■ | | | | | |
| | Motor protection | ■ | | | | ■ | | | | | |
| Tripping ways | Thermal magnetic tripping | ■ | | | | ■ | | | | | |
| | Single magnetic tripping | ■ | | | | ■ | | | | | |
| Installation mode | Fixed front connection | ■ | | | | ■ | | | | | |
| | Fixed rear connection | ■ | | | | ■ | | | | | |
| | Plug-in front connection | ■ | | | | ■ | | | | | |
| | Plug-in rear connection | ■ | | | | ■ | | | | | |
| | Withdrawable | - | | | | - | | | | | |
| Product accessories | Undervoltage release | ■ | | | | ■ | | | | | |
| | Shunt release | ■ | | | | ■ | | | | | |
| | Alarm contact | ■ | | | | ■ | | | | | |
| | Auxiliary contacts (one open and one closed) | ■ | | | | ■ | | | | | |
| | Auxiliary contacts (two open and two closed) | ■ | | | | ■ | | | | | |
| | Extension terminal | ■ | | | | ■ | | | | | |
| | AC/DC general electrically operated | ■ | | | | ■ | | | | | |
| | Round direct manually operated | ■ | | | | ■ | | | | | |
| | Square direct manually operated | ■ | | | | ■ | | | | | |
| | Round extended manually operated | ■ | | | | ■ | | | | | |
| | Square extended manually operated | ■ | | | | ■ | | | | | |
| | Phase partition | ■ | | | | ■ | | | | | |
| Independent accessory installation | | ■ | | | | ■ | | | | | |
| Isolating function | | ■ | | | | ■ | | | | | |
| Use class | | Class A | | | | Class A | | | | | |
| Certification | | TUV CE | | | | TUV CE | | KEMA CE | | | |
| Dimensions–Fixed front connection | 3P(mm) | 75*130*68 | | | | 75*130*68 | | 92*150*93.5 | | | |
| W*H*D | 4P(mm) | 100*130*68 | | | | 100*130*68 | | 122*150*93.5 | | | |
| Weight | Fixed 3/4P [kg] | 0.78/0.98 | | | | 0.78/0.98 | | 1.28/1.63 | | | |

# HDM3 Molded Case Circuit Breaker

Technical parameters
Standard:IEC/EN 60947-2

## Technical parameters

| HDM3-160 | | | | | | HDM3-250 | | | | | | HDM3-400 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400/415 | | | | | | 400/415 | | | | | | 400/415 | | | | | |
| 800 | | | | | | 800 | | | | | | 800 | | | | | |
| 8 | | | | | | 8 | | | | | | 8 | | | | | |
| 100--160 | | | | | | 100--250 | | | | | | 200--400 | | | | | |
| 3/4 | | | | | | 3/4 | | | | | | 3/4 | | | | | |
| L | S | M | F | T | N | L | S | M | F | T | N | L | S | M | F | T | N |
| 21 | 35 | 30 | 50 | 36 | 60 | 21 | 35 | 30 | 50 | 36 | 60 | 21 | 35 | 30 | 50 | 39 | 70 |
| 21 | 21 | 30 | 30 | 36 | 36 | 21 | 21 | 30 | 30 | 36 | 36 | 21 | 21 | 30 | 30 | 39 | 39 |
| 20000 | | | | | | 20000 | | | | | | 20000 | | | | | |
| 10000 | | | | | | 10000 | | | | | | 5000 | | | | | |
| 4000 | | | | | | 4000 | | | | | | 2000 | | | | | |
| ■ | | | | | | ■ | | | | | | ■ | | | | | |
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| ■ | | | | | | ■ | | | | | | ■ | | | | | |
| Class A | | | | | | Class A | | | | | | Class A | | | | | |
| KEMA CE | | | | | | KEMA CE | | | | | | KEMA CE | | | | | |
| 107*165*76 | | 107*165*88 | | | | 107*165*76 | | 107*165*88 | | | | 150*257*107.5 | | | | | |
| 142*165*76 | | 142*165*88 | | | | 142*165*76 | | 142*165*88 | | | | 198*257*107.5 | | | | | |
| 1.53/2.03 | | 1.53/2.03 | | | | 1.53/2.03 | | 1.53/2.03 | | | | 4.60/5.05 | | | | | |

# HDM3 Molded Case Circuit Breaker

Technical parameters
Standard:IEC/EN 60947-2

| Shell frame current | | HDM3-630 | | | | | | HDM3-800 | | | | HDM3-1250 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rated voltage Ue(V) | | 400/415 | | | | | | 400 | | | | 400 |
| Rated insulation voltage Ui(V) | | 800 | | | | | | 800 | | | | 800 |
| Rated impulse withstand voltage Uimp(kV) | | 8 | | | | | | 8 | | | | 8 |
| Rated current In(A) | | 400--630 | | | | | | 630--800 | | | | 800--1250 |
| Number of poles Pole (3P,4P-A/B) | | 3/4 | | | | | | 3/4 | | | | 3 |
| | | L | S | M | F | T | N | L | S | M | F | N |
| Rated ultimate short circuit breaking capacity Icu(kA) | 50/60Hz AC 400/415V | 21 | 35 | 30 | 50 | 39 | 70 | 25 | 50 | 40 | 70 | 85 |
| Rated operating short circuit breaking capacity Ics(kA) | 50/60Hz AC 400/415V | 21 | 21 | 30 | 30 | 39 | 39 | 25 | 25 | 40 | 40 | 45 |
| Mechanical life | Mechanical with maintenance | 10000 | | | | | | 2500 | | | | 2500 |
| | Mechanical without maintenance | 5000 | | | | | | 1250 | | | | 1250 |
| Electrical life | AC 400/415V | 2000 | | | | | | 500 | | | | 500 |
| Protection type | Power distribution protection | ■ | | | | | | ■ | | | | ■ |
| | Motor protection | ■ | | | | | | - | | | | - |
| Tripping ways | Thermal magnetic tripping | ■ | | | | | | ■ | | | | ■ |
| | Single magnetic tripping | ■ | | | | | | ■ | | | | ■ |
| Installation mode | Fixed front connection | ■ | | | | | | ■ | | | | ■ |
| | Fixed rear connection | ■ | | | | | | ■ | | | | - |
| | Plug-in front connection | - | | | | | | - | | | | - |
| | Plug-in rear connection | ■ | | | | | | ■ | | | | - |
| | Withdrawable | ■ | | | | | | ■ | | | | - |
| Product accessories | Undervoltage release | ■ | | | | | | ■ | | | | ■ |
| | Shunt release | ■ | | | | | | ■ | | | | ■ |
| | Alarm contact | ■ | | | | | | ■ | | | | - |
| | Auxiliary contacts (one open and one closed) | ■ | | | | | | ■ | | | | |
| | Auxiliary contacts (two open and two closed) | ■ | | | | | | ■ | | | | ■ |
| | Extension terminal | ■ | | | | | | ■ | | | | ■ |
| | AC/DC general electrically operated | ■ | | | | | | ■ | | | | ■ |
| | Round direct manually operated | ■ | | | | | | ■ | | | | - |
| | Square direct manually operated | ■ | | | | | | ■ | | | | - |
| | Round extended manually operated | ■ | | | | | | ■ | | | | - |
| | Square extended manually operated | ■ | | | | | | ■ | | | | - |
| | Phase partition | ■ | | | | | | ■ | | | | ■ |
| Independent accessory Installation | | ■ | | | | | | - | | | | - |
| Isolating Function | | ■ | | | | | | ■ | | | | ■ |
| Use class | | Class A | | | | | | Class A | | | | Class A |
| Certification | | KEMA CE | | | | | | KEMA,CE | | | | - |
| Dimensions–Fixed front connection | 3P(mm) | 150*257*107.5 | | | | | | 210*280*100 | | | | 210*406*190 |
| W*H*D | 4P(mm) | 198*257*107.5 | | | | | | 280*280*100 | | | | - |
| Weight | Fixed 3/4P [kg] | 5.10/6.24 | | | | | | 7.34/9.68 | | | | 18.98 |

Remark:
For HDM3-63/100, the rated current under 40 A, the protection function works at least at 400A; for the others, 10/12In.
For 100A, F/N type, the rated current starts with 40A.
The 4 Poles product with N phase is classified into type A and type B.
Type A: The N phase is directly connected with a wire, but without magnetic protection or thermal protection. It's always closed.
Type B: The N phase is installed with contacts, but without magnetic protection or thermal protection. It closes earlier and opens later than the other 3 poles.

# HDM3 Molded Case Circuit Breaker

Reference
Standard:IEC/EN 60947-2

## Material order number

**HDM3 Fixed front connection power distribution protection thermal magnetic tripping**

| Product Specification | In(A) | Icu(kA) | Ics(kA) | Order Reference | Order Reference | Order Reference |
|---|---|---|---|---|---|---|
| | | | | Fixed front 3 pole | Fixed front 4-pole A type | Fixed front 4-pole B type |
| HDM3-63L | 10 | 18 | 18 | HDM363L1033XX | HDM363L10A3XX | HDM363L10B3XX |
| | 16 | 18 | 18 | HDM363L1633XX | HDM363L16A3XX | HDM363L16B3XX |
| | 20 | 18 | 18 | HDM363L2033XX | HDM363L20A3XX | HDM363L20B3XX |
| | 25 | 18 | 18 | HDM363L2533XX | HDM363L25A3XX | HDM363L25B3XX |
| | 32 | 18 | 18 | HDM363L3233XX | HDM363L32A3XX | HDM363L32B3XX |
| | 40 | 18 | 18 | HDM363L4033XX | HDM363L40A3XX | HDM363L40B3XX |
| | 50 | 18 | 18 | HDM363L5033XX | HDM363L50A3XX | HDM363L50B3XX |
| | 63 | 18 | 18 | HDM363L6333XX | HDM363L63A3XX | HDM363L63B3XX |
| HDM3-63S | 10 | 25 | 18 | *HDM363S1033XX | HDM363S10A3XX | HDM363S10B3XX |
| | 16 | 25 | 18 | *HDM363S1633XX | HDM363S16A3XX | HDM363S16B3XX |
| | 20 | 25 | 18 | *HDM363S2033XX | HDM363S20A3XX | HDM363S20B3XX |
| | 25 | 25 | 18 | *HDM363S2533XX | HDM363S25A3XX | HDM363S25B3XX |
| | 32 | 25 | 18 | *HDM363S3233XX | HDM363S32A3XX | HDM363S32B3XX |
| | 40 | 25 | 18 | *HDM363S4033XX | HDM363S40A3XX | HDM363S40B3XX |
| | 50 | 25 | 18 | *HDM363S5033XX | HDM363S50A3XX | HDM363S50B3XX |
| | 63 | 25 | 18 | *HDM363S6333XX | HDM363S63A3XX | HDM363S63B3XX |
| HDM3-63M | 10 | 30 | 30 | HDM363M1033XX | HDM363M10A3XX | HDM363M10B3XX |
| | 16 | 30 | 30 | HDM363M1633XX | HDM363M16A3XX | HDM363M16B3XX |
| | 20 | 30 | 30 | HDM363M2033XX | HDM363M20A3XX | HDM363M20B3XX |
| | 25 | 30 | 30 | HDM363M2533XX | HDM363M25A3XX | HDM363M25B3XX |
| | 32 | 30 | 30 | HDM363M3233XX | HDM363M32A3XX | HDM363M32B3XX |
| | 40 | 30 | 30 | HDM363M4033XX | HDM363M40A3XX | HDM363M40B3XX |
| | 50 | 30 | 30 | HDM363M5033XX | HDM363M50A3XX | HDM363M50B3XX |
| | 63 | 30 | 30 | HDM363M6333XX | HDM363M63A3XX | HDM363M63B3XX |
| HDM3-63F | 10 | 50 | 30 | *HDM363F1033XX | HDM363F10A3XX | HDM363F10B3XX |
| | 16 | 50 | 30 | *HDM363F1633XX | HDM363F16A3XX | HDM363F16B3XX |
| | 20 | 50 | 30 | *HDM363F2033XX | HDM363F20A3XX | HDM363F20B3XX |
| | 25 | 50 | 30 | *HDM363F2533XX | HDM363F25A3XX | HDM363F25B3XX |
| | 32 | 50 | 30 | *HDM363F3233XX | HDM363F32A3XX | HDM363F32B3XX |
| | 40 | 50 | 30 | *HDM363F4033XX | HDM363F40A3XX | HDM363F40B3XX |
| | 50 | 50 | 30 | *HDM363F5033XX | HDM363F50A3XX | HDM363F50B3XX |
| | 63 | 50 | 30 | *HDM363F6333XX | HDM363F63A3XX | HDM363F63B3XX |
| HDM3-100L | 10 | 18 | 18 | HDM3100L1033XX | HDM3100L10A3XX | HDM3100L10B3XX |
| | 16 | 18 | 18 | HDM3100L1633XX | HDM3100L16A3XX | HDM3100L16B3XX |
| | 20 | 18 | 18 | HDM3100L2033XX | HDM3100L20A3XX | HDM3100L20B3XX |
| | 25 | 18 | 18 | HDM3100L2533XX | HDM3100L25A3XX | HDM3100L25B3XX |
| | 32 | 18 | 18 | HDM3100L3233XX | HDM3100L32A3XX | HDM3100L32B3XX |
| | 40 | 18 | 18 | HDM3100L4033XX | HDM3100L40A3XX | HDM3100L40B3XX |
| | 50 | 18 | 18 | HDM3100L5033XX | HDM3100L50A3XX | HDM3100L50B3XX |
| | 63 | 18 | 18 | HDM3100L6333XX | HDM3100L63A3XX | HDM3100L63B3XX |
| | 80 | 18 | 18 | HDM3100L8033XX | HDM3100L80A3XX | HDM3100L80B3XX |
| | 100 | 18 | 18 | HDM3100L10033XX | HDM3100L100A3XX | HDM3100L100B3XX |

The reference with "*" means that it has 40℃and 50℃. Please add "T" at the end as 50℃reference.

# HDM3 Molded Case Circuit Breaker

Reference
Standard:IEC/EN 60947-2

## Material order number

**HDM3 Fixed front connection power distribution protection thermal magnetic tripping**

| Product Specification | In(A) | Icu(KA) | Ics(KA) | Order Reference | Order Reference | Order Reference |
|---|---|---|---|---|---|---|
| | | | | Fixed front 3 pole | Fixed front 4-pole A type | Fixed front 4-pole B type |
| HDM3-100S | 10 | 25 | 18 | HDM3100S1033XX | HDM3100S10A3XX | HDM3100S10B3XX |
| | 16 | 25 | 18 | HDM3100S1633XX | HDM3100S16A3XX | HDM3100S16B3XX |
| | 20 | 25 | 18 | HDM3100S2033XX | HDM3100S20A3XX | HDM3100S20B3XX |
| | 25 | 25 | 18 | HDM3100S2533XX | HDM3100S25A3XX | HDM3100S25B3XX |
| | 32 | 25 | 18 | HDM3100S3233XX | HDM3100S32A3XX | HDM3100S32B3XX |
| | 40 | 25 | 18 | HDM3100S4033XX | HDM3100S40A3XX | HDM3100S40B3XX |
| | 50 | 25 | 18 | HDM3100S5033XX | HDM3100S50A3XX | HDM3100S50B3XX |
| | 63 | 25 | 18 | HDM3100S6333XX | HDM3100S63A3XX | HDM3100S63B3XX |
| | 80 | 25 | 18 | *HDM3100S8033XX | HDM3100S80A3XX | HDM3100S80B3XX |
| | 100 | 25 | 18 | *HDM3100S10033XX | HDM3100S100A3XX | HDM3100S100B3XX |
| HDM3-100M | 40 | 26 | 26 | HDM3100M4033XX | HDM3100M40A3XX | HDM3100M40B3XX |
| | 50 | 26 | 26 | HDM3100M5033XX | HDM3100M50A3XX | HDM3100M50B3XX |
| | 63 | 26 | 26 | HDM3100M6333XX | HDM3100M63A3XX | HDM3100M63B3XX |
| | 80 | 26 | 26 | HDM3100M8033XX | HDM3100M80A3XX | HDM3100M80B3XX |
| | 100 | 26 | 26 | HDM3100M10033XX | HDM3100M100A3XX | HDM3100M100B3XX |
| HDM3-100F | 40 | 35 | 26 | *HDM3100F4033XX | HDM3100F40A3XX | HDM3100F40B3XX |
| | 50 | 35 | 26 | *HDM3100F5033XX | HDM3100F50A3XX | HDM3100F50B3XX |
| | 63 | 35 | 26 | *HDM3100F6333XX | HDM3100F63A3XX | HDM3100F63B3XX |
| | 80 | 35 | 26 | *HDM3100F8033XX | HDM3100F80A3XX | HDM3100F80B3XX |
| | 100 | 35 | 26 | *HDM3100F10033XX | HDM3100F100A3XX | HDM3100F100B3XX |
| HDM3-100T | 40 | 30 | 30 | HDM3100T4033XX | HDM3100T40A3XX | HDM3100T40B3XX |
| | 50 | 30 | 30 | HDM3100T5033XX | HDM3100T50A3XX | HDM3100T50B3XX |
| | 63 | 30 | 30 | HDM3100T6333XX | HDM3100T63A3XX | HDM3100T63B3XX |
| | 80 | 30 | 30 | HDM3100T8033XX | HDM3100T80A3XX | HDM3100T80B3XX |
| | 100 | 30 | 30 | HDM3100T10033XX | HDM3100T100A3XX | HDM3100T100B3XX |
| HDM3-100N | 40 | 50 | 30 | *HDM3100N4033XX | HDM3100N40A3XX | HDM3100N40B3XX |
| | 50 | 50 | 30 | *HDM3100N5033XX | HDM3100N50A3XX | HDM3100N50B3XX |
| | 63 | 50 | 30 | *HDM3100N6333XX | HDM3100N63A3XX | HDM3100N63B3XX |
| | 80 | 50 | 30 | *HDM3100N8033XX | HDM3100N80A3XX | HDM3100N80B3XX |
| | 100 | 50 | 30 | *HDM3100N10033XX | HDM3100N100A3XX | HDM3100N100B3XX |
| HDM3-160L | 100 | 21 | 21 | HDM3160L10033XX | HDM3160L100A3XX | HDM3160L100B3XX |
| | 125 | 21 | 21 | HDM3160L12533XX | HDM3160L125A3XX | HDM3160L125B3XX |
| | 140 | 21 | 21 | HDM3160L14033XX | HDM3160L140A3XX | HDM3160L140B3XX |
| | 160 | 21 | 21 | HDM3160L16033XX | HDM3160L160A3XX | HDM3160L160B3XX |
| HDM3-160S | 100 | 35 | 21 | *HDM3160S10033XX | HDM3160S100A3XX | HDM3160S100B3XX |
| | 125 | 35 | 21 | *HDM3160S12533XX | HDM3160S125A3XX | HDM3160S125B3XX |
| | 140 | 35 | 21 | *HDM3160S14033XX | HDM3160S140A3XX | HDM3160S140B3XX |
| | 160 | 35 | 21 | *HDM3160S16033XX | HDM3160S160A3XX | HDM3160S160B3XX |
| HDM3-160M | 100 | 30 | 30 | HDM3160M10033XX | HDM3160M160A3XX | HDM3160M100B3XX |
| | 125 | 30 | 30 | HDM3160M12533XX | HDM3160M100A3XX | HDM3160M125B3XX |
| | 140 | 30 | 30 | HDM3160M14033XX | HDM3160M125A3XX | HDM3160M140B3XX |
| | 160 | 30 | 30 | HDM3160M16033XX | HDM3160M140A3XX | HDM3160M160B3XX |

