Powerware® CELLWATCH®

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Power Systems

POWERWARE®

Powerware® CELLWATCH®

Advanced Monitoring of your UPS system batteries for their health, and your peace for mind

At Powerware, we understand just how critical your batteries are to your UPS system. Temperature, float level, cycling and other factors all affect UPS battery life. Batteries can fail your system by degrading to the point that they are unable to provide adequate run time for your UPS, or by simply not working at all. Powerware CELLWATCH provides the solution to ensure your mission-critical systems are fully protected.

Powerware CELLWATCH

- Monitors voltage, internal resistance and temperature
- Provides immediate warning and specific battery identification of deterioration and imminent failure
- Reduces the possibility of damage to the entire battery string
- Enables replacement based on battery condition, preventing expensive premature replacement
- Minimum 120 days of activity history enables you to trend individual battery and strings performance
- Continuous monitoring during discharge, recharge and float
- Remote monitoring capabilities optional
- Continuous monitoring of string and battery discharge currents ranging from 25A to 1000A

Powerware CELLWATCH service includes:

- 24 hour hotline for warranty service
- Installation by trained Global Services Battery technicians
- One year parts and labor warranty
- Optional comprehensive plan available

Benefits

- System grows with your expanding needs
- Minimum training, maximum benefit
- Customized monitoring to meet your specific needs
- Instantaneous and thorough results
- Easy battery maintenance and increased safety

Global Services delivers on-site support from a base of more than 250 U.S. technicians and 950 certified international service providers. These technicians support all brands manufactured by Invensys Power Systems, including Best Power, Deltec, Exide Electronics, Hawker, Industrial Power Management (IPM), Intergy, Lortec, and Powerware. Please contact your local service sales manager or Global Services for more information.

Batteries are critical to your UPS System, Who's watching yours?

Powerware® CELLWATCH®
Advanced battery monitoring system

A state-of-the-art battery monitoring system designed specifically for three phase uninterruptible power systems (UPS), Powerware CELLWATCH utilizes the latest fiber optic technology providing rapid, noise-free transmission of information.
The modular system continuously monitors the entire battery system, including string and cell level voltage, internal resistance, current and temperature throughout the charge, discharge and float periods. Batteries are a critical link in all networks and Powerware CELLWATCH adds an additional level of prediction and control to the enterprise, maximizing systems availability.

Powerware CELLWATCH provides immediate warnings of deterioration and imminent failure of batteries, identifies any individual battery that exhibits problems, and reduces the possibility of damage to the entire battery string. In addition, this monitoring system allows battery replacement to be based on the battery's condition, not simply how long it's been in use, helping to avoid premature and unnecessary replacement. All information collected by Powerware CELLWATCH is gathered at a central monitoring unit, where it is analyzed on Windows®-compatible software. The central monitoring unit is connected to Data Collection Modules (DCM) using fiber optic technology, which increases sampling speed. In addition, since fiber optic technology is non-conducting, no electrical noise is gathered by the system, improving the system's reliability.

Powerware CELLWATCH includes a one-year warranty on parts and labor and a 24-hour hotline for warranty service.
An optional comprehensive service plan is also available.

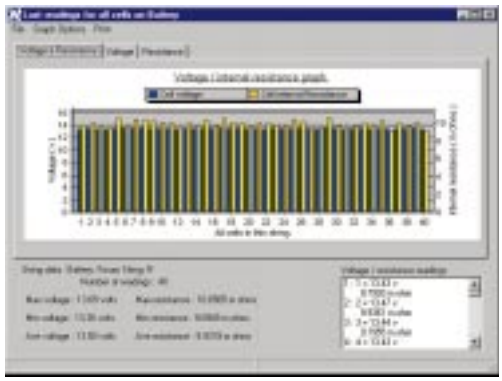
Features

- Modular design expandable to 30,000 cells
- Straightforward fault notification
- Windows 95/98® based solution for display, archival and communication
- Programmable alarm functions
- High speed sampling
- Fiber optic Technology

