



A Benny Lee Company

# PRODUCT USER GUIDE

## PS-2012-50MU

### Indoor/Outdoor Heavy Duty AC to DC Wall Mount Power Supply And Battery Backup

with Site<sup>©</sup>entri Remote Monitoring and Control Unit

### Owners Guide

*(These instructions are intended for use by a technician familiar with electronic products)*

- NFPA 1221 Compliant DC Power Supply and Battery Backup System
- NEMA 4X Enclosure with Top and Bottom Mounting Flanges
- Input Voltage 90 to 264 VAC
- Low Voltage Disconnect
- Internal Battery 12v / 50Amp-hour
- Site<sup>©</sup>entri DC Remote Monitoring and Control Unit
- Configured to remotely monitor Line Voltage, PS Current, Battery Current, PS Voltage, Battery Voltage, Load Voltage, Temperature, and DC-OK signal via internet.
- Monitor via Internet Browser or Configure Alarms to send emails and SNMP Traps
- Form 'C' Relay alarm outputs for AC Fail, Charger Fail, 30% Discharge, and 70% Discharge.
- Internal Alarm Status LEDs for AC Fail, Charger Fail, 30% Discharge, 70% Discharge, and DC-OK
- 10/100 Ethernet Connection
- AC Input Breakers (included)
- Battery Breaker (included)
- Maximum Internal working Temperature -25c to +70c
- 3 year warranty



**DuraComm<sup>®</sup>**  
SITE<sup>©</sup>ENTRI

### DESCRIPTION

The Environmentally Hardened OTA-PS-2012-50MU is a weatherproof power supply with Low Voltage Disconnect and a 50 Amp-Hour Battery Back-up, housed in a 0.125" Aluminum NEMA 4X enclosure, which is NFPA 1221 Compliant. The OTA-PS-2012-50MU A Site<sup>©</sup>entri Remote Monitoring and Control Unit is included which allows monitoring of power supply current, battery current, power supply voltage, battery voltage, load voltage, as well as temperature and AC line voltage. By using a standard internet browser you can monitor all of the inputs, and configure the OTA-PS-2012-50MU to send emails when the Analog Voltages, DC-OK or temperature are out of limits. It can log readings to an internal micro-SD card as well, which are time-stamped with a real-time clock. SNMP traps can also be configured.

## **SPECIFICATIONS**

Output Voltage .....	14.5 VDC
Output Voltage Tolerance.....	+/- 1 %
Output amperage .....	22 Amps Continuous
Maximum Power, continuous .....	330 Watts
Maximum ripple and noise.....	150 mV p-p max
Input Voltage .....	90 to 264 VAC
Input frequency range .....	47-63 Hz
Maximum AC Current.....	(Two 10 A Breakers) 6.5 A @ 115 VAC; 3.3 A @ 230 VAC
Typical Efficiency.....	88 %
Max inrush current, single cycle .....	35 Amps @ 115 VAC, 70 Amps @ 230 VAC
Short Circuit protection.....	Fold back Limiting
Overload Protection (operates) .....	typical 105-135 %
Line Regulation .....	0.3%
Load Regulation .....	0.5%
Over Temperature .....	>195 F (90 C) auto output shutdown
Rise Time following ON.....	50mS
Hold Time following OFF.....	16 mS
Working Temperature range.....	-4 F to +122 F (-20 C to +50 C)
Storage Temperature .....	-40 F to +185 F (-40 C to +85 C )
Withstand Voltage .....	3 KV @ 10ma (I/P-O/P)/1 min
Continued .....	2 KV @ 10 ma (I/P-FG)/1 min
Continued .....	500 V @ 10 ma (O/P-FG)/1 min
Dimensions.....	30"H x 22.75"W x 11.5"D inches
Weight .....	87 lbs

## **BATTERY BACK UP & CHARGER**

Auto-revert to battery or power supply .....	Provided by dual Schottky diode in OR configuration
Maximum output current in battery mode .....	20 Amps (limited by 20 Amps breaker)
Maximum Charger Voltage.....	14.4 VDC
Maximum Recharger Rate.....	16 Amps
Battery .....	AGM, 12 V, 50 Amp-Hour

## **LOW VOLTAGE DISCONNECT & ALARM RELAYS**

Maximum Interrupt Current / Continuous Current.....	20 Amps DC
Disconnect Voltage .....	10.4 VDC
Reconnect Voltage .....	12.5 VDC
Disconnect Delay .....	2 minutes @ less than preset disconnect voltage
AC Fail Alarm Relay .....	AC ON/OFF detection, Form 'C' Contacts
Charger Fail Alarm Relay .....	12.5 VDC Alarm, 13 VDC Reset, Form 'C' Contacts
30% Discharge Alarm Relay.....	12.3 VDC Alarm, 12.8 VDC Reset, Form 'C' Contacts
70% Discharge Alarm Relay.....	11.8 VDC Alarm, 12.5 VDC Reset, Form 'C' Contacts