The reference with "*" means that it has 40℃ and 50℃. Please add "T" at the end as 50℃ reference.

# HDM3 Molded Case Circuit Breaker

Reference
Standard:IEC/EN 60947-2

## Material order number

**HDM3 Fixed front connection power distribution protection thermal magnetic tripping**

| Product Specification | In(A) | Icu(KA) | Ics(KA) | Order Reference | Order Reference | Order Reference |
|---|---|---|---|---|---|---|
| | | | | Fixed front 3 pole | Fixed front 4-pole A type | Fixed front 4-pole B type |
| HDM3-160F | 100 | 50 | 30 | *HDM3160F10033XX | HDM3160F100A3XX | HDM3160F100B3XX |
| | 125 | 50 | 30 | *HDM3160F12533XX | HDM3160F125A3XX | HDM3160F125B3XX |
| | 140 | 50 | 30 | *HDM3160F14033XX | HDM3160F140A3XX | HDM3160F140B3XX |
| | 160 | 50 | 30 | *HDM3160F16033XX | HDM3160F160A3XX | HDM3160F160B3XX |
| HDM3-160T | 100 | 36 | 36 | HDM3160T10033XX | HDM3160T100A3XX | HDM3160T100B3XX |
| | 125 | 36 | 36 | HDM3160T12533XX | HDM3160T125A3XX | HDM3160T125B3XX |
| | 140 | 36 | 36 | HDM3160T14033XX | HDM3160T140A3XX | HDM3160T140B3XX |
| | 160 | 36 | 36 | HDM3160T16033XX | HDM3160T160A3XX | HDM3160T160B3XX |
| HDM3-160N | 100 | 60 | 36 | *HDM3160N10033XX | HDM3160N100A3XX | HDM3160N100B3XX |
| | 125 | 60 | 36 | *HDM3160N12533XX | HDM3160N125A3XX | HDM3160N125B3XX |
| | 140 | 60 | 36 | *HDM3160N14033XX | HDM3160N140A3XX | HDM3160N140B3XX |
| | 160 | 60 | 36 | *HDM3160N16033XX | HDM3160N160A3XX | HDM3160N160B3XX |
| HDM3-250L | 100 | 21 | 21 | HDM3250L10033XX | HDM3250L100A3XX | HDM3250L100B3XX |
| | 125 | 21 | 21 | HDM3250L12533XX | HDM3250L125A3XX | HDM3250L125B3XX |
| | 140 | 21 | 21 | HDM3250L14033XX | HDM3250L140A3XX | HDM3250L140B3XX |
| | 160 | 21 | 21 | HDM3250L16033XX | HDM3250L160A3XX | HDM3250L160B3XX |
| | 180 | 21 | 21 | HDM3250L18033XX | HDM3250L180A3XX | HDM3250L180B3XX |
| | 200 | 21 | 21 | HDM3250L20033XX | HDM3250L200A3XX | HDM3250L200B3XX |
| | 225 | 21 | 21 | HDM3250L22533XX | HDM3250L225A3XX | HDM3250L225B3XX |
| | 250 | 21 | 21 | HDM3250L25033XX | HDM3250L250A3XX | HDM3250L250B3XX |
| HDM3-250S | 100 | 35 | 21 | *HDM3250S10033XX | HDM3250S100A3XX | HDM3250S100B3XX |
| | 125 | 35 | 21 | *HDM3250S12533XX | HDM3250S125A3XX | HDM3250S125B3XX |
| | 140 | 35 | 21 | *HDM3250S14033XX | HDM3250S140A3XX | HDM3250S140B3XX |
| | 160 | 35 | 21 | *HDM3250S16033XX | HDM3250S160A3XX | HDM3250S160B3XX |
| | 180 | 35 | 21 | *HDM3250S18033XX | HDM3250S180A3XX | HDM3250S180B3XX |
| | 200 | 35 | 21 | *HDM3250S20033XX | HDM3250S200A3XX | HDM3250S200B3XX |
| | 225 | 35 | 21 | *HDM3250S22533XX | HDM3250S225A3XX | HDM3250S225B3XX |
| | 250 | 35 | 21 | *HDM3250S25033XX | HDM3250S250A3XX | HDM3250S250B3XX |
| HDM3-250M | 100 | 30 | 30 | HDM3250M10033XX | HDM3250M100A3XX | HDM3250M100B3XX |
| | 125 | 30 | 30 | HDM3250M12533XX | HDM3250M125A3XX | HDM3250M125B3XX |
| | 140 | 30 | 30 | HDM3250M14033XX | HDM3250M140A3XX | HDM3250M140B3XX |
| | 160 | 30 | 30 | HDM3250M16033XX | HDM3250M160A3XX | HDM3250M160B3XX |
| | 180 | 30 | 30 | HDM3250M18033XX | HDM3250M180A3XX | HDM3250M180B3XX |
| | 200 | 30 | 30 | HDM3250M20033XX | HDM3250M200A3XX | HDM3250M200B3XX |
| | 225 | 30 | 30 | HDM3250M22533XX | HDM3250M225A3XX | HDM3250M225B3XX |
| | 250 | 30 | 30 | HDM3250M25033XX | HDM3250M250A3XX | HDM3250M250B3XX |
| HDM3-250F | 100 | 50 | 30 | *HDM3250F10033XX | HDM3250F100A3XX | HDM3250F100B3XX |
| | 125 | 50 | 30 | *HDM3250F12533XX | HDM3250F125A3XX | HDM3250F125B3XX |
| | 140 | 50 | 30 | *HDM3250F14033XX | HDM3250F140A3XX | HDM3250F140B3XX |
| | 160 | 50 | 30 | *HDM3250F16033XX | HDM3250F160A3XX | HDM3250F160B3XX |
| | 180 | 50 | 30 | *HDM3250F18033XX | HDM3250F180A3XX | HDM3250F180B3XX |
| | 200 | 50 | 30 | *HDM3250F20033XX | HDM3250F200A3XX | HDM3250F200B3XX |
| | 225 | 50 | 30 | *HDM3250F20033XX | HDM3250F225A3XX | HDM3250F225B3XX |
| | 250 | 50 | 30 | *HDM3250F25033XX | HDM3250F250A3XX | HDM3250F250B3XX |

The reference with "*" means that it has 40℃and 50℃. Please add "T" at the end as 50℃reference.

# HDM3 Molded Case Circuit Breaker

Reference
Standard:IEC/EN 60947-2

## Material order number

**HDM3 Fixed front connection power distribution protection thermal magnetic tripping**

| Product Specification | In(A) | Icu(KA) | Ics(KA) | Order Reference | Order Reference | Order Reference |
|---|---|---|---|---|---|---|
| | | | | Fixed front 3 pole | Fixed front 4-pole A type | Fixed front 4-pole B type |
| HDM3-250T | 100 | 36 | 36 | HDM3250T10033XX | HDM3250T100A3XX | HDM3250T100B3XX |
| | 125 | 36 | 36 | HDM3250T12533XX | HDM3250T125A3XX | HDM3250T125B3XX |
| | 140 | 36 | 36 | HDM3250T14033XX | HDM3250T140A3XX | HDM3250T140B3XX |
| | 160 | 36 | 36 | HDM3250T16033XX | HDM3250T160A3XX | HDM3250T160B3XX |
| | 180 | 36 | 36 | HDM3250T18033XX | HDM3250T180A3XX | HDM3250T180B3XX |
| | 200 | 36 | 36 | HDM3250T20033XX | HDM3250T200A3XX | HDM3250T200B3XX |
| | 225 | 36 | 36 | HDM3250T22533XX | HDM3250T225A3XX | HDM3250T225B3XX |
| | 250 | 36 | 36 | HDM3250T25033XX | HDM3250T250A3XX | HDM3250T250B3XX |
| HDM3-250N | 100 | 60 | 36 | *HDM3250N10033XX | HDM3250N100A3XX | HDM3250N100B3XX |
| | 125 | 60 | 36 | *HDM3250N12533XX | HDM3250N125A3XX | HDM3250N125B3XX |
| | 140 | 60 | 36 | *HDM3250N14033XX | HDM3250N140A3XX | HDM3250N140B3XX |
| | 160 | 60 | 36 | *HDM3250N16033XX | HDM3250N160A3XX | HDM3250N160B3XX |
| | 180 | 60 | 36 | *HDM3250N18033XX | HDM3250N180A3XX | HDM3250N180B3XX |
| | 200 | 60 | 36 | *HDM3250N20033XX | HDM3250N200A3XX | HDM3250N200B3XX |
| | 225 | 60 | 36 | *HDM3250N22533XX | HDM3250N225A3XX | HDM3250N225B3XX |
| | 250 | 60 | 36 | *HDM3250N25033XX | HDM3250N250A3XX | HDM3250N250B3XX |
| HDM3-400L | 200 | 21 | 21 | HDM3400L20033XX | HDM3400L200A3XX | HDM3400L200B3XX |
| | 225 | 21 | 21 | HDM3400L22533XX | HDM3400L225A3XX | HDM3400L225B3XX |
| | 250 | 21 | 21 | HDM3400L25033XX | HDM3400L250A3XX | HDM3400L250B3XX |
| | 315 | 21 | 21 | HDM3400L31533XX | HDM3400L315A3XX | HDM3400L315B3XX |
| | 350 | 21 | 21 | HDM3400L35033XX | HDM3400L350A3XX | HDM3400L350B3XX |
| | 400 | 21 | 21 | HDM3400L40033XX | HDM3400L400A3XX | HDM3400L400B3XX |
| HDM3-400S | 200 | 35 | 21 | HDM3400S20033XX | HDM3400S200A3XX | HDM3400S200B3XX |
| | 225 | 35 | 21 | HDM3400S22533XX | HDM3400S225A3XX | HDM3400S225B3XX |
| | 250 | 35 | 21 | HDM3400S25033XX | HDM3400S250A3XX | HDM3400S250B3XX |
| | 315 | 35 | 21 | HDM3400S31533XX | HDM3400S315A3XX | HDM3400S315B3XX |
| | 350 | 35 | 21 | HDM3400S35033XX | HDM3400S350A3XX | HDM3400S350B3XX |
| | 400 | 35 | 21 | HDM3400S40033XX | HDM3400S400A3XX | HDM3400S400B3XX |
| HDM3-400M | 200 | 30 | 30 | HDM3400M20033XX | HDM3400M200A3XX | HDM3400M200B3XX |
| | 225 | 30 | 30 | HDM3400M22533XX | HDM3400M225A3XX | HDM3400M225B3XX |
| | 250 | 30 | 30 | HDM3400M25033XX | HDM3400M250A3XX | HDM3400M250B3XX |
| | 315 | 30 | 30 | HDM3400M31533XX | HDM3400M315A3XX | HDM3400M315B3XX |
| | 350 | 30 | 30 | HDM3400M35033XX | HDM3400M350A3XX | HDM3400M350B3XX |
| | 400 | 30 | 30 | HDM3400M40033XX | HDM3400M400A3XX | HDM3400M400B3XX |
| HDM3-400F | 200 | 50 | 30 | *HDM3400F20033XX | HDM3400F200A3XX | HDM3400F200B3XX |
| | 225 | 50 | 30 | *HDM3400F22533XX | HDM3400F225A3XX | HDM3400F225B3XX |
| | 250 | 50 | 30 | *HDM3400F25033XX | HDM3400F250A3XX | HDM3400F250B3XX |
| | 315 | 50 | 30 | *HDM3400F31533XX | HDM3400F315A3XX | HDM3400F315B3XX |
| | 350 | 50 | 30 | *HDM3400F35033XX | HDM3400F350A3XX | HDM3400F350B3XX |
| | 400 | 50 | 30 | *HDM3400F40033XX | HDM3400F400A3XX | HDM3400F400B3XX |

The reference with "*" means that it has 40℃ and 50℃. Please add "T" at the end as 50℃ reference.

