RLP-2048BBSCLVD-MU

Internet Ready Heavy Duty AC to DC Power Supply

With Built-in Remote Monitoring and Control.

Owners Guide

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

- Internal Remote Monitoring and Control Unit
- Web Ready / Web GUI
- Smart Charger
- Monitor Voltages, Power Supply Current, Battery Current and Alarms
- Remote Shutdown of Each Power Supply Module
- Alarm IN and Alarm Out
- Battery backed up Real Time Clock to Timestamp Logged Information.
- Monitoring Samples can be Logged and Downloaded
- Input Voltage 100 to 240 VAC
- Analog Metering: Load Voltage / Each Power Supply Amperage
- Short Circuit / Overload / Over Voltage / Over Temperature Protection
- Manual Battery Disconnect Switch
- Designed for Negative Ground Applications Only
- 3 year warranty

DESCRIPTION

The RLP-2048BBSCLVD-MU is a Heavy Duty AC to DC Power Supply with smart charger that is web ready for remote monitoring and control. The new internal Remote Monitoring and Control Unit (RMCU), provides the ability to remotely monitor the AC voltage, battery voltage, power supply voltage for each module, power supply current for each module, battery current, LVD status, external alarm status, as well as the ability to remotely control the state of each power supply module, all via the internet using any standard web browser. A mobile friendly version of the status page is included, and an alarm output is also provided.

Users that have access to the network can view the status of the power supply, control outputs, and the alarm conditions, 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 RLP-2048BBSCLVD-MU via the browser. Alarm conditions are configurable, and can include over and under thresholds and discreet logical inputs. Notifications via email can also be configured to notify an administrator. Setups are saved in non-volatile RAM, and a battery backed up real-time clock is provided to timestamp information logged to the internal SD card. Logging rate is user settable.

This power supply comes with power factor correction, and with front panel metering for voltage and current. All of the RLP series come with four layers of protection against overload, over voltage, over temperature, and short circuit protection. This model also comes with a manual battery disconnect.

The RLP-2048BBSCLVD-MU comes with the DuraComm three-year warranty.

SPECIFICATIONS

Output Voltage ....55.5 VDC
Output Voltage Tolerance ....+/- 1 %
Output Amperage .... 17 Amps cont.
Maximum Power, continuous .... 1200 Watts
Maximum Ripple and Noise ....200 mV p-p max
Input Voltage ....100 to 240 VAC
Input Frequency Range...47-63 Hz
Maximum AC Current.. 14 Amps/120 VAC; 7 Amps/240 VAC
Typical Efficiency..88 %
Max Inrush Current, single cycle .... 20Amps / 120 VAC, 7 Amps / 240 VAC
Short Circuit Protection .... Fold back Limiting
Overload Protection (operates) ....typical 110-120 %
Line Regulation ....50 mV
Load Regulation .... 100 mV (20-100 % load)
Fan Control ....Heat sink temp >140 F (60 C) = ON
Over Temperature...>195 F (90 C) auto output shutdown
Rise Time following ON...50 mS
Hold Time following OFF..10 mS
Working Temperature Range .... -4 F to +140 F (-20 C to +60 C)
Storage Temperature .... -40 F to +185 F (-40 C to +85 C)
Withstand Voltage*...1.5 KV @ 10 ma (I/P-O/P, I/P-FG)/1 min
          (Continued) ....500 V @ 10 ma (O/P-FG)/1 min
Dimensions ....3.5H x 19W x 13D inches
Weight ....15.8 lbs.

METER CIRCUITS

The panel meter is switched to provide DC output voltage measurement and individual output load current measurement for each individual module.

When set to the VOLT position, the full scale reading is 60 volts.

When set to the AMP position, the full scale reading is 30 amps.

