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RACK MOUNT POWER SUPPLY WITH BATTERY MANAGEMENT SYSTEM, NFPA® 1221 ALARMS, MONITORING & CONTROL

PSRM-5012NFPMU / PSRM-2524NFPMU / PSRM-1248NFPMU

OWNER'S GUIDE

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IMPORTANT SAFETY INSTRUCTIONS

1. **SAVE THESE INSTRUCTIONS** – This manual contains important safety and operating instructions for PSRM-5012NFPMU, PSRM-2524NFPMU, and PSRM-1248NFPMU.
2. **CAUTION** – To reduce risk of injury, charge only lead-acid AGM rechargeable batteries. Other types of batteries may burst causing personal injury and damage.
3. **Back-feed protection battery charger.** Before using battery charger, read all instructions and cautionary markings on the battery charger, battery, and product using battery
4. This equipment must be installed, operated, and serviced by qualified/trained personnel with all wiring compliant to local electrical codes.
5. Power supply must be operated from a standard 3-pin 120VAC or 240VAC 50/60Hz outlet with proper grounding.
6. Select the proper AC input voltage on the voltage selector. Excessive input voltage may cause damage to the internal circuit.
7. Ensure DC polarities and rated voltage are correct for the load and battery connections to the unit.
8. Always consult with battery manufacturer and observe all battery manufacturer recommendations.
9. Internal circuits can be energized with the power switch in the off position.
10. Physically disconnect all external power sources before attempting any service activities.
11. There are no user serviceable parts inside. High voltage may be present. Service must be referred to qualified factory personnel.
12. The individual user should take care to determine prior to use or installation whether this device is suitable, adequate, and safe for the intended use. Since individual applications are subject to numerous variations, DuraComm makes no representation or warranty as to the merchantability, suitability, or fitness of these units for any specific application.

Section 1 | Product Overview

The PSRM series is an internet-ready AC to DC power supply with a built-in smart charger and a low voltage disconnect in a 2U chassis. The power module inside the unit comes with power factor correction, and four layers of protection against overload, over voltage, over temperature, and short circuit.

With build-in remote monitoring and control unit (RMCU), its self-hosted webpage provides an graphic user interface that offers user the ability to monitor and to control the power supply remotely via the internet using any standard web browser. A mobile-friendly status page is also available.

Users that have access to the network can view the status of the unit as well as download a CSV file of logged states. Administrative users can access the setup screens and change the control settings by logging into the RMCU via the browser. Alarm conditions are configurable including the over/under thresholds. Alarm notifications can be configured by an administrator to send email and SNMP traps. Setups are saved in non-volatile RAM, and a battery backed up real-time clock (RTC) is provided to timestamp information logged to the internal SD card. Logging rate can be set by the user.

Product Features

- Internet ready with standard ethernet connection
- Integrated smart charger and low voltage battery disconnect
- Remote monitoring of voltage, current, temperature, and external alarm input
- Remote control of power supply, battery connection, and alarm outputs
- Configurable logging, alarms, email notifications, and SNMP traps
- Front panel smart display and LED alarm indicators
- Manual battery disconnect switch
- NFPA® 1221 compliant form C alarm outputs
- Battery supervisory

See www.duracomm.com for more information.

Section 2 | Installation and Operation

NOTE: Inspect shipment upon receipt. Notify carrier if any damage occurs.

NOTE: The outputs are NOT referenced to the chassis.

NOTE: Do NOT block any cooling vents, and always allow adequate ventilation.

NOTE: Using battery capacity larger than the suggested value will not lead to damage of the battery. The main drawback is the longer time to fully charge the battery.

NOTE: If you are unsure about max allowable charging current of your battery, please refer to the technical specification of the battery or consult its manufacturer. This unit is designed for charging lead-acid batteries and must be installed in a dry and well-ventilated area.

NOTE: The cables between charger and battery should be kept as short as possible to prevent excessive voltage drop. Too much voltage drop will lead to longer charging periods. Refrain from connecting new and old batteries in series. Charger should be in the OFF mode before making battery connection or disconnection.

Conductor Pretreatment

All kinds of copper conductors can be clamped without treatment. DO NOT solder tin stranded conductors. The solder yields and fractures under high pressure. The result is increased contact resistance and excessive temperature rise. Additionally, corrosion has been observed due to the fluxes. Notch fractures at the transition from the rigid tinned part to the flexible conductors are also possible. Ferrules can be used as a protection when wiring stranded conductors. Copper ferrules prevent the current transfer from being influenced by dissimilar metals and remove the risk of corrosion. Always use the correct tool to crimp the ferrule.

Recommended Copper Wire Size for Current Capacity

According to MIL-W-5088B, required wire size of an insulated, single conductor in free air for a given current level is shown as following:

Current Level in Amperes	Wire Size Requirement up to 5 feet	Wire Size Requirement up to 10 feet
14 Amps	18 AWG	16 AWG
20 Amps	16 AWG	14 AWG
30 Amps	14 AWG	12 AWG
40 Amps	12 AWG	10 AWG
50 Amps	10 AWG	8 AWG
70 Amps	8 AWG	6 AWG
100 Amps	6 AWG	4 AWG