# HDM3 Molded Case Circuit Breaker

Reference
Standard:IEC/EN 60947-2

## Material order number

**HDM3 Fixed front connection power distribution protection thermal magnetic tripping**

| Product Specification | In(A) | Icu(KA) | Ics(KA) | Order Reference | Order Reference | Order Reference |
|---|---|---|---|---|---|---|
| | | | | Fixed front 3 pole | Fixed front 4-pole A type | Fixed front 4-pole B type |
| HDM3-400T | 200 | 39 | 39 | HDM3400T20033XX | HDM3400T200A3XX | HDM3400T200B3XX |
| | 225 | 39 | 39 | HDM3400T22533XX | HDM3400T225A3XX | HDM3400T225B3XX |
| | 250 | 39 | 39 | HDM3400T25033XX | HDM3400T250A3XX | HDM3400T250B3XX |
| | 315 | 39 | 39 | HDM3400T31533XX | HDM3400T315A3XX | HDM3400T315B3XX |
| | 350 | 39 | 39 | HDM3400T35033XX | HDM3400T350A3XX | HDM3400T350B3XX |
| | 400 | 39 | 39 | HDM3400T40033XX | HDM3400T400A3XX | HDM3400T400B3XX |
| HDM3-400N | 200 | 70 | 39 | *HDM3400N20033XX | HDM3400N200A3XX | HDM3400N200B3XX |
| | 225 | 70 | 39 | *HDM3400N22533XX | HDM3400N225A3XX | HDM3400N225B3XX |
| | 250 | 70 | 39 | *HDM3400N25033XX | HDM3400N250A3XX | HDM3400N250B3XX |
| | 315 | 70 | 39 | *HDM3400N31533XX | HDM3400N315A3XX | HDM3400N315B3XX |
| | 350 | 70 | 39 | *HDM3400N35033XX | HDM3400N350A3XX | HDM3400N350B3XX |
| | 400 | 70 | 39 | *HDM3400N40033XX | HDM3400N400A3XX | HDM3400N400B3XX |
| HDM3-630L | 400 | 21 | 21 | HDM3630L40033XX | HDM3630L400A3XX | HDM3630L400B3XX |
| | 500 | 21 | 21 | HDM3630L50033XX | HDM3630L500A3XX | HDM3630L500B3XX |
| | 630 | 21 | 21 | HDM3630L63033XX | HDM3630L630A3XX | HDM3630L630B3XX |
| HDM3-630S | 400 | 35 | 21 | HDM3630S40033XX | HDM3630S400A3XX | HDM3630S400B3XX |
| | 500 | 35 | 21 | HDM3630S50033XX | HDM3630S500A3XX | HDM3630S500B3XX |
| | 630 | 35 | 21 | HDM3630S63033XX | HDM3630S630A3XX | HDM3630S630B3XX |
| HDM3-630M | 400 | 30 | 30 | HDM3630M40033XX | HDM3630M400A3XX | HDM3630M400B3XX |
| | 500 | 30 | 30 | HDM3630M50033XX | HDM3630M500A3XX | HDM3630M500B3XX |
| | 630 | 30 | 30 | HDM3630M63033XX | HDM3630M630A3XX | HDM3630M630B3XX |
| HDM3-630F | 400 | 50 | 30 | HDM3630F40033XX | HDM3630F400A3XX | HDM3630F400B3XX |
| | 500 | 50 | 30 | HDM3630F50033XX | HDM3630F500A3XX | HDM3630F500B3XX |
| | 630 | 50 | 30 | HDM3630F63033XX | HDM3630F630A3XX | HDM3630F630B3XX |
| HDM3-630T | 400 | 39 | 39 | HDM3630T40033XX | HDM3630T400A3XX | HDM3630T400B3XX |
| | 500 | 39 | 39 | HDM3630T50033XX | HDM3630T500A3XX | HDM3630T500B3XX |
| | 630 | 39 | 39 | HDM3630T63033XX | HDM3630T630A3XX | HDM3630T630B3XX |
| HDM3-630N | 400 | 70 | 39 | HDM3630N40033XX | HDM3630N400A3XX | HDM3630N400B3XX |
| | 500 | 70 | 39 | HDM3630N50033XX | HDM3630N500A3XX | HDM3630N500B3XX |
| | 630 | 70 | 39 | HDM3630N63033XX | HDM3630N630A3XX | HDM3630N630B3XX |
| HDM3-800L | 630 | 25 | 25 | HDM3800L63033XX | HDM3800L630A3XX | HDM3800L630B3XX |
| | 700 | 25 | 25 | HDM3800L70033XX | HDM3800L700A3XX | HDM3800L700B3XX |
| | 800 | 25 | 25 | HDM3800L80033XX | HDM3800L800A3XX | HDM3800L800B3XX |
| HDM3-800S | 630 | 50 | 25 | HDM3800S63033XX | HDM3800S630A3XX | HDM3800S630B3XX |
| | 700 | 50 | 25 | HDM3800S70033XX | HDM3800S700A3XX | HDM3800S700B3XX |
| | 800 | 50 | 25 | HDM3800S80033XX | HDM3800S800A3XX | HDM3800S800B3XX |
| HDM3-800M | 630 | 40 | 40 | HDM3800M63033XX | HDM3800M630A3XX | HDM3800M630B3XX |
| | 700 | 40 | 40 | HDM3800M70033XX | HDM3800M700A3XX | HDM3800M700B3XX |
| | 800 | 40 | 40 | HDM3800M80033XX | HDM3800M800A3XX | HDM3800M800B3XX |
| HDM3-800F | 630 | 70 | 40 | *HDM3800F63033XX | HDM3800F630A3XX | HDM3800F630B3XX |
| | 700 | 70 | 40 | *HDM3800F70033XX | HDM3800F700A3XX | HDM3800F700B3XX |
| | 800 | 70 | 40 | *HDM3800F80033XX | HDM3800F800A3XX | HDM3800F800B3XX |
| HDM3-1250N | 800 | 85 | 45 | HDM31250N80033XX | | |
| | 1000 | 85 | 45 | HDM31250N100033XX | | |
| | 1250 | 85 | 45 | HDM31250N125033XX | | |

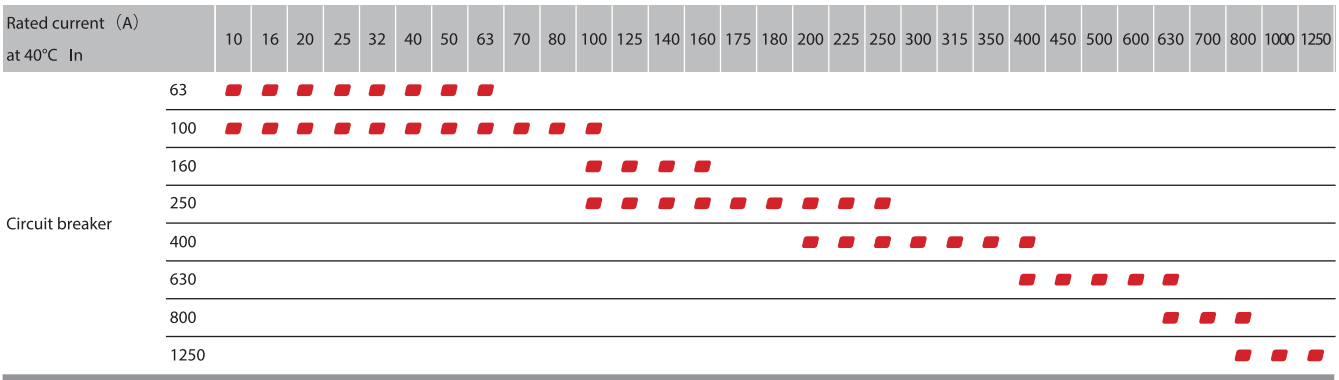
The reference with "*" means that it has 40℃and 50℃. Please add "T" at the end as 50℃reference.

# HDM3 Molded Case Circuit Breaker

Distribution Protection
Standard:IEC/EN 60947-2

## Low-voltage distribution protection

Fixed thermomagnetic release
HDM3 63-1250A




| Overload protection: thermal protection (Ir) | |
|---|---|
| Tripping current value (A) | Fixed (1.3In) |
| **Short circuit current protection(magnetic protection)** | |
| Tripping current value (A) | Fixed (10In) |

**Protection**
The circuit breaker equipped with TM thermomagnetic release is mainly for protection of the cable, which is on the power distribution system for transformer power supply.

**Overload protection: thermal protection (Ir)**
The overload protection function provides inverse time limit curve based on of bimetal. If the limit is exceeded, the deformation of the bimetal can lead in the tripping of the circuit breaker operating mechanism.
**Short circuit protection: magnetic protection (Ii)**
Magnetic protection achieves short circuit protection through a magnetic trip device. The circuit breaker will trip instantaneously
Short circuit protection Ii non-adjustable
**De-rating table for application at higher ambient temperature**

| Frame | Ambient temperature °C | | | | |
|---|---|---|---|---|---|
| | 40 | 45 | 50 | 55 | 60 |
| HDM3-63/100S/125S | 1 | 0.96 | 0.89 | 0.83 | 0.75 |
| HDM3-100F/N<br>HDM3L-125 | 1 | 0.96 | 0.89 | 0.83 | 0.75 |
| HDM3-160A/250A<br>HDM3L-160A/250A | 1 | 0.92 | 0.85 | 0.79 | 0.71 |
| HDM3-400A/630A<br>HDM3L-400 | 1 | 0.94 | 0.87 | 0.81 | 0.73 |
| HDM3-800A<br>HDM3L-630 | 1 | 0.95 | 0.88 | 0.82 | 0.74 |
| HDM3-1250A | 1 | 0.95 | 0.88 | 0.82 | 0.74 |

# HDM3 Molded Case Circuit Breaker

Operating conditions
Standard:IEC/EN 60947-2

## Operating conditions

**Altitude derating**

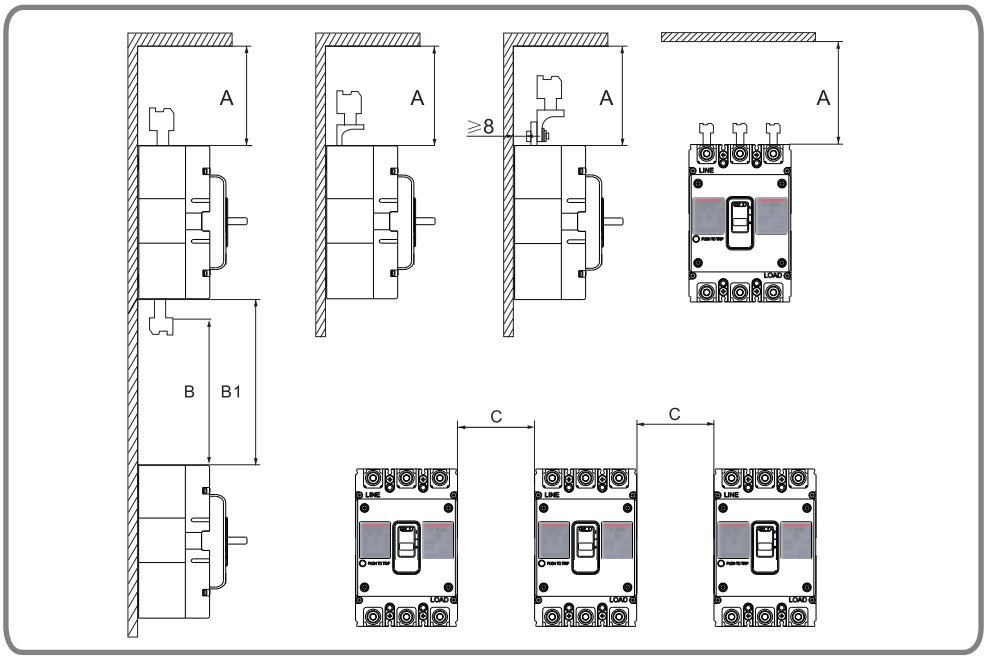
The circuit breaker features will not be affected if the altitude is below 2000m. The air insulation ability and cooling capacity shall be considered if the altitude is above 2000m.

**Impact of altitude on the release performance**

| Altitude | 2000m | 3000m | 4000m | 5000m |
|---|---|---|---|---|
| Rated heat value at 40°C (A) | In | 0.96In | 0.93In | 0.9In |
| Average insulation voltage (V) | 800 | 700 | 600 | 500 |
| Dielectric strength (V) | 3000 | 2500 | 2100 | 1800 |

**Safety Distance**

Safety Distance (Applicable to whole HDM3 series)




Safety Distance

| Circuit breaker model | A (mm) | B (mm) | B1 (mm) | C (mm) |
|---|---|---|---|---|
| 63A<br>100A<br>160A<br>250A | 60 | 60 | Bare cable length +B | 30 |
| 400A<br>630A<br>800A<br>1250A | 110 | 110 | | 70 |

# HDM3 Molded Case Circuit Breaker

Operating conditions
Standard:IEC/EN 60947-2

## Operating conditions

**The characteristics will be affect from high temperature**
Impact of high temperature on the release performance (high-temperature degrading characteristics)
The overload protection value will be changed slightly when the temperature exceeds 40°C. In the tripping curve chart, Ir, the setting value of the circuit breaker must be corrected according to the following factors

| Circuit breaker mode | Environment temperature °C | | | | |
|---|---|---|---|---|---|
| | 40 | 45 | 50 | 55 | 60 |
| HDM3-63L/S/M/F<br>HDM3-100L/S | 1 | 0.96 | 0.89 | 0.83 | 0.75 |
| HDM3-100F/N/M/T | 1 | 0.96 | 0.89 | 0.83 | 0.75 |
| HDM3-160A/250A | 1 | 0.92 | 0.85 | 0.79 | 0.71 |
| HDM3-400A/630A | 1 | 0.94 | 0.87 | 0.81 | 0.73 |
| HDM3-800A | 1 | 0.95 | 0.88 | 0.82 | 0.74 |
| HDM3-1250A | 1 | 0.95 | 0.88 | 0.82 | 0.74 |

**Total power consumption of three poles(W)**

| Circuit breaker mode | Rated current | Front connection (standard configuration) | Rear connection | Plug-in connection | Withdrawable connection |
|---|---|---|---|---|---|
| HDM3-63/100L/S | 63/100/125 | 24/26/28 | 27/29/31 | 28/29/32 | - |
| HDM3-100M/F/T/N | 100 | 40 | 50 | 50 | - |
| HDM3-160A/250A | 160/250 | 60/63 | 87/90 | 87/90 | - |
| HDM3-400A/630A | 400/630 | 115/180 | 120/190 | 125/200 | 128/205 |
| HDM3-800A | 800 | 200 | 230 | 290 | 300 |
| HDM3-1250A | 1250 | 250 | - | - | - |

# HDM3 Molded Case Circuit Breaker

installation mode
Standard:IEC/EN 60947-2

## HDM3 installation mode

HDM3 circuit breakers have three installation modes, i.e. fixed, plug-in and withdrawable.

| F | P | W |
|---|---|---|
| **Fixed** | **Plug-in** | **Withdrawable** |
| >Same upper and lower terminals<br>> It can be directly connected to the busbar or connected to the cables with the extensive terminals<br>> Fixed rear terminal: facilitate the installation and connection of the product after the panel<br>>The circuit breaker has 7<br>HDM3-63/100L/S<br>HDM3-100M/F/T/N<br>HDM3-160L/S, HDM3-250S/L<br>HDM3-160M/F/T/N, HDM3 M/F/T/N<br>HDM3-400/630<br>HDM3-800 | >The plug-in structure is achieved by adding "plug-in suite" on the fixed circuit breaker<br>> Pull out or rapidly change the circuit breaker without contacting the loading and outing lines and the installation base<br>>The plug-in base can be pre-installed to facilitate increase of circuit breakers later<br>>It can isolate the power cable when it is installed with baseplate<br>>The circuit breaker can be pulled out when loosening the upper and lower set screws. | >The withdrawable structure is to install two side plates respectively on the base and the circuit breaker. Similar to the plug-in configuration, withdrawable circuit breaker has all advantages of the plug-in circuit breaker and is very easy to operate. The withdrawable type is similar to the plug-in type, with all the advantages of it, and easily operating.<br>>The withdrawable circuit breaker has three positions:<br>-Connected: the power supply circuit is connected<br>-Testing: the power supply circuit is connected and the circuit breaker can be operated to check the auxiliary circuit<br>-Disconnected: the circuit breaker can be removed from the base |

| | FF | FR | PF | PR | WD |
|---|---|---|---|---|---|
| | Fixed front | Fixed rear | Plug-in front | Plug-in rear | Withdrawable |
| HDM3-63 | ■ | ■ | ■ | ■ | |
| HDM3-100 | ■ | ■ | ■ | ■ | |
| HDM3-160 | ■ | ■ | ■ | ■ | |
| HDM3-250 | ■ | ■ | ■ | ■ | |
| HDM3-400 | ■ | ■ | | ■ | ■ |
| HDM3-630 | ■ | ■ | | ■ | ■ |
| HDM3-800 | ■ | ■ | | ■ | ■ |
| HDM3-1250 | ■ | | | | |

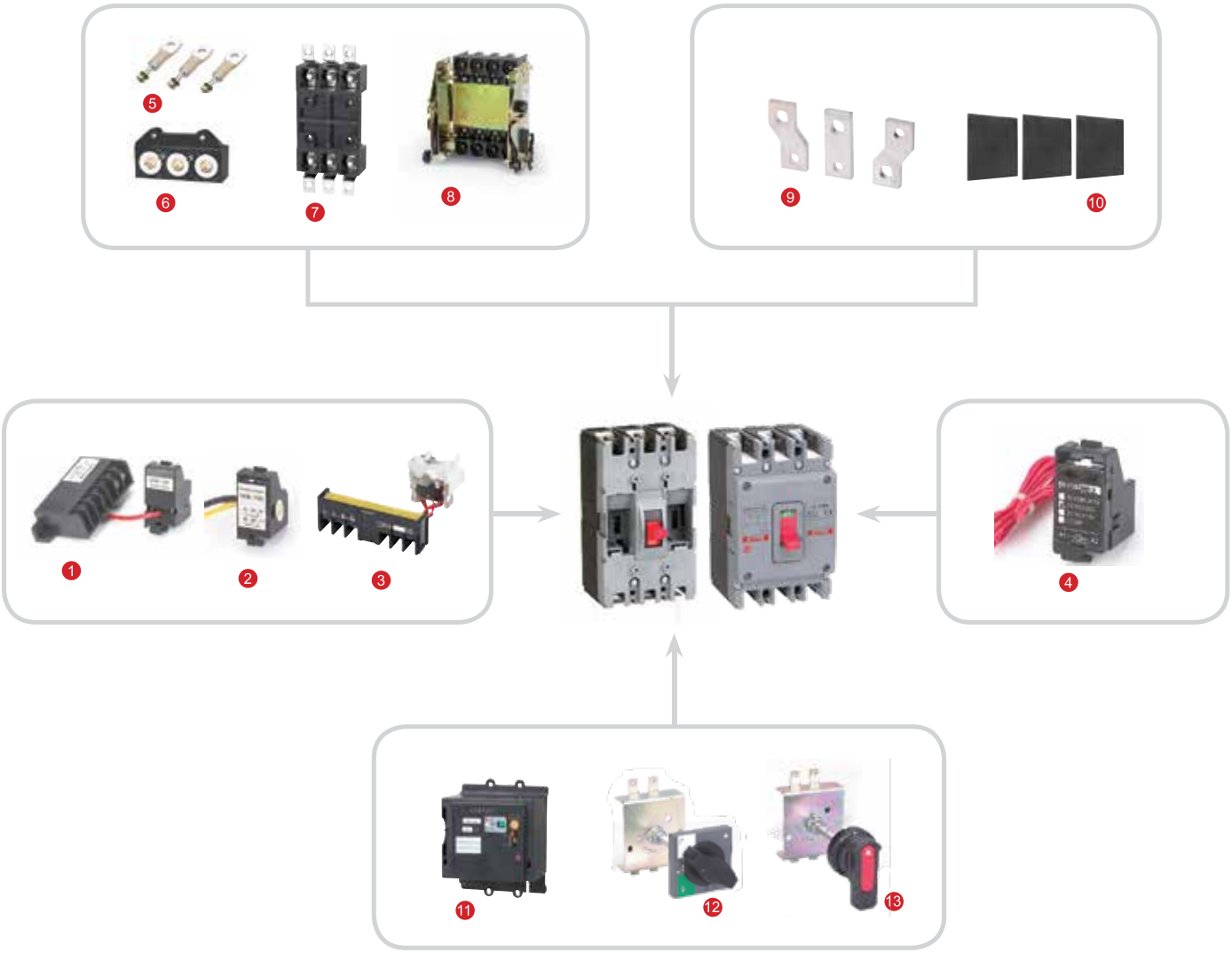
# HDM3 Molded Case Circuit Breaker

Accessories
Standard:IEC/EN 60947-2

## HDM3 accessories

**HDM3 series accessories list**
Electrical accessories: shunt release, undervoltage release, auxiliary contact, alarm contact, auxiliary alarm integrated release and leakage alarm module
Mechanical accessories: interphase barriers, extension terminal, manual operating mechanism and electric operating mechanism
Installation accessories: Fixed rear, plug-in connection and withdrawable connection accessories.

