R6

PDM60

POWER DISTRIBUTION MODULE

Instruction Manual

Thank you for your purchase. The PDM60 unit was designed with one goal in mind: to provide you, the owner, with years and years of superior, hassle free electrical performance.

Package Contents:

1pcs PDM60 Power Distribution Module
1pcs Black 9" ground cable with protection boot
(connect the ground cable to your battery ground, and it serves as a common ground point for all of your accessories)
6pcs ¼" ring terminal – used on your accessories' ground wires for connections to ground points/ground bus cable
1pcs 6MM bolt/nut
(used for connecting all accessory ground wires/ring terminals to the main ground cable)
6pcs Posi-Lock Connectors – one per circuit output wire – to allow for secure connections, and quick & easy installation
1Pcs Posi-Tap Connector – the tap connector is to be used on the "Ignition Trigger" wire – tap into any switched circuit

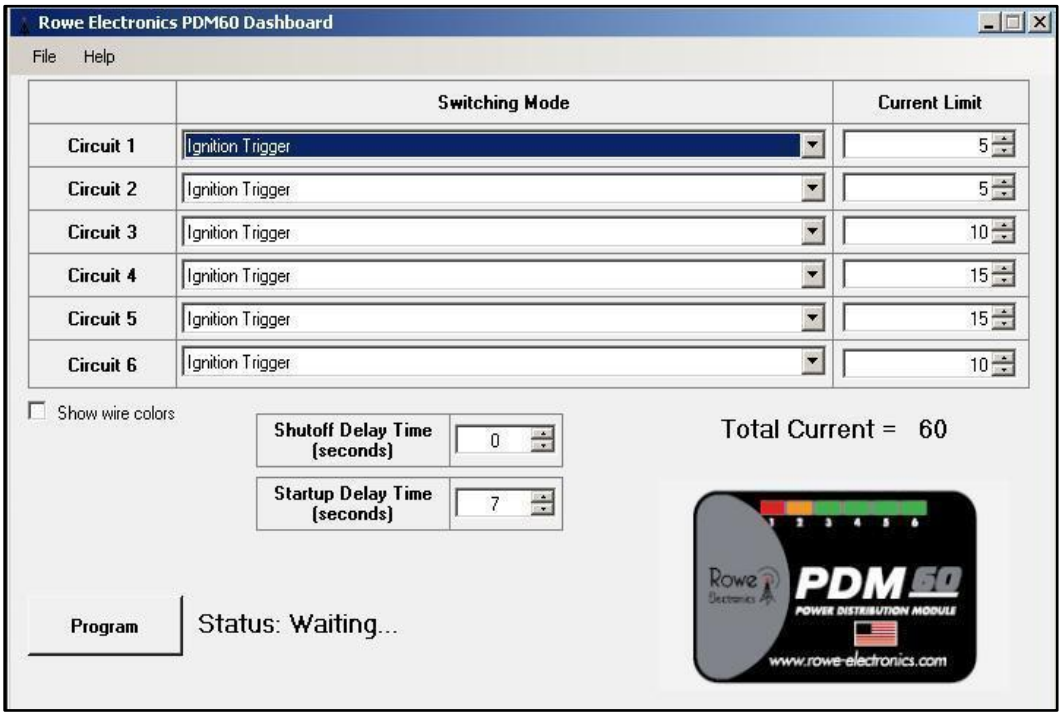
Overview:

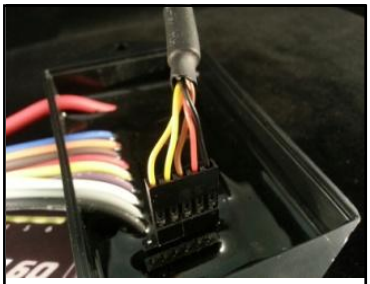
The PDM60 provides 6 individual circuits, with a total load handling capability of 60 Amps. The unit is designed to connect directly to a primary (12V) power source (vehicle battery), and efficiently power, protect and monitor the supply of power to your electrical/electronic devices.