## **SITECENTRI SPECIFICATIONS**

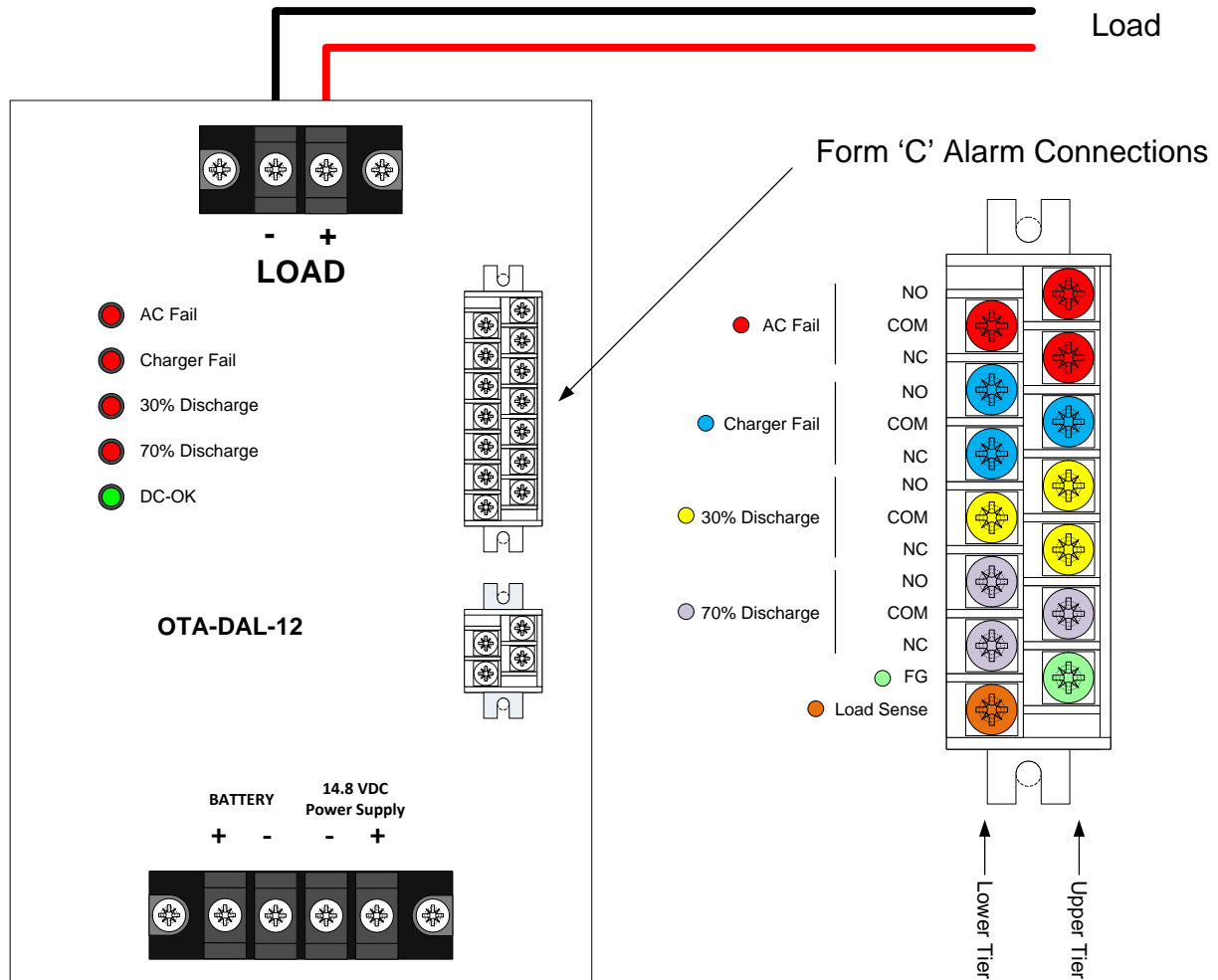
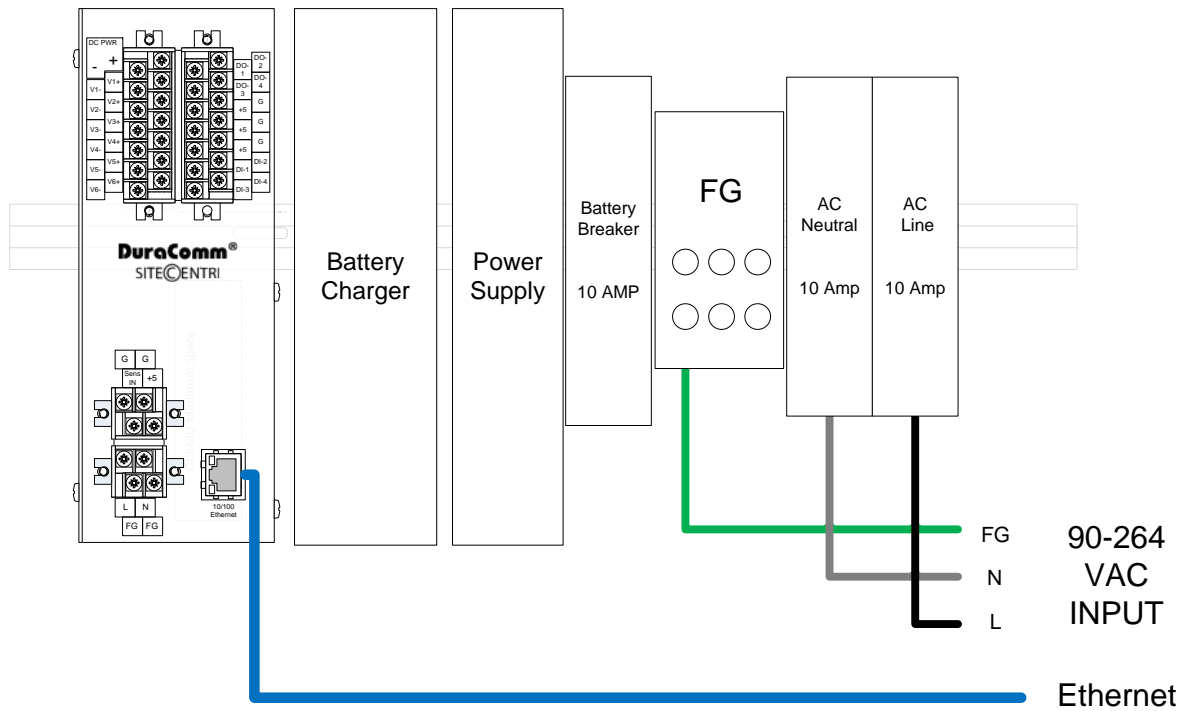
Hardware Revision .....	2.0
Firmware Revision.....	2.16
Network Connector.....	RJ-45 (10/100 Ethernet) with activity LEDs
Backup Battery .....	CR2032
Memory Card.....	4GB Micro SD
Voltage Measurement Range.....	0 VDC to 100 VDC
Current Measurement Range .....	0 Amps to 100 Amps
Digital Alarm input .....	Normally Closed Contacts
Alarm Output .....	Open Collector, 60 VDC Max (REV 2 RMU Hardware), 500 mA sink Max
Alarm Response Time .....	250ms
Alarm Notifications .....	Email and/or SNMP
Logging Rate .....	1 minute resolution, 1 minute to 1 hour
Log Download Format .....	Comma Separated Values (CSV) File
SNMP MIB File.....	Download from Device Setup Page
5V Supply Maximum Current.....	300 mAmps