**Overview of Accessories**



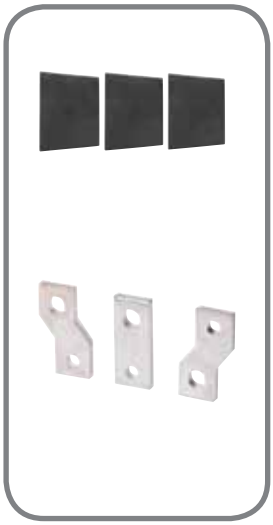

| | | | | | |
|---|---|---|---|---|---|
| 1 | Undervoltage release | 6 | Plug-in rear connection | 11 | Electric operating mechanism |
| 2 | Auxiliary contact | 7 | Plug-in front connection | 12 | Square handle operating mechanism |
| 3 | Alarm contact | 8 | Withdrawable connection | 13 | Round handle operating mechanism |
| 4 | Shunt release | 9 | Extension terminal | | |
| 5 | Fixed rear connection | 10 | interphase barriers | | |

# HDM3 Molded Case Circuit Breaker

Mechanical accessories
Standard:IEC/EN 60947-2

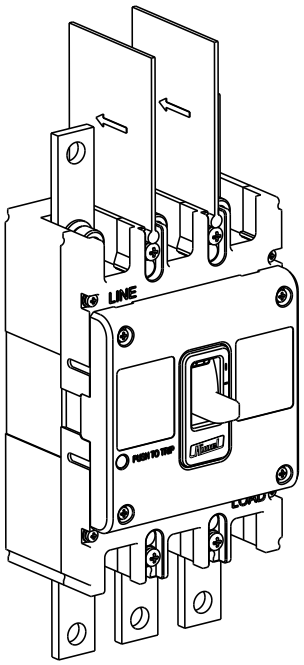
## HDM3 Mechanical accessories

**Interphase barriers**
The interphase barriers can enhance the insulating performances between phase and phases. They can be installed from the product front even though the products had mounted. Interphase barriers will be offered by standard, 3P product(4pcs), 4P product(6pcs)



**Extension terminals**
The extension terminal is connected to the standard terminal
of the circuit breaker, in order to provide many other wiring schemes in the limited space:
>Direct extension terminal
>Extension terminal with inter-electrode distance

The busbar and extension terminal can be connected to the inlet or outlet terminal of the circuit breaker.



# HDM3 Molded Case Circuit Breaker

Mechanical accessories
Standard:IEC/EN 60947-2

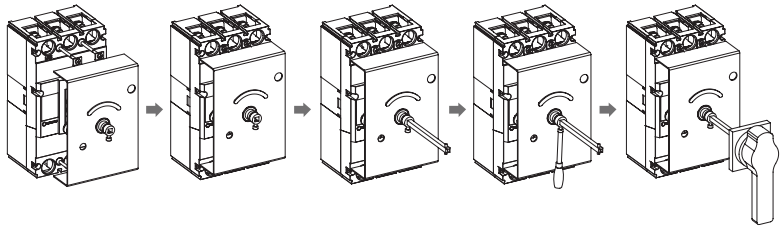
## HDM3 Mechanical accessories

**Handle operating mechanism**
The circuit breaker can be operated by the rotation of the handle and the ergonomically designed rotation handle makes the operation of the circuit breaker more flexible.

**2 types of rotation handle operating mechanisms:**
>Direct rotation handle (round handle operating mechanism and square handle operating mechanism)
>Extended rotation handle (round extending handle operating mechanism and square extended handle operating mechanism)

**User visualization information/settings:**
> 3 position indications: OFF, ON and TRIP
>The circuit breaker cannot be switched on when the door is open
>The door cannot be opened when the circuit breaker is switched on
>The axial length of the extended handle can be custom made according to the distance from the back of the circuit breaker to the door

**Schematic Diagram of Handle Operating Mechanism Installation**



1. Align to the installation direction of the mechanism
2. Tighten the mounting screws
3. Install the lengthened screw
4. Fix the screw
5. Install the lengthened handle

# HDM3 Molded Case Circuit Breaker

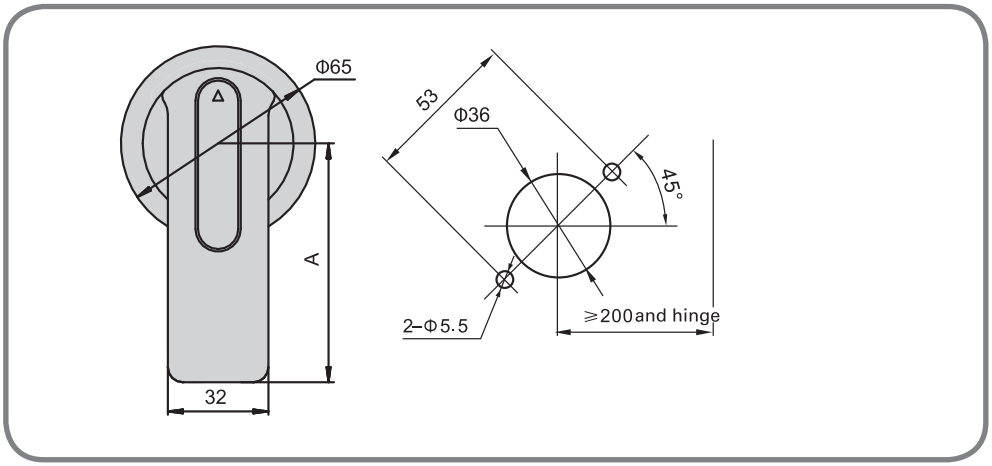
Mechanical accessories
Standard:IEC/EN 60947-2

## HDM3 Mechanical accessories

**Round handle operating mechanism**

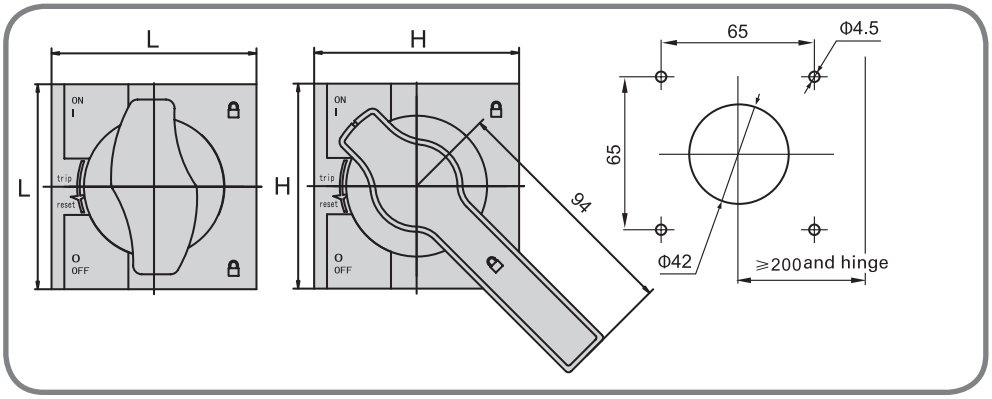
unit (mm)

| Circuit breaker mode | A | Remark |
|---|---|---|
| HDM3-63/100L/S | 65 | Size A: 65 or 95 optional, default to 65 |
| HDM3-100M/F/T/N | 65 | |
| HDM3-160/250A | 65 | |
| HDM3-400/630A | 95 | |
| HDM3-800A | 95 | Size A: 95 or 125 optional, default to 95 |




**Square handle operating mechanism**

| Circuit breaker mode | L | H |
|---|---|---|
| HDM3-63/100L/S | 80 | 80 |
| HDM3-100M/F/T/N | 80 | 80 |
| HDM3-160/250A | 80 | 80 |
| HDM3-400/630A | 80 | 80 |
| HDM3-800A | 80 | 80 |



# HDM3 Molded Case Circuit Breaker

Mechanical accessories
Standard:IEC/EN 60947-2

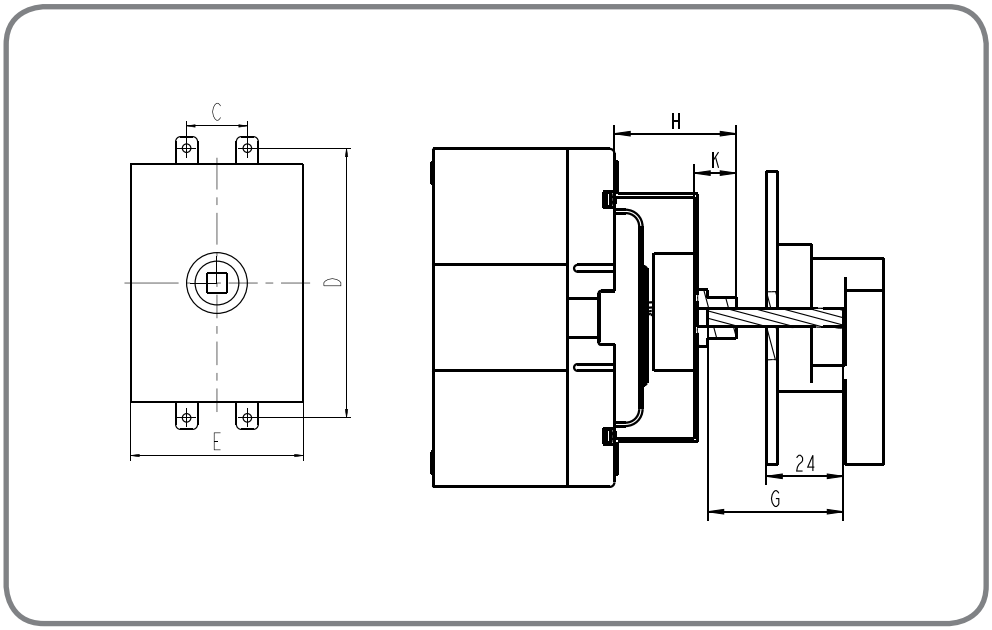
## HDM3 Mechanical accessories

**Extended rotation operating handle**

unit (mm)

| Circuit breaker mode | C | D | E | H | K |
|---|---|---|---|---|---|
| HDM3-63/100L/S | 25 | 111 | 75 | 54 | 20 |
| HDM3-100M/F/T/N | 30 | 129 | 92 | 57 | 20 |
| HDM3-160/250A | 35 | 143 | 100 | 54 | 20 |
| HDM3-400/630A | 44 | 215 | 150 | 78 | 20 |
| HDM3-800A | 70 | 243 | - | 76 | 20 |

Remark: G means rod length, minimum distance is 50mm, the 150mm is standard, if you need customized, please contact us.



# HDM3 Molded Case Circuit Breaker

Mechanical accessories
Standard:IEC/EN 60947-2

## Electrical accessories

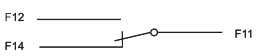
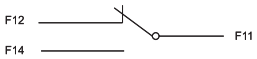
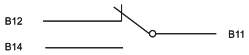
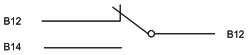
### Auxiliary contact and alarm contact

Auxiliary contact
An accessory connected in the auxiliary circuit of the switching device to indicate the circuit breaker status of ON or not

Alarm contact:
An accessory used to indicate the circuit breaker status of ON or not. When the alarm contact indicates that the circuit breaker is at Trip status, there are the following five possibilities:

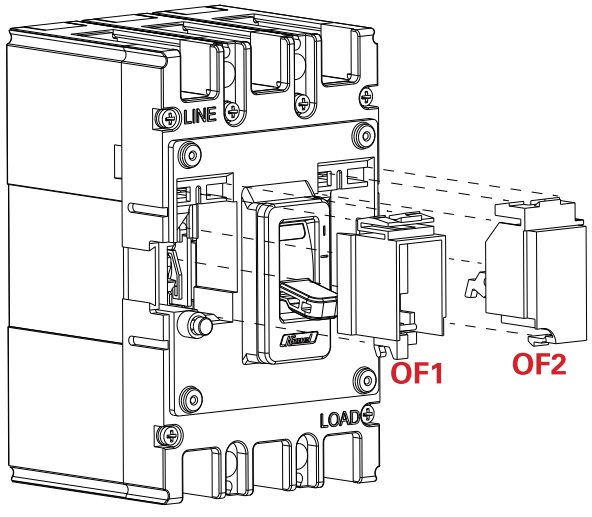
- Overload or short circuit fault
- Residual current fault
- Manual test button trip
- Shunt release action
- Line fault and undervoltage release action

### Electrical wiring diagram

| Accessory name | ON | OFF/TRIP |
|---|---|---|
| Auxiliary |  |  |
| Accessory name | ON/OFF | TRIP |
| Alarm |  |  |

| Electrical parameters of auxiliary alarm contact | | | |
|---|---|---|---|
| Conventional Thermal Current | | 3A | |
| Use category (IEC/EN 60947-2) | | AC 15 | DC13 |
| Working electricity 50Hz | AC 400V | 0.3A | |
| | DC 220V | | 0.15A |

### Installation diagram of auxiliary contact



# HDM3 Molded Case Circuit Breaker

Mechanical accessories
Standard:IEC/EN 60947-2

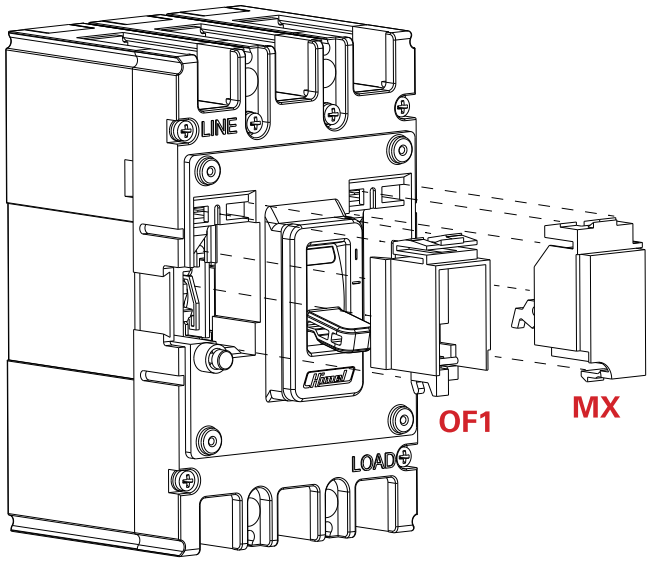
## Electrical accessories

**Shunt release**
>The shunt release shall reliably trip the circuit breaker at the voltage between 70% and 110% of the rated control power voltage Uc
>The circuit breaker shall be reset on the site after tripping through the shunt release

| | Shunt coil power consumption(W) | | |
|---|---|---|---|
| | AC400V | AC230V | DC24V |
| HDM3-63/100L/S | 91.6 | 76.1 | 91.2 |
| HDM3-100M/F/T/N | 96.8 | 73 | 91.2 |
| HDM3-160/250 | 112 | 68.6 | 85.3 |
| HDM3-400 | 67 | 62.3 | 100 |
| HDM3-630 | 68 | 58.2 | 100 |
| HDM3-800 | 163 | 153 | 120 |
| HDM3-1250 | 183 | 175 | 140 |

## Electrical accessories

**MX installation diagram:**



# HDM3 Molded Case Circuit Breaker

Mechanical accessories
Standard:IEC/EN 60947-2

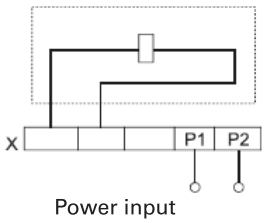
## Electrical accessories

**Undervoltage release**

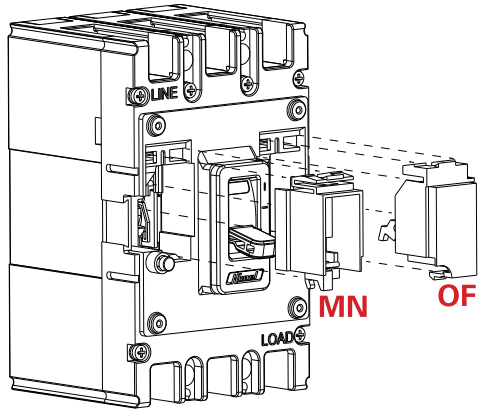
- The undervoltage release shall reliably trip the circuit breaker at the voltage between 35% and 70% of the rated operational voltage;
- The undervoltage release shall ensure that the circuit breaker can be switched on at voltage between 85% and 110% of the rated operational voltage;
- The undervoltage release shall prevent the circuit breaker from switching on when voltage is below 35%of the rated operational voltage

| | Undervoltage coil power consumption(W) | |
|---|---|---|
| | AC400V | AC230V |
| HDM3-63/100L/S | 4 | 3.1 |
| HDM3-100M/F/T/N | 3.9 | 3.2 |
| HDM3-160/250 | 4.3 | 3.3 |
| HDM3-400 | 3.6 | 2.5 |
| HDM3-630 | 3.4 | 2.5 |
| HDM3-800 | 2 | 1.6 |
| HDM3-1250 | 2 | 1.6 |

**Electric wiring diagram of undervoltage release**
**Wiring diagram**
Note: X- terminal block
Note: In the dashed box,
it is the wiring diagram of accessories in the circuit breaker.