Front Panel Switch / Indicators

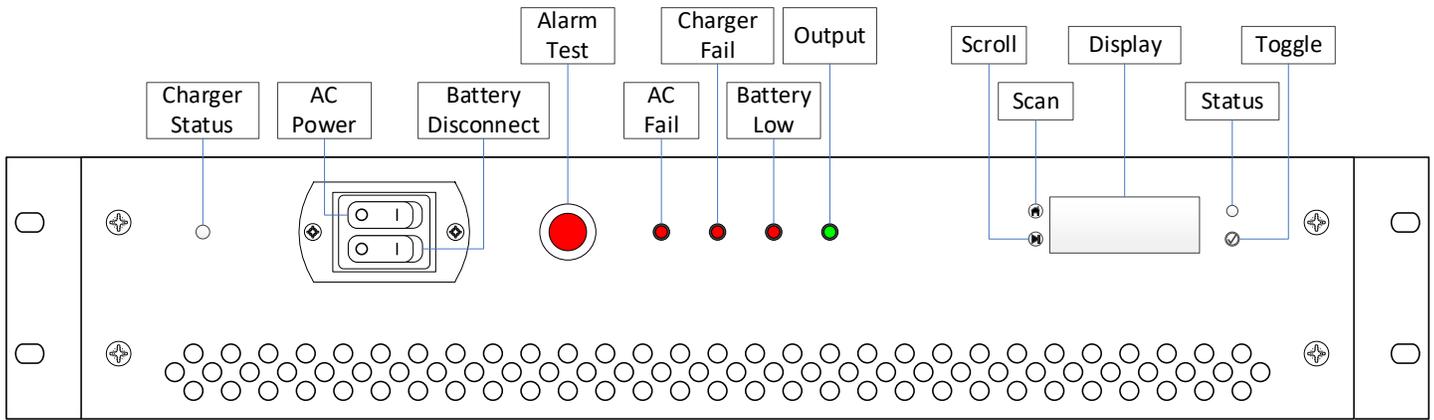


Figure 1. Front panel layout.

Front Panel Display

- The screen will auto-scroll through the status sensors of the power supply.
- Pressing the button at any time will exit the current menu and display the hardware and firmware version of the remote monitoring unit, then return to scrolling.
- Pressing the button will manually scroll through the sensors and the digital inputs and outputs of the device.
- The will toggle the currently selected output ON and OFF.

Rear Panel Connections

Due to safety, use only type SPT-2 cord or heavier duty cord.

Use proper size AWG copper wires for load and battery terminals.

Only connect and charge lead-acid AGM batteries configured to proper battery voltage to the battery charger terminal.

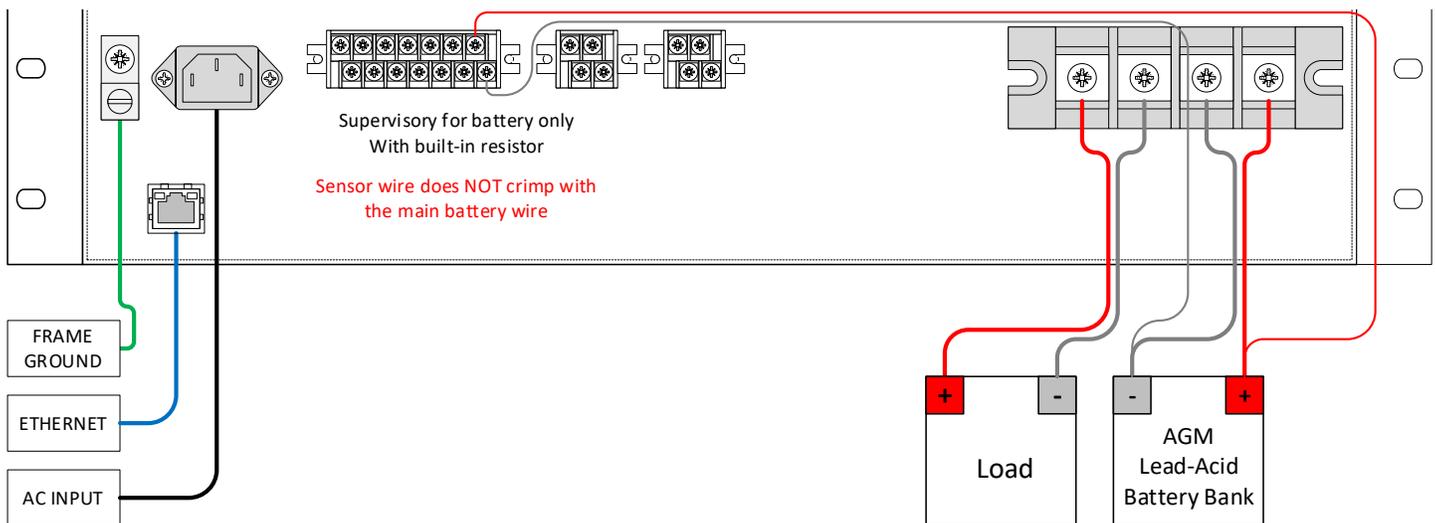


Figure 2. Rear panel connections.

Rear Alarm Wiring

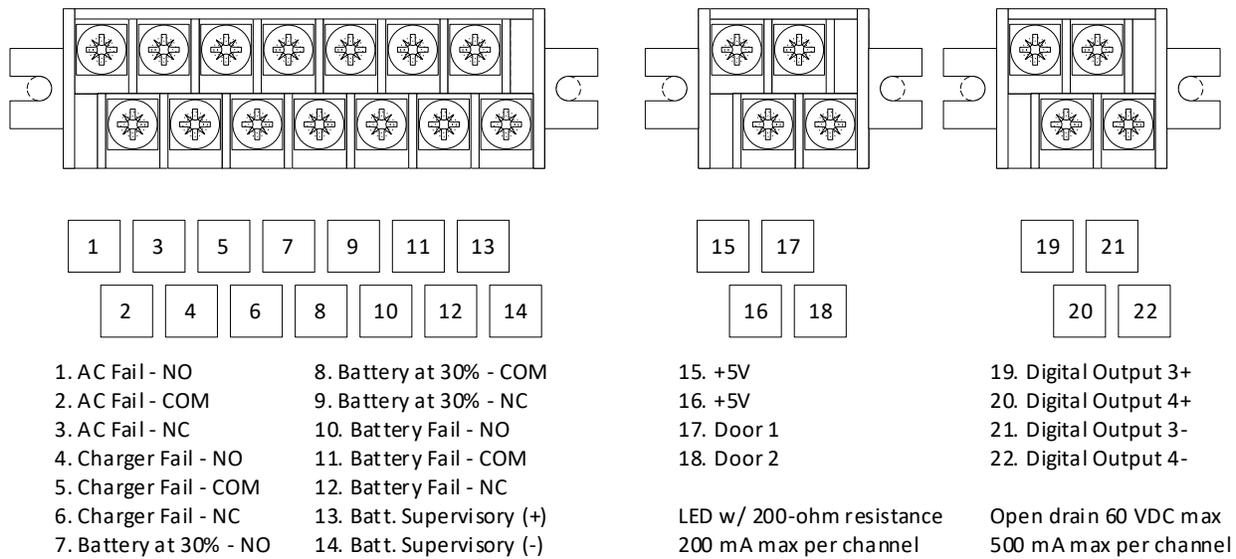


Figure 3. Alarm wiring shown with factory jumpers to silence door alarms.

