

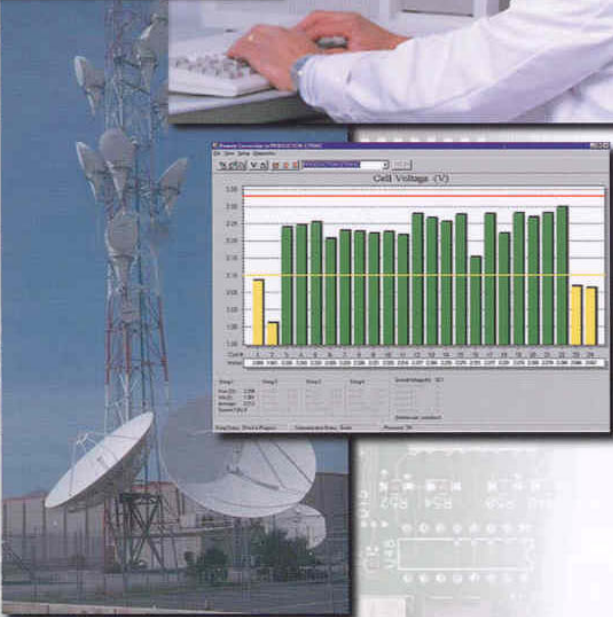
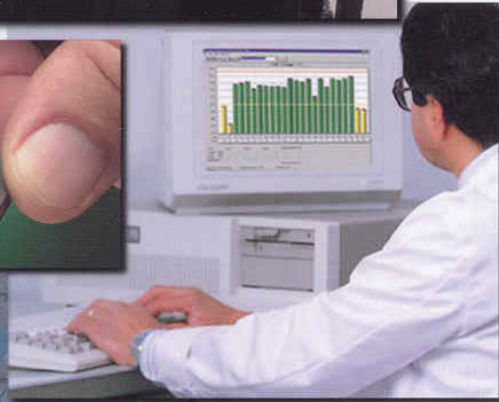
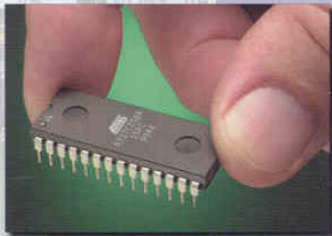
Battery Diagnostic System



*Storage Battery Test Equipment
“for Experts...from the Experts!”*

Albércorp.

Albércorp.



Albércorp introduced the first ever Battery Monitor more than twenty years ago and has maintained a leadership position ever since. Our modular data collection design allows us to configure systems for any application at very competitive prices, plus we provide features unmatched by any of our competitors.

Recognized as the industry leader, Albércorp has been designing and manufacturing Storage Battery Test Equipment since 1972.

Industries, including the telephone and power utilities, computer data centers and other customers who depend on UPS systems, have relied on Albércorp test equipment to monitor the integrity of their emergency power systems.

Albércorp's objective is to continue developing and improving battery test and maintenance methods through advanced technology, superior products and customer support.

Battery Diagnostic System

Every minute your UPS system is down, it can cost millions of dollars in lost revenues...why take chances?

With the stakes so high, why gamble at all...



We predict the winning and losing cells with the world's most complete Monitor Product Line!

Our monitor design is consistent with the Albécorp corporate philosophy of "Doing things right." Albécorp's full function monitors provide early detection of potential problems, plus lower the cost of battery maintenance.

In today's high tech electronic world, a reliable backup power system is an absolute requirement. In order to maintain critical power uptime at close to 7x24x365, the right battery monitor must be installed as part of the system.

The Albécorp Battery Diagnostic System with its patented proactive resistance test is the

perfect solution to detect problems.

- Early detection of battery problems
- All parameters updated every four seconds, even during discharges
- Discharges automatically detected, with data displayed and stored in real time
- Full display of all string parameters on a single screen on location or remote
- Easy management of test reports with user friendly Windows based software
- System can manage over 1000 remote monitors via standard communication links

Visit www.alber.com for more product information

Albér Corp.

