

# Power-IO™

**CDD Family of Solid State Contactors**  
For DC switching applications  
Up to 400 amps continuous  
Up to 1000 amps momentary

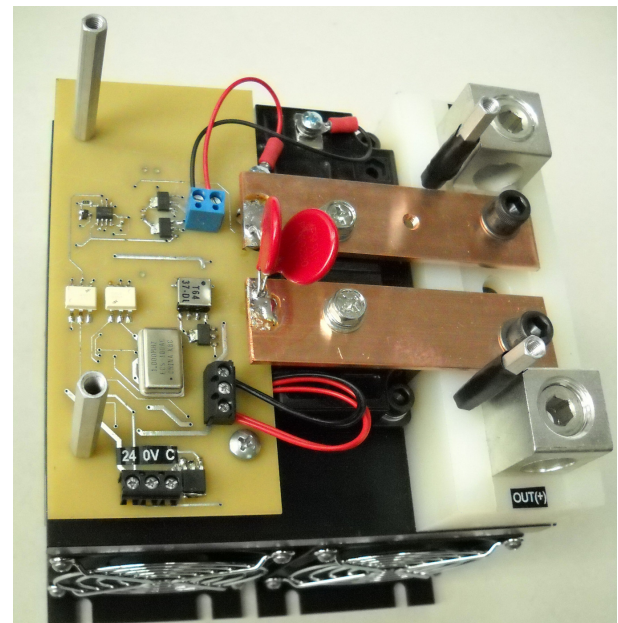
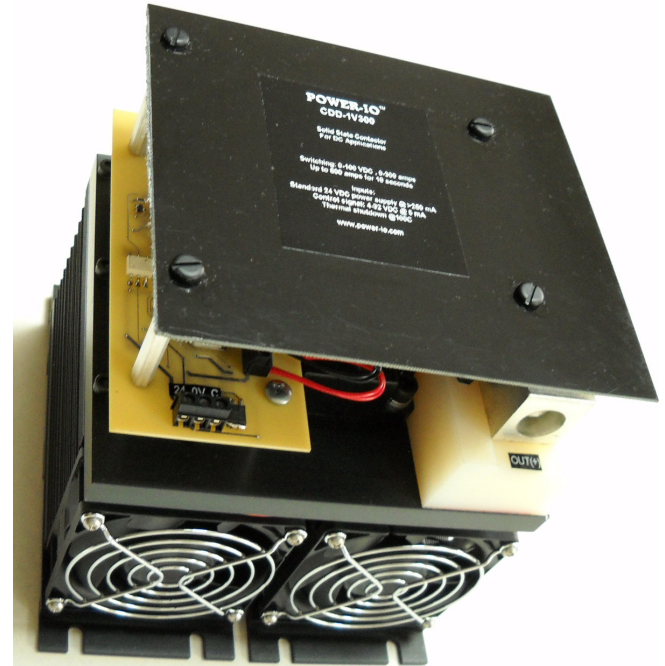
The CDD family of solid state contactors provides a custom-designed platform for ON/OFF switching or high speed PWM switching of DC loads.

## Standard Features:

- Internal IGBT device
- Existing models for up to 100 VDC, 300, 600 or other DC switching voltages
- Existing models for 300-400 amps continuous
- Up to 600 amps for 10 seconds
- Up to 1000 amps for momentary inrush
- On/off or high speed, up to 2 kHz, switching speed for PWM applications. Switching speed is determined by your external control system or PLC system
- High temperature protection, automatic shut down at 100C.
- Dual 24 VDC fans for cooling
- Accepts a standard 24 VDC power supply for domestic installations
- Optional 48 VDC power supply input for military or battery backed up installations
- Small — less than 8 x 8 x 8 inches

## Customized features that can be quoted:

- Higher PWM speeds
- Higher amperage capability
- Customized PCB for OEM-specific control functions
- Potential Communications Options: Modbus, Ethernet, DeviceNet, Profibus, or other comms capability.



Specifications:

External Power supply required:	24 Vdc, >250mA
Control Signal	4-32 Vdc, @5mA current limited
Fan Operation	ON when control signal HIGH, and 90 seconds after
LEDs	
Hot, Thermal Shutdown	At 100C, red LED activates and the control signal is disabled
Power	Good 24 VDC power, good internal supply, good IGBT supply
Control	Control signal is present
External diode	50ns diode, such as IXYS brand DSEI2X101-06A, 600 V

Part Numbers:

CDD-1V300 Up to 100 VDC, up to 300 amps continuous  
CDD-3V300 Up to 300 VDC, up to 300 amps continuous  
CDD-6V300 Up to 600 VDC, up to 300 amps continuous  
CDD-8V300 Up to 800 VDC, up to 300 amps continuous  
CDD-9V300 Up to 900 VDC, up to 300 amps continuous

Different voltage and amperage ranges are available.

