



# SPECIFYING POWER SUPPLIES

## FOR SECURITY APPLICATIONS

881F5

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BY TIM O'LEARY

**P**ower supplies for security systems take on duties beyond simply providing voltage. Frequently the power supply will be a functional "hub" of a system.

Although they do not usually handle data, power supplies will often perform switching functions, monitor and report their own status, and automatically compensate for changing site conditions such as brown outs, power interruptions, power surges and temporary increases in the system load.

Because there are so many different applications for power supplies, a large variety of power supplies are on the market, some specifically tailored to specific purpose. These include Access Control & Life Safety, Fire Alarm, Burglar Alarm and CCTV. Power supplies are also available which are designed to be used with specific locking devices or products.

The end-user probably will never even see the power supply you are installing, or even care about it, unless it malfunctions. Power supplies are not the type of item they will show their friends. But the installer and the persons responsible for keeping the system work-

ing care a great deal about the power supply, and you should specify the power supplies you use for your projects carefully and install them in a safe professional manner.

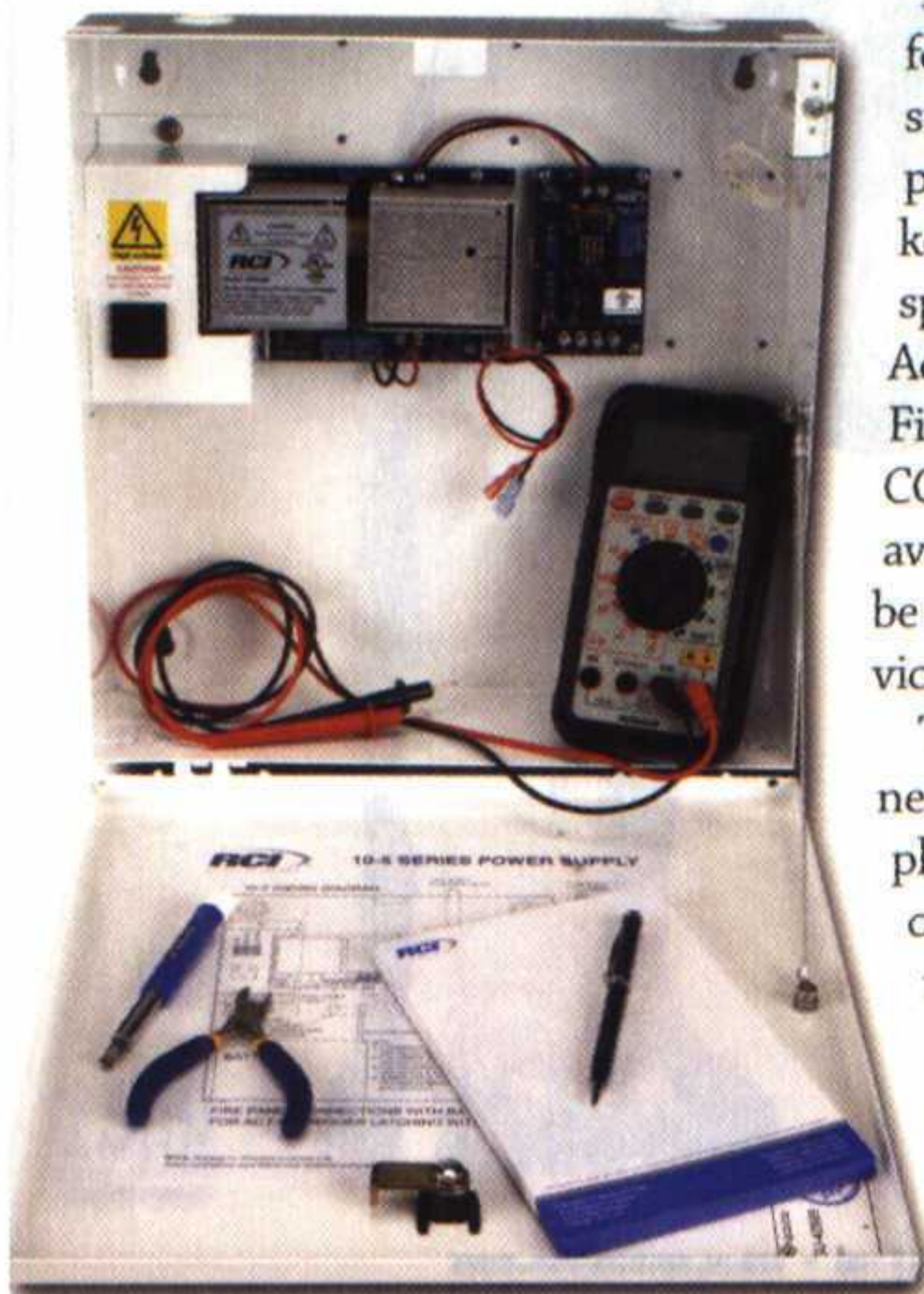
Be sure the power supply has the proper electrical ratings for the system you are installing; be sure that the power supply has the appropriate listing for your application. Take the time to plan your installation so that the line voltage supply to your power supply is on an appropriately sized and controlled branch circuit. That way, you can easily verify your power supply is getting power, and you can readily interrupt power or inspect the circuit breaker providing power to your supply if you need to for troubleshooting or maintenance of the system.