Between +5V and Door Alarm	Alarm Status
Switch Closed	Alarm Closed - OFF
Switch Open	Alarm Open - ON

Between Digital Out (+) and (-)	Output Status
Alarm ON/LOW	Closed
Alarm OFF/HIGH	Open

Battery LVD

The ARC unit provides continuous power to the load while AC power is on. There is a seamless transfer of the load to the battery when the AC power is unavailable. The LVD will disconnect the battery if the battery voltage drops below the disconnect voltage. The LVD will reconnect the battery when AC power is restores and the battery voltage reaches the reconnect voltage.

Battery Charging

ONLY charge lead-acid AGM batteries. Other types of batteries may burst causing personal injury and damage.

Figure below shows the charging curve of lead-acid AGM batteries and the status of the charger at different LED color on the front panel.

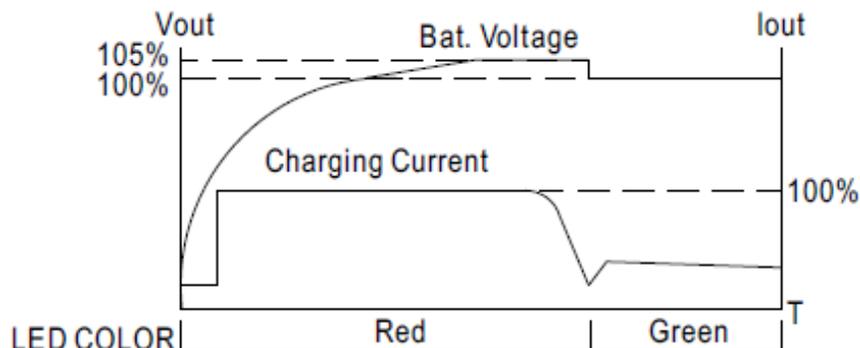


Figure 4. Battery charging curve.

Section 3 | Remote Monitoring

Connecting to the Remote Monitoring Unit via the Internet

Prerequisites

System administrators must decide whether the remote monitoring unit will operate on the network with DHCP or a fixed IP address. The factory-set unit will have these static addresses: **IP address: 192.168.100.220, gateway address: 192.168.100.1, netmask: 255.255.255.0, and DNS address: 192.168.100.1.**

If you configure it to use DHCP, the remote monitoring unit will request an available IP address on your network. You will need to determine what address it has been given.

If DHCP is not used, system administrators must also choose an unused IP address, and other network settings to use in the Network Setup page. System administrators will also need to choose an email service and address to use for notifications if needed. These will be used in the Email Setup page.

Determining the IP Address of the Unit

Power up the PS Series unit then connect the remote monitoring unit to the network with an Ethernet cable.

Using DHCP

You will need to get the IP address in one of two ways. You can get the IP address from the DHCP server's client list, or you can use a PC on the same network to scan for the new IP address by using a software tool such as Angry IP Scanner. In Angry IP Scanner, you should add the MAC address "Fetcher" under "Tools > Fetchers". The DuraComm MAC addresses all start with a base address of **70-B3-D5-6B-3**. Write down the IP address of the unit then proceed to the section in this manual named "**Open a Web Connection to the Unit**".

Using Static IP and Network Configuration

If your network is not set up for DHCP, you will need to manually configure the settings to match the network it will be used on. Before you can do that, you will need to configure a computer to talk to the remote monitoring unit at the default configuration settings shown above. We will use Windows 7 as an example. Other operating systems will vary, but the overall concept is the same.

1. Disconnect your PC from all networks.
2. Connect it directly with an Ethernet cable (You may need to use an Ethernet crossover cable if the PC does not automatically detect this configuration).
3. Open the control panel on your PC and select "View Network Status and Tasks"
4. Click on "Change Adapter Settings" on the left side of the screen.
5. Right click on "Local Area Connection" and click on "Properties"
6. Click on "Internet Protocol Version 4 (TCP/IPv4)" to highlight it, then click the "Properties" button.
7. Before you make any changes, **record the existing settings**, so that you can change them back when you are finished setting up the unit.
8. Enable "Use The Following IP Address"
9. Now enter 192.168.100.220 for the IP address.
10. Enter 255.255.255.0 Subnet mask
11. Click OK to save the network configuration.
12. Jump to the section in this owner's guide named "**Open a Web Connection to the Unit**" to log in and enter the final network settings for the unit.

Open a Web Connection to the Unit

Connect the remote monitoring unit to your network using an Ethernet cable with a RJ-45 connector.

Use your favorite device and browser (Chrome, Firefox, Internet Explorer, etc.), and enter the IP address of the power supply on your network into the URL box on the browser (see the screenshot below). If you are unable to connect to the device with the browser, you will need to use a terminal with a USB connection to access the device and configure the IP address. If the unit responds with the “Status” screen, you can skip to the ‘User Login’ Section. You may want to refer to the ‘User Setup’ section now or later to change user account information or, if necessary, perform a factory reset.

