

# JXW45 Series Intelligent Circuit Breaker



## Application

JXW45 series intelligent circuit breaker (hereinafter referred to as breaker) is suitable for the circuit of AC 50/60Hz with rated voltage 400V, 690V and rated current up to 6300A .It is mainly used to distribute electric energy and protect circuit and power supply equipment from overload, under-voltage short-circuit ,and single-phase earthing .With intelligent and selective protection functions, the breaker can improve the reliability of power supply, and avoid unnecessary power failure . The breaker is applicable for power stations, factories , mines(for 690V) and modern high-building, especially for the distribution system of intelligent building.

The breaker conforms to IEC60947-2.

## Environment Conditions for Operation

Temperature condition:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$  ; the average value within 24h not exceed  $+35^{\circ}\text{C}$  .

Elevation: altitude of installation place shall not exceed 2000m.

Atmosphere condition: relative humidity at  $+40^{\circ}\text{C}$  shall not exceed 50%. Higher humidity is permissible at lower temperature condition. When the higher monthly average relative humidity is 90% in the humidest month , the lowest monthly average temperature of this month is  $+25^{\circ}\text{C}$  . And consider the influence of dew on product surface due to temperature changes.

Pollution grade: gradeIII.

The breaker should be installed according to the requirement on the instruction manual: the vertical inclination degree shall not exceed  $5^{\circ}$ .

## Specification

Type	JXW45-2000	JXW45-3200	JXW45-4000	JXW45-6300
Frame rated current $I_{nm}$ (A)	2000	3200	4000	6300
Number of poles	3,4	3,4	3,4	3,4
Rated current $I_n$ (A)	630,800,1000, 1250,1600,2000	2000,2500, 3200	2000,2500, 3200,4000	4000,5000, 6300
$I_{cu}$ (kA)	400V	80	100	120
	690V	50	65	80
$I_{cs} = I_{cw}$ (kA)	400V	50	80	100
	690V	40	50	65
Rated current at N-pole $I_n$ (A)	50% $I_n$ , 100% $I_n$			
Inherent making & breaking time	23-32ms			
Operational performance (operations)	Electric life	500		
	Mechanical life	Maintenance-free2500 Maintenance 10000		
Mounting mode	Fixed withdrawable			
Arcing distance(mm)	0			
Intelligent controller	Standard type(M) telecommunication type (H)			

## Intelligent Controller

Intelligent controller is one of the core components of the circuit breaker

### Properties of the intelligent controller

- a. Protective function of over-load long time-delay and inverse time limit, short time-delay and inverse time limit, short time-delay definite time limit instantaneous operation protection;
- b. Single-phase earthing failure protection;
- c. Display of setting current  $I_r$  and operational current;
- d. Ampere meter;
- e. Over-load alarm;
- f. Short-circuit alarm
- g. Testing of operational properties

Note: The breakers with telecommunication port are available to realize remote control to breaker through master computer.

### Protection performances of over-current release

- a.  $I_r$  and its inaccuracy of the controller

Inm(A)	Long time-delay		Short time-delay		Instantaneous		Earthing failure		
	$I_{r1}$	Error	$I_{r2}$	Error	$I_{r3}$	Error	$I_{r4}$	Error	
$\geq 2000$	$(0.4\sim 1)I_n$	$\pm 10\%$	$(0.4\sim 15)I_n$	$\pm 10\%$	$1.0I_n\sim 15kA$	$\pm 15\%$	$I_{nm} \leq 4000A(0.2\sim 0.8) I_n(\text{Max.}1200A, \text{Min.}200A)$	$I_{nm} \leq 6300A(0.2\sim 1.0) I_n$	$\pm 10\%$

- Note: 1. When the breaker could realize over-load with long time delay .short-circuit with short time-delay and short-circuit instantaneous protections, the setting ratings can not be over-lapped ,and  $I_{r1} < I_{r2} < I_{r3}$
2. When the frame is 3200A and above ,the setting ratings range from  $1.01I_n$  to 75kA.

### b. Characteristics of long time-delay protection

$1.05 I_{r1}$	$1.3 I_{r1}$	$1.5 I_r$	$2.0 I_{r1}$
>2h non-tripping	<1h tripping	15s,30s,60s,120s,240s,480s	8.4s,16.9s,33.7s,67.5s,135s,270s

### c. Characteristics of short time-delay protection.

For low over-current ,inverse time-limit protection could be realized; when the over-current is  $>8 I_{r1}$  , it will automatically change to be definite time-limit protection properties.

Refer to table below for time-limit properties.