Most power supply manufacturers are tuned in to the needs of their market and strive to provide quality products, technical support, and warranties to keep you a happy and local customer. Below, we include details on some of the available power supplies.

### RCI 10-5 POWER SUPPLY

RCI's filtered and regulated 10 Series DC Power Supplies are designed with safety, reliability, and ease of installation in mind. The 10-5 incorporates many life safety options including fire panel interface, instant unlock upon power failure and remote override reset capabilities for authorized personnel.

With the Installer in mind, RCI changed the door to a drop down lid to provide a usable work



RCI 10-5 with drop lid



# ELECTRONICS & ACCESS CONTROL

surface, and a 110 VAC receptacle for installation and maintenance convenience.

Standard features include universal knock-outs and built-in battery charging circuits. Additional features are:

**Class 2 Rated Power:** Limited output is Field Selectable 12VDC@5A or 24VDC@3A output

**Input regulation:** The 10-5 will accept an input of 90 - 250VAC. This means the 10-5 remains very stable during fluctuations in local power such as brown-outs.

**Built-In 110VAC Receptacle:** Once this unit is installed, the 110 outlet can be used to power drills or soldering irons for installation completion purposes or for service assistance.

**Drop Down Lid:** The lid becomes a convenient work surface for test equipment, connectors or documents.

**AC Fail Monitoring Relay:** This can be used to send a signal to an external monitoring panel or guard station to indicate that the AC power to the panel has been interrupted. It can also be used to signal fire panel distribution board of AC fail to meet NFPA-101 Life Safety standards

**Battery Monitoring Relay:** This relay can be used to send a signal to an external monitoring panel or guard station to indicate that the backup battery is not connected or is no longer holding a charge

**cULus Listed Subassembly Modular Output Boards:** This means that the zone output and fire disconnect boards can be added or removed from the 10-5 as required without affecting the cULus listing.

**Fire Panel Disconnect Board:** This relay board is connected to the local Fire Alarm panel to drop power to all electromagnetic locks as required by most local building and NFPA-101 Standards.

**Power Distribution Board with Supervised Interface:** Used to convert a DC power source into 8 class II power limited outputs that can be controlled by a fire alarm control panel.

Battery Backup

Fully integrated charging circuit

Automatic resetting battery over current protection

Reverse hookup protection .9A PTC

Average recharge current 735ma

LED visual indicator

**Input Specifications:**

AC input 90VAC to 250VAC @ 60Hz or 50Hz

Automatic input sensing

AC visual indicator

**Output Specifications:**

Nominal Output Voltage: 12VDC or 24VDC

Typical Output Voltage: 12VDC

Operating temperature -0°C to 49°C  
- (32°F to 120°F)