## **INSTALLATION WARNING**

The individual user should take care to determine, prior to use or installation, whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, DuraComm makes no representation or warranty as to the merchantability, suitability or fitness of these units for any specific application.

**DO NOT** block any of the cooling vents on the sides and always allow adequate ventilation by not installing the unit inside tightly closed spaces. Physical mounting position is not critical but the cooling must not be blocked.

# INSTALLATION WIRING DIAGRAM



Turn off the battery and AC Breakers in the OTA-PS-2012-50MU

Connect the OTA-PS-2012-50MU to the AC Line as shown in the diagram above.

Connect your 12 VDC equipment to the load circuit on the OTA-DAL-12.

Connect the LAN port on the Site@entri in the OTA-PS-2012-50MU to your network.

Apply external power to the OTA-PS-2012-50MU, then switch the AC Line and Neutral Breakers to ON, and switch on the Battery Breaker.

Follow the instructions in the Site@entri Owners Guide for connecting to your Site@entri with a browser, and setting it up.

## **CONNECTING TO THE OTA-PS-2012-50MU VIA THE INTERNET**

### **Prerequisites**

System administrators must decide whether the OTA-PS-2012-50MU will operate on the network with DHCP or a fixed IP address. The factory-set OTA-PS-2012-50MU 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 OTA-PS-2012-50MU 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 screen. 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 Screen.

### **DETERMINING THE IP ADDRESS OF THE OTA-PS-2012-50MU**

Power up the OTA-PS-2012-50MU then connect the OTA-PS-2012-50MU 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 OTA-PS-2012-50MU, then proceed to the section in this manual named "**Open a Web Connection to the OTA-PS-2012-50MU**".