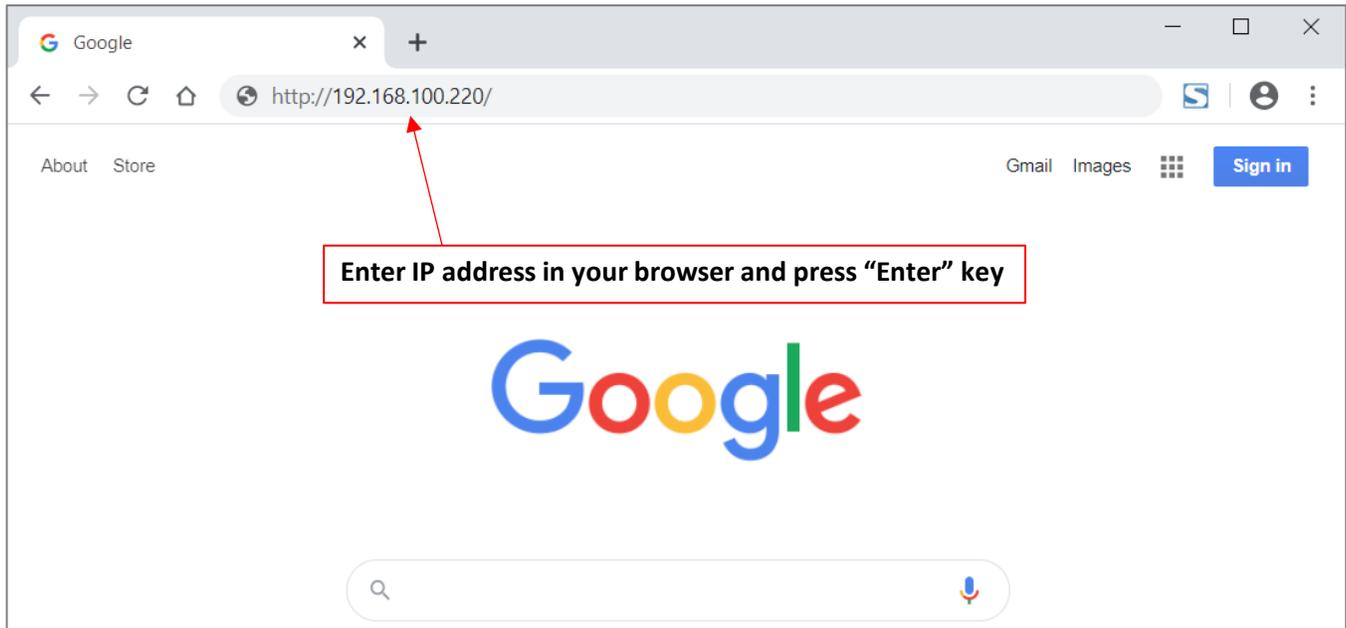


Figure 5. Enter IP address to connect to the PS Series unit.

User Setup Page

Password changes and hard resets are performed by using this page. Care should be taken when changing any of these settings.

Miscellaneous

File path of the MIB file for SNMP setup.

Factory Reset

All settings will be restored to original factory default values, including the password. Remote communication may be lost. Reconfiguration may be required. Some settings require a reboot to take effect.

NOTE: Proceed with caution before performing factory reset. All settings unique to the unit, including the calibration setting to accurately read the voltage and the current will be lost. Re-calibration of the unit at the factory will be required.

Network Reset

To reset network settings, press the red button on the on-board remote control unit PCB and hold it for more than 20 seconds (you will need to remove the cover on the DuraComm unit, and connect power to the battery terminals). Re-connect to the unit through your web browser by entering the factory supplied IP address and HTTP port (see Network Setup).

All setup requires an administrative user to log into the DuraComm internet ready unit. Click the 'Login' button in the top menu, and you should see the following User Login screen.

#1	Username: <input type="text" value="control"/> Access: <input type="text" value="Control"/>	Web password: <input type="text"/>	Reenter password: <input type="text"/>	SNMPv3: <input type="text" value="Disabled"/>	Auth: <input type="text"/>	Privacy: <input type="text"/>
#2	Username: <input type="text" value="admin"/> Access: <input type="text" value="Admin"/>	Web password: <input type="text"/>	Reenter password: <input type="text"/>	SNMPv3: <input type="text" value="Disabled"/>	Auth: <input type="text"/>	Privacy: <input type="text"/>
#3	Username: <input type="text"/> Access: <input type="text" value="Disabled"/>	Web password: <input type="text"/>	Reenter password: <input type="text"/>	SNMPv3: <input type="text" value="Disabled"/>	Auth: <input type="text"/>	Privacy: <input type="text"/>
#4	Username: <input type="text"/> Access: <input type="text" value="Disabled"/>	Web password: <input type="text"/>	Reenter password: <input type="text"/>	SNMPv3: <input type="text" value="Disabled"/>	Auth: <input type="text"/>	Privacy: <input type="text"/>
#5	Username: <input type="text"/> Access: <input type="text" value="Disabled"/>	Web password: <input type="text"/>	Reenter password: <input type="text"/>	SNMPv3: <input type="text" value="Disabled"/>	Auth: <input type="text"/>	Privacy: <input type="text"/>
#6	Username: <input type="text"/> Access: <input type="text" value="Disabled"/>	Web password: <input type="text"/>	Reenter password: <input type="text"/>	SNMPv3: <input type="text" value="Disabled"/>	Auth: <input type="text"/>	Privacy: <input type="text"/>

#7	Username: <input type="text"/> Access: <input type="text" value="Disabled"/>	Web password: <input type="text"/>	Reenter password: <input type="text"/>	SNMPv3: <input type="text" value="Disabled"/>	Auth: <input type="text"/>	Privacy: <input type="text"/>
#8	Username: <input type="text"/> Access: <input type="text" value="Disabled"/>	Web password: <input type="text"/>	Reenter password: <input type="text"/>	SNMPv3: <input type="text" value="Disabled"/>	Auth: <input type="text"/>	Privacy: <input type="text"/>

Leave password/keys blank to not change them.

It can take several minutes after changing SNMPv3 keys before they take affect. Device supports AES (128bit, CFB) for privacy protocol and MD5 for auth protocol.

Miscellaneous

Calibration access:

MIB URL:

Factory Reset

This will restore ALL settings to original factory default values, including the password. Remote communications may be lost. On-site reconfiguration may be required. Some settings require a power-cycle/reboot to take effect

Type the current password for the 'admin' user to confirm

Password:

Network Reset

Pressing and holding down the button on the unit for over 20 seconds will reset all the network settings and passwords to factory default. The button is located on the PCB.