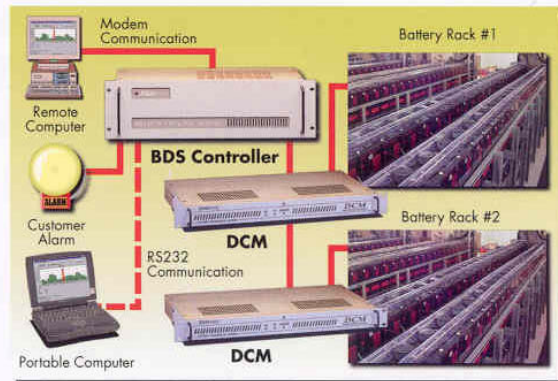
The BDS 256 monitor system, designed for UPS and high cell count applications, can be configured to monitor any battery system installation.

BDS 256 system's three building blocks:

- 1. Data Collection Module (DCM):**
Acquires all readings from the battery
- 2. Controller:** Polls all the DCMs continuously. Stores pertinent data, makes alarm decisions, controls resistance testing and communicates to an external PC.
- 3. Resistance Test Load Module (RTLM):**
Module contains power and control circuitry necessary to perform the resistance test for one or more strings

Optional PC is used for:

- Displaying real-time data during testing or troubleshooting
- Data analysis and generating reports
- Programming alarm levels and resistance test intervals



A typical system has a controller with multiple DCMs and one load module per string. One controller supports DCMs and load modules for up to eight strings of 256 cells. Additional controllers can be added as necessary.



BDS 256 Features

- Scans pertinent battery parameters, such as overall voltage, cell voltages, current and temperature, and updates approximately once every four seconds.
- Performs a scheduled resistance test of all cell/jars, inter-cells and intertiers. Results used for trending analysis.
- Auto detects discharges. Displays and stores real-time data.
- Alarms if any parameter is outside user-programmed limits, energizes a Form C relay contact, and automatically calls a central computer to report the alarm condition.
- Communicates with an external computer via RS-232 or remotely via modem.
- Communication protocol is industry standard that allows third party software interfaces.
- Network compatible (with optional interface).
- Expandable to monitor extremely large installations. (More than a thousand strings can be monitored remotely.)

Battery Diagnostic System

The MPM (Multi Purpose Monitor) is a low cost, single module solution for all applications of 140 volts or less.

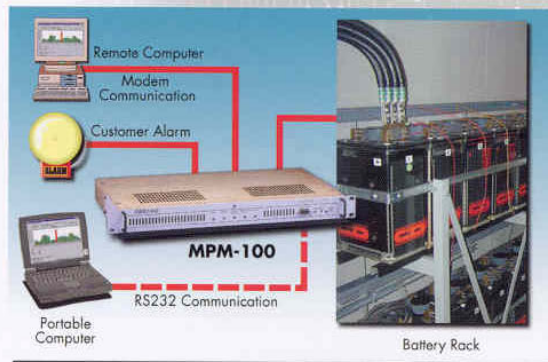
MPMs contain data collection, controller and resistance test circuitry.

The flexible MPM design handles almost any application, including telecommunications, switchgear, microwave, solar, and generator start. Albercorp can configure the MPM for more than 30 string and cell/module configurations (ask for details), and, using a multiplexer, you can connect multiple MPMs together to handle large numbers of strings.

What sets the full function MPM apart from other low-cost monitors is its ability to provide early detection of developing problems.

With its remote access capability, the MPM also offers significant maintenance savings over

midpoint, ripple current, and float current monitors, which are no more than open circuit detectors that indicate a battery has failed.