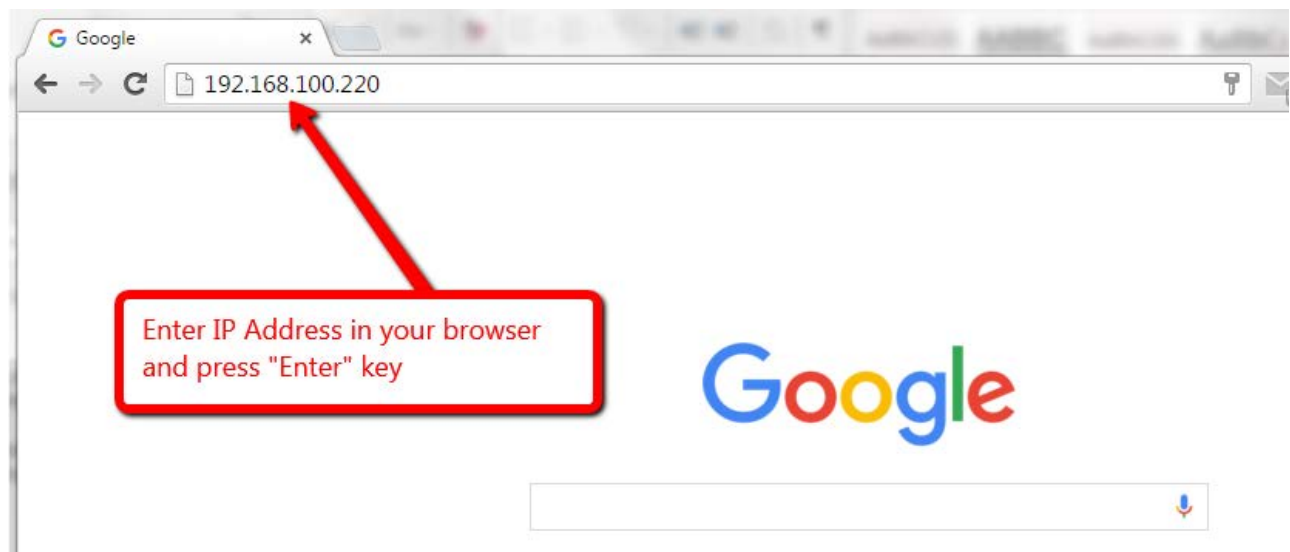
#### **Using Static OTA-PS-2012-50MU IP and Network Configuration**

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 OTA-PS-2012-50MU 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 to the OTA-PS-2012-50MU 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 OTA-PS-2012-50MU.
8. Enable "Use The Following IP Address"
9. Now enter 192.168.100.221 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 owners guide named "**Open a Web Connection to the OTA-PS-2012-50MU**" to log in and enter the final network settings for the OTA-PS-2012-50MU.

## Open a Web Connection to the OTA-PS-2012-50MU

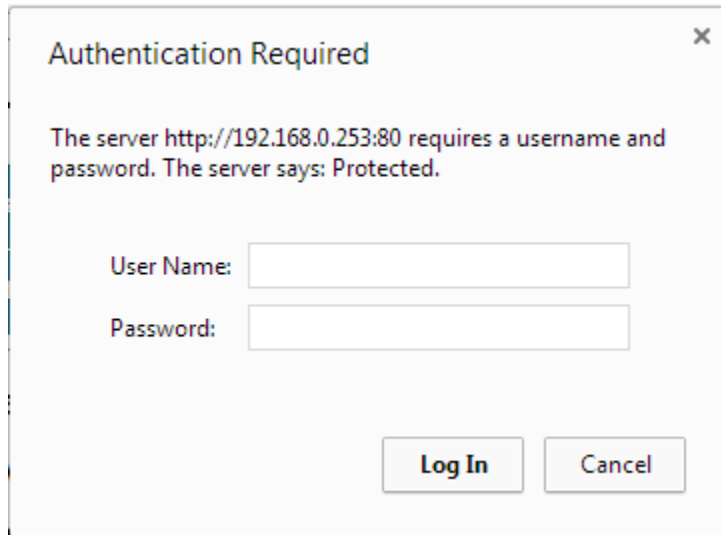
1. Connect the RJ-45 connector on the back of the OTA-PS-2012-50MU to your network
2. Use your favorite device and browser (Chrome, Firefox, internet Explorer, etc.), and enter the IP address of the power supply on your network into the URL box on the browser (see the screenshot below). If you are unable 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 OTA-PS-2012-50MU responds with the "Status" screen, then skip to the User Login Section.



## **REMOTE MONITORING AND CONTROL (OTA-PS-2012-50MU) SETUP**

All setup requires an administrative user to log into the OTA-PS-2012-50MU in your power supply. Click the 'Login' button in the top menu.

### User Login



Authentication Required

The server http://192.168.0.253:80 requires a username and password. The server says: Protected.

User Name:

Password:

Log In Cancel

Enter the user name and password. Factory default username and password are as follows:

Admin Users have full control of the device.

Username: admin (cannot be changed)  
Password: admin

Control users have limited control capability.

Username: control (cannot be changed)  
Password: control

These two users are the only ones available in the OTA-PS-2012-50MU. "Control" users can access all screens except the User Setup screen.