A stock configuration is installed on all PDM60 units when they ship from the factory. If desired, the unit is ready to use, fresh out of the package, without any additional programming. The stock configuration is shown in the screenshot below.

Programming Dashboard

You are also able to create your own custom configuration, and load it into the PDM60 using a PC/laptop via the programming dashboard, and custom programming cable. You're able to configure individual circuit amperage limits, individual circuit triggering methods, circuit delay activation and delay off settings. Below is a screenshot of the dashboard program. You'll need to have a Windows compatible PC with .NET Framework 4 installed. The link below will allow you to download the appropriate .NET files as needed. http://www.microsoft.com/en-us/download/details.aspx?id=17851 The dashboard programming software is available for download at our website: www.rowe-electronics.com Simply click on the Products tab, and select the PDM60 link on the left. If you have any difficulty, feel free to contact our office for additional support.





** NOTE - WHEN PROGRAMMING THE PDM60, MAKE SURE TO HAVE THE PROGRAMMING CABLE ORIENTED AS SHOWN IN THE PHOTO ABOVE; YELLOW WIRES CLOSEST TO THE CIRCUIT WIRES.

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After downloading the dashboard setup file, simply run the setup file and follow the instructions. The dashboard help file will guide you through the programming procedure. When programming, be sure to orient the programming cable as shown in the photo on the previous page.

Basic Operational Parameters:

Circuit Switching/Triggering

There are two "trigger" wires on the PDM60. Circuits are configured to respond to these two triggers, and can be set to the following configurations.

1) a single wire trigger mode (Ignition or Ground trigger)
2) "AND" mode - both trigger wires simultaneously
3) "OR" mode - either trigger individually
4) "ALWAYS LIVE" – no triggering – circuit constantly powered

IGNITION TRIGGER - GRAY WIRE

The Ignition Trigger (IT) responds to positive voltage. Upon detection of a positive voltage signal on the IT, any/all circuits assigned an IT activation mode will go live. The IT draws virtually no current (less than 1/1000 amp). This makes tapping the trigger directly into CAN type electrical systems possible with no adverse effects. Traditionally, the IT is tapped into a vehicle circuit that goes "live" when the vehicle ignition is turned to the "ON" position. By doing so, IT circuits will power up at ignition "Key On" and shut down at "Key Off" (after any delay on/off times are exhausted)

GROUND TRIGGER - BLUE WIRE

The Ground Trigger (GT) wire responds to any ground signal. Upon detection of an electrical ground signal on the GT, any/all circuits assigned a GT activation mode will go live. This feature is great for switching high amperage loads on/off, without the use of relays. The GT can control multiple circuits simultaneously. Simply connect the blue GT wire to any switch that leads to ground, and you can easily switch all GT activated circuits on/off.

Configuration / Programming Instructions:

A few very simple parameters are used to configure the PDM60.

1) *Select a Circuit Behavior Mode for each circuit*
2) *Set the current limit for each circuit (10A max on circuits 2,3,6 - 15A max on circuits 1&4 - 20A max on circuit #5)*
3) *Set the time parameters for delayed startup, and delayed deactivation. (if you have selected delayed on/off features)*

1) Circuit *Switching Mode (assign one mode for each of the six PDM60 circuits)*

The "switching mode" is the basic parameter used to establish how each circuit operates; when and how a circuit it turns on or off. The eight available options are shown below.