The meter and associated circuitry accuracy is 10 percent of full scale deflection. Since full scale is 30 amps, a 20 amp current can vary from 18 to 22 amps indicated. To prevent unnecessary output voltage drops, the meter circuits use the voltage drop of the black #12 AWG negative return to the module as a meter   shunt. The #12 AWG wire provides a nominal 50 mV drop at 30 amps

The meter sensitivity for voltage measurement is 1000 ohms per volt.

SMART CHARGER

Maximum charge voltage...55.2 VDC
Maximum recharge rate.. 2.2 Amp with auto sensing of charge current
Charger protection.. Overload/voltage/temperature/reverse polarity protected
Dead battery protection ....Short circuit protected with deep discharge start function
AC input .... 90-130 / 180-260 VAC, 47-63 Hz, switch selected
Visual indication ....Dual-state LED indication: Red = high rate charge, Green = Float charge

BATTERY BACK UP

Maximum Power, continuous .... 1200 Watts
Auto-revert to Battery or Power Supply...provided by dual Shottky diode in OR configuration
Maximum Output Current in Battery Mode ....40 Amps (limited by Shottky diode)

LOW VOLTAGE DISCONNECT with RELAY

Maximum Interrupt Current / continuous current ....40 Amps DC
Disconnect Voltage ....42 VDC
Reconnect Voltage..50 VDC
Disconnect Delay .... 2 minutes @ less than preset disconnect voltage

RMCU 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

INSTALLER NOTES

NOTE: **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 vents must not be blocked.
NOTE: The outputs are **NOT** referenced to the chassis, however the **Alarms are referenced the power supply and battery ground**. **The RLP-2048BBSCLVD-MU is designed for negative ground application only.**

INSTALLATION BLOCK DIAGRAM

Output Power Wiring Layout

This system setup will provide continuous power to the load and maintain battery bank with smart charger while AC power is on. There is a seamless transfer of the load to the battery when the AC power goes off. The LVD will disconnect the battery if the voltage drops below 42 VDC. The battery reconnects once AC power is restored and voltage reaches 50 VDC.
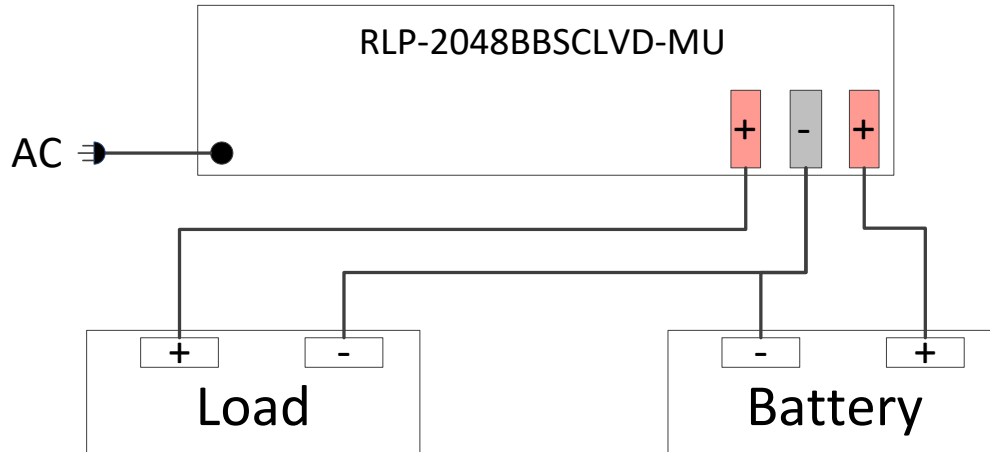
Remote Monitoring and Alarm Wiring
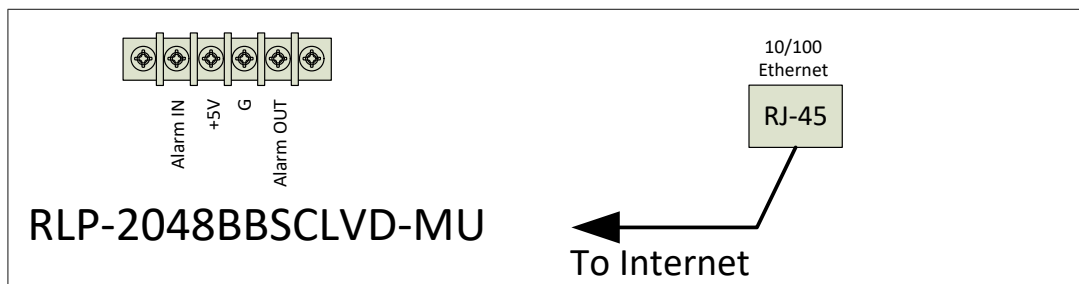
The Alarm input connections require normally closed contacts between Alarm IN and +5V for a typical setup. When the circuit opens, the Alarm Input will turn RED on the status page.