# NETWORK SETUP

## RMCU - SITE CENTRI© - OTA-PS-2012-50MU

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

### TCPIP Setup

MAC Address: 70:B3:D5:6B:3D:23

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

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

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

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

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

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

### SNMP Settings

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

Public (read) community:

Private (write) community:

Trap community:

Trap UDP port:   
Set to 0 to disable all traps

Trap Destination IP:   
  
Leave blank to not send a trap

Send test trap now?

### HTTP server

HTTP port

**These parameters require a power-cycle or reboot.**

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

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## **Network Setup**

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 V. For example: if the port is changed to **8080** then the address would be changed to <http://192.168.0.253:8080>

Revision 2.6 FW fixed a bug with saving the Static Netmask Address. Firmware 2.16 added the ability to configure an Alternate DNS Address.

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

## **SNMP TRAPS SETUP**

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 OTA-PS-2012-50MU can be downloaded from the OTA-PS-2012-50MU after you connect to it with your browser. Go to the Device Setup page and log in to the OTA-PS-2012-50MU. 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 OTA-PS-2012-50MU.

When the MIB file has been loaded, complete the “SNMP Setup” section on the “Network Setup” page of the OTA-PS-2012-50MU to configure it for use with your monitoring solution.

The OTA-PS-2012-50MU will send traps for all configured alarm conditions including bootup, temperature, analog alarms, and digital alarms.

## EMAIL SETUP

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# RMCU - SITE CENTRI© - OTA-PS-2012-50MU

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

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### 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:

Send e-mail on bootup?

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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### Email Setup

Enter the required email setup parameters given to you by your System Administrator. You can also send a test email from this screen.

To configure periodic status emails, select the interval from the drop-down.

# DEVICE SETUP

## RMCU - SITE CENTRI© - OTA-PS-2012-50MU

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

### Device Setup

#### Device Info

Site Name:

Model: RMCU

Serial Number: 77091

Version: HW: 2.0, FW: 2.16

#### Logging

Logging rate:  Minutes

Log start date: Mon, 04 Jun 2018 15:27:06

Last log date: Mon, 04 Jun 2018 15:27:06

Clear Log?

Append Now?

Log Alarms?

Logging status: Never used

Download log: [RMCU.CSV](#)  
Right click to save

#### SNMP MIB File Download

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

#### Date and time settings

Current system time: Tue, 05 Jun 2018 13:30:42

NTP Servers:

Leave blank to disable NTP

NTP sync now?

NTP status: Disabled

Time Zone:  Hours

Manually set time?

Date (MM/DD/YY):

Time (HH:MM:SS):

#### Miscellaneous

Significant digits:

Temperature units:

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## Device Info

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

## Logging

The OTA-PS-2012-50MU will log all measurements and alarms to an SD card that is plugged into the OTA-PS-2012-50MU board. Users can set the rate here, as well as clear the card, or append new measurements. The CSV log file can be downloaded here, as well as the Status page. If the SD card fills up, the oldest sample is discarded when a new one is stored. The OTA-PS-2012-50MU custom device name is stored with the logged data, so that the source of the card can be identified after it removed from the OTA-PS-2012-50MU.

Maximun log file size is now 5000000 bytes, if file is larger than this it moved to a new file automatically. The web page shows all CSV files that can be downloaded.

Web page will verify with user that they want to erase all CSV log files, when you want to clear the log (make sure you download all files first!

The OTA-PS-2012-50MU has the ability to save log entries when an alarm occurs by choosing "Log Alarms" > "Yes". You can log alarms, log periodically by setting the "Logging Rate" minutes, log both, or log none by choosing "Log Alarms">"No" and setting the "Logging Rate" to "0". The Alarm log entry is identified with label entry before the data entry, as in this example:

```
Jan 20 14:53:44 2016, ALARM, Digital output #1 inactive
Jan 20 14:53:44 2016, RMCU, Temp, 70.2 F, AC Line, 120.160 Volts, Ammeter #1, 100.0 Amps,
Voltmeter #1, 0.0 Volts, Voltmeter #2, 0.0 Volts, Voltmeter #3, 0.0 Volts, Voltmeter #4, 0.0
Volts, Voltmeter #5, 0.0 Volts, Alarm contact #1, Open, Alarm contact #2, Open, Alarm contact #3,
Open, Alarm contact #4, Open, Output #1, OFF/HIGH, Output #2, OFF/HIGH, Output #3, OFF/HIGH,
Output #4, OFF/HIGH
```

## SNMP MIB File Download

The SNMP MIB File can be downloaded from this page.

## Date and Time Settings

Configuration for all date and time settings. Date and time is battery backed up on the card, and the values are saved in the logged samples. The real-time-clock can synchronize it's time 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 a NTP server address, such as **0.north-america.pool.ntp.org** into the **NTP Server box**. A second NTP server can also be configured.