**Installation diagram of undervoltage release:**



# HDM3 Molded Case Circuit Breaker

Mechanical accessories
Standard:IEC/EN 60947-2

## Electrical accessories

**Electric operating mechanism**

- Apply to remote electric connection, disconnection and re-trip of the circuit breaker and the automation control occasions.

- Rated voltage of electric operating mechanism: AC400V;AC230V/DC220V;AC/DC110V;DC24V
- Operating voltage range of electric operating mechanism: 85%-110% Ue

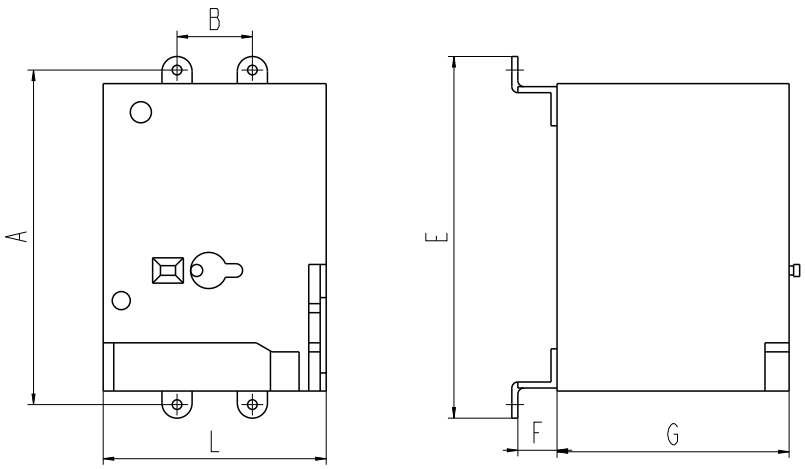
- There are two types of electric operating mechanisms:
  - CD2 General electric operating mechanism for AC and DC(HDM3-63~800)

- CD2 electric operating voltage and tolerance range:
  - CD2:63A-250A:Operating frequency ≤180times/hour and actuation ; time ≤ greater than 0.7s
  - CD2:400A-630A:Operating frequency of ≤ 60times/hour; actuation time ≤ 1s

- The voltage tolerance range is 184~253VAC/187~242VDC when the rated control power voltage is 230VAC/220VDC.
  - The voltage tolerance range is 320~440VAC when the rated control power voltage is 400VAC.
  - As for different operating forces of the circuit breaker, the switch with relatively small force can be normal.

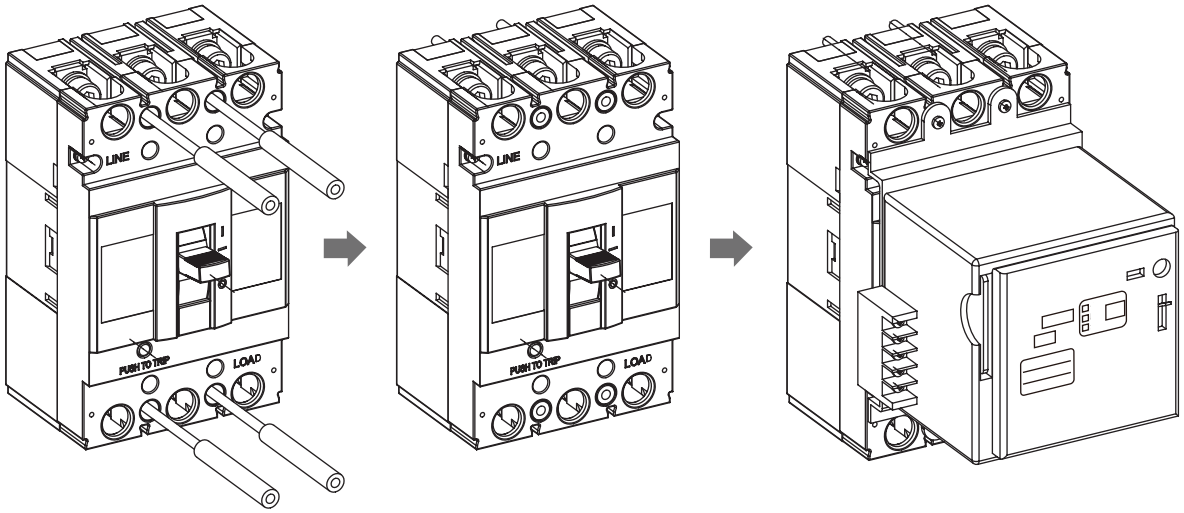
**>Parameters and installation dimensions of electric operating mechanism** unit (mm)

| Circuit breaker mode | A | B | E | F | G | L |
|---|---|---|---|---|---|---|
| HDM3-63/100L/S | 111 | 25 | 120 | 15 | 79 | 74 |
| HDM3-100M/F/T/N | 129 | 30 | 140 | 16 | 77 | 90 |
| HDM3-160/250A | 126 | 35 | 140 | 17 | 77 | 90 |
| HDM3-400/630A | 215 | 44 | 232 | 32 | 115 | 130 |
| HDM3-800A | 243 | 70 | - | 31 | 115 | - |



## Electrical accessories

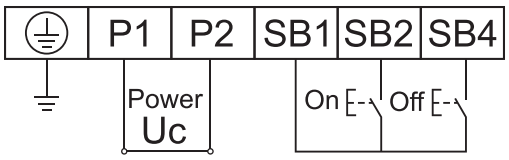
**Installation drawing of CD2 electric operating mechanism**




After tripping of the breaker with an electrically operated mechanism, the electrically operated mechanism must be opened first before closed.

**Electric wiring diagram of CD2 electric operating mechanism**

AC230V、AC400V and DC220V



# HDM3 Molded Case Circuit Breaker

Electric accessories
Standard:IEC/EN 60947-2

## HDM3 Installation sites of HDM3 electric accessories

□ Alarm contact ■ Auxiliary contact ● Shunt release ○ Undervoltage release

| Electromagnetic type | Compound | Accessory name | HDM3-63/100L/S | HDM3-100M/F/T/N | HDM3-160/250 | HDM3-400/630 | HDM3-800 | HDM3-1250 |
|---|---|---|---|---|---|---|---|---|
| 208 | 308 | Alarm code | □ | □ | □ | □ | □ | |
| 210 | 310 | Shunt release | ● | ● | ● | ● | ● | ● |
| 220 | 320 | Auxiliary contact | ■ | ■ | ■ | ■ | ■ | ■ |
| 230 | 330 | Undervoltage release | ○ | ○ | ○ | ○ | ○ | ○ |
| 240 | 340 | Shunt + auxiliary | ■ ● | ■ ● | ■ ● | ■ ● | ● ■ | ■ ● |
| 250 | 350 | Shunt + undervoltage | ○ ● | ○ ● | ○ ● | ○ ● | ○ ● | ○ ● |
| 260 | 360 | Two groups of auxiliary contacts | ■ ■ | ■ ■ | ■ ■ | ■ ■ | ■ ■ | ■ ■ |
| 270 | 270 | Auxiliary + undervoltage | ○ ■ | ○ ■ | ○ ■ | ○ ■ | ○ ■ | ○ ■ |
| 218 | 318 | Shunt + alarm | □ ● | □ ● | □ ● | □ ● | □ ● | |
| 228 | 328 | Auxiliary + alarm | □■ | □■ | □■ | □■ | □■ | |
| 238 | 338 | Undervoltage + alarm | ○ □ | ○ □ | ○ □ | ○ □ | ○□ | |
| 248 | 348 | Shunt + auxiliary + alarm | □■ ● | □■ ● | □■ ● | □■ ● | □■ ● | |
| 268 | 368 | Two groups of auxiliary + alarm | □■ ■ | □■ ■ | □■ ■ | □■ ■ | □■ ■ | |
| 278 | 378 | Auxiliary + undervoltage + alarm | ○ □■ | ○ □■ | ○ □■ | ○ □■ | | |

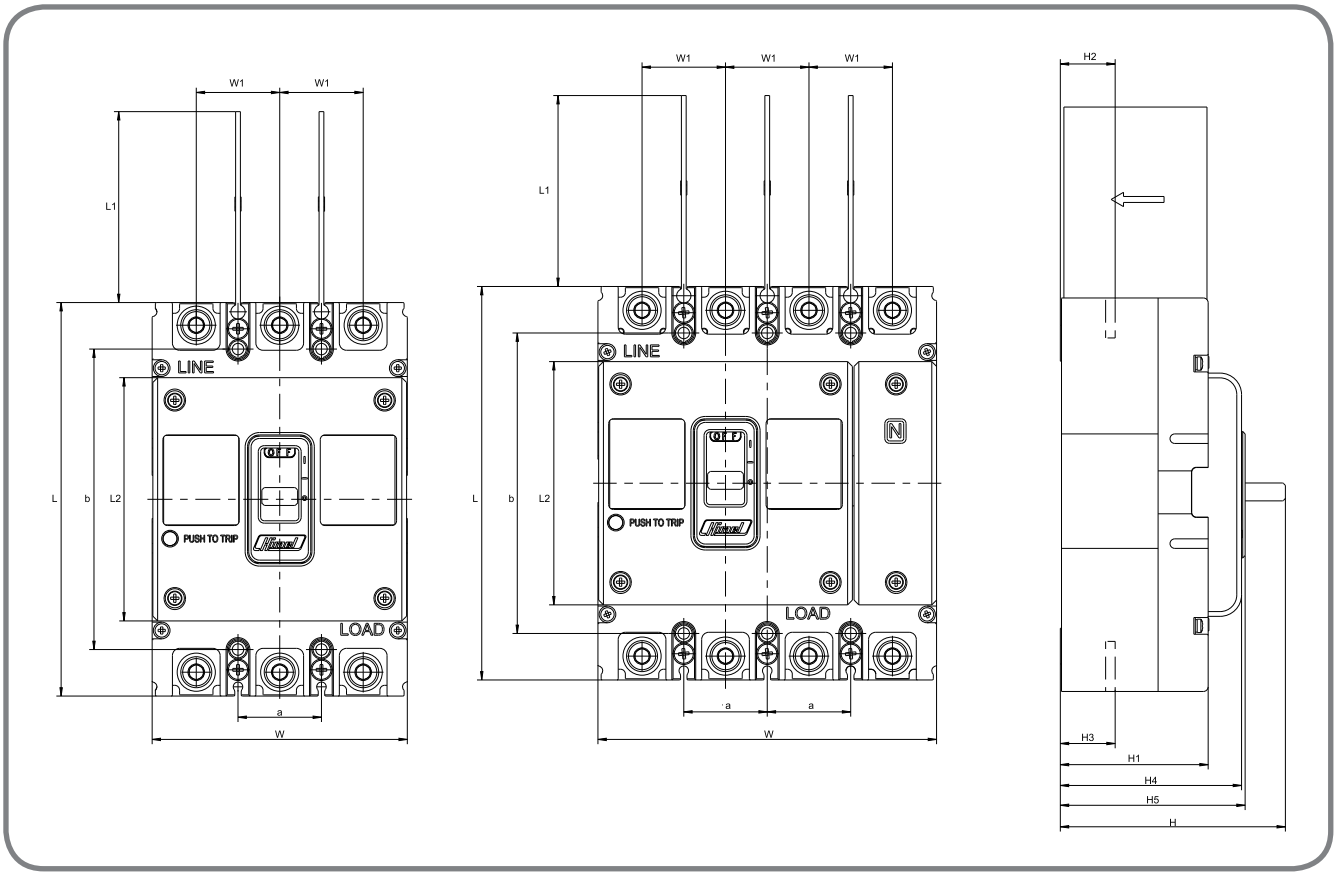
Note: 2xx refers to the circuit breaker body only with a magnetic release; 3xx refers to the circuit breaker body with thermal trip and electromagnetic trip.

# HDM3 Molded Case Circuit Breaker

Installation dimensions-Front
Standard:IEC/EN 60947-2

## Installation dimensions

**Fixed front installation dimensions**



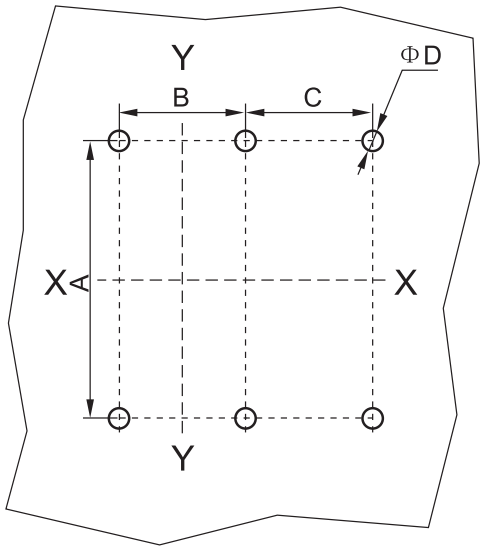

| Shell frame | Number of poles | Overall dimension | | | | | | | | | | | Installation dimension | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | L1 | L2 | W | W1 | H | H1 | H2 | H3 | H4 | H5 | a | b |
| 63/100L /S | 3P | 130 | 50 | 83 | 75 | 25 | 81.5 | 54 | 24 | 24 | 68 | 70.5 | 25 | 111 |
| | 4P | | | | 100 | | | | | | | | | |
| 100M/F /T/N | 3P | 150 | 50 | 96 | 92 | 30 | 111.5 | 81 | 28.5 | 28 | 93.5 | 95.5 | 30 | 129 |
| | 4P | | | | 122 | | | | | | | | | |
| 160/ 250S | 3P | 165 | 80 | 102 | 107 | 35 | 94.5 | 62 | 23 | 23 | 76 | 77.5 | 35 | 126 |
| | 4P | | | | 142 | | | | | | | | | |
| 160/ 250FN | 3P | 165 | 80 | 102 | 107 | 35 | 112.5 | 80 | 23 | 23 | 94 | 95.5 | 35 | 126 |
| | 4P | | | | 142 | | | | | | | | | |
| 400 | 3P | 257 | 104.5 | 150 | 150 | 48 | 145.9 | 96.2 | 36 | 36.5 | 107.5 | 112.5 | 44 | 215 |
| | 4P | | | | 198 | | | | | | | | | |
| 630 | 3P | 257 | 104.5 | 150 | 150 | 48 | 145.9 | 96.2 | 38 | 39 | 107.5 | 112.5 | 44 | 215 |
| | 4P | | | | 198 | | | | | | | | | |
| 800 | 3P | 280 | 104.5 | 102 | 210 | 70 | 146.5 | 97.5 | 32.5 | 35.5 | 100 | 114 | 70 | 243 |
| | 4P | | | | 280 | | | | | | | | | |
| 1250 | 3P | 406 | 104 | 97.2 | 210 | 70 | 197.5 | 134 | 58 | 60 | 140 | 158.5 | 70 | 376 |

# HDM3 Molded Case Circuit Breaker

Installation dimensions-Front
Standard:IEC/EN 60947-2

## Installation dimensions

**Fixed front installation hole dimensions**




Note: X-X and Y-Y is the center of the three-pole breaker

| Shell frame | Number of poles | A | B | C | D |
|---|---|---|---|---|---|
| 63/100L/S | 3P | 111 | 25 | / | 4.5 |
| | 4P | | | 25 | |
| 100M/F/T/N | 3P | 129 | 30 | / | 5 |
| | 4P | | | 30 | |
| 160/250 | 3P | 126 | 35 | / | 5.5 |
| | 4P | | | 35 | |
| 400/630 | 3P | 215 | 44 | / | 6.5 |
| | 4P | | | / | |
| 800 | 3P | 243 | 70 | / | 7.5 |
| | 4P | | | 70 | |
| 1250 | 3P | 376 | 70 | / | 10.5 |