The Alarm output provides an open collector (Open MOSFET drain) form control of external equipment. A load may be connected to the +5V terminal and the Alarm OUT. Alternately, you may use up to a +60VDC external supply. The Alarm OUT pin will sink up to 500 mAmps Max when turned on.

NOTE: The 'G' connection on the alarm terminal strip is the same as Power Supply and Battery Negative, so the RLP-2048BBSCLVD-MU is not designed for Positive Ground applications.

The RJ-45 connects the RLP-2048BBSCLVD-MU to your 10/100 Ethernet network.

CONNECTING TO THE RLP-2048BBSCLVD-MU VIA THE INTERNET

Prerequisites

System administrators must decide whether the RLP-2048BBSCLVD-MU will operate on the network with DHCP or a fixed IP address. The factory-set RLP-2048BBSCLVD-MU 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 RLP-2048BBSCLVD-MU 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 RLP-2048BBSCLVD-MU

Power up the RLP-2048BBSCLVD-MU then connect the RLP-2048BBSCLVD-MU 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 RLP-2048BBSCLVD-MU, then proceed to the section in this manual named "**Open a Web Connection to the RLP-2048BBSCLVD-MU**".

Using Static RLP-2048BBSCLVD-MU 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 RLP-2048BBSCLVD-MU 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 RLP-2048BBSCLVD-MU 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 RLP-2048BBSCLVD-MU.
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 RLP-2048BBSCLVD-MU"** to log in and enter the final network settings for the RLP-2048BBSCLVD-MU.