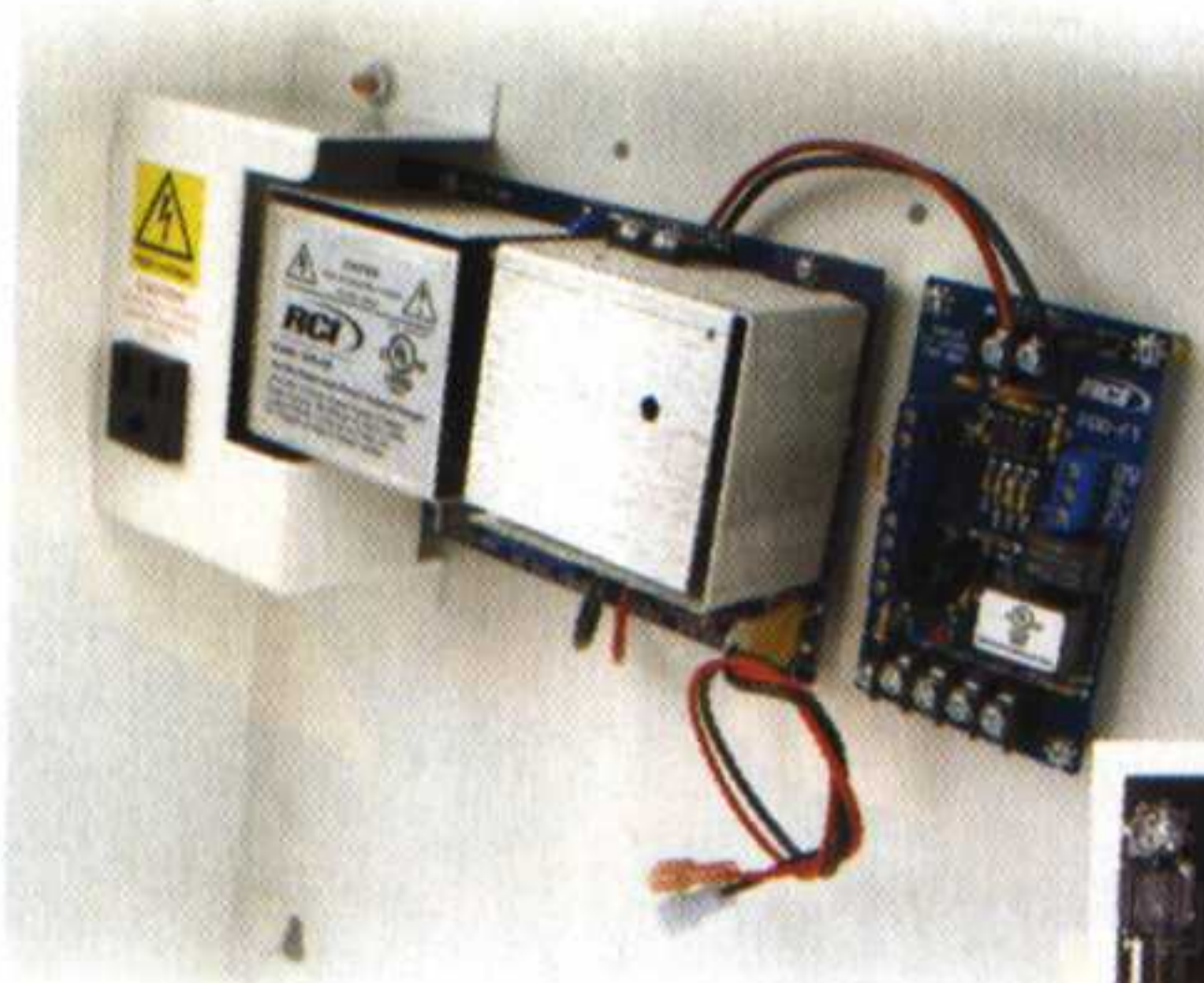
**Options & Accessories**

Power Distribution Device 8-Output Available without Fire Trigger (10-5)

Power Distribution Modules 4 and 8 Output Fused or PTC (Auto Reset Breaker). Each output can be selectively set to turn ON, OFF or remain unchanged when the fire alarm control panel triggers the board, allowing the installer to power multiple devices with the same power supply.