Figure 6. User Setup Page.

User Login

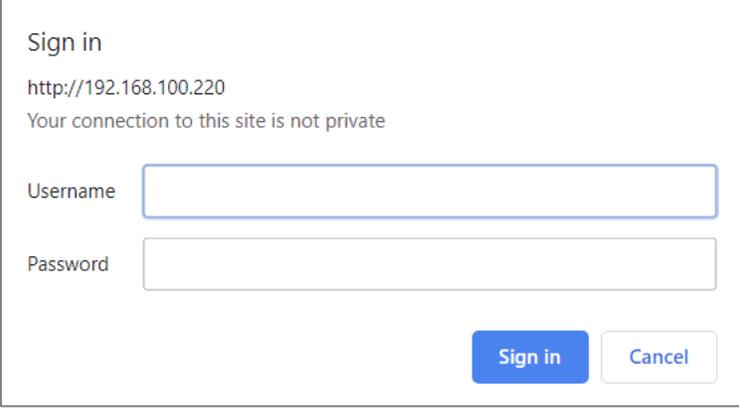
Enter the username and password. The “Admin” and “Control” are the only two users pre-configured in the remote monitoring unit. Factory default username and password are as follows:

“Admin” users have full user control of the device.

- Username: admin
- Password: admin

“Control” users have limited control capability (access all screens except the User Setup screen).

- Username: control
- Password: control



The image shows a web browser window titled "Sign in". The address bar displays "http://192.168.100.220". Below the address bar, a warning message reads "Your connection to this site is not private". There are two input fields: "Username" and "Password". At the bottom right, there are two buttons: "Sign in" (blue) and "Cancel" (white with a blue border).

Figure 7. User login window for username and password.

Network Setup Page

The “Network Setup” page is available on the MU models.

A network administrator for your company must choose the settings for this page. The default HTTP port is **80**. If a different HTTP port is used, it will need to be added to the URL to access the monitoring unit. For example: if the port is changed to **8080** then the address would be changed to “**http://192.168.0.253:8080**”.

NOTE: You must reboot the device for changes in these settings to take effect.

SNMP Traps

This section is simplified and meant for network administrators who already understand SNMP traps and how to configure capable equipment into their system. For those who want to understand the benefits of using SNMP traps, you can search for training material online under “SNMP Traps”, “MIB Browsers”, and “SNMP Monitoring”.

The MIB file for the unit can be downloaded after you connect to it with your browser. Go to the Device Setup page and log in to the unit. Halfway down the page there is a link to the MIB file. Right-click on the link and click “Save Link As” to download the file.

After download, import the MIB file into your MIB browser or monitoring software to configure it for use with the unit.

When the MIB file has been loaded, complete the “SNMP Setup” section on the “Network Setup” page of the unit to configure it for use with your monitoring solution.

The monitoring unit will send traps for all configured alarm conditions including bootup, temperature, analog alarms, and digital alarms.

Digital Outputs can also be controlled by SNMP and configured for alarms on the unit.

TCPIP Setup

MAC Address: 70:B3:D5:6B: [redacted]

Static IP Address: 192.168.100.220
Static IP address to use if DHCP client is disabled.

Static Gateway Address: 192.168.100.1
Static gateway address to use if DHCP client is disabled.

Static Netmask Address: 255.255.255.0
Static netmask address to use if DHCP client is disabled.

Static DNS Address: 8.8.8.8
Static DNS address to use if DHCP client is disabled.

Alternate DNS Address: 8.8.8.8
Alternate DNS address is used regardless if DHCP client is enabled or disabled.

DHCP Client: Off
If enabled, get IP configuration from DHCP server on the network.

SNMP Settings

Agent UDP port: 161
Set to 0 disable SNMP agent access

Agent access: SNMPv1 / SNMPv2 / SNMPv3

Public (read) community: public

Private (write) community: private

Trap UDP port: 162
Set to 0 to disable all traps

Trap Destination IP: [redacted]
Leave blank to not send a trap

Send test trap now? No

HTTP server

HTTP port: 80

These parameters require a power-cycle or reboot.

Changing any of these values may affect your ability to access the unit

Figure 8. Network Setup Page.

Email Setup Page

You may send a test email from this page. Enter the required email setup parameters given to you by your System Administrator. Otherwise, you may use the free email relay service at "smtp2go.com" for your setup. For example, the information can be entered as following.

- E-mail server: mail.smtp2go.com
- Server port: 2525
- Server username: rmcu_testbox1@duracomm.com
- Server password: ***** (user chosen 12-character password)
- Email to: technical@duracomm.com
- Email from: rmcu_testbox1@duracomm.com
- Minimum interval: 60 Minutes (user chosen)
- Send email on bootup: Yes (use this setting to know when the device is power cycled)

Sending Text Messages

To send a text, you need to send an email to the appropriate email address of your cell phone carrier. Simply enter your phone number with no spaces, parenthesis, or hyphens followed by your carrier address. For example, 8165551234@vtext.com would send a text message to the Verizon user at phone number (816) 555-1234. Here are the most common carrier addresses.

- **Alltel:** *phonenumber@message.alltel.com*
- **AT&T:** *phonenumber@txt.att.net*
- **T-Mobile:** *phonenumber@tmomail.net*
- **Virgin Mobile:** *phonenumber@vmobl.com*
- **Sprint:** *phonenumber@messaging.sprintpcs.com*
- **Verizon:** *phonenumber@vtext.com*
- **Nextel:** *phonenumber@messaging.nextel.com*
- **US Cellular:** *phonenumber@mms.uscc.net*
- **Cricket Wireless:** *phonenumber@sms.mycricket.com*

The email and alert will be sent to your phone as a text message. Text fees and limits may vary by provider and plan.

Email setup

E-mail server:

Server port:

Server username:

Server password:

E-mail to:

E-mail from:

Minimum interval: Minutes
Device won't attempt to send e-mails faster than this, any alarms that happen will be queued and sent when this duration has expired.