Open a Web Connection to the RLP-2048BBSCLVD-MU
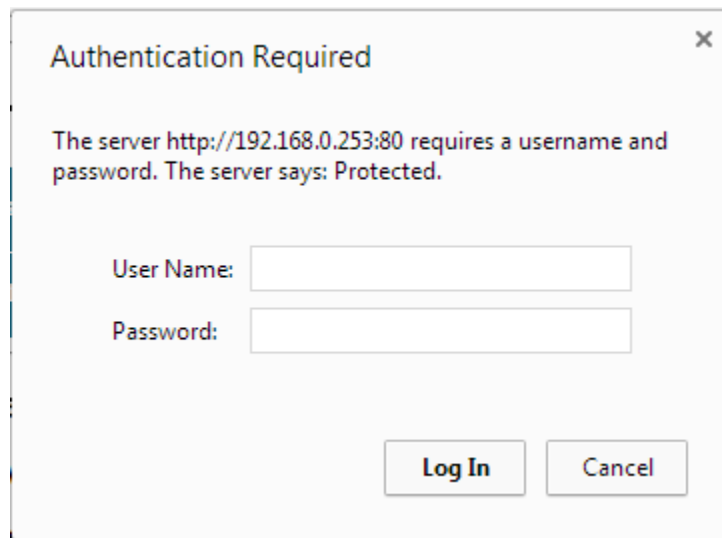
1. Connect the RJ-45 connector on the back of the RLP-2048BBSCLVD-MU to your network
2. Use your favorite device and browser (Chrome, Firefox, internet Explorer, etc.), and enter the IP address of the power supply on your network into the URL box on the browser (see the screenshot below). If you are 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 RLP-2048BBSCLVD-MU responds with the "Status" screen, then skip to the User Login Section.
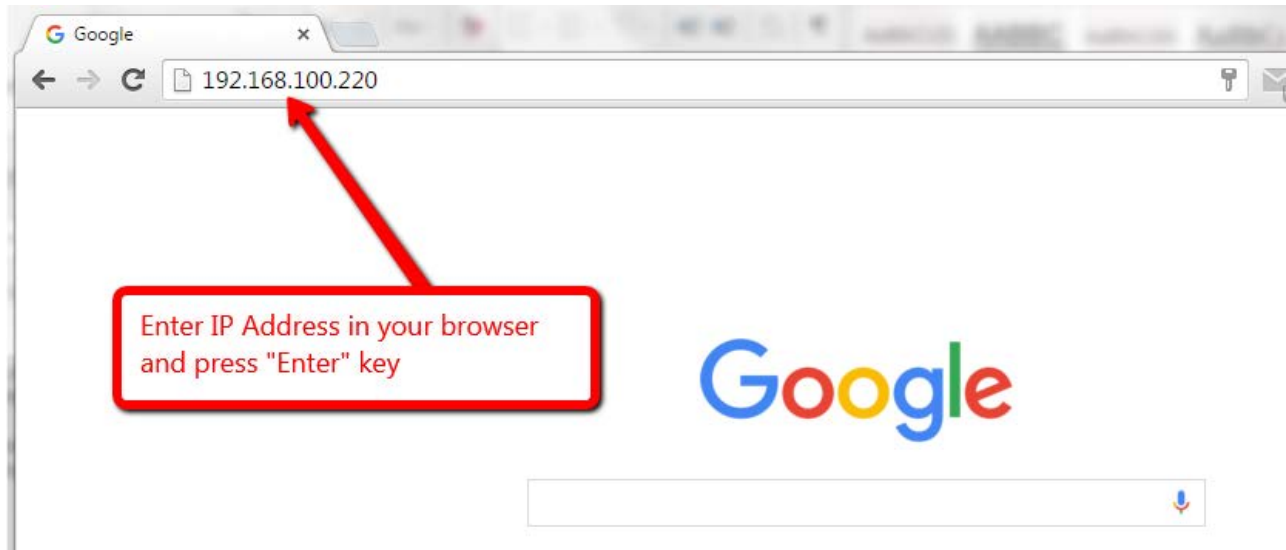
REMOTE MONITORING AND CONTROL (RMCU) SETUP

All setup requires an administrative user to log into the RMCU in your power supply. Click the 'Login' button in the top menu.

User Login

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 RMCU. "Control" users can access all screens except the User Setup screen.

NETWORK SETUP

RMCU - SITE CENTRI© - RLP-2048BBSCLVD-MU

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

TCPIP Setup

MAC Address: 70:B3:D5:6B:37:87

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: `192.168.100.1`
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: 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

Public (read) community: `public`

Private (write) community: `private`

Trap community: `            `

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

Trap Destination IP: `            `

`            `
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 RMCU

[Submit Values] [Cancel Changes] [Reboot Device]

Copyright © 2017 DuraComm ® Corporation

June 13, 2017

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.

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 RLP-2048BBSCLVD-MU can be downloaded from the RLP-2048BBSCLVD-MU after you connect to it with your browser. Go to the Device Setup page and log in to the RLP-2048BBSCLVD-MU. 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 RLP-2048BBSCLVD-MU.

When the MIB file has been loaded, complete the "SNMP Setup" section on the "Network Setup" page of the RLP-2048BBSCLVD-MU to configure it for use with your monitoring solution.

The RLP-2048BBSCLVD-MU 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 RLP-2048BBSCLVD-MU.