INACTIVE - Deactivated – Circuit programmed to be disabled /inactive; for circuits not being used

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IGNITION TRIGGER - Ignition Trigger activation (gray wire to + voltage)
IGNITION TRIGGER (with time delay off) – same as above, **WITH TIME DELAY DEACTIVATION**

GROUND TRIGGER – Ground trigger activation (Blue wire to any ground connection – i.e. a switch routed to a ground point)

IGN *OR* GROUND TRIGGER - Ignition trigger (Gray wire to + voltage) **OR** GROUND trigger (Blue wire to ground) activation
IGN *OR* GROUND TRIGGER (with time delay off) – same as above, **WITH TIME DELAY DEACTIVATION**

ALWAYS LIVE - Active – Always On – Constantly Powered ***(Note: circuit power is briefly interrupted upon ignition trigger signal)***

***** *WARNING* *** THIS CONFIG HAS A CONSTANT CURRENT DRAW OF 50mA – IT IS NOT RECOMMENDED FOR VEHICLE BATTERIES WITH LESS THAN A 15Ah RATING, NOR FOR VEHICLES THAT ARE USED INFREQUENTLY or IN STORAGE, WITHOUT A CHARGING SYSTEM/BATTERY TENDER BEING CONNECTED – USE THE FORMULA BELOW TO CALCULATE BATTERY DISCHARGE**

Discharge Formula: Your Battery Ah rating / 1.5 = number of days to discharge
Example: (20Ah battery) 20Ah/1.5 = 13 Days to discharged condition

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IGNITION *AND* GROUND TRIGGER – Both the Ignition Trigger (gray wire to/from + voltage) **AND** Ground trigger (Blue wire to/from ground) are required for activation – when either signal is lost, the circuit deactivates/shuts down







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2) Current Limit – Circuit Capacity (set for each circuit) – Max 60Amps total load

A current limit is assigned to each of the six circuits. This sets the maximum current allowed to flow through the circuit. Electrically exceeding this setting will cause the circuit to automatically interrupt, protecting your accessory, and more importantly, your vehicle. Current limits can be set (in 1A increments) from 1A up to 10A on circuits 2,3,6, from 1A to 15A on circuits 1 &4, and 1A-20A on circuit #5. *(circuit #5 is the only 20A capable circuit)*

A 20A setting on circuit #5 should only be used for intermittent applications. (high amp horns, etc.) See the specifications on your accessory to determine the best setting for the circuit through which you are powering it. To allow for slight variances, it's typically advisable to set the current limit with a slight margin (25-30%) above the standard current draw of any accessory. This is only a guideline recommendation, and you should always check with the manufacturer of your accessory to determine the best power setting.

3) "Delay On" and "Delay Off" Settings

Both of these settings are shown in "seconds".

Delay On – (0-240 seconds) - *This setting, when used, applies to all circuits, regardless of mode.*

The feature allows for all of the available power on your vehicle to be directed at starting, prior to powering your accessories. After an initial startup trigger signal is received, the PDM60 unit will wait this period of time before fully activating and powering accessories. This delay can be set from "0" seconds (no delay) on up to "240" seconds (four minutes).

Delay Off (0-600 seconds) - *This setting only applies to circuits with a "with time delay off" mode*.

The maximum available delay is 600 seconds. (10 minutes) When the triggering signal for a circuit is no longer present (as in a key-off scenario), the circuit will remain live for the specified period of time. This feature is useful for communications equipment, GPS, and a variety of other electronics. Once the delay time period of time is exhausted, the circuit will automatically turn off.

The information above should provide you with a solid understanding of the programming features available on the PDM60. The following will provide instructions related to installation and operation.

Getting Started:

Connect the small (BLACK) ground wire to a suitable ground point on the frame, battery, or to the supplied ground bus cable. This is the ground wire for the internal circuitry of the PDM60.

Connect the heavy gauge (RED) power lead directly to your battery. (this lead supplies all power to the PDM60)

***** DO NOT REVERSE POLARITY ON POWER AND GROUND LEADS – DAMAGE WILL RESULT AND VOID WARRANTY**

Connect the Ignition Trigger wire (GRAY WIRE) to any switched power source. – A stock PDM60 unit will remain inactive (off) until an electrical signal is detected on the unit's Ignition Trigger wire. Once the unit detects an electrical signal on the Ignition Trigger wire, the PDM60 begins its activation cycle. (there is a 7 second activation delay programmed into stock units to allow all available battery power to be utilized for starting purposes) After the 7 second delay period has exhausted, the unit will power up, and begin distributing power to all circuits. LED indicators display the status of each circuit. (see color key below)