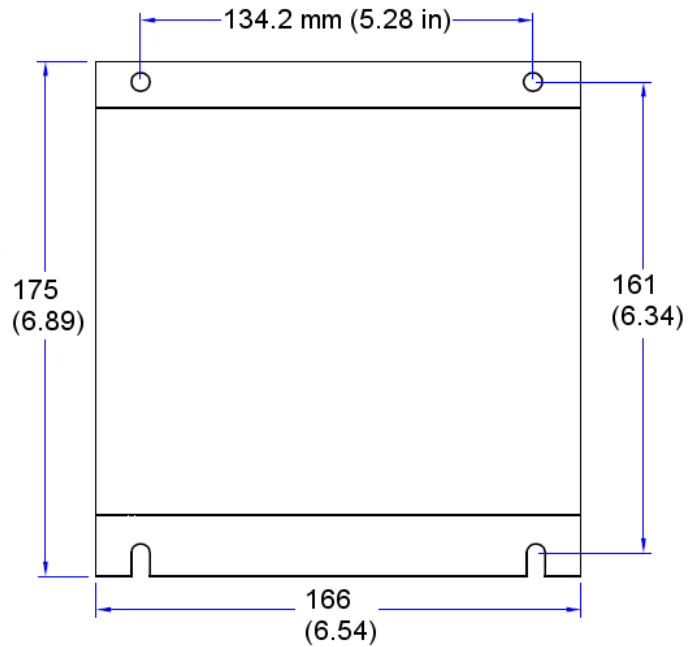
The CDD family was designed to be a flexible, expandable product platform. Therefore, a variety of unique features can be added, as requested by customers.

Existing CDD units are installed in military, medical, laboratory, transportation, energy, and related applications.

**Installation:**

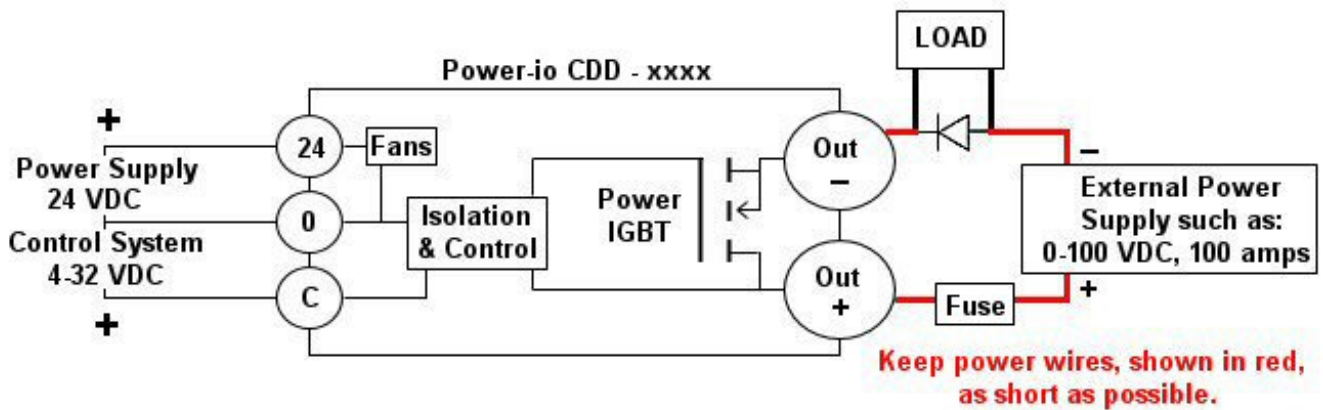
The installation plate should be installed with unobstructed air flow space around it. This usually requires 2 inches below the plate and 4 inches above the plate, so the fans can move the air up and through the heat sink assembly.

All loads require that a flyback diode be installed as shown. The cathode (-) stripe is towards the Power-io's LOAD Out terminal. The anode (+) is towards the power supply's negative terminal. Keep the power cables, shown in red, as short as possible, to reduce inductive problems. The power cables to the load, shown in black, can be long.



Mounting screws: 5 mm or #10 (4 places)

The Power-io unit can be used for “high side switching” (as shown) or “low side switching”. The orientation of the diode is changed when the external LOAD is on the other Power-io terminal.



Keep power wires, shown in red, as short as possible.

**Precautions:**

The power products that are designed, manufactured, or sold by POWER-IO are intended to be installed and serviced by trained personnel. In addition, there are local, national, factory, and other regulations (sometimes referred to as the National Electrical Code, NEC, OSHA, or equivalent) that must be strictly followed during the installation and use of any POWER-IO product. Failure to follow all of these regulations can result in downtime, damage, injury, or death. It is important that the customer anticipate the temperature requirements of the product. To ensure the longest possible life, it is customary that the electrical design not exceed 80% of the max amperage for relays, circuit breakers, fuses, wiring and other electronic components in an installation, when at the full operating temperature. Power-IO warrants its products for a period of 2 years from the date of manufacture to be free from defects in both workmanship and materials. See [www.power-io.com](http://www.power-io.com) for further information.