RMCU - SITE CENTRI© - RLP-2048BBSCLVD-MU

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

Email setup

E-mail server: [   ]

Server port: [25]

Server username: [   ]

Server password: [   ]

E-mail to: [to@someplace.com]

E-mail from: [me@myplace.com]

Minimum interval: [5] 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: [Never ▼]

Send e-mail on bootup? [No ▼]

Send test e-mail now? [No ▼]

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.

[Submit Values] [Cancel Changes]

Copyright © 2017 DuraComm ® Corporation

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.

Firmware revision 2.7 added the ability to send periodic status or "heartbeat" emails. Enter the number of minutes between status emails. It also added the ability to send notifications and SNMP traps for alarm recovery events.

DEVICE SETUP

RMCU - SITE CENTRI© - RLP-2048BBSCLVD-MU

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

Device Setup

Device Info

Site Name: `<br>RLP-2048BBSCLVD-MU`
Model: RMCU
Serial Number: 6023
Version: HW: 2.0, FW: 2.16

Logging

Logging rate: `0` Minutes
Log start date: Tue, 13 Jun 2017 14:53:11
Last log date: Tue, 13 Jun 2017 14:53:11
Clear Log? No ▼
Append Now? No ▼
Log Alarms? No ▼
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, 13 Jun 2017 15:50:46
NTP Servers:
Leave blank to disable NTP
NTP sync now? No ▼
NTP status: Disabled
Time Zone: `-5` Hours
Manually set time? No ▼
Date (MM/DD/YY): `06/13/17`
Time (HH:MM:SS): `15:50:39`

Miscellaneous

Signficant digits: `1`
Temperature units: Fahrenheit ▼

[Submit Values] [Cancel Changes]

Copyright © 2017 DuraComm ® Corporation

June 13, 2017

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 RLP-2048BBSCLVD-MU will log all measurements and alarms to an SD card that is plugged into the RMCU 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 RLP-2048BBSCLVD-MU custom device name is stored with the logged data, so that the source of the card can be identified after it removed from the RLP-2048BBSCLVD-MU.

For firmware 2.2, the log file will be automatically renamed and a new one started when the file size reaches 5MB. Download all log files before deleting them!

With REV 2.3 Firmware, the ability to log readings when an alarm occurs has been added. To turn off periodic logging, just enter 0 as the logging rate. You can set up logging to occur only on alarms, periodically, both or none.

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 **time.nist.gov** or **pool.ntp.org,** or another NTP server address into the **NTP Server box.**

Firmware 2.16 added the ability to configure a second NTP server.

Miscellaneous Settings
With Firmware 2.0, 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.

.

SENSOR SETUP

RMCU - SITE CENTRI© - RLP-2048BBSCLVD-MU

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 #1	⦿ 🔴 ◯ 🟢	3 samples ▼
#2	Amps Power Supply #2	⦿ 🔴 ◯ 🟢	3 samples ▼
#3	Amps Battery	⦿ 🔴 ◯ 🟢	3 samples ▼
#4	Volts Power Supply #1	⦿ 🔴 ◯ 🟢	3 samples ▼
#5	Volts Power Supply #2	⦿ 🔴 ◯ 🟢	3 samples ▼
#6	Volts Battery	⦿ 🔴 ◯ 🟢	3 samples ▼

	Digital Inputs	Alarm / Open	Type	Averaging
#1	Alarm Input	⦿ 🔴 ◯ 🟢	GPIO ▼	None ▼
#2	DC-OK Power Supply #1	⦿ 🔴 ◯ 🟢	GPIO ▼	None ▼
#3	DC-OK Power Supply #2	⦿ 🔴 ◯ 🟢	GPIO ▼	None ▼
#4		⦿ 🔴 ◯ 🟢	GPIO ▼	None ▼