## Miscellaneous Settings

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

# SENSOR SETUP

## RMCU - SITE CENTRI© - OTA-PS-2012-50MU

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

### Sensor Setup

	Analog Inputs	Alarm color	Averaging
#1	Amps Power Supply	<input type="radio"/> Red <input checked="" type="radio"/> Green	3 samples ▾
#2	Amps Battery	<input type="radio"/> Red <input checked="" type="radio"/> Green	3 samples ▾
#3	Volts Power Supply	<input type="radio"/> Red <input checked="" type="radio"/> Green	None ▾
#4	Volts Battery	<input type="radio"/> Red <input checked="" type="radio"/> Green	None ▾
#5	Volts Load	<input type="radio"/> Red <input checked="" type="radio"/> Green	None ▾
#6		<input type="radio"/> Red <input checked="" type="radio"/> Green	None ▾

	Digital Inputs	Alarm / Open	Type	Averaging
#1	DC-OK	<input type="radio"/> Red <input checked="" type="radio"/> Green	GPIO ▾	None ▾
#2		<input type="radio"/> Red <input checked="" type="radio"/> Green	GPIO ▾	None ▾
#3		<input type="radio"/> Red <input checked="" type="radio"/> Green	GPIO ▾	None ▾
#4		<input type="radio"/> Red <input checked="" type="radio"/> Green	GPIO ▾	None ▾

	Digital Outputs	Inactive	Active	Pulse	PWM
#1	Power Supply ON/OFF	Green/Right ▾ ON	Red/Left ▾ OFF	No ▾ 0.5 seconds ▾	Disabled ▾ <input type="checkbox"/>
#2		Yellow/Left ▾ OFF/HIGH	Green/Right ▾ OFF/HIGH	No ▾ 0.5 seconds ▾	Disabled ▾ <input type="checkbox"/>
#3		Yellow/Left ▾ OFF/HIGH	Green/Right ▾ ON/LOW	No ▾ 0.5 seconds ▾	Disabled ▾ <input type="checkbox"/>
#4		Yellow/Left ▾ OFF/HIGH	Green/Right ▾ ON/LOW	No ▾ 0.5 seconds ▾	Disabled ▾ <input type="checkbox"/>

	AC Inputs	Averaging
#1	Line AC	3 samples ▾

	Other Inputs	Averaging
#1	External Temperature	3 samples ▾

# SENSOR SETUP (CONTINUED – SCHEDULING)

## Scheduled Outputs

#1	Power Supply ON/OFF <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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 <input type="button" value="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	<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
<p>If set to <b>Disabled</b>, then the unit will always log sensor values and check for new alarms. If set to <b>Enabled</b>, 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.</p>										

## **Sensor Setup Notes**

The admin user can set custom names for each input or output. Factory set names will be supplied, but they can be rewritten 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 screen. If any of the name fields on the left are left blank, the channel will be hidden on the status screen. Inputs and outputs of the OTA-PS-2012-50MU board are wired as shown on the Sensor Setup screen.

Analog alarms are set up in the “Alarm Setup” screen. See the “Alarm Setup” section for more information.

Only digital output #1 is configured on the OTA-PS-2012-50MU, as the Power Supply ON/OFF control.

Additional settings for digital input alarms and emails have been added in Firmware 2.3. Digital Input #1 and #2 are the only ones wired and configured in the standard OTA-PS-2012-50MU. Digital input #1 is wired to the DC-OK for the power supply.

You can configure the ability to apply a running average to any of the analog channels, including the AC voltage and Temperature monitors. The number of averages is selected from a dropdown list for each channel. This can be used to quiet any noise or false alarms due to transients

The Sensor Setup page has some grayed-out settings. Digital Input “Type” and “Averaging”, as well as Digital Output “PWM” are not functional, and are under development for future release.

“Scheduled Outputs” are based on the built-in Real Time Clock. This allows the user to change Digital Outputs based on a schedule. You can configure them to change once, or set them to a given state between the specified start and stop times.



# ALARM SETUP

## RMCU - SITE CENTRI© - OTA-PS-2012-50MU

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

### Alarm Setup

Analog		Amps Power Supply ▾
<b>Under alarm</b>		
Threshold:	< 10	Amps
Recovery:	> -1	Amps
Send e-mail:	No ▾	
Alarm contacts:	#1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/>	
<b>Over alarm</b>		
Threshold:	> 105	Amps
Recover:	< 100	
Send e-mail:	No ▾	
Alarm contacts:	#1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/>	
<b>Alarm duration</b>		
Duration required:	0.5 seconds ▾	

External Temperature	
<b>Under alarm</b>	
Threshold:	< 40 F
Recovery:	> 45 F
Send e-mail:	No ▾
Alarm contacts:	#1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/>
<b>Over alarm</b>	
Threshold:	> 120 F
Recovery:	< 110 F
Send e-mail:	No ▾
Alarm contacts:	#1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/>
<b>Alarm duration</b>	
Duration required:	Instant (0 seconds) ▾

