

# Batt Manager Battery Monitor & Manager for Data Center Power System



## Overview

Wireless battery monitoring system support UPS battery pack monitoring of voltage, current, capacity, backup time, attenuation rate, temperature, etc, and support single battery monitoring of voltage, internal resistance, temperature etc.

This system can accurately report battery capacity attenuation ratio, predict discharge time, discharge backup time, regular charge/discharge promote etc, greatly help administrators understand the battery quality and catch UPS battery operating status, so will help to do efficient maintenance and find out the hidden danger in early time. Also, Richcomm use the newest zigbee connection, which is more easier and convenient for installation and maintenance. The wireless battery monitoring system no doubt is your best chance for UPS battery monitoring and maintenance.

## 1. Features

## ① Smart Self-learning Function



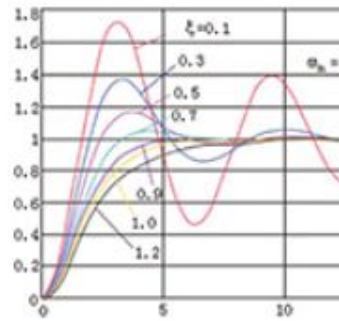
- Report Charging Percentage of Battery Pack

Exactly report the battery pack charge percentage, can timely get battery charge status



- Report Discharge Time of Battery Pack

Automatically calculate and adjust backup time display when battery discharge

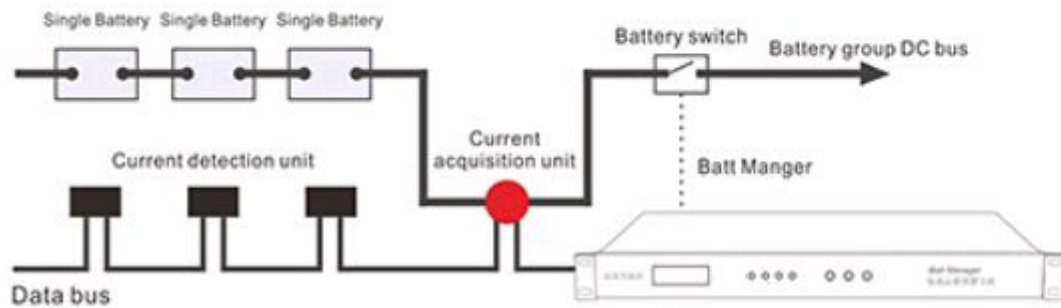


- Report Capacity Attenuation Ratio of Battery Pack

Automatically calculate battery pack capacity attenuation after multiple times of charge and discharge

## ② Excellent Online Internal Resistance Monitoring

## Resistance Online Monitoring



- No need to shut the electrical road, not affect business;
- Less work, convenient operation, no need specific electrical
- Support battery pack monitoring and single battery monitoring battery and increase maintenance efficient;
- No need fully discharge and which has little harm for battery
- Battery data can be fast got when in 7% discharge, more accurate data analysis;

### ③ Smart Self-learning Function Web Interface

- Learn and record every battery discharging status, provide accuracy parameter predict for the next battery discharging.

### ④ Visual Web Management Function

- Through web browser to visit system, easily and convenient check the monitoring info and do function setting;
- One-key finish management setting, more fast and easier for setting and use.

### **⑤ Various Report Function(check history events, export reports, check system logs and inspection records)**

- Anytime anywhere catch the battery operation status, can provide compare and analysis for battery failures

### **⑥ Various Alarm Self Definition Setting**

- Can according to personal demands to choose suitable alarm objects, levels, ways, meanwhile, system provide alarm test to ensure valid alarm.

## **2. Functions**

- Built-in WEB server to achieve HTTP access;
- Built in dual-frequency GSM/GPRS module(900/1800 MHZ);
- Realtime monitoring for battery operation to get early warning for failure, and support battery failure detection and battery pack management;
- Advanced mathematical algorithm to provide accurate information for battery operation;
- Smart self-learning function
- Modular design, the host can be separately operated as a platform of battery operation maintenance and management;
- Battery detection intelligent terminal(BDIT) adopts unitbus mode, with its easy construction and
- high reliability can monitor hundreds of batteries;
- Distributed design, BDIT unit-bus support the distance from host reach a length of 75M;
- Report the charging percentage of battery pack;
- Report the attenuation ratio of battery pack;

- Report the discharge backup time of battery pack;
- Support to use RS232 port to handle parameter configuration or program upgrade for the host,
- also support to remote configuration or upgrade via network card. The RS232 port will auto off
- when plug-in network card;
- Support to use wireless to query the running status of battery pack, at the same time support remote query by network card;
- Support to connect 6 channels of BDIT( battery detection intelligent terminal) and every channel can connect up to 40 BDIT, total up to 240;
- Support SMS, Email alarm;
- Support alarm battery battery detection;
- Each Batt Manager host support 240 nodes of single battery(2V/6V/12V)monitoring, for 1-6 packs;
- Support to detect voltage, current, temperature and resistance of each battery;
- Support SNMP management function.