Periodic interval:

Periodic start:

Send e-mail on bootup? E-mail address #1
 E-mail address #2
 E-mail address #3
 E-mail address #4
 E-mail address #5
 E-mail address #6

Send test e-mail now?

Leave hostname blank or set port to 0 to disable e-mails.

Leave the username/password blank if your e-mail server doesn't require it.

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Figure 9. Email Setup Page.

Device Setup Page

Device Info

A custom site name can be entered here, and the model, serial number, hardware and firmware version are shown here.

Logging

The monitor unit will log all measurements and alarms to an SD card that is plugged in on-board. Users can set the logging rate, as well as clear the card, or append new measurements. The CSV log file can be downloaded here, or in the Status page. If the SD card fills up, the oldest sample is discarded when a new one is stored. The unit's custom device name is stored with the logged data, so that the source of the card can be identified after it is removed from the previous device.

The log file will be automatically renamed and a new one started when the file size reaches 5MB. **Download all log files before deleting the.** The ability to log readings when an alarm occurs is also included. To turn off periodic logging, enter 0 as the logging rate. You can set up logging to occur only on alarms, periodically, both or none.

SNMP MIB File

The SNMP MIB File can be downloaded from this page.

Date and Time Setting

Configuration for all date and time settings. Date and time are battery backed up on the card, and the values are saved in the logged samples. The real-time clock can synchronize to the network through an NTP server, or it can be set manually if a network is not available. The NIST NTP servers can be used by entering **time.nist.gov** or **pool.ntp.org**, or another NTP server address into the **NTP Server box**.

Miscellaneous Setting

You can set the number of significant digits after the decimal for the Analog Voltage readouts on the Status page, as well as set the temperature units.

Device Setup

Device Info

Site Name:
Model: RMCU
Serial Number: 80024
Version: HW: 3, FW: 3.21

Logging

Logging rate: Minutes
Log start date: NEVER
Last log date: NEVER
Clear Log?
Append Now?
Log Alarms?
Logging status: Never used
Download log: [RMCU.csv](#)
Right click to save

Archive graphing

Archive logging rate:
Clear:

SNMP MIB File Download

Download MIB File: [SNMP MIB File](#) - Right click to save

Date and time settings

Current system time: Thu, 07 May 2020 14:39:09
NTP Servers:
Leave blank to disable NTP
NTP sync now?
NTP status: Success
Time Zone: Hours
Manually set time?
Date (MM/DD/YY):
Time (HH:MM:SS):

Front Panel

Backlight level (0-100%):
Auto off:

Miscellaneous

Significant digits:
Temperature units:

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Figure 10. Device Setup Page on the MU model.

Sensor Setup Page

The admin user can set custom names for each input or output. Factory set names will be supplied, but they can be re-written to be more descriptive or to manage larger systems. Alarm colors can be set here to represent the proper logical state for your system. Digital inputs can also be set here to send notification emails to the email address configured in the Email Setup page. If any of the name fields on the left are left blank, the channel will be hidden on the status page. Inputs and outputs of the monitor unit are shown on the Sensor Setup page.

The user can enter text to change the user meaning of the digital output states, and there are 3 color options for the buttons. "Active" means that the digital output MOSFET is conducting. Digital Outputs can also be configured to output a pulse with a selectable duration.

Digital Outputs and Logging can be configured to turn on and off according to a schedule. There are 16 schedules that can be set for outputs, and one for logging.

Sensor Setup

	Analog Inputs	Alarm color	Averaging
#1	AC Line	<input checked="" type="radio"/> Red <input type="radio"/> Green	5 samples ▾
#2	Amp Power Supply	<input checked="" type="radio"/> Red <input type="radio"/> Green	20 samples ▾
#3	Amp Battery	<input checked="" type="radio"/> Red <input type="radio"/> Green	20 samples ▾
#4	Volt 16VDC Output	<input checked="" type="radio"/> Red <input type="radio"/> Green	10 samples ▾
#5	Volt Battery Alarm - Charger Fail	<input checked="" type="radio"/> Red <input type="radio"/> Green	10 samples ▾
#6	Volt Battery Alarm - 70% Discharge	<input checked="" type="radio"/> Red <input type="radio"/> Green	10 samples ▾
#7	Volt Battery Alarm - Battery Fail	<input checked="" type="radio"/> Red <input type="radio"/> Green	10 samples ▾

	Digital Inputs	Alarm / Open	Type	Averaging
#1	DC-OK Power Supply	<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#2	Door 1 Alarm	<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#3	Door 2 Alarm	<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#4	Battery Supervisory	<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#5		<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#6		<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#7		<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#8		<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#9		<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾
#10		<input checked="" type="radio"/> Red <input type="radio"/> Green	GPIO ▾	None ▾

Frequency Range: 1KHz - 600KHz ▾

Digital Outputs **Power Supply ON/OFF**

Name: Power Supply ON/OFF

Inactive Label: ON

Inactive Color: Green/Right ▾

Active Label: OFF

Active Color: Red/Left ▾

Alarmed Color: Yellow/Right ▾

Pulse Config: No pulsing ▾

Pulse Duration: 0.5 seconds ▾

PWM Frequency: Disabled ▾

PWM Duty (0-100%): 0

	Analog Outputs	Setting (Volts)
#1		0
#2		0
#3		0
#4		0

	Other Inputs	Averaging	Config
#1		None ▾	Not connected ▾

Scheduled Outputs			
#1	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#2	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#3	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#4	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#5	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#6	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#7	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#8	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#9	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#10	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#11	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#12	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#13	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#14	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#15	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday
#16	Power Supply ON/OFF ▾	ON ▾	Disabled ▾ 00:00 to 00:00 <input type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday <input type="checkbox"/> Saturday

Logging schedule

Disabled ▾ 00:00 to 00:00
 Sunday Monday Tuesday Wednesday Thursday Friday Saturday

If set to **Disabled** then the unit will always log sensor values and check for new alarms. If set to **Enabled** then specified time is the only time it will log sensor values, log alarms, transmit alarms (SNMP or e-mail) or set digital outputs because of alarms. Regardless of this setting or schedule, alarms will always be cleared when the alarm condition has passed.