Line AC	
<b>Under alarm</b>	
Threshold:	< 100 Volts
Recovery:	> 107 Volts
Send e-mail:	No ▾
Alarm contacts:	#1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/>
<b>Over alarm</b>	
Threshold:	> 140 Volts
Recovery:	< 135 Volts
Send e-mail:	No ▾
Alarm contacts:	#1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/>
<b>Alarm duration</b>	
Duration required:	Instant (0 seconds) ▾

Digital Inputs	DC-OK ▾
Alarm Condition:	Never Alarm ▾
Email:	No ▾
Duration required:	Instant (0 seconds) ▾

Digital Outputs	
Power Supply ON/OFF:	Never alarm ▾ Never e-mail ▾
:	Never alarm ▾ Never e-mail ▾
:	Never alarm ▾ Never e-mail ▾
:	Never alarm ▾ Never e-mail ▾

Global settings	
Log all alarms:	No ▾

Submit Values Cancel Changes

## Alarm Setup

To set up analog alarms, first you must select the alarm channel to set. This is accomplished by selecting the custom name of the channel in the dropdown box next to the “Analog” label. For example, we are looking at the settings for the “Amps Power Supply” channel in the screen above. Firmware 2.0 includes additional settings for alarms. The “Log All Alarms” under the “Global Settings” section on this page is the same as the “Log Events” setting on the “Device Setup” page. When enabled, all alarms are logged to the SD card.

This screen 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.

## Factory Default Alarm Settings

MEASUREMENT	UNITS	OVER ALARM	<u>OVER ALARM RECOVER</u>	UNDER ALARM	<u>UNDER ALARM RECOVER</u>	<u>DELAY (SECONDS)</u>
AC Line Voltage	Volts	260	240	100	107	0
Temperature	Fahrenheit	85	78	40	45	0
PS DC Current	Amps	105	100	-10	-1	0.5
Battery Current	Amps	105	100	-10	-1	0.5
PS DC Voltage	Volts	16	15.5	14	14.5	0.5
Battery Voltage	Volts	15.5	14.8	11.8	13	0.5
Load Voltage	Volts	15.5	14.8	13	14	0.5

To reduce false alarms, set a duration for the analog and digital input alarms. Selecting a duration from the dropdown list means that the alarm condition must be sustained for this length of time before the alarm is triggered. This applies to alarms shown on the status screen, email notifications, and traps when the alarm is set, and when it is cleared.

## USER SETUP

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# RMCU - SITE CENTRI© - OTA-PS-2012-50MU

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

---

### Change Password

Select user:

New password:

Confirm password:

Maximum password length is 32 characters.  
Passwords are case sensitive. Please record your password.  
Loss of Administrator password will require a complete system reset.

### Miscellaneous

Calibration access:

### 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 Administrator password here 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.

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## User Setup

Password changes and OTA-PS-2012-50MU hard resets are performed by using this page. Care should be taken when changing any of these settings.

NOTE: To hard reset your device back to factory settings, press the red button on the OTA-PS-2012-50MU PCB and hold it for more than 30 seconds. You will need to re-connect to the OTA-PS-2012-50MU through your web browser by entering the factory supplied IP address and HTTP port (see Network Setup).

# REMOTE MONITORING AND CONTROL STATUS PAGE



## RMCU - SITE CENTRI© - OTA-PS-2012-50MU

Status	Device Setup	Sensor Setup	Alarm Setup
User Setup	Network Setup	E-Mail Setup	Login

### SITE CENTRI© Status

AC Line Voltage: 121.2 Volts	
Amps Power Supply: 0.0 Amps	
Amps Battery: 0.0 Amps	
Volts Power Supply: 14.8 Volts	
Volts Battery: 13.6 Volts	
Volts Load: 14.5 Volts	
DC-OK: CLOSED	
Power Supply ON/OFF: ON	
External Temperature: 70.9 F	

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

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### Status screen

This screen shows the status of all analog and digital inputs. A user can also download the Log file from this page. AC Voltage is approximate.

## Mobile Status Screen

A simplified version of the status page is available for mobile devices. Just use the same IP address and add '/m'. for example 192.168.100.220/m

<b>RMCU - OTA-PS-2012-50MU</b>		
Line Voltage: 121.11 VAC Temperature: 71.8 F		
Amps Power Supply 0.0 Amps	Amps Battery 0.0 Amps	Volts Power Supply 14.8 Volts
Volts Battery 13.6 Volts	Volts Load 14.5 Volts	---
DC-OK CLOSED	---	
---	---	
Power Supply ON/OFF ON	---	
---	---	