Setting delay time (s)	Returnable time (s)
0.1, 0.2, 0.3, 0.4	0.06, 0.14, 0.23, 0.35

## Standard Composition

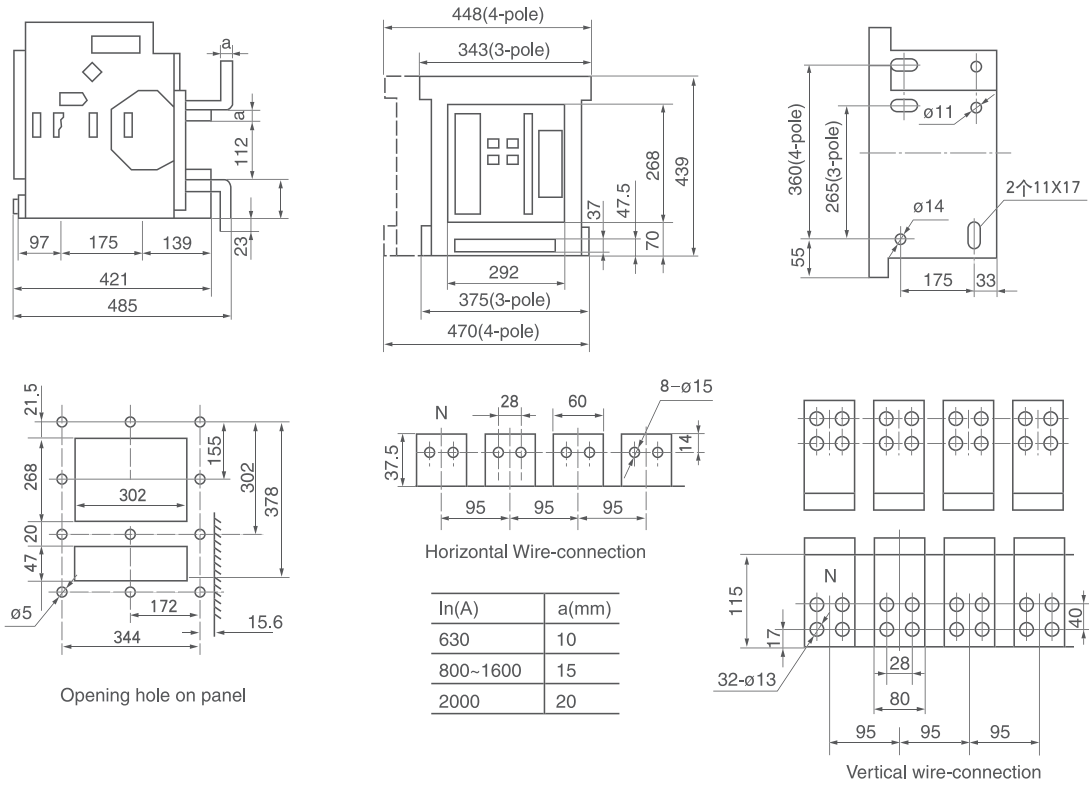
To facilitate your ordering and utilization, the AW45 intelligent with basic electric accessories as follows.

Standard composition of the breaker	Fixed type	Withdrawable type
Body	<input type="checkbox"/>	<input type="checkbox"/>
Drawer base	<input type="checkbox"/>	<input type="checkbox"/>
Intelligent controller	<input type="checkbox"/>	<input type="checkbox"/>
Electric motor	<input type="checkbox"/>	<input type="checkbox"/>
Closing electro-magnet	<input type="checkbox"/>	<input type="checkbox"/>
Shunt release	<input type="checkbox"/>	<input type="checkbox"/>
Under-voltage	<input type="checkbox"/>	<input type="checkbox"/>
Auxiliary contact	<input type="checkbox"/>	<input type="checkbox"/>
Door frame	<input type="checkbox"/>	<input type="checkbox"/>

