

## key features

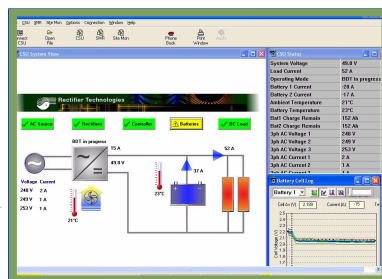


## overview

The MiniCSU-3 is a control and supervisory unit designed for use in the Powershelf series of DC power solutions. The unit provides all the monitoring and control of the rectifier modules, as well as providing comprehensive battery management and advanced remote communications capabilities. Alarm threshold settings are programmable and alarm outputs are provided through both remote communications and local user programmable relay contacts.

The MiniCSU-3 provides a full overview of the system status, meeting the requirements of different operators in the telecom and utility industries, and can also be expanded to accommodate monitoring functions such as battery cell voltage, AC supply parameters, and monitoring of other equipment at the site, such as air-conditioning, fire alarms and remaining fuel for generator sets.

The unit provides both local USB connection and remote interfacing via modem, RS-232, RS-485, or Ethernet, HTTP / SNMP, to allow for remote monitoring and control via dedicated Windows® based WinCSU software, web-browser or network management software.



### Remote Monitoring and Control

Remote monitoring and control via modem (standard or PPP), RS-232, RS-485, Ethernet or Web-based (HTTP/SNMP). Easy to use remote management system and software provided.

### “Hot-Swap” Module

All system level parameters and logs are backed up on separate system-level, non-volatile storage. Controller can be replaced without system reconfiguration required.

### Local Serviceability

High visibility front Organic LED Panel and menu navigation buttons for on-site service.

### Local PC Access

USB front panel interface for local PC connection.

### Flexible Alarms

Control of 5 user programmable alarm relay contacts.

### Security

Password protection to limit access.

### Event Logging

Alarm/Event log with date/time stamp derived from a super-cap backed real-time clock (no extra batteries to maintain).

### Extensive Battery Management

With Battery monitoring (voltage, current, capacity, and temperature), controlled current discharge testing and recharging, battery temperature compensation, and optional cell level monitoring.

## functions & features

### System

- System Voltage and Total Load current monitoring
- System Voltage Regulation and Bus Voltage Drop Compensation
- Real Time Clock with Supercap backup (no battery to maintain)
- Load Fuse/CB Failure Detection

### User/ Local Communications Interfaces

- Two-line, 16 character Organic LED display with sleep mode screen saver
- Menu navigation buttons and 3 status LEDs for on-site users
- Local Front panel USB port
- Controller Firmware Remote/Local Upgrade capability
- Alarm Level settings and mapping to 5 user programmable alarm relays
- Alarm/Event log up to 100 events on local non-volatile memory

### Remote Communication Interface

- Embedded Modem option (standard or PPP versions) – capable of dialling out to 3 phone numbers until connection is made to report alarms or daily reports
- Isolated RS-232 or RS-485 options for connection to central monitoring room of a plant
- TCP/IP option for Ethernet connection
- WebCSU option for Ethernet, SNMP or HTTP connection

**Note:** All remote communications options operate with the WinCSU monitoring and control PC software. The WebCSU unit provides the additional Web-browser and Network Management System (NMS) capabilities.

### Battery

- Battery current monitoring (for a range of current sensors)
- Battery & Ambient Temperature Measurement
- Battery Temperature Compensation Charging
- Active Controlled Battery Current Charging (3 battery voltage regions)
- Battery Equalisation/Boost Charging
- Battery Capacity Monitoring
- Battery Fuse/CB Failure Detection
- Controlled Current Battery Discharge Testing (periodic or manual triggered)
- Control of Low Voltage Battery / Load disconnect

### Rectifier

- Rectifier Alarm Threshold programming
- Rectifier Firmware Remote Upgrade capability
- Rectifier Module Current Monitoring
- Rectifier Data retrieval - Serial Number, Firmware Version, Internal Temperature
- Active Current sharing correction (with fail-safe passive sharing default)



RT9 Powershelf including MiniCSU-3

## available alarms

### System

- Mains Failure (detailed Alarms for AC voltage, current, frequency with optional AC monitor activated)
- No Load
- Load Fuse/CB Failure
- High Ambient Temperature
- Temperature Sensor Failure
- Excess System Bus Voltage Drop (System Voltage Clamp)

