

# FAST VACUUM CONTACTOR CNF-250/1140V & CNF-400/1140V

## **Application Scope and Usage**

The bypass switch is used for bypass protection of power electronic semiconductor devices. The main contacts of the bypass switch are connected in parallel with the power electronic semiconductor devices. Under normal operation, the main contacts of the bypass switch are open. When a fault occurs in the power electronic semiconductor device, the coil is energized, causing the main contacts of the bypass switch to close rapidly and bypass the faulty semiconductor device, allowing the system to continue operating normally.

# **Operating Conditions**

Ambient temperature: -5°C to 60°C. Relative humidity: 5%RH to 95%RH. Altitude: <2000m. Usage location: Indoor

#### **Function**

When the bypass switch coil is energized, the main contacts of the bypass switch change from the "open" state to the "closed" state, and the auxiliary contacts also perform corresponding actions. After the coil power is lost, the main contacts remain in the "closed" state through mechanical interlocking. By manually operating the relevant mechanical parts, the main contacts of the bypass switch can be changed from the "closed" state to the "open" state, and the auxiliary contacts are restored to the state before energization.

## The benefits of main contacts:

- The material of the busbar is T2 pure copper.
- The busbar is nickel-plated.
- The flexible connection busbar is durable and oxidation-free
- The surface of the busbar is smooth, flat, and defect-free.

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#### **Main Technical Parameters**

Main Circuit Pole Number: Single pole.

Rated Control Voltage: DC24V or DC110V or DC220V.

Control Circuit Mode: Direct electromagnetic drive coil (electrically operated, manual reset), self-holding after closing. Auxiliary Circuit Contacts: One normally open, one normally closed (single-pole double-throw, contact capacity: DC 220V, 0.1A).

Specification Item	Model CNF-250/1140V	Model CNF-400/1140V
Main Circuit Rated Voltage (V)	1140	1140
Main Circuit Rated Current (A)	250	400
Main Circuit Making Capacity (A/100 operations)	2500	4000
Mechanical Life (operations)	10000	10000
Electrical Life (operations)	10000	10000
Main Circuit Power Frequency Withstand Voltage (Vacuum) (V)	5000	5000
Control Circuit Power Frequency Withstand Voltage (V)	2000	2000
Main Contact Circuit Resistance ( $\mu\Omega$ )	150	120
Contact Opening Distance (mm)	1.0±0.2	1.0±0.2
Overtravel (mm)	1.0±0.2	1.0±0.2

Parameter	Time
Maximum Pull-in Time (time from applying forward voltage to the coil until the main contacts close)	≤5ms
Feedback Time (time from coil actuation to auxiliary contact closure)	≤10ms

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## **Dimenions**





## **Working Principle**





Wire color: 1 - Red, 2 - White, 3 - Black, 4 - Brown, 5 - Blue

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