	Digital Outputs	Inactive	Active	Pulse	PWM
#1	Alarm Output	Red/Left ▼ OFF/HIGH	Green/Right ▼ ON/LOW	No ▼ 0.5 seconds ▼	Disabled ▼
#2	Power Supply #1 ON/OFF	Green/Right ▼ ON	Yellow/Left ▼ OFF	No ▼ 0.5 seconds ▼	Disabled ▼
#3	Power Supply #2 ON/OFF	Green/Right ▼ ON	Yellow/Left ▼ OFF	No ▼ 0.5 seconds ▼	Disabled ▼
#4		Green/Left ▼ Inactive	Red/Right ▼ Active	No ▼ 0.5 seconds ▼	Disabled ▼

	AC Inputs	Averaging
#1	Line AC	3 samples ▼

	Other Inputs	Averaging
#1	External Temperature	3 samples ▼

Scheduled Outputs

#1	Alrm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#2	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#3	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#4	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#5	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#6	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#7	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#8	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#9	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#10	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#11	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#12	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#13	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#14	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#15	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
#16	Alarm Output ▼ OFF/HIGH ▼ Disabled ▼ 00:00 to 00:00	☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ 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

June 13, 2017

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 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 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 RLP-2048BBSCLVD-MU 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.

Additional settings for digital input alarms and emails have been added in Firmware 2.3. Digital Outputs #1 to #3 and Digital Inputs #1 to 3 are the only ones wired and configured in the standard RLP-2048BBSCLVD-MU.

Firmware 2.4/2.5 added the ability to alarm and send notifications to the digital outputs.

In Firmware 2.16, 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.

Firmware 2.16 also added "Scheduled Outputs" 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© - RLP-2048BBSCLVD-MU

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

Alarm Setup

Analogs	Amps Power Supply #1 ▾

Under alarm

Threshold: < `-1000` Amps
Recovery: > `0` Amps
Send e-mail: `No` ▾
Alarm contacts: #1 ☐ #2 ☐ #3 ☐ #4 ☐

Over alarm

Threshold: > `1000` Amps
Recover: < `0`
Send e-mail: `No` ▾
Alarm contacts: #1 ☐ #2 ☐ #3 ☐ #4 ☐

Alarm duration

Duration required: `Instant (0 seconds)` ▾

External Temperature

Under alarm

Threshold: < `40` F
Recovery: > `45` F
Send e-mail: `No` ▾
Alarm contacts: #1 ☐ #2 ☐ #3 ☐ #4 ☐

Over alarm

Threshold: > `150` F
Recovery: < `145` F
Send e-mail: `No` ▾
Alarm contacts: #1 ☐ #2 ☐ #3 ☐ #4 ☐

Alarm duration

Duration required: `Instant (0 seconds)` ▾

Line AC

Under alarm

Threshold: < `100` Volts
Recovery: > `107` Volts
Send e-mail: `No` ▾
Alarm contacts: #1 ☐ #2 ☐ #3 ☐ #4 ☐

Over alarm

Threshold: > `140` Volts
Recovery: < `135` Volts
Send e-mail: `No` ▾
Alarm contacts: #1 ☐ #2 ☐ #3 ☐ #4 ☐

Alarm duration

Duration required: `Instant (0 seconds)` ▾

Digital Inputs	Alarm Input ▾

Alarm Condition: `Never Alarm` ▾
Email: `No` ▾
Duration required: `Instant (0 seconds)` ▾

Digital Outputs

Alarm Output: `Never alarm` ▾ `Never e-mail` ▾
Power Supply #1 ON/OFF: `Never alarm` ▾ `Never e-mail` ▾
Power Supply #2 ON/OFF: `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 "Analogs" label. For example, we are looking at the settings for the "Amps Power Supply #1" channel in the screen above. Firmware 2.0 includes additional settings for alarms. REV 2.10 firmware added the ability to change the name of the AC and Temperature channels.

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.

In the RLP-2048BBSCLVD-MU the Digital Output 1 is an alarm output, and Digital Outputs 2 & 3 control the ON/OFF state of the power supply modulkes. The user must be logged in as the admin or control user to control the digital outputs. The digital outputs can be controlled by the buttons on the status page, mobile page, or via SNMP on the RLP-2048BBSCLVD-MU Optionally, they can be automatically controlled by connecting them to an alarm on the "Alarms" screen.