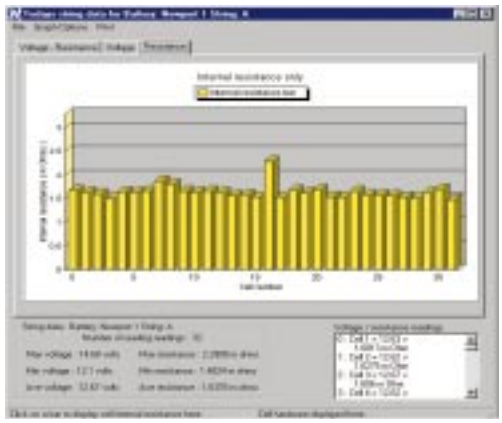
Fiber Optic Technology

- High Speed
- Safety
- Non corrosive
- Elimination of short circuits
- Requirement: Included with DCM's

The online Powerware CELLWATCH system will test, monitor, record, and analyze battery and individual cell condition 24 hours a day.



Powerware CELLWATCH offers the assurance that the battery is always ready to delivery.



The online Powerware CELLWATCH provides immediate warnings of deterioration and imminent failure of batteries.

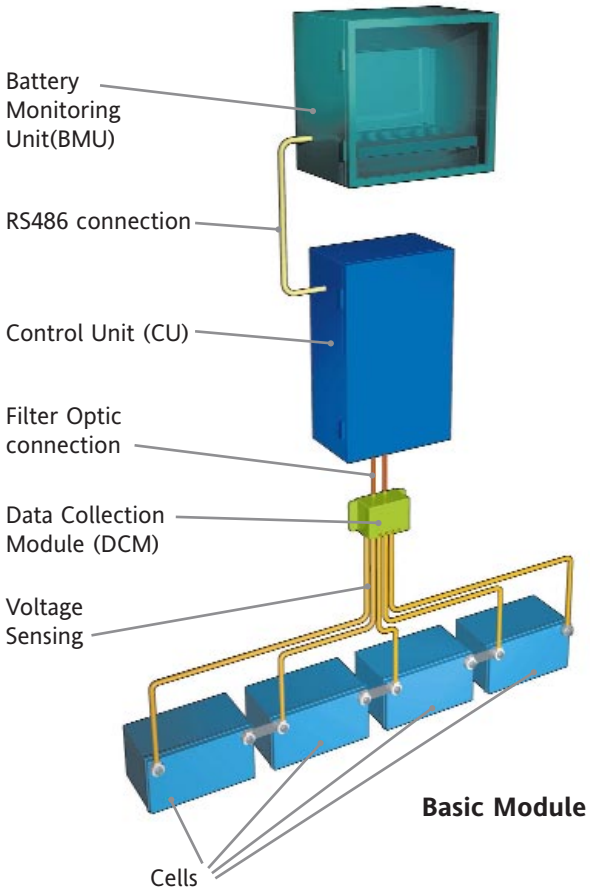
Powerware Cellwatch is a predictive battery monitoring system. Detecting battery, cell and interconnection problems long before they cause a system failure, Powerware Cellwatch is a reliable way to monitor.