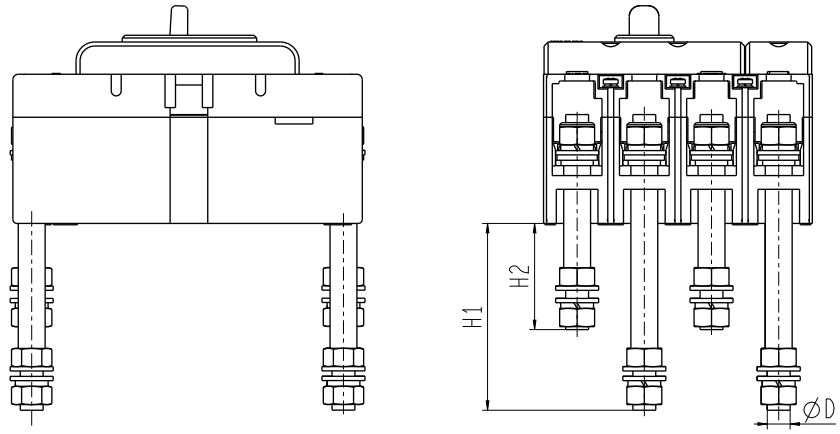
# HDM3 Molded Case Circuit Breaker

Installation dimensions-Rear
Standard:IEC/EN 60947-2

## Installation dimensions-Rear

**Fixed rear installation dimensions**

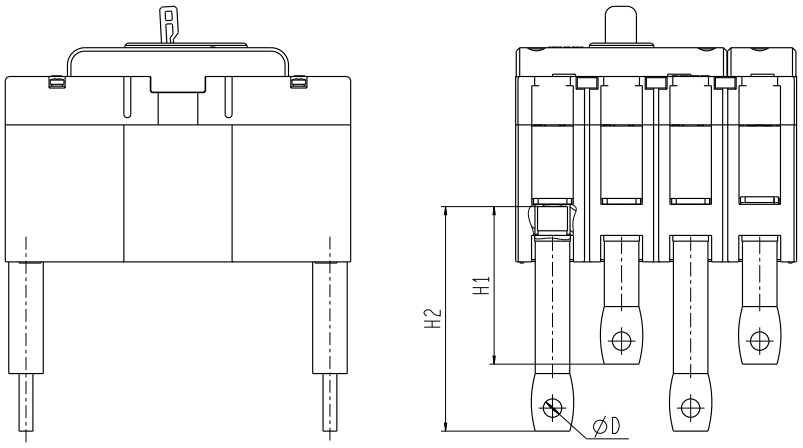
| Circuit breaker mode | H1 | H2 | D |
|---|---|---|---|
| HDM3-63/100L/S | 80 | 67 | 8 |
| HDM3-100M/F/T/N | 97 | 47 | 8 |
| HDM3-160 | 102 | 72 | 10 |
| HDM3-250 | 102 | 72 | 10 |




HDM3 63-250 Installation dimension drawing

**Installation dimensions**

| Circuit breaker mode | H1 | H2 | D |
|---|---|---|---|
| HDM3-400 | 98 | 134 | 12.5 |
| HDM3-630 | 98 | 134 | 12.5 |
| HDM3-800 | 107 | 141 | 12.5 |



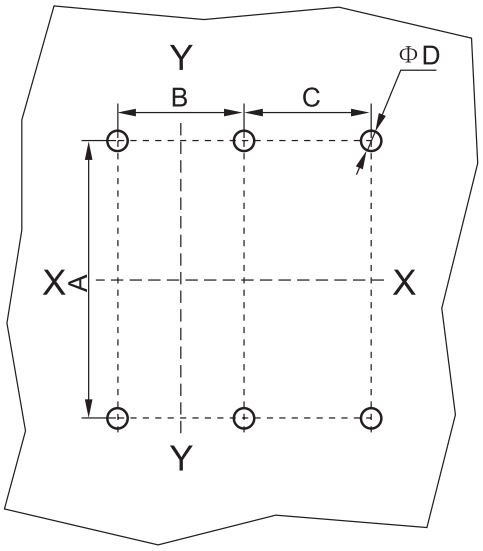

HDM3 400-800 Installation dimension drawing

# HDM3 Molded Case Circuit Breaker

Installation dimensions-Front
Standard:IEC/EN 60947-2

## Installation dimensions

**Fixed front installation hole dimensions**




Note: X-X and Y-Y is the center of the three-pole breaker

| Shell frame | Number of poles | A | B | C | D |
|---|---|---|---|---|---|
| 63/100L/S | 3P | 111 | 25 | / | 4.5 |
| | 4P | | | 25 | |
| 100M/F/T/N | 3P | 129 | 30 | / | 5 |
| | 4P | | | 30 | |
| 160/250 | 3P | 126 | 35 | / | 5.5 |
| | 4P | | | 35 | |
| 400/630 | 3P | 215 | 44 | / | 6.5 |
| | 4P | | | / | |
| 800 | 3P | 243 | 70 | / | 7.5 |
| | 4P | | | 70 | |
| 1250 | 3P | 376 | 70 | / | 10.5 |

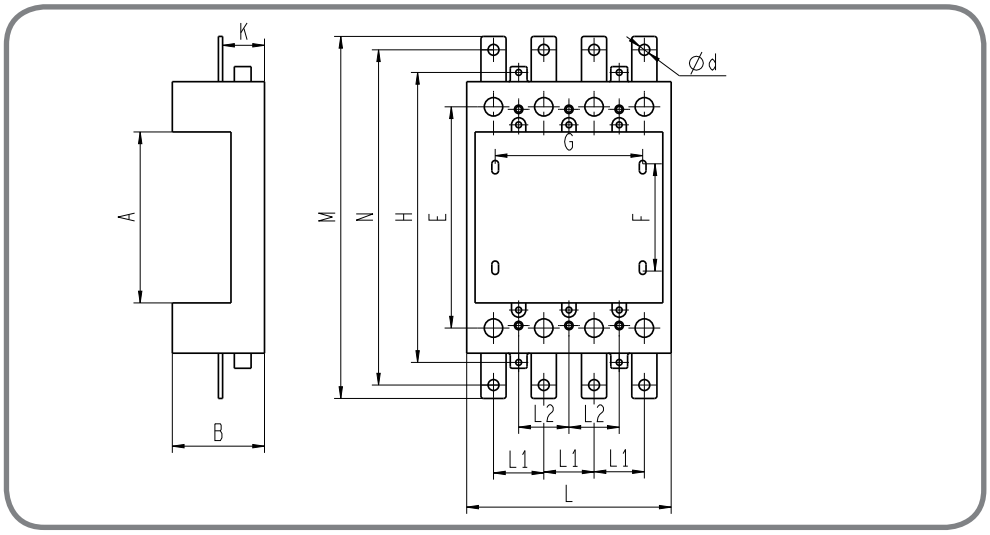
# HDM3 Molded Case Circuit Breaker

Installation dimensions-Plug in
Standard:IEC/EN 60947-2

## Installation dimensions-Plug in

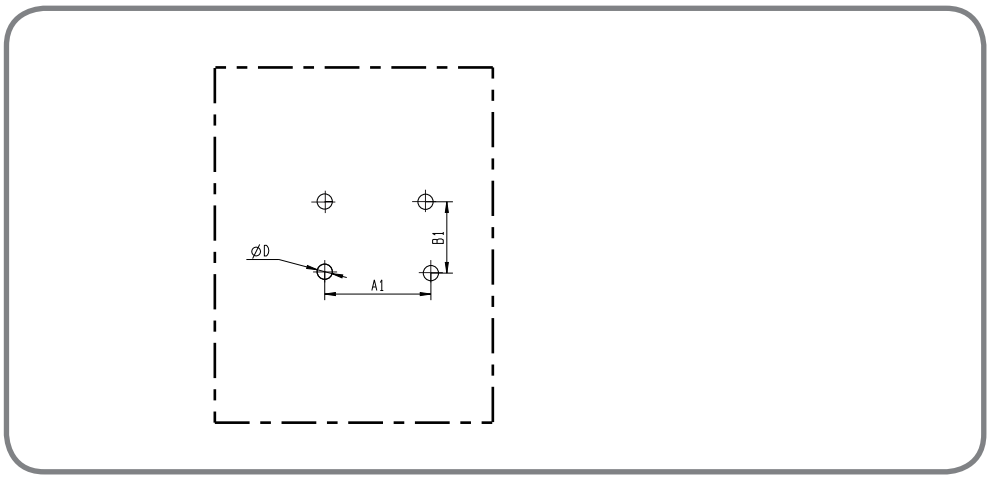
**Plug-in front installation dimensions**
Installation dimensions

| Circuit breaker mode | A | B | E | F | G(3P/4P) | H | L(3P/4P) | L1 | L2 | M | N | K | d |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63/100S/125S | 91.5 | 48.2 | 111 | 60 | 50/75 | 145 | 75/100 | 25 | 25 | 190 | 173 | 22.5 | 6 |
| 100F/N/125T | 100.5 | 56.2 | 132 | 67 | 60/90 | 170 | 90/120 | 30 | 30 | 216 | 198 | 25 | 6.5 |
| 160/250A | 108.5 | 73.2 | 144 | 74 | 70/105 | 191 | 105/140 | 35 | 35 | 243 | 223 | 37.5 | 8.5 |




Plug-in front hot position drawing

| Circuit breaker mode | Number of poles | A1 | B1 | D |
|---|---|---|---|---|
| 63/100L/S | 3 | 50 | 60 | 5.5 |
| | 4 | 75 | | |
| 100M/F/T/N | 3 | 60 | 67 | 6.5 |
| | 4 | 90 | | |
| 160/250 | 3 | 70 | 74 | 6.5 |
| | 4 | 105 | | |



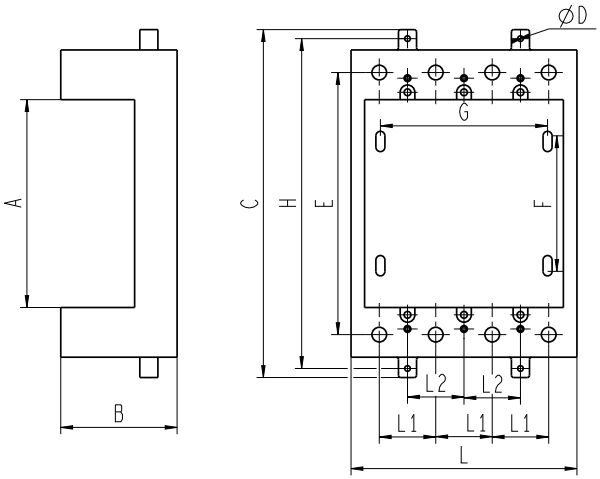
# HDM3 Molded Case Circuit Breaker

Installation dimensions-Plug in
Standard:IEC/EN 60947-2

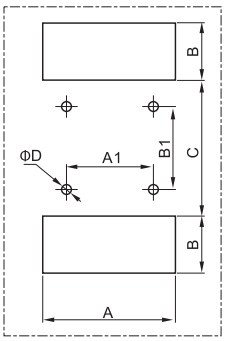
## Installation dimensions-Plug in

**Plug-in rear installation dimensions**
**Installation dimensions**

| Circuit breaker mode | A | B | C | D | E | F | G | H | L | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 63/100L/S | 92 | 51.5 | 154 | 2.5 | 116 | 60 | 76 | 146 | 100 | 25 | 50 |
| 100M/F/T/N | 102 | 55 | 180 | 3.5 | 132 | 60 | 90 | 173 | 122 | 30 | 60 |
| 160/250A | 109.5 | 72 | 200 | 4 | 145 | 74.5 | 105 | 190 | 140 | 35 | 35 |
| 400/630A | 170 | 80 | - | - | 225 | 145 | 88/132 | - | 152/200 | 48 | 44 |
| 800A | 155 | 87 | - | - | 243 | 143 | 90/160 | - | 210/280 | 70 | 70/140 |




| Circuit breaker mode | Number of poles | A | A1 | B | B1 | C | D |
|---|---|---|---|---|---|---|---|
| 63/100L/S | 3 | 79 | 50 | 30 | 60 | 90 | 5.5 |
| | 4 | 104 | 75 | | | | |
| 100M/F/T/N | 3 | 94 | 60 | 40 | 67 | 90 | 6.5 |
| | 4 | 124 | 90 | | | | |
| 160/250 | 3 | 110 | 70 | 45 | 74 | 100 | 6.5 |
| | 4 | 145 | 105 | | | | |
| 400/630 | 3 | 157 | 88 | 60 | 145 | 170 | 8.5 |
| | 4 | 205 | 132 | | | | |
| 800 | 3 | 212 | 140 | 62 | 143 | 185 | 11 |
| | 4 | 282 | 210 | | | | |

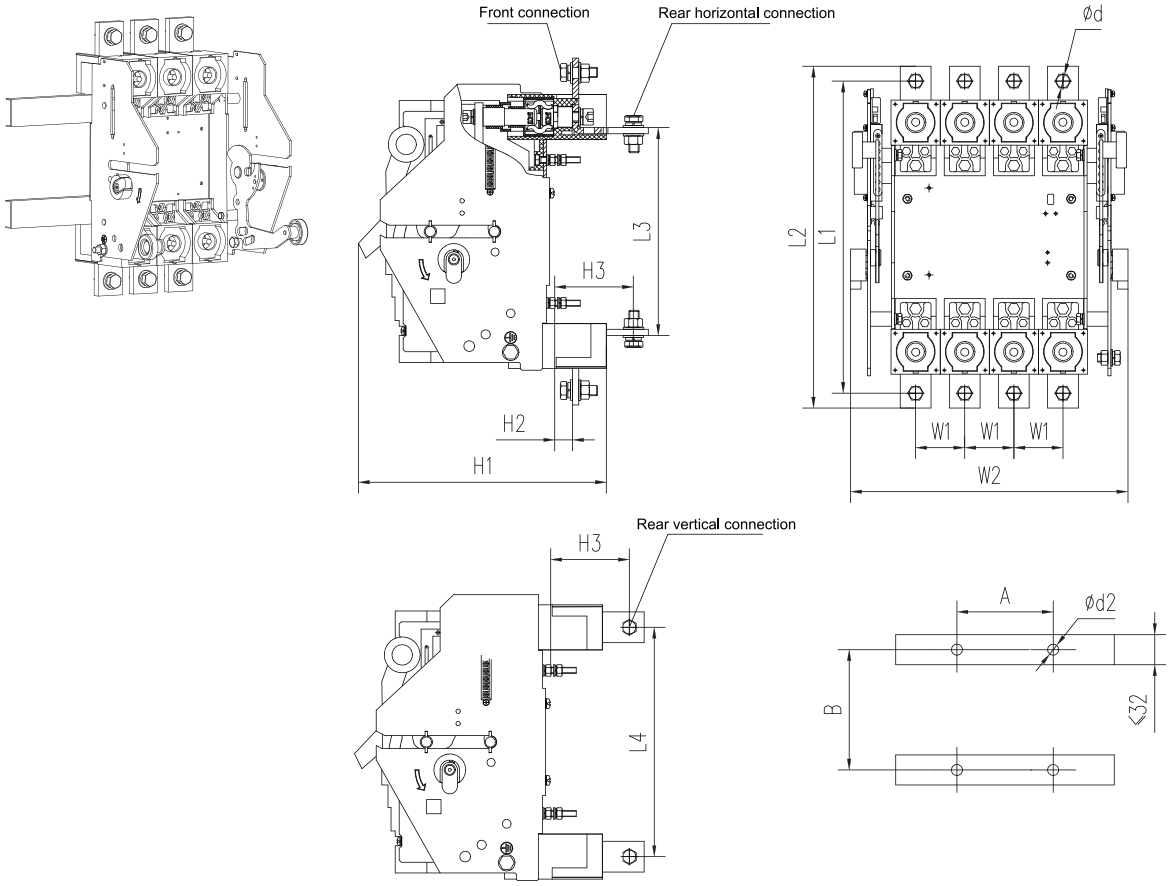



Plug-in rear installation hole pattern

# HDM3 Molded Case Circuit Breaker

Installation dimensions-Plug in
Standard:IEC/EN 60947-2

## HDM3 Drawable installation diagram

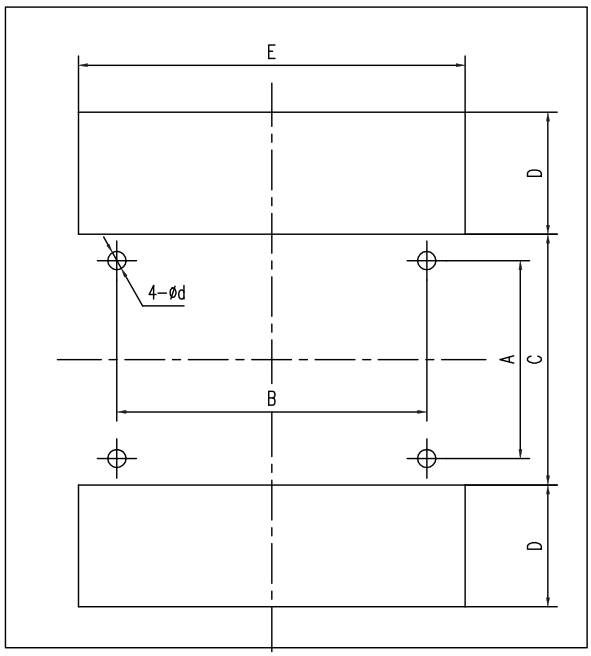



| Frame | Pole | Overview Dimension | | | | | | | | | | Installation Size | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L1 | L2 | L3 | L4 | H1 | H2 | H3 | W1 | W2 | ø d1 | A | B | ø d2 |
| HDM3-400 | 3P | 310 | 339 | 203 | 223 | 253 | 17.5 | 77 | 48 | 223 | ø 11 | 96 | 140 | ø 7 |
| | 4P | 310 | 339 | 203 | 223 | 253 | 17.5 | 77 | 48 | 271 | ø 11 | 144 | 140 | ø 7 |
| HDM3-630 | 3P | 310 | 339 | 207 | 223 | 253 | 17.5 | 77 | 48 | 223 | ø 11 | 96 | 140 | ø 7 |
| | 4P | 310 | 339 | 207 | 223 | 253 | 17.5 | 77 | 48 | 271 | ø 11 | 144 | 140 | ø 7 |
| HDM3-800 | 3P | 367 | 410 | 241 | 231 | 238 | -26 | 73 | 70 | 289 | ø 13 | 140 | 131 | ø 7 |
| | 4P | 367 | 410 | 241 | 231 | 238 | -26 | 73 | 70 | 359 | ø 13 | 210 | 131 | ø 7 |