Submit Values Cancel Changes

Figure 11. Sensor Setup Page.

Alarm Setup Page

In the monitoring unit, the analog alarms can be set by selecting the drop-down menu next to the “Analog” label. As shown in the figure, the “AC Line” is currently selected.

The Digital Output 1 controls the ON/OFF state of the Power Supply. The user must be logged in as the admin or control user to adjust the digital outputs. The digital outputs can be controlled by the buttons on the status page, mobile page, or via SNMP on the unit. Optionally, they can be automatically controlled by connecting them to an alarm on the “Alarms” screen.

The Alarm Setup page is where thresholds are set to define alarm conditions for the analog channels. You can choose to set an email notification when the alarm conditions are met.

The “Log All Alarms” setting in the “Global Settings” on this page is the same as the “Log Alarms” setting on the Device Setup page.

The screenshot displays the Alarm Setup Page with three main configuration panels:

- Analog (AC Line):** Configured for "Under alarm" with a threshold of 100 Volts. "Allow auto Recovery" is set to "Yes" and "Recovery" is 105 Volts. "Send e-mail" is enabled for Alarm and Recovery, with six email address options. "Alarm contacts" include Power Supply ON/OFF and Battery ON/OFF. "Over alarm" is configured with a threshold of 140 Volts, "Allow auto Recovery" set to "Yes", and "Recovery" at 135 Volts. "Duration required" is set to "Instant (0 seconds)". "Display Range" is 20 to 160 Volts.
- External Temperature:** Configured for "Under alarm" with a threshold of 100 F. "Allow auto Recovery" is "Yes" and "Recovery" is 100 F. "Send e-mail" and "Alarm contacts" are identical to the Analog section. "Over alarm" is configured with a threshold of 1000 F, "Allow auto Recovery" is "Yes", and "Recovery" is 1000 F. "Duration required" is "Instant (0 seconds)". "Display Range" is 0 to 200 F.
- Digital Outputs:** Shows "Power Supply ON/OFF" and "Battery ON/OFF" with "New alarm" buttons. Below are sections for "Internal Temperature" and "Internal Humidity" with "New alarm" buttons. At the bottom, "Global settings" includes "Log all alarms" (to -).

Figure 12. Alarm Setup Page.

Default Analog Alarm Settings

The default alarm setting is shown in the table below. The alarm triggers when the voltage/ampere level falls below the “Under Alarm Threshold” setting or rise above the “Over Alarm Threshold” setting. If auto recover is enabled, the alarm recovers when the voltage/ampere level rise above the “Under Alarm Recovery” setting or falls below the “Over Alarm Recovery” setting.

PSRM-4012NFPMU

Measurement	Under Alarm Threshold	Under Alarm Recovery	Over Alarm Threshold	Over Alarm Recovery	Display Range
AC Line, Volts	100	105	140	135	-15 / 150
Amps Power Supply	-5	0	90	85	-10 / 100
Amps Battery	-5	0	90	85	-10 / 100
Volt Power Supply	10.5	12.0	15.5	14.5	-7 / 70
Volt Battery Charger Fail	13.3	13.6	15.0	14.0	-7 / 70
Volt Battery Battery Low	11.5	12.5	15.0	14.0	-7 / 70
Volt Battery Battery Fail	10.0	12.5	15.0	14.0	-7 / 70

PSRM-2524NFPMU

Measurement	Under Alarm Threshold	Under Alarm Recovery	Over Alarm Threshold	Over Alarm Recovery	Display Range
AC Line, Volts	100	105	140	135	-15 / 150
Amps Power Supply	-5	0	90	85	-10 / 100
Amps Battery	-5	0	90	85	-10 / 100
Volt Power Supply	21	25	30	29	-7 / 70
Volt Battery Charger Fail	26.3	26.9	29	28	-7 / 70
Volt Battery Battery Low	23.0	25.0	29	28	-7 / 70
Volt Battery Battery Fail	20.0	25.0	29	28	-7 / 70

PSRM-1048NFPMU

Measurement	Under Alarm Threshold	Under Alarm Recovery	Over Alarm Threshold	Over Alarm Recovery	Display Range
AC Line, Volts	100	105	140	135	-15 / 150
Amps Power Supply	-5	0	90	85	-10 / 100
Amps Battery	-5	0	90	85	-10 / 100
Volt Power Supply	42	46	60	58	-7 / 70
Volt Battery Charger Fail	51.8	52.4	58	56	-7 / 70
Volt Battery Battery Low	46.0	50.0	58	56	-7 / 70
Volt Battery Battery Fail	40.0	50.0	58	56	-7 / 70

Main Status Page

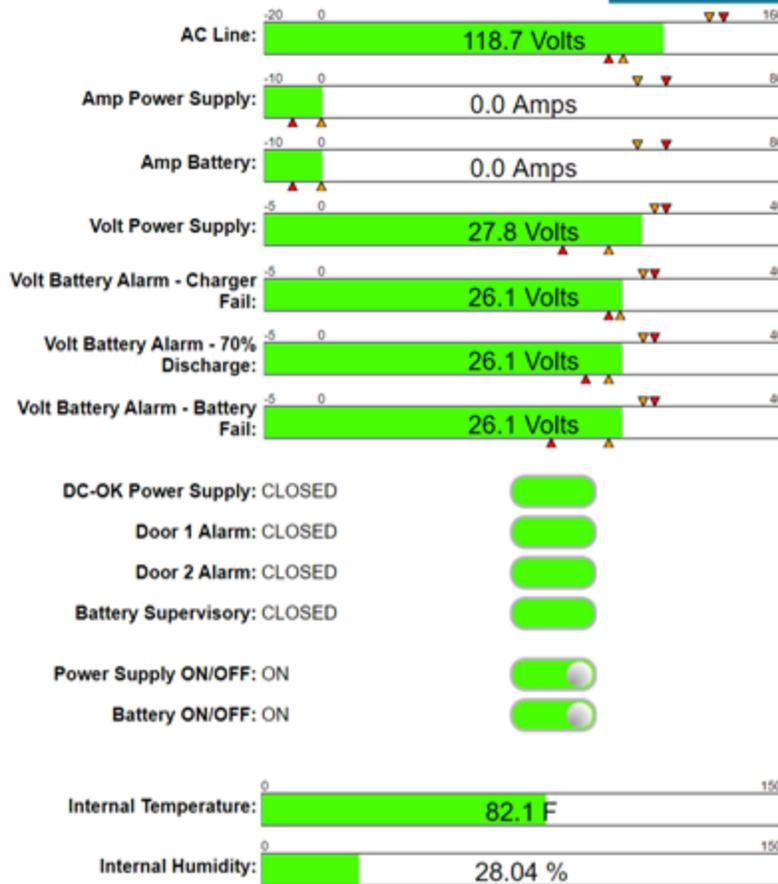
This page shows the status of all analog and digital inputs. User may also download the Log File from this page. AC voltage and output current of individual channels are approximated.