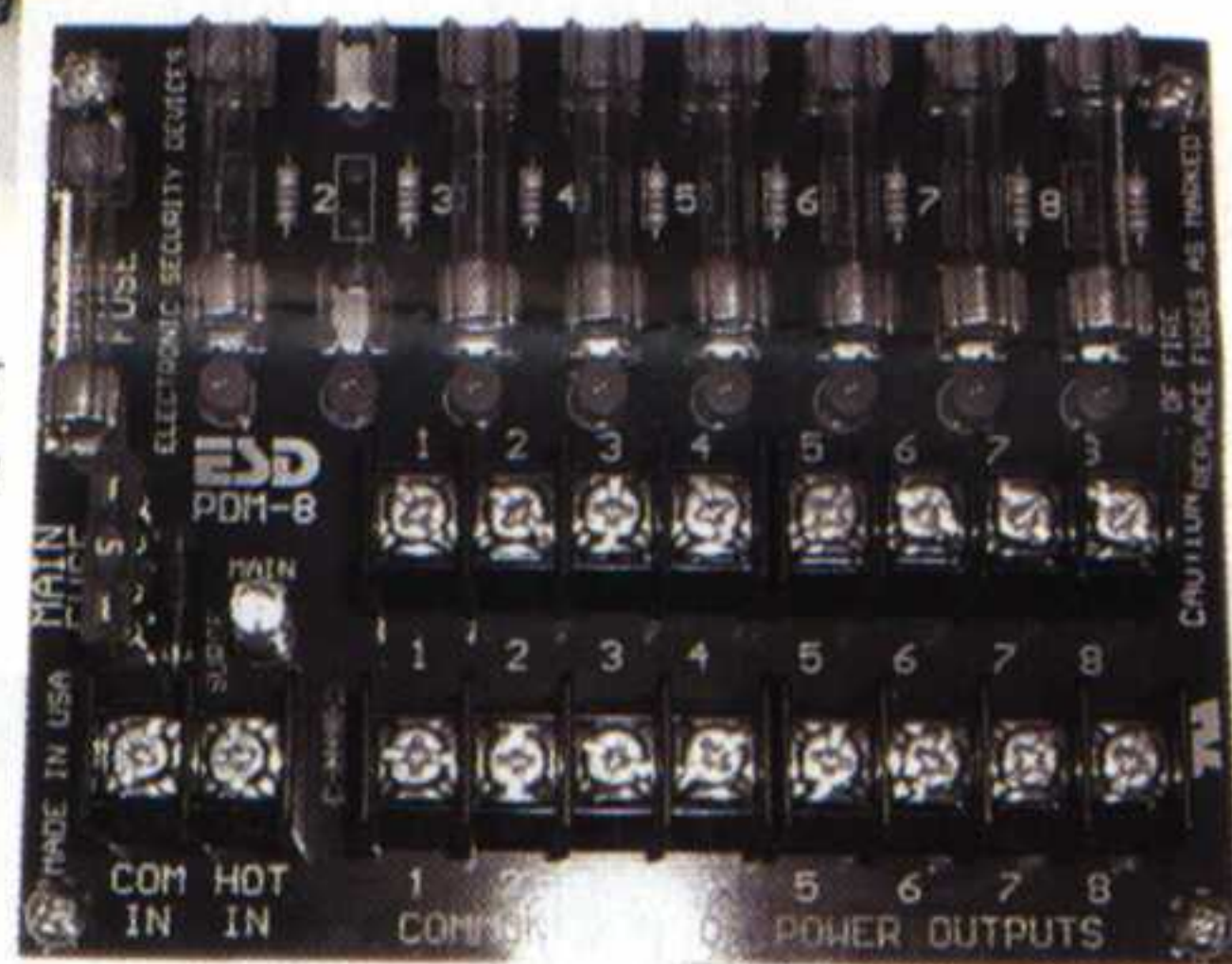
**EOL Fire Panel Supervision:** The "End of the Line" resistor is located at the fire panel. This enables the PDD-FT & PDD-8PCI to detect a short or open in the wire between the fire panel and the power supply.

**Ground Fault Detection Field Selectable:** The PDD-FT will detect if a wire in the fire disconnect circuit is touching ground. A wire that is grounded may prevent the proper



Above: Closeup view RCI PDD-FT

Right: RCI PDM 8



nominal, 10.4-13.7VDC, 5A. 24VDC nominal, 22.7-25.2VDC, 3A. Note: Typical voltage measured without load.

5 Amps supply current at 12VDC

3 Amps supply current at 24VDC

Class II Power limited thermally protected DC output

LED visual indicator for AC & DC Supervision

From "C" AC fail relay rated for 2A @ 110VAC

From "C" battery trouble relay rated for 2A @ 110VAC

Internal battery cut-off relay to protect batteries from deep discharge 9.8VDC & 19.6VDC

Enclosure tamper switch for connection to a UL approved burglary panel when used in UL 603 applications

Environmental

For indoor use only

and safe disconnection of power to the electromagnetic locks. Multi Panel Interconnect: When more than one 10-5 PDD-FT is used within a building, a common circuit complete with EOL can be run from unit to unit and then to the fire panel. This will ensure that all power supplies are monitored and drop out during a fire as required by code.

**Auto or Manual Fire Reset:** Most jurisdictions require that a power supply used to power electromagnetic locks be manually reset. The PDD-FT is jumper selectable and can be set to manual reset, or if allowed by your local Authority Having Jurisdiction, auto reset modes.

**Tamper Switch/Tamper:** This switch