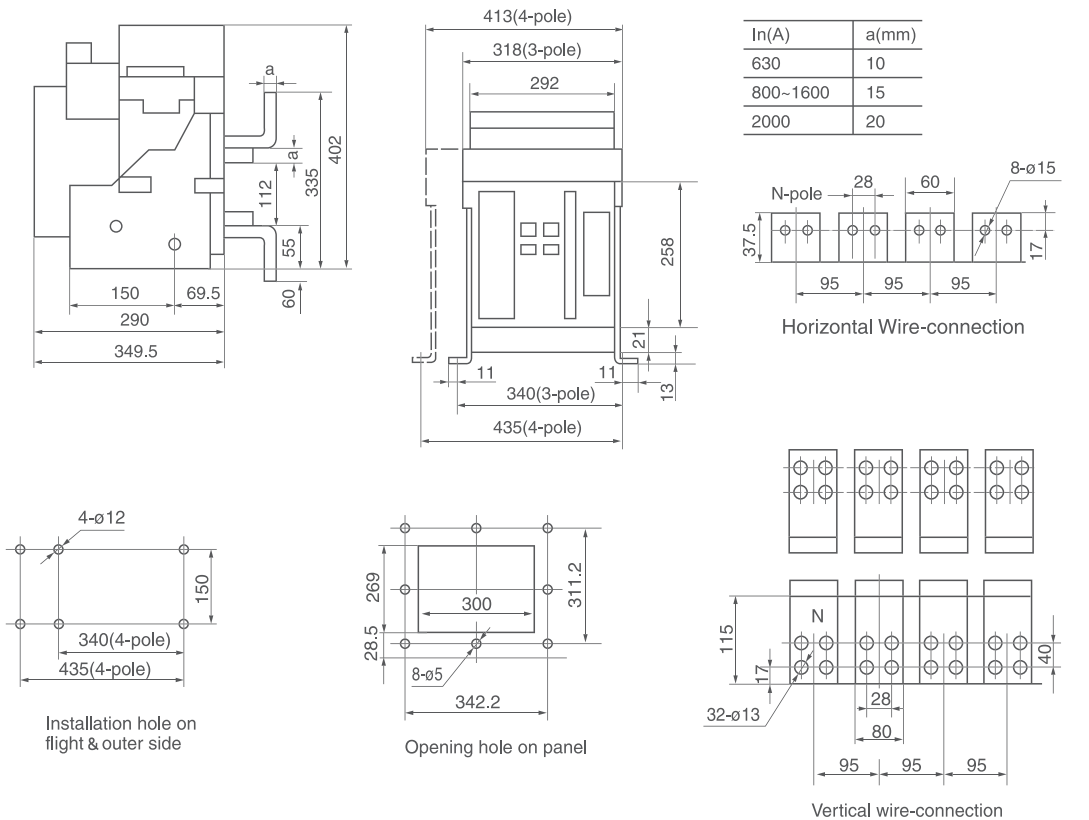
# JXW45 Series Intelligent Circuit Breaker

## Outline and Installation Dimensions

### JXW45-2000 Drawer-type



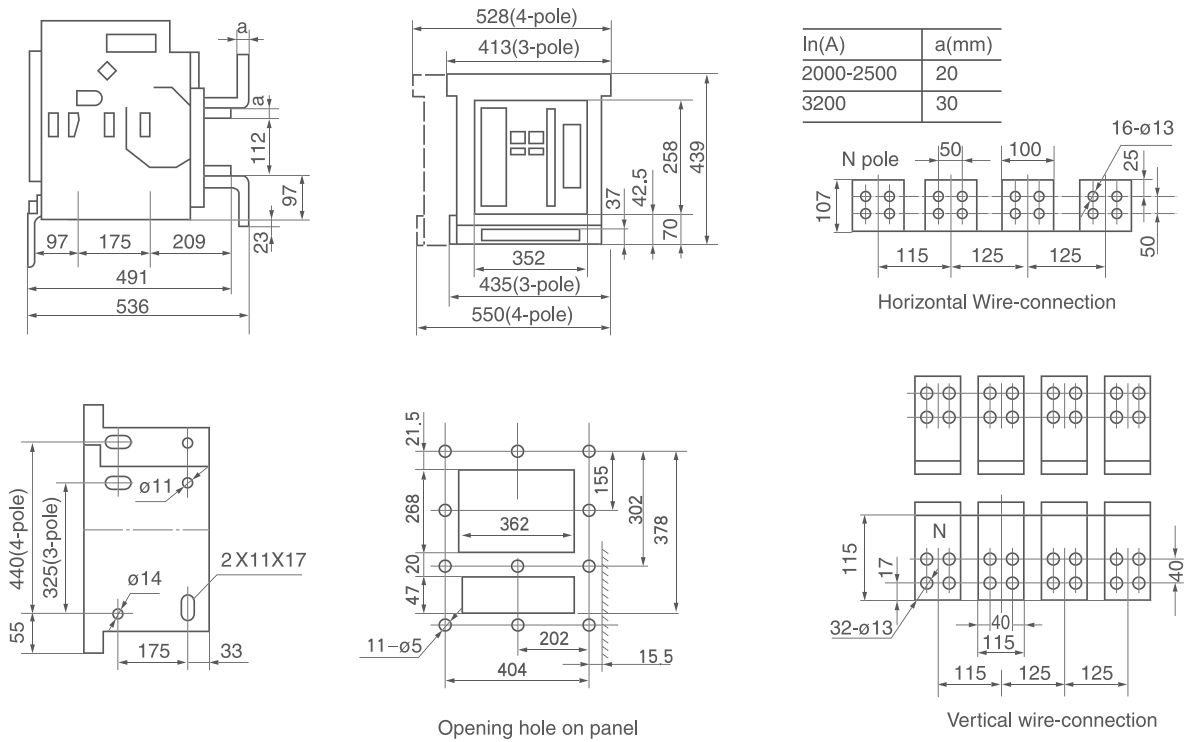
### JXW45-2000 Fixed type



# JXW45 Series Intelligent Circuit Breaker

## Outline and Installation Dimensions

### JXW45-3200 Drawer-type



### JXW45-4000 Drawer-type(3-pole)