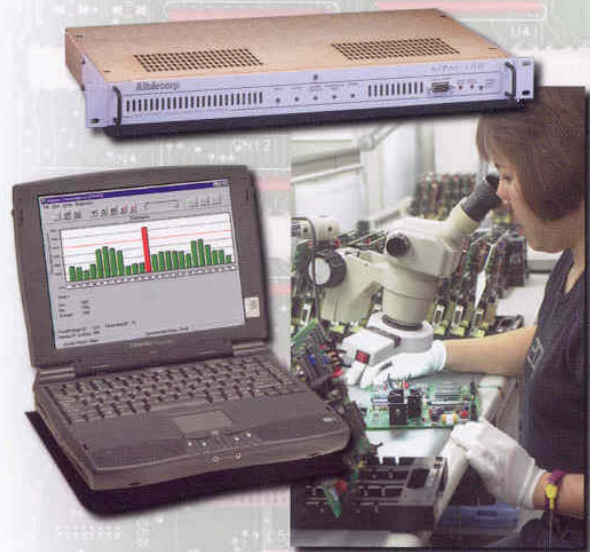
A typical system has one MPM per string.

MPM measurement capabilities

- Cell/module voltages (60 total)
- Overall voltage
- String current (4 channels)
- Temperature (1 channel)
- Internal and intercell resistances
- Contact closure or binary inputs (16)

MPM Features

- Dial in/dial out capability
- Auto detects discharges in real-time data
- Alarms and reports out of tolerance conditions
- Powered from DC bus or 115 VAC
- Multiple communications options



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Albér corp.

Networking BDS-256 and MPM Monitors can effectively manage remote battery sites from one central monitoring location

Large data centers typically have multiple UPS modules, as well as standby generators, switchgear, and fire safety and security systems, all of which lead to some very complex battery monitoring situations.

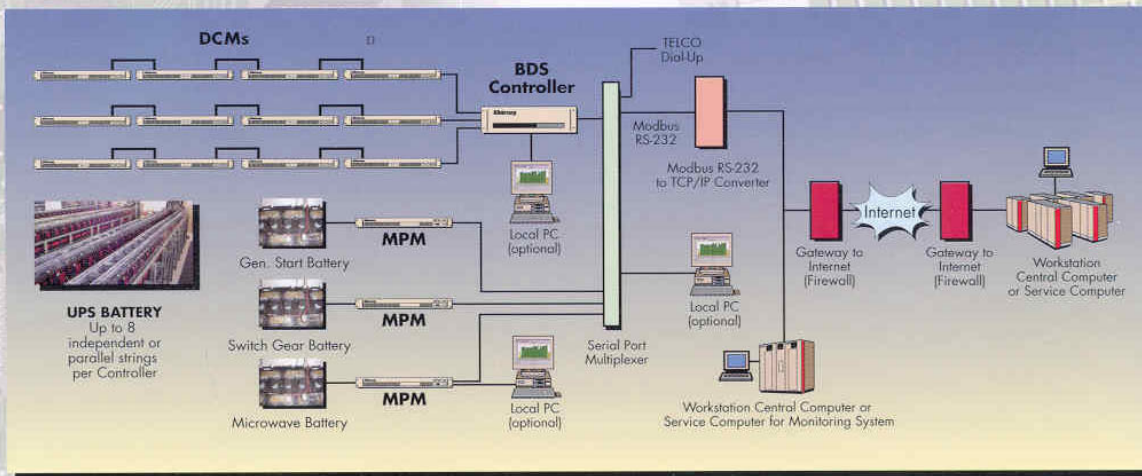
The Albér corp BDS-256 and MPM products really stand apart from the competition when it comes to merging data from the battery systems scattered throughout a facility into a central monitoring point. As a plus, both the BDS and MPM are managed by the same user-friendly Window based software.

As show in the graphics below, a permanent or portable local PC can be connected to the

monitor system to facilitate periodic testing and troubleshooting. In addition, the central computer (either in the facility or off-site) can manage all the strings remotely.