# HDM3 Molded Case Circuit Breaker

Installation dimensions-Plug in
Standard:IEC/EN 60947-2

## HDM3 Drawable installation hole diagram




| Frame | Hole size of rear connection | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | A | B | | C | D | E | | d |
| | | 3P | 4P | | | 3P | 4P | |
| HDM3-400 | 140 | 96 | 144 | 178 | 47 | 147 | 195 | 7 |
| HDM3-630 | 140 | 96 | 144 | 178 | 47 | 147 | 195 | 7 |
| HDM3-800 | 131 | 140 | 210 | 170 | 77 | 213 | 283 | 7 |

| Frame | Hole size of front connection | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | A | B | | C | D | E | | d |
| | | 3P | 4P | | | 3P | 4P | |
| HDM3-400 | 140 | 96 | 144 | 178 | 90 | 147 | 195 | 7 |
| HDM3-630 | 140 | 96 | 144 | 178 | 90 | 147 | 195 | 7 |
| HDM3-800 | 131 | 140 | 210 | 170 | 130 | 213 | 283 | 7 |

Remark: HDM3-630 frame withdrawable connection is derating to 500A.

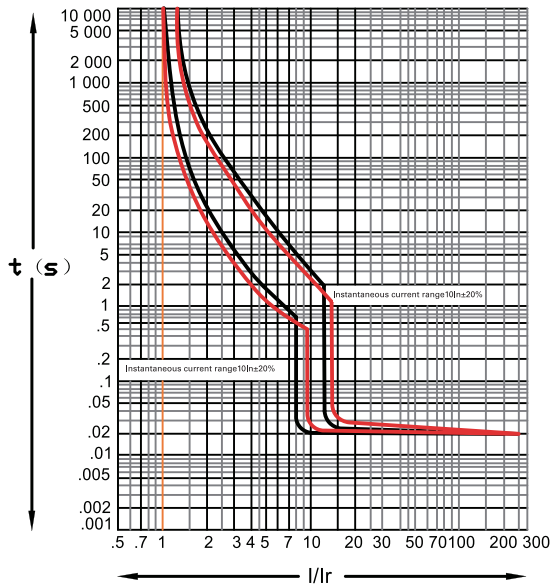
# HDM3 Molded Case Circuit Breaker

Trip curve
Standard:IEC/EN 60947-2

## HDM3 Series Trip Curve

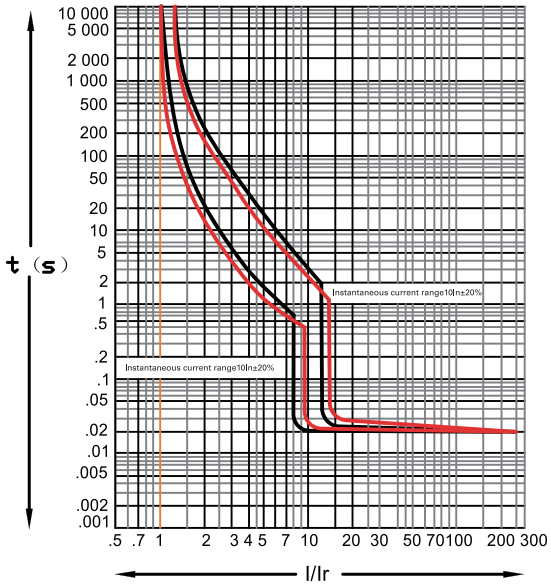
**HDM3-63**

HDM3-63 40-63A Black line:power distribution protection, red line:motor protection;




**HDM3-100S**

HDM3-100S 40A-100A Black line:power distribution protection,red line:motor protection;



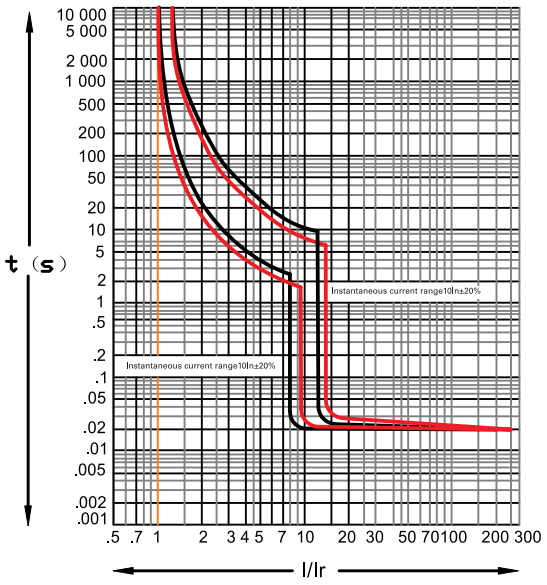
# HDM3 Molded Case Circuit Breaker

Trip curve
Standard:IEC/EN 60947-2

## HDM3 Series Trip Curve

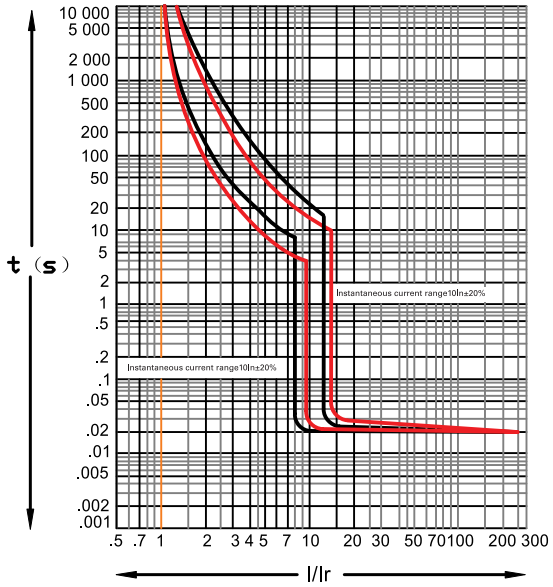
**HDM3-100M/F/T/N**

HDM3-100M/F/T/N 40A-100A Black line: power distribution protection , red line: motor protection;




**HDM3-160/250**

Black line: power distribution protection , red line: motor protection;

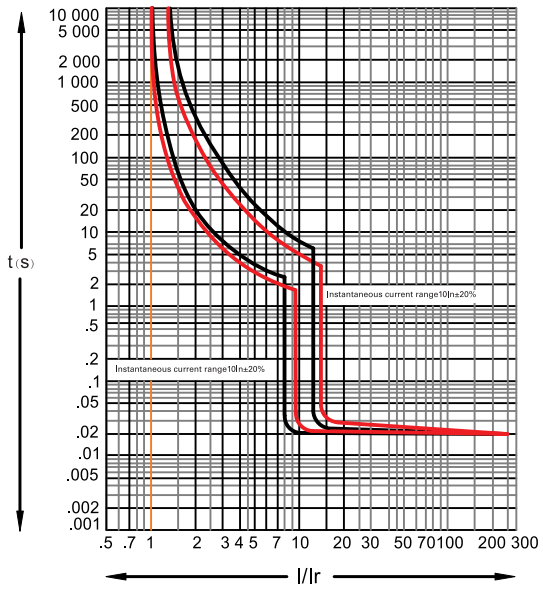


# HDM3 Molded Case Circuit Breaker

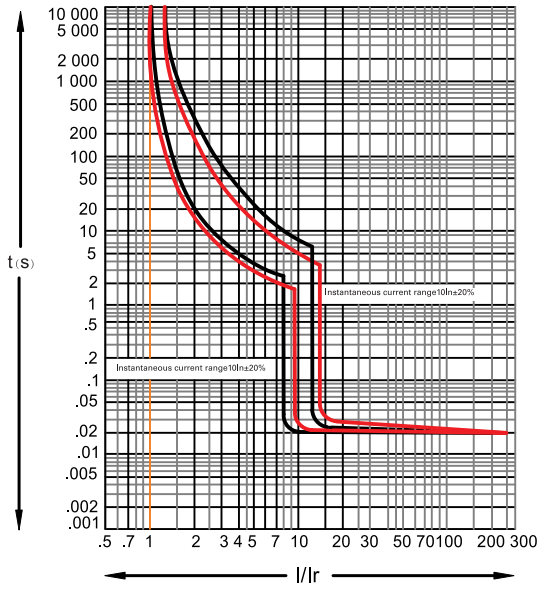
Trip curve
Standard:IEC/EN 60947-2

## HDM3 Series Trip Curve

**HDM3-400**
Black line: power distribution protection , red line: motor protection;




**HDM3-630**
Black line: power distribution protection , red line: motor protection;



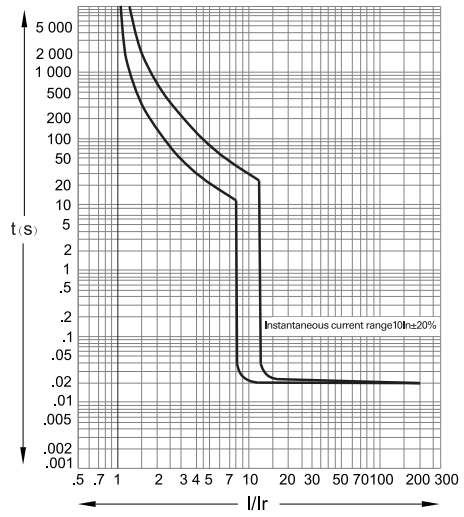
# HDM3 Molded Case Circuit Breaker

Trip curve
Standard:IEC/EN 60947-2

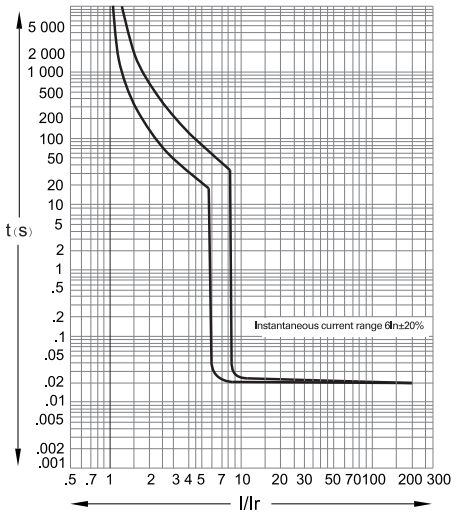
## HDM3 Series Trip Curve

**HDM3-800A**

HDM3-800A 630A
**For power distribution**




HDM3-800A 700A~800A
**For power distribution**



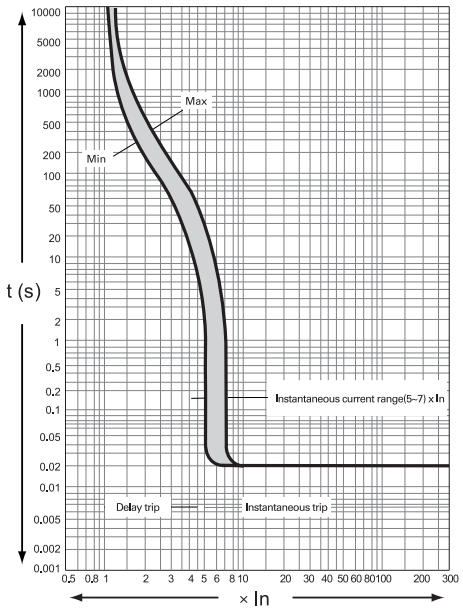
# HDM3 Molded Case Circuit Breaker

Trip curve

Standard:IEC/EN 60947-2

## HDM3 Series Trip Curve

**HDM3-1250A**



# HDM3 Molded Case Circuit Breaker

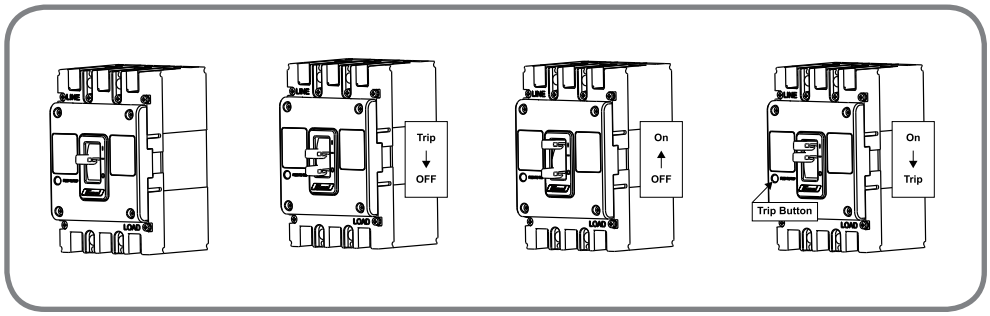
Repair and maintenance
Standard:IEC/EN 60947-2

## HDM3 Repair and maintenance

**Operated and debug HDM3**

First, check the circuit breaker handle status

1. The normal status of delivered products is at “Trip” position.
2. Press the handle to the “OFF" position.
3. Close the breaker and push the handle to “ON” position.
4. Tap the trip button and the breaker handle returns to “Trip” position.




**Repair and maintenance**

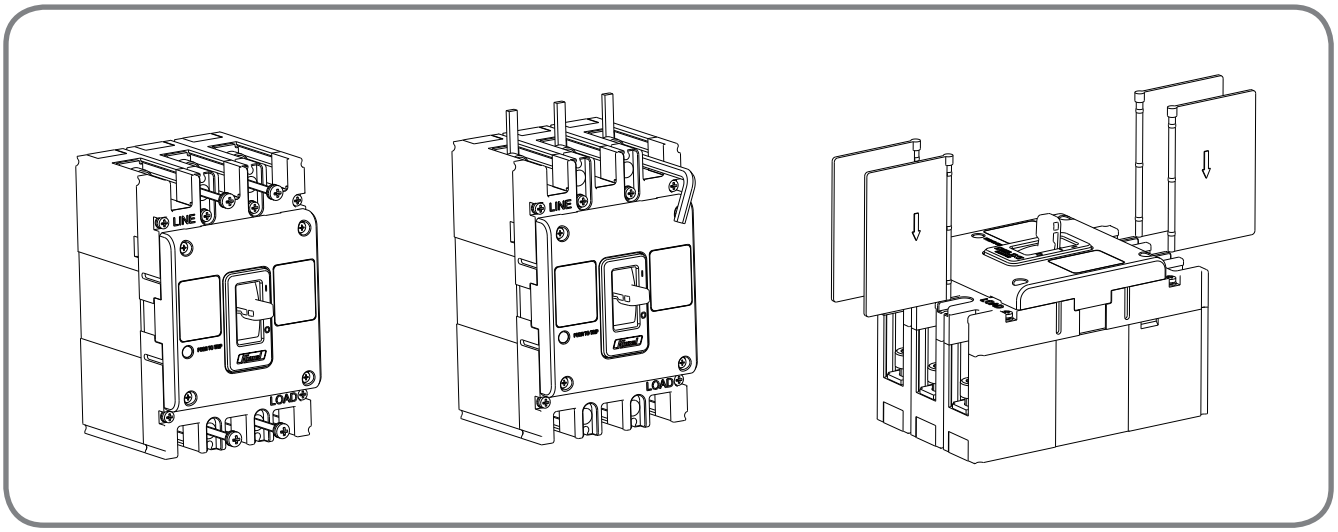
·The repair and maintenance shall be implemented by qualified persons
·The superior power supply must be cut off to ensure that the incoming terminals are electrically neutral
·Conduct maintenance and protection once a year under normal operating conditions with the maintenance content as follows:

| Type | Item | Content |
|---|---|---|
| Molded case circuit breaker | Appearance | No dust or condensation .Clean is needed if there's any. |
| | | No damage |
| | | Non-discoloring shell and connectors |
| | Flash barrier | Insert the flash barrier in place according to the instructions |
| | Connector connection | Tighten without looseness according to the Rated Torque Chart |
| | Handle on/off operation | Operation shall be flexible |
| | Trip button | The handle indicates trip after the trip of the product |
| | Insulation test | Conduct a test according to the product test requirements on the first page of User Manuel |
| Circuit breaker with accessories | With undervoltage release | The circuit breaker shall be disconnected reliably and the handle indicates trip if the undervoltage release is powered off |
| | With undervoltage release | The circuit breaker shall be disconnected reliably and the handle indicates trip if the release is provided with rated voltage |
| | With auxiliary contact | The switching signal of the auxiliary contact shall be normal when the circuit breaker is connected and then disconnected |
| | With alarm contact | The switching signal of the alarm contact shall not function when the circuit breaker is closed and then tripped by pressing the trip button. |

# HDM3 Molded Case Circuit Breaker

Appendix
Standard:IEC/EN 60947-2

## Appendix Torque table and connecting conductor




**Torque table**

| Shell frame | Hexagon | Torque force N.m |
|---|---|---|
| 63/100 | M8 | 9.5-10.5 |
| 160/250 | M8 | 9.5-10.5 |
| 400/630 | M10 | 19.5-20.5 |
| 800/1250 | M12 | 29.5-30.5 |

**Connecting conductor $mm^2$**

| Rated current A | 10 | 16/20 | 25 | 32 | 40/50 | 63 | 80 | 100 | 125 | 140 | 160 | 180/200/225 | 250 | 315 | 400 | 500 | 600 | 700/800 | 1000 | 1250 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conductor cross-section $mm^2$ | 1.5 | 3 | 4 | 6 | 10 | 16 | 25 | 35 | 50 | 50 | 70 | 95 | 120 | 185 | 240 | 2*150 | 2*185 | 2*240 | 2*500 | 2*500 |

# HDM2 Molded Case Circuit Breaker

Selection Guide & Order References
Standard: IEC 60947-2

## Selection Guide

| Product | Frame Size | Breaking Capacity | Rated Current | Poles |
|---|---|---|---|---|
| HDM2 | 125 | L | 10 | 1 |
| | 125:125AF | L: Icu=30kA/Icu=18kA | 10: 10A<br>16: 16A<br>...<br>100: 100A<br>125: 125A | 1: 1P<br>2: 2P |

* If 50°C products required, please contact local Himel sales office.