## OTA-PS-2012-50MU MAINTENANCE

### DC-RMCU1 Battery

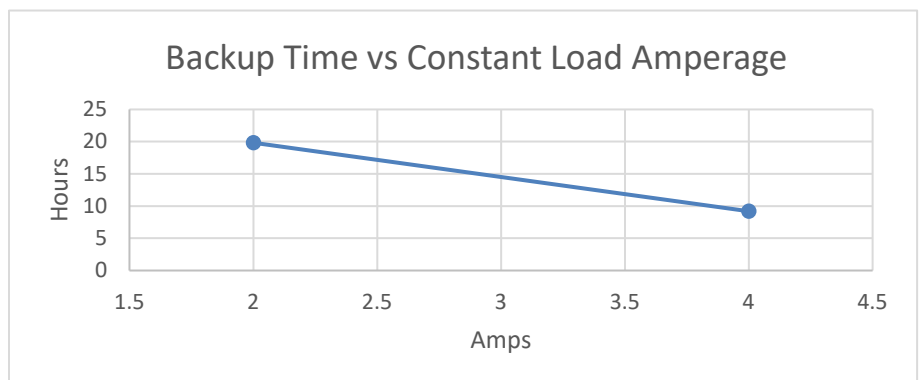
The battery on the DC-RMCU1 is used to back up the real time clock for logging purposes. Logged in users can see the current system time on the Device Setup page under Date and Time settings.

## OTA-PS-2012-50MU TEST PROCEDURE

This test can be monitored manually, or by setting up logging on the OTA-PS-2012-50MU SiteCentri (Device Setup Page), then downloading and analyzing the log file when the test is complete. If logging is already enabled, download and archive your .csv data files, then clear the log files. Make sure the real time clock is set correctly and set logging for 1 min intervals. You can use an alarm setting (Alarm Setup Page) for Battery Under Voltage of 11.8 VDC (70% discharge – factory default), and a Load Voltage Under alarm of 10 VDC or less (LVD disconnect) to set email or SNMP notifications for these events. Verify logging is working properly before starting the test.

1. Open the front door of the OTA-PS-2012-50MU.
2. Turn OFF the Battery breaker, and the AC Line and Neutral breakers.
3. Disconnect load wires from the OTA-DAL-12 'Load' connector. **Please observe Positive(+) and Negative(-) polarities for this test!**
4. Connect a constant test load of 2 Amps to the 'Load' Connector on the OTA DAL-12.
5. Turn ON the Battery breaker, and the AC Line and Neutral breakers.
6. Open the Status page of the OTA-PS-2012-50MU by entering the IP Address in a browser (computer, tablet, or phone) and verify the 2 A load is being measured on the 'Amps Power Supply' channel, or use a clamp-on current meter.
7. Prepare to manually log the times of the following events, if you are not logging automatically.
8. Turn OFF the AC Line and Neutral Breakers (Leave the Battery Breaker ON).
9. The Red AC Fail LED should turn on immediately, and the battery should be supplying load current. (check with status page or clamp-on current meter)
10. The Charger Fail LED should come on next as the battery voltage falls (see specifications section for voltages)
11. The 30% Discharge LED will come on next
12. As the voltage continues to fall, the 70% Discharge LED will turn on.
13. When the LVD disconnect voltage is reached, the DC-OK LED will turn off, and the Load voltage will drop to 0 VDC.
14. Turn OFF the DC Breaker.
15. Turn off and disconnect the 2 Amp Load and connect the normal load wires to the OTA-DAL-12 'Load' connector.
16. Turn on the Battery Breaker, and the AC Line and Neutral breakers, and verify that the power supply and charger are on. The DC-OK LED should come on immediately, and the alarm LEDs should start to turn on in reverse order as the battery voltage increases. (see specifications section for recovery voltage levels)
17. The test is complete.
18. If logging automatically, download the .CSV file and rename it appropriately to archive it, and back it up. Make sure it has recorded the data, before clearing the log data from the SiteCentri.
19. Re-configure your SiteCentri for normal logging and alarm levels, if necessary, and verify proper operation.
20. Close the door.

**Note: This test should take about 20 hours for just the discharge cycle with a 2 Amp load and a new 50 Amp-Hour battery.**



## 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

*(Insulated Wire, Single Conductor in free air)*

<u>Current Level in Amperes</u>	<u>Wire Size</u>
<7 AMPERES	20 AWG Up to 5 feet 18 AWG Up to 10 feet
14 AMPERES	18 AWG Up to 5 feet 16 AWG Up to 10 feet
20 AMPERES	16 AWG Up to 5 feet 14 AWG Up to 10 feet
30 AMPERES	14 AWG Up to 5 feet 12 AWG Up to 10 feet
40 AMPERES	12 AWG Up to 5 feet 10 AWG Up to 10 feet
50 AMPERES	10 AWG Up to 5 feet 8 AWG Up to 10 feet
70 AMPERES	8 AWG Up to 5 feet 6 AWG Up to 10 feet
100 AMPERES	6 AWG Up to 5 feet 4 AWG Up to 10 feet

## **LIMITED 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 year 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 manufacture, 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 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 which 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.*

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