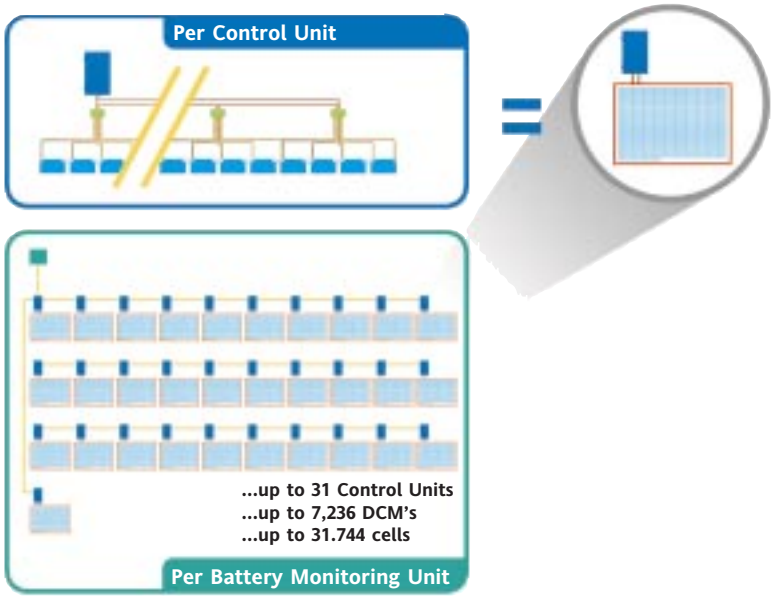
The Battery Monitoring Unit

The Battery Monitoring Unit (BMU) laptop computer controls all aspects of the monitoring process. Continuously running Powerware CELLWATCH software, the system scans all battery components and displays the information in a graphical manner. Retrieved data is stored on the hard drive in CSV format and can be analyzed in standard spread sheets. Data and program information is available through a dial up connection or via a LAN connection. A maximum of 31 Control Units can be controlled per BMU.

The Control Unit (CU) interrogates Data Collection Modules through a fiber optic link and sends data to the BMU via an RS485 serial bus. Up to four current sensors and temperature probes can be attached to each CU allowing monitoring of four individual “strings.” Four volt free alarm relays are provided in each CU for activation of customer specific activities. Mounted in an EN steel cabinet, the CU is completely enclosed.

Data Collection Modules (DCM) are programmable voltage and internal resistance (Ri) measurement instruments that can measure the parameters of up to four cells (2V) or four jars (6V or 12V) to which they are permanently connected. Up to 254 DCM’s can be connected in series to a single Control unit. For safety and reliability reasons, the serial connection is made with fiber optic cable.





Powerware® CELLWATCH® Specifications

Temperature	
Operating temperature, in voltage measurement mode	0° C to 50° C
Operating temperature, in resistance (R*i*) measurement mode	0° C to 35° C
Storage temperature	-10° C to 80° C
R*i* heatsink trip temperature	107° C at source
Power supply, nominal	From 4 x 2v cells up to 4 x 12v mono-blocs (jars)
Power supply voltage	Minimum 6.5 volts DC Maximum 60.0 volts DC
Protection	
Transient suppression	Up to 600vDC. 1Kw pulses at 100,*u*S pulses none repetitive
Short circuit	5 amp max with in-line fuses fitted
Reverse polarity protection	Any combination, in any connection order, for any period of time within the rated voltages
Insulation resistance	1000 MΩs> 1Kv
Voltage	Over voltage protection
Operating Current	
Quiescent	Max: 25mA (0.025A/Hr) at all input voltages
During resistance testing	Additional 0.0027 A/Hr
Voltage measuring Characteristics	
Voltage measuring range	0 volts to 60 volts on any one input channel
Resolution	15mV
Accuracy	2 volts nominal source +/- 1.0% 6 volts nominal source +/- 0.5% 12 volts nominal source +/- 0.25%
R*i* Measuring Characteristics	
R*i* measuring range	0.25 to 20 mΩ
Resolution	100μΩ
Temperature co-efficient of reading	3μΩ/ °C [-5° to +80° C nominal 1mΩ]
Communications rate	9600 baud
Maximum DCMs per Control Unit fiber optical loop	254
Physical Characteristics	
Fiber optic range	Minimum 6" Maximum 150' [no radius sharper that 5"]
DCM cable lengths	Minimum 4" Maximum 16'3" (35" for UL) Maximum variation between cables on one unit 6' 6"
Dimensions of Data Control Module	4 5/8" x 2 17/32" x 1 27/32"
Dimensions of Control Unit	11 7/8" x 11 3/4" x 4 3/4"
Dimensions of BMU	19 5/8" x 19 5/8" x 19 5/8"
Mounting pads – DCM	2 x "3M Dual Lock SJ3551 & SJ3552" 2"
Mounting hole centers – DCM	1/8", 3 15/16" centers
Mounting hole centers – Control Unit	10 7/32" x 10 7/32"
Mounting hole centers – BMU	18" x 18"

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