## Order References

| Product specification | In(A) | Order Reference |
|---|---|---|
| HDM2 1P  | 10 | HDM2125L0101 |
| | 16 | HDM2125L0161 |
| | 20 | HDM2125L0201 |
| | 25 | HDM2125L0251 |
| | 32 | HDM2125L0321 |
| | 40 | HDM2125L0401 |
| | 50 | HDM2125L0501 |
| | 63 | HDM2125L0631 |
| | 80 | HDM2125L0801 |
| | 100 | HDM2125L1001 |
| | 125 | HDM2125L1251 |
| HDM2 2P  | 10 | HDM2125L0102 |
| | 16 | HDM2125L0162 |
| | 20 | HDM2125L0202 |
| | 25 | HDM2125L0252 |
| | 32 | HDM2125L0322 |
| | 40 | HDM2125L0402 |
| | 50 | HDM2125L0502 |
| | 63 | HDM2125L0632 |
| | 80 | HDM2125L0802 |
| | 100 | HDM2125L1002 |
| | 125 | HDM2125L1252 |

# HDM2 Molded Case Circuit Breaker

Technical parameters
Standard: IEC 60947-2



## Technical Parameters

| | | | |
|---|---|---|---|
| Frame Current | | HDM2-125 | |
| Standard | | IEC60947-2 | |
| Rated Voltage Ue(V) | | 1P:220/240VAC;2P:400VAC | |
| Rated Frequency (Hz) | | 50/60Hz | |
| Rated Insulation Voltage Ui(V) | | 690V | |
| Rated Impulse Withstand Voltage Uimp(kV) | | 8kV | |
| Rated Current In(A) | | 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A,125A | |
| Number of Poles | | 1P | 2P |
| Rated ultimate short circuit breaking capacity Icu(kA) | 220/240VAC | 20 | 30 |
| Rated Service short circuit breaking capacity Ics(kA) | 220/240VAC | 15 | 18 |
| Rated ultimate short circuit breaking capacity Icu(kA) | 400VAC | / | 20 |
| Rated Service short circuit breaking capacity Ics(kA) | 400VAC | / | 15 |
| Mechanical Life | | 9000 | |
| Electrical life | | 2000 | |
| Pollution Degree | | 3 | |
| Installation Category | | III | |
| Utilization Category | | A | |
| Ambient Temperature | | -5℃ ~ +40℃ | |
| Altitude | | ≤2000m | |
| Humidity | | The atmospheric relative humidity does not exceed 50% when the maximum ambient temperature is +50℃. It is allowed to have relative higher humidity under lower temperature, e.g. up to 90% for +20℃. | |
| Protection Degree | | IP20 | |
| Isolation function | | Available | |
| Certification | | SEMKO | |
| W*H*D | 1P (mm) | 25*130*94 | |
| | 2P (mm) | 50*130*94 | |

# HDM2 Molded Case Circuit Breaker

Technical parameters
Standard: IEC 60947-2

## Temperature derating table

| Temperature / Model | 0℃ | 10℃ | 20℃ | 25℃ | 30℃ | 35℃ | 40℃ | 45℃ | 50℃ | 55℃ | 60℃ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HDM2-1P | 1.19 | 1.16 | 1.12 | 1.1 | 1.08 | 1.03 | 1 | 0.95 | 0.86 | 0.81 | 0.73 |
| HDM2-2P | 1.19 | 1.16 | 1.12 | 1.1 | 1.08 | 1.03 | 1 | 0.95 | 0.86 | 0.81 | 0.73 |

## Altitude derating table

| Altitude(m) | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 |
|---|---|---|---|---|---|---|---|
| Rated insulation voltage Ui（V） | 690 | 627 | 627 | 572 | 572 | 531 | 531 |
| Rated impulse withstand voltage Uimp（kV） | 8 | 7 | 7 | 6.5 | 6.5 | 6 | 6 |
| Rated operating voltage Ue（V） | 400 | 400 | 330 | 305 | 280 | 265 | 250 |
| De-rated rated current at ambient temperature of 40℃ | 1In | 0.98In | 0.94In | 0.92In | 0.88In | 0.86In | 0.85In |

## Installing and Operation

- Before installation：
  （1）Check whether the parameters on nameplate comply with the application requirement;
  （2）Make sure the handle at the "Trip" position;
  （3）Open and close the circuit breakers 3 times, and the operation should be reliable and no clamping, and the handle should be at "OFF" position;
- When installing：
  （1）Check whether the wire connection is correct, and connect “LINE” to power supply, and “LOAD” to equipments.
  （2）Refer to below table 1 for recommended wiring cross section and related rated current, to make sure the breaker work properly;
  （3）Refer to table 2 for wiring fastening torque;

**Rated current and related wiring cross section**

| Rated current A | 10 | 16,20 | 25 | 32 | 40,50 | 63 | 80 | 100 | 125 |
|---|---|---|---|---|---|---|---|---|---|
| Cross section of wire $mm^2$ | 1.5 | 2.5 | 4 | 6 | 10 | 16 | 25 | 35 | 50 |

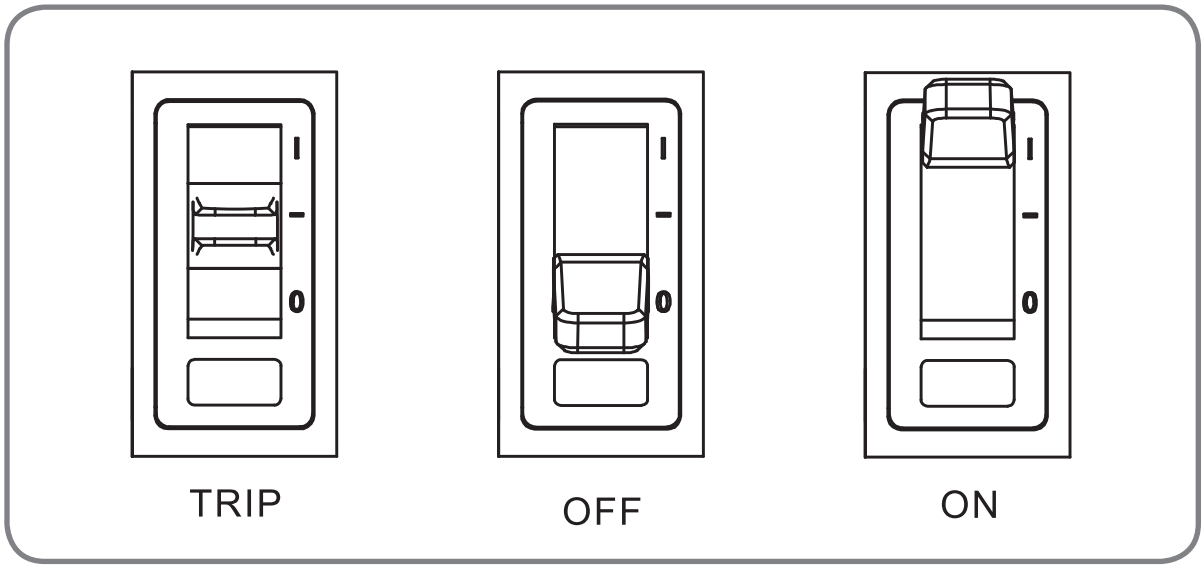
**Fastening torque**

| Model | Screw | Fastening torque N·m |
|---|---|---|
| 125AF | M8 | 9.5-10.5 |

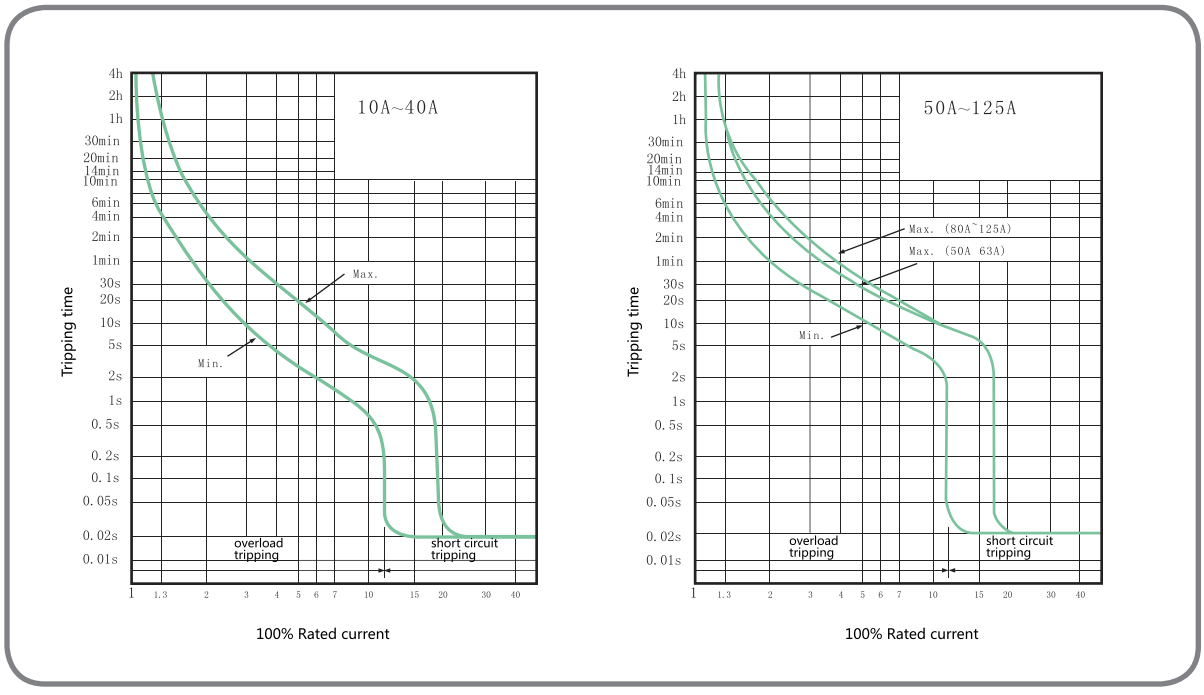
# HDM2 Molded Case Circuit Breaker

Technical parameters
Standard: IEC 60947-2

## Handle Position Indication



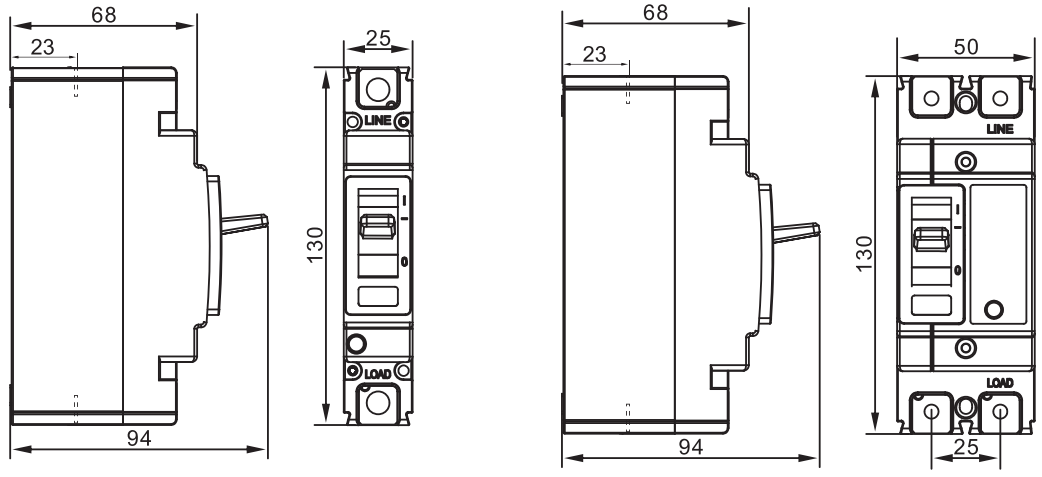

## HDM2 Series Trip Curve



# HDM2 Molded Case Circuit Breaker

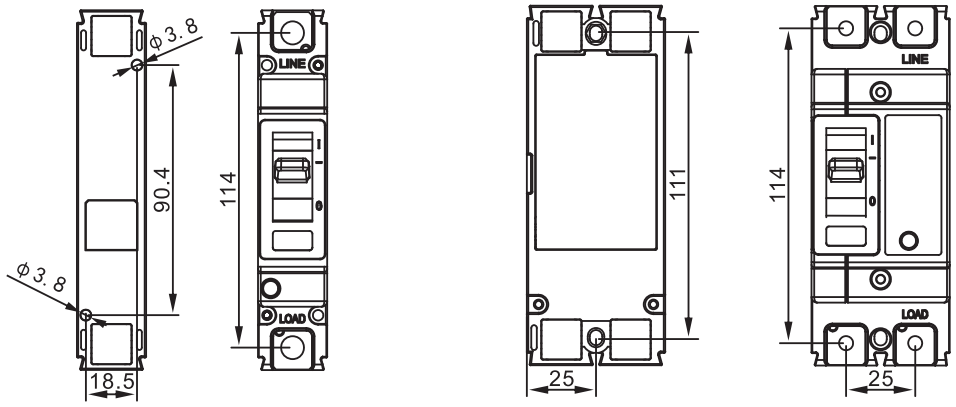
Dimensions and Installing size
Standard: IEC 60947-2

## Dimensions



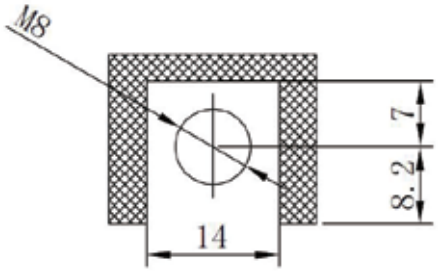

HDM2-125/1P　　HDM2-125/2P

## Installation Size




HDM2-125/1P　　HDM2-125/2P

## Terminal connection size



## Maintenance and Care

• The maintenance and care must be implemented by qualified professional persons;
• Make sure that the breaker is electrically neutral;
• Conduct maintenance and care once a year under normal operation condition.
See below table for maintenance content.

| Type | Item | Content |
|---|---|---|
| Circuit Breaker | Appearance | Free of dust or condensation. Clean if there is any.<br>Free of damage.<br>No discoloration at the shell or connecting terminal. |
| | Terminal Connection | Not loose and tighten according to the torque specified in table 2 |
| | Interphase barrier | Should be inserted tightly, and no damage |
| | Handle closing and opening | Operation shall be flexible |
| | Insulation test | Prohibited to test insulation between any two load phases by short circuit |
| | Test button | The handle should be at trip position after tripping |
| Circuit breaker with accessories (If applicable) | Installed with undervoltage release | The breaker shall open reliably when cut off the power supply of undervoltage release, and the handle should be at TRIP position |
| | Installed with shunt release | The breaker shall open reliably when energizing the shunt release with rated voltage, and the handle should be at TRIP position |
| | Installed with auxiliary contacts | Open and close the breaker, the auxiliary contacts shall transfer signal reliably. |