### Rectifier

- Rectifier Failure
- Rectifier Communications Failure
- Rectifier Current Limit

### Battery

- Battery Discharge
- High Battery Voltage
- Low Battery Voltage
- High Battery Temperature
- Low Voltage Battery/Load Disconnection
- Battery Fuse/CB Failure
- Differential Battery Discharge Current
- Battery Cell Failure (with cell monitor option activated)

- Rectifier Power Limit
- Rectifier Thermal Limit
- Rectifier Overvoltage Protection

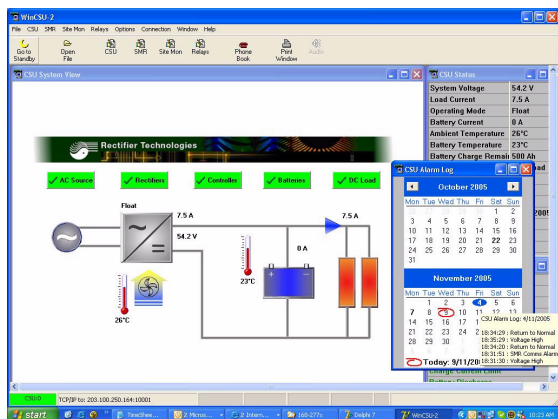
## WinCSU-2 & WebCSU

### WinCSU-2

WinCSU-2 is a Microsoft Windows based monitoring and management tool for RTP power system controllers.

### Key Features

- Monitors total system status in real time
- Alarm management
- Easy-to-Use complete system control
- Win98, Me, 2K, XP



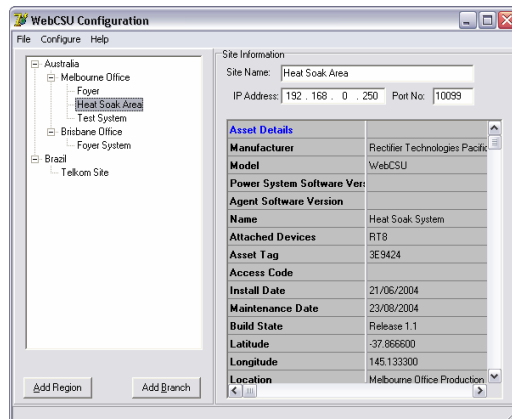
WinCSU Screen

### WebCSU

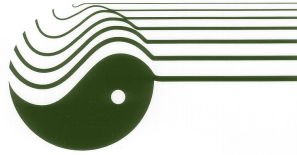
The WebCSU system is an embedded network server, that allows the MiniCSU-3, to be accessed from anywhere in the world.

### Key Features

- HTTP access means no software required
- SNMP access to view entire system parameters, status and provide alarm notifications to any Network Management System
- Update the MiniCSU-2/3 Firmware remotely



WebCSU Configuration Screen



## specifications

### Input AC

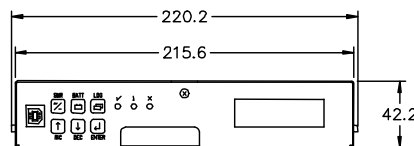
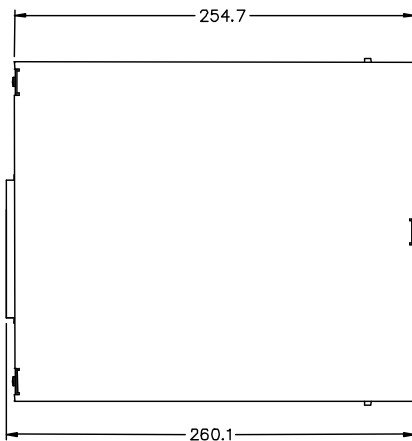
|            |  |
|------------|--|
| Voltage    | 54VDC +40/-66% (18VDC—70VDC) [Suit 24V and 48V systems]              |
| Current    | 1.5A max at 18VDC; 200mA typical at 54VDC                            |
| Protection | HRC fuse in both input lines. Polarity reversal protection included. |

### Environmental

|           |                         |
|-----------|-------------------------|
| Operating | -25°C to +70°C          |
| Humidity  | 0 to 100% RH condensing |
| Altitude  | Operational to 4000m    |

### Mechanical Dimensions

|        |        |          |
|--------|--------|----------|
| Width  | 216mm  | (8.5")   |
| Depth  | 255mm  | (10.0")  |
| Height | 42mm   | (1.7")   |
| Mass   | <1.2kg | (<2.7lb) |



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Information subject to change without notice.

Detailed specification of rectifiers and controllers available at [www.rtp.com.au](http://www.rtp.com.au).

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