### 3. Appearance



Back View



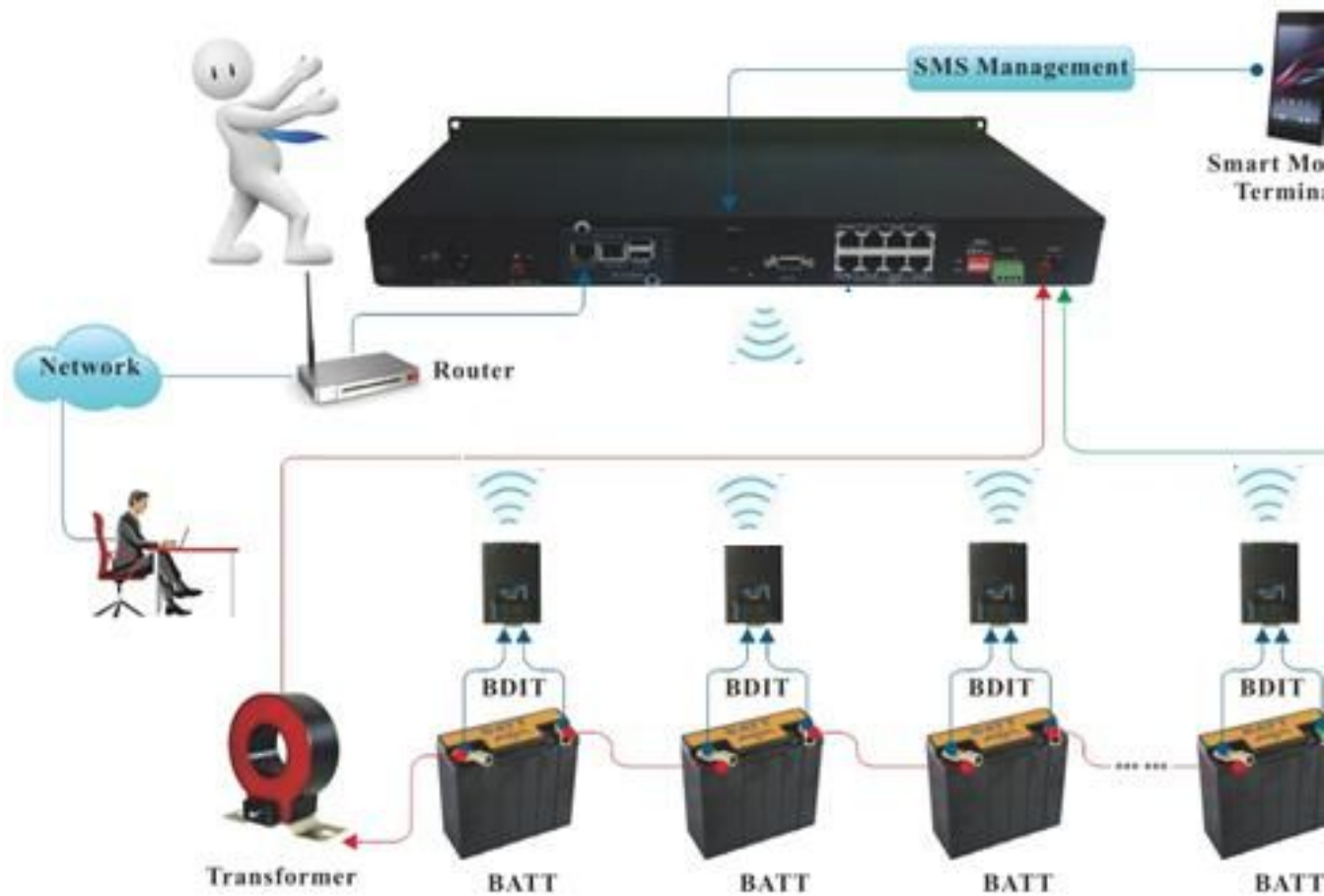
Front View

#### 4. Ports Introduction



- 1 LCD Display
- 2 4 LED Indicators: Run, COMM, BDIT, ERR
- 3 3 Buttons: MENU, ENTER, ESC
- 4 Network Card Slot
- 5 SIM Slot
- 6 RS232 Serial Port
- 7 2 Ports of RS-485\_1RS-485\_2 (for host computer)
- 8 RS485 Ports (connect BDIT module)
- 9 1 Set of Configuration Dial Switch (for Current Sensor measure Range)
- 10 Current Sensor Port
- 11 Voltage Detection Port ( for battery pack voltage detection)
- 12 Antenna
- 13 ON/OFF Switch
- 14 Power Port
- 15 DC Input