Connecting Your Devices:

Connecting your devices is easy. Connect the appropriate PDM60 circuit output wire to the positive (+) power lead of your device. The circuit output leads are printed with the circuit number to assist in ease of installation. (see photo at top of page) The booted ground bus cable (large black wire) should be connected to your battery. It serves as a single ground point for all of your accessories. Simply connect the ground (-) side of your device to the ground bus cable using the supplied ring terminals and bolt. (a frame ground point can be used if desired) To prevent electrical noise, audio or communications equipment should be grounded directly to the battery via the ground bus cable. That's it; one wire from the PDM60 to your device.– As indicated above, there are ring terminals for your ground wires, Posi-Lock connectors for circuit wires, and a Posi-Tap connector to use for your ignition trigger wire; installation made easy.

****** Important – To ensure long-term, hassle free operation, make sure that all of your wiring connections are secure.***

Posi-Tap

Posi-Lock

Ring Terminal

Programming Cable

PDM60 Module

Standard Operation:

The PDM60 uses advanced technology to constantly, and rigorously, monitor and evaluate each of the six circuits. The unit processes the information it obtains, and differentiates between typical voltage spikes, and true fault conditions. If a short or over-current situation arises, the PDM60 will immediately detect the fault. In response, the PDM60 will interrupt the power flow to that circuit, and the circuit LED will go red to alert you of the condition. To reset the circuit, you simply power the PDM60 down, and then back up again. (obviously, if the condition causing the fault is not repaired, the circuit will simply interrupt again – but you don't need a pocket full of fuses to experiment)

LED Indicators:

After installing the module and properly connecting all wires, turning on the bike ignition will activate the unit. The LED indicators on the top of the module will illuminate, indicating power present. The legend below details the information the LEDs reveal.

GREEN LED – Active - functioning properly
RED LED – Fault - Circuit interrupted due to fault
ORANGE LED – Inactive - disabled by switching mode/customized programming, or intermittent fault

A red LED tells you the fault condition is still present. In the case of an intermittent fault, the interrupted circuit LED will be orange. An orange indicator on an interrupted circuit tells you a fault occurred at some point, but the fault condition is no longer present. This is great feature helpful in identifying intermittent faults. Something a standard fuse just can't do.

Mounting:

One of the things that make the PDM60 the best on the market is the fact that it's fully sealed\encapsulated. The unit can be mounted virtually anywhere without concern for moisture, dust and dirt intrusion. You could mount the unit under a fender and it will perform flawlessly, and last. It's rock solid, and no amount of rain, mud snow, dirt, etc. will hurt it. It is recommended to keep the programming header filled with dielectric grease to provide additional corrosion protection to the programming header terminals. (units ship from the factory with grease in the connector) There are no serviceable parts on the module; so there's nothing to wear out. No relays to replace, etc. The unit is designed for use in harsh operational conditions, and it will survive and perform as effectively on a moto-crosser or power boat as it will in the cabin of luxury sedan.

Thank you for your purchase!!

Quick Reference Stock Config:

OUTPUT CIRCUIT DETAIL

Wire Color	Circuit/LED	Max AMP Load	Switched Via	Delay ON	Delay OFF
White	1	5 Amps	Ignition Trigger	7 seconds	None - Instant
Purple	2	5 Amps	Ignition Trigger	7 seconds	None - Instant
Yellow	3	10 Amps	Ignition Trigger	7 seconds	None - Instant
Red	4	15 Amps	Ignition Trigger	7 seconds	None - Instant
Brown	5	15 Amps	Ignition Trigger	7 seconds	None - Instant
Orange	6	10 Amps	Ignition Trigger	7 seconds	None - Instant

We are available to answer questions or field comments during standard business hours. Should you have any questions, or need assistance, feel free to contact us via phone or e-mail, and we will assist you in any way we can. We not only build great products, but we back them, and our customers, all the way.

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