The remote capability includes:

- Auto polling all monitors at user programmed intervals
- Receiving alarms from all batteries
- Paging or faxing an alarm message to the responsible personnel
- Viewing real-time data from all the strings
- Transferring data from all local monitors



This application illustrates how any company responsible for multiple remote battery sites can effectively manage them with the Albér corp Monitor System. The savings realized from not having to visit each battery site unless dictated by the monitor data or an alarm situation are very

meaningful with today's shortage of skilled personnel.

Efficient use of resources and 7x24x365 coverage are major benefits that should not be ignored by any data center, telecom or power company facilities manager.

Battery Diagnostic System

The BMDM Battery Monitor Data Manager software makes connecting and viewing a site as simple as 1-2-3

The BMDM (Battery Monitor Data Manager) is a complete software package that lets you have total control of the monitors and the data obtained from them. This stand-alone program can page technicians and automatically fax or print reports when problems are detected. The graphical interface and readable messages

quickly inform you of string and monitor status.

Technicians can connect remotely via dial-up or network to respond to alarm notifications. The same software may be used for a central monitoring point, a dedicated local computer, or a portable service laptop.

Connecting and viewing a site is as simple as 1-2-3

1. Select a site to call



2. View data in real time

3. Trend data history instantly

Graph any measured parameter to show a trend by clicking the cursor over the current reading. When you need more detailed reports or general summary reports, use the BMDM Report Generator. This program, supplied with the BMDM, allows generation of complete general reports down to cell level reports. To easily present a failure in progress or a history of a failure, you can custom configure reports to include tabular and graphing data.

BMDM Report Generator Features

- Summary reports from general to detailed
- Customized reports setup at the battery or string level
- Analysis reports include detailed cell voltage, resistance, overall voltage and temperature
- Discharge reports from general summaries to detailed cell graphs
- Alarm history analysis

Visit www.alber.com for more product information

Specifications

Power

MPM: Less than 15 watts. Operates directly from the bus for 24V to 48V applications, or optional 120 VAC source

BDS 256: UPS protected 120 VAC source

Inputs

Range

Measurement Accuracy

All cell/module channels	0 to 15V	0.1% of reading \pm 1 LSD
Overall voltage channel	0 to 600 volts	0.1% of reading \pm 0.10V
Temperature channels*	-40°F to 160°F	\pm 1°F
Intertier resistance channels	0 to 5m Ω	0.1% of reading \pm 5 $\mu\Omega$
Current channels*	0 to 4000A	\pm 1A

16 optically isolated contact closure inputs for normally-open or normally-closed

*Temperature and current transducers are optional

Controller/MPM Outputs

Alarm contacts: Form C relay contact, rated 2A at 30VDC or 0.6A at 125VAC

Charger shutdown relay: One N/O dry contact, 2A at 30VDC or 0.6A at 125VAC

Indicator lights: LEDs (one each): green status, red alarm, red alarm disable, green resistance test on, and red hardware error

Controller/MPM Communication

One local RS-232 port or optional fiber optic port for connection to multiplexer

One modem port (RJ11) convertible to optional fiber optic port for connection to multiplexer

Network port: TCP/IP (optional)

Data Storage

Nonvolatile memory for calibration constants, alarm levels, telephone numbers, and setup information

Nonvolatile memory for data storage: 1 year of data for typical application

Environmental

Operating temperature range 0°F to 160°F

Packaging

Either system can be rack mounted in 19" or 23" cabinet or can be wall mounted

MPM is 1.75 inches high

BDS 256 Controller and Resistance Load Test Module are each 5.25 inches high

Data Collection Modules (DCMs) are 1.75 inches high

Power and sense lead connections are at rear of units

Agency Approvals

UL LISTED - File E212234 - All BDS-256 models, MPM-100 24V and 48V models only.

CE - Approved for all MPM models.

*Specifications subject to change without notice
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