## 5. Network Diagram



## 6. Dimension



1U 19 inch elegant design

## 1. Interface

Ver: Battery V1.0  
Present system time: 2014-04-11 15:00:39  
System run time: 04:3h 17m 37s

Admin Logout

Home

Basic Config

Network Config

Device Config

User Manage

SNMP Config

Host Program

Alarm Config

System Inquiry

System Info

Batt Manager Host Info

Battery Voltage : 208 V

Battery Current : 42.50 A

BDIT Support Amount : 16 unit

Battery Temperature : 29.00 (°C)

Backup Time : 35.00 min

Battery Capacity Attenuation Ratio : 87.00 %

Battery Current Under Lower Limit :	●	Battery Temperature Under Lower Limit :	●	Battery Voltage Under Lower Limit :	●
Battery Pack Voltage Over Upper Limit :	●	Battery Pack Current Over Upper Limit :	●	Battery Pack Temperature Over Upper Limit :	●
Device Connection :	●	Battery Working Status :	Discharge	Self-learning Succeed :	finished

Single Battery Monitoring Info

02 Serious warningOEquipment failure2 02 Serious warningOEquipment 02 Serious failure2 02 Serious 02

<Home page>

Ver: Battery V1.0  
Present system time: 2014-04-11 15:00:39  
System run time: 04:3h 17m 37s

Admin Logout

Home

Basic Config

Network Config

Device Config

User Manage

SNMP Config

Host Program

Alarm Config

System Inquiry

System Info

Battery Current Under Lower Limit : ●

Battery Temperature Under Lower Limit : ●

Battery Voltage Under Lower Limit : ●

Battery Pack Voltage Over Upper Limit : ●

Battery Pack Current Over Upper Limit : ●

Battery Pack Temperature Over Upper Limit : ●

Device Connection : ●

Battery Working Status : Discharge

Self-learning Succeed : finished

Single Battery Monitoring Info

Voltage ( V )	Resistance ( mΩ )	Temperature(°C)	Communication Status	Data Transfer Status	Alarm Status		
NO.1 Voltage	13.10	NO.2 Voltage	12.90	NO.3 Voltage	13.00	NO.4 Voltage	12.50
NO.5 Voltage	11.80	NO.6 Voltage	13.20	NO.7 Voltage	13.10	NO.8 Voltage	12.95
NO.9 Voltage	12.87	NO.10 Voltage	12.76	NO.11 Voltage	12.95	NO.12 Voltage	13.30
NO.13 Voltage	13.10	NO.14 Voltage	12.80	NO.15 Voltage	13.00	NO.16 Voltage	12.70

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<Home page>



<network setting>

<history record>

## 2. Technical Parameters

### 7.1、 Batt Manager Host



Network Port	10M/100M Ethernet network
Serial Port	Parameter configuration ,program update via RS232 or network card
	query battery operation status via RS485 or network card
Input Range	AC voltage 100~240VAC, 50/60Hz, DC voltage: 120~370VDC
Switching Power Output(3 channel)	5VDC/4A; 15VDC/2A; -15VDC/ 0.5A
Maximum Output Current/Voltage	2A/15V

Maximum	40W
Current Sensor Power Supply	±15V/0.3A
Browser Supported	Support Internet Explorer、Netscape browser
LED Indicator	Run、COMM、BDIT、ERR
Temperature/Humidity	Temperature: 0°C ~ 70°C
	Humidity: 10 ~ 80%
Monitoring Battery Pack Voltage	0—600V
Safety Certification	CE、FCC
Module Communication Port	Zigbee Transmission Port
Monitored Battery Amount	240 Nodes

## 7.2、WBDIT(Wireless Battery Detection Intelligent Terminal)



Communication Port	Zigbee
Transmission Rate (bit/s)	250K (2.4G Frequency Range )
Transmission Range(m)	10-75
Transmitted Power (TX Power (dBm) )	4.5
Voltage Detection Range	2V、6V、12V Optional
Deviation	±0.1 %
Addressing Mode	IEEE Standard 802.15.4/Wireless Standard Address Modes
Spread Spectrum	DSSS
Network Capacity	Max 240 BDIT Modules