In Revision 2.2 Firmware (see Device Setup screen) 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 Output 1 can also be configured to output a positive or negative pulse with a duration between 0.5 second and 60 seconds. Pulse width value is chosen from a dropdown list.

Firmware 2.3 added the ability to log alarms. The "Log Alarms" setting on the "Device Setup" Page, is the same as the "Global Settings", "Log All Alarms" setting on this page.

Firmware 2.4/2.5 moved all digital alarm settings to this screen.

Revision 2.10 firmware also added 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. An alarm delay can also be set, which requires that the alarm condition be steady before the alarm is triggered. This can be used to quiet any noise or false alarms due to transients.

Factory Default Analog Alarm Settings

MEASUREMENT	UNITS	OVER ALARM	OVER ALARM RECOVER	UNDER ALARM	UNDER ALARM RECOVER
AC Line Voltage	Volts	140	135	100	107
Temperature	Fahrenheit	150	145	40	45
Amps Power Supply #1	Amps	-1000	0	1000	0
Amps Power Supply #2	Amps	-1000	0	1000	0
Amps Battery	Amps	-1000	0	1000	0
Volts Power Supply #1	Volts	60	58	40	50
Volts Power Supply #1	Volts	60	58	40	50
Volts Battery	Volts	60	58	44	50

June 13, 2017

RMCU - SITE CENTRI© - RLP-2048BBSCLVD-MU

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

Change Password

Select user: [Control ▼]

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.

[Update Users] [Cancel Changes]

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-cylce/reboot to take effect

Type the current Administrator password here to confirm

Password: [_____] [Restore]

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.

Copyright © 2017 DuraComm ® Corporation

User Setup

Password changes and RMCU hard resets are perform 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 RMCU PCB and hold it for more than 20 seconds. You will need to re-connect to the RMCU through your web browser by entering the factory supplied IP address and HTTP port (see Network Setup).

RMCU - SITE CENTRI© - RLP-2048BBSCLVD-MU

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

SITE CENTRI© Status

AC Line Voltage: 119.6 Volts

Amps Power Supply #1: 1.4 Amps

Amps Power Supply #2: 3.5 Amps

Amps Battery: 0.0 Amps

Volts Power Supply #1: 56.1 Volts

Volts Power Supply #2: 56.0 Volts

Volts Battery: 52.6 Volts

Alarm Input: CLOSED

DC-OK Power Supply #1: CLOSED

DC-OK Power Supply #2: CLOSED

Alarm Output: ON/LOW

Power Supply #1 ON/OFF: ON

Power Supply #2 ON/OFF: ON

External Temperature: 90.9 F

Download Log - Right click to save

Status screen

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

The admin or Control user must be logged in to control the digital outputs.

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

RMCU - RLP-2048BBSCLVD-MU		
Line Voltage: 119.973 VAC Temperature: 90.7 F		
Amps Power Supply #1 1.4 Amps	Amps Power Supply #2 3.5 Amps	Amps Battery 0.0 Amps
Volts Power Supply #1 56.1 Volts	Volts Power Supply #2 56.0 Volts	Volts Battery 52.7 Volts
Alarm Input CLOSED	DC-OK Power Supply #1 CLOSED	
DC-OK Power Supply #2 CLOSED	...	
Alarm Output ON/LOW	Power Supply #1 ON/OFF ON	
Power Supply #2 ON/OFF ON	...	

RMCU MAINTENANCE

Battery

The battery on the RMCU 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.

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)

Current Level in Amperes	Wire Size
<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

.

June 13, 2017

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 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 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.

DuraComm® Corporation

6655 Troost Avenue
Kansas City, MO 64131
Phone (816) 472-5544   Fax (816) 472-0959
www.duracomm.com

June 13, 2017