SITE GRAPH© - PSRM-2524NFPMU

Status	Device Setup	Sensor Setup	Alarm Setup
User Setup	Network Setup	E-Mail Setup	Logout (admin)

SITE GRAPH© Status

[See charts](#)

[Download Log](#) - Right click to save

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Figure 13. Main Status Page.

Section 4 | Specifications

Model		PSRM-5012NFPMU	PSRM-2524NFPMU	PSRM-1048NFPMU
Input	Input AC Voltage	115/230 VAC Switch Selected		
	Input AC Frequency	50/60 Hz		
	Power Factor	0.98 / 115 VAC		0.97 / 230 VAC
	Max AC Current	11.2 A / 115 VAC		5.4 A / 230 VAC
Power Supply Output	DC Voltage	13.8	27.6 VDC	55.2
	DC Current	54 Amps	27 Amps	13 Amps
	Rated Module Power	750 Watts		
	Max Ripple and Noise	150 mV p-p		
	Line Regulation	± 0.5 %		
	Load Regulation	± 0.5 %		
	Overload Protection	105 – 125% rated output power Constant current limiting, auto recover		
	Over Voltage	17.0 - 20.5 V	31.0 - 36.5 V	56.6 - 66.2 V
	Over Voltage Protection	Shutdown output voltage, re-power to recover		
	Over Temperature Protection	70°C ± 10°C Shutdown output voltage, auto recover		
Battery Charger Output	Charger Voltage	13.8 VDC	27.6 VDC	55.2 VDC
	Charger Current	7 Amps	4 Amps	2 Amps
	Charger Module Power	100 Watts	120 Watts	120 Watts
	Suggested Battery Capacity	30 - 80 Ah	15 - 40 Ah	10 - 20 Ah
	Battery Type	Lead-Acid / AGM		
	LED Indicator	Red = high rate boost charge / Green = float charge		
BBLVD	Nominal Battery Voltage	12 VDC	24 VDC	48 VDC
	Rated Relay Current	75 Amps	75 Amps	75 Amps
	LVD Disconnect / Reconnect	10.0 VDC / 12.5 VDC	20 VDC / 25 VDC	40 VDC / 50 VDC
	OR-ING Diodes	Auto-revert between power supply and battery power		
Others	RMCU Features	HTTP Webserver, TCP/IP, IPv4, Email, SMTP, SNMP v1/v2c/v3, Data/Alarm Logging		
	Operating Temperature	-20°C to 60°C		
	Operating Humidity	≤ 90% non-condensing		
	Weight & Dimensions	Shipping Weight = 14 lbs. Dimensions = 3.5 H x 19 W x 13 D inches		

Note: Specifications are subject to change without notice.

Section 5 | Warranty

DuraComm warrants to the initial end user, each power supply manufactured by DuraComm to be free from defects in material and workmanship when in normal use and service for a period of three years from the date of purchase from an authorized DuraComm dealer.

Should a product manufactured by DuraComm fail or malfunction due to manufacturing defect, or faulty component, DuraComm, at its option, will repair or replace the faulty product or parts thereof, which, after examination by DuraComm, prove to be defective or not operational according to specifications in effect at the time of sale to the initial end user. The product that is replaced or repaired under the provisions of this warranty will be warranted for the remainder of the original warranty period, only, and will not extend into a new three-year warranty period.

The limited warranty does not extend to any DuraComm product which has been subject to misuse, accidental damage, neglect, incorrect wiring not associated with the manufacturer, improper charging voltages, or any product which has had the serial number removed, altered, defaced, or changed in any way.

DuraComm reserves the right to change, alter, or improve the specifications of its products at any time, and by so doing, incurs no obligation to install or retrofit any such changes or improvements in or on products manufactured prior to inclusion of such changes.

DuraComm requires any product needing in or out of warranty service to be returned to DuraComm. All requests for warranty service must be accompanied by proof of purchase, such as a bill of sale with purchase date identified. DuraComm is not responsible for any expenses or payments incurred for the removal of the product from its place of use, transportation or shipping expenses to the place of repair, or return expenses of a repaired or replacement product to its place of use.

The implied warranties that the law imposes on the sale of this product are expressly LIMITED, in duration, to the three (3) year time period specified herein. DuraComm will not be liable for damages, consequential or otherwise, resulting from the use and operation of this product, or from the breach of this LIMITED WARRANTY.

Some states do not allow limitations on the duration of the implied warranty or exclusions or limitations of incidental or consequential damages, so said limitations or exclusions may not apply to you. This warranty gives you specific legal rights which vary from state to state.

This warranty is given in lieu of all other warranties, whether expressed, implied, or by law. All other warranties, including WITHOUT LIMITATION, warranties of merchantability and fitness or suitability for a particular purpose, are specifically excluded. DuraComm reserves the right to change or modify its warranty and service programs without prior notice.

Section 6 | Contact Us

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