

## Albér BDS-40 Comprehensive UPS Battery Diagnostic System



### Albér BDS-40 Battery Monitoring System Is Built For Today's UPS Battery Cabinet System Configurations

Designed and optimized for UPS systems using 12 volt sealed batteries, the Albér BDS-40 is designed to be mounted on top of the cabinet and uses custom cables with each connection point identified to the specific battery. Installation is quick and easy.

Each Albér BDS-40 unit will monitor all the batteries in one cabinet, up to 40 jars. Two different units are available. The **Albér BDS-40 Base Unit** is the central point where UPS-supplied power and communication connections are made. Each additional battery cabinet in the system may then use an **Albér BDS-40 Plus Unit**, which transfers the data to the Base Unit for alarm and data storage. Each Base Unit can manage up to five Plus Units for a total of six battery cabinets. There is a choice of an integral Ethernet network card and/or a dial-up modem as standard.

### Easy To Use

Albér's BDS system makes hard-to-interpret data much more understandable and manageable. The Battery Monitor Data Manager Computer Software is included with every system. With the software you can program thresholds, identify problem batteries by making bar graphs turn red, triggering alarms and distribute alerts to e-mail lists as soon as abnormal conditions are detected. The report has built-in decision support that analyzes the data and provides suggestions for the best cause of action.

### Early Warning For Battery Problems.

Like all Albér monitors, the Albér BDS-40 uses a patented Internal DC Resistance test method that bypasses the limitations of outdated AC based impedance testing. By tracking internal resistance, the system can predict and report failing conditions prior to complete failure. A time-to-go estimate algorithm, which uses discharge parameters and internal resistance readings, assists in predicting remaining battery life.

The Albér BDS-40 continuously diagnoses all critical battery parameters such as cell voltage, overall string voltage, current and temperature. Automatic periodic tests of the batteries internal resistance will verify the operating integrity of the battery. An alarm sounds for any out-of-tolerance condition. If resistance values exceed set thresholds, the user can take proactive actions.

### Albér technology by Emerson Network Power

Emerson Network Power offers the latest in UPS battery monitoring technology with products by Albér — a leader in the field since 1972. Albér technologies by Emerson Network Power are designed to prevent battery failure, optimize useful battery life, reduce maintenance cost and increase safety.

### Other features include:

- The Albér BDS-40 scans pertinent battery parameters every 4 seconds, including total voltage, jar voltage, current and temperature.
- Trend analysis provides the ability to analyze performance and aid in trouble shooting.
- The unit displays real time data, automatically detecting discharges and providing alarm notification of any parameter outside limits.
- Industry standard MODBUS protocol interfaces to third party building management systems via RS-232/USB and Ethernet.
- Optional TCP/IP interface for network or Internet communication via MODBUS or SNMP.
- Each system comes complete with the necessary cables to monitor your battery.
- Windows-based software included for real-time viewing, automatic data collection, data analysis, and report generating.

## Sealed batteries are sensitive to temperature and float voltage settings. Monitoring these conditions can considerably extend useful battery life.

An Albér battery monitor provides the user with detailed information, allowing for cost savings by optimizing useful battery life. Instead of waiting for an inevitable failure or replacing batteries prematurely to prevent problems, you can continue to utilize your batteries longer and with confidence by knowing their true internal condition.

It is essential to detect deterioration at an early stage to prevent catastrophic failures when dealing with 12 volt sealed batteries. This makes measurement technology the most important consideration when selecting a monitoring system. Other battery monitors' internal ohmic readings become inconsistent as the UPS load varies because of variations in AC ripple on the battery. The Albér DC resistance test method is not influenced by ripple and thus provides data that is repeatable and reflects the true condition of the battery.

### Albér BDS-40 Base Unit Specifications

#### Power

Less than 2.0 amps at 115 VAC  $\pm$ 10% 60Hz (for a maximum configuration of one Base Unit and five Plus Units with a total of 40 jars).

Configurations: 17, 20, 24, 25, 26, 27, 29, 30, 32, 33, 34, 35, 36, 38, and 40  
12-volt jars per string are supported.

#### Inputs

Remote alarm reset: User-supplied 12 to 32V signal. (Less than 50ma.)  
Momentarily applying voltage initiates the reset action.

#### Outputs

24 VAC power: For up to five Plus Units.  
Alarm contacts: Two Form C: 2A at 30VDC.  
(One for critical alarm; one for maintenance alarm.)

#### Communication

Modbus protocol, ASCII to PC, and SNMP via Ethernet.  
LAN port, RJ-45.  
USB + RS-232 DB-9 connector for local PCV connection.  
Local/LAN port, RS-232 DB-9 connector (rear panel).  
RJ-11 Telco line, internal modem (optional).

#### Data Storage

SRAM (8 MB) nonvolatile memory for all configuration settings and test data.  
Holds up to one year's worth of data.  
Flash memory for firmware upgrades.

#### Operating Environment

Temperature range: 5°C to 40°C (41°F to 104°F)  
Indoor use only.

#### Packaging

Base unit: 19"W (482.6mm) x 16.2"D (411.5mm) x 7.8"H (198.1mm)  
Plus unit: 19"W (482.6mm) x 16.2"D (411.5mm) x 6.1"H (155mm)

#### Parameters/Features

Number of cell channels: Up to six strings of 40, 12 volt jars.

#### Measurement Range/Accuracy

Cell voltage: 0 - 16V, 0.15% of reading  $\pm$ 4mV  
Cell Resistance 0 - 32000  $\mu\Omega$ , 5% of reading  $\pm$ 5 $\mu\Omega$   
String voltage: 0 - 400V, 0.1% of reading  $\pm$ .1V 0 - 600V, 0.2% of reading  $\pm$ .5V  
Discharge Current: 0 - 600V, 0.1% of reading  $\pm$ 6A 0 - 1000V, 0.1% of reading  $\pm$ 10A  
Current transducer is required.  
Transducer accuracy affects overall current reading accuracy.  
Float Current: 0 - 5000mA,  $\pm$ 0.1% of reading (Optional)

While every precaution has been taken to ensure accuracy and completeness in this literature, Liebert Corporation assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

© 2008 Liebert Corporation. All rights reserved throughout the world. Specifications subject to change without notice.

All names referred to are trademarks or registered trademarks of their respective owners.

© Liebert is a registered trademark of the Liebert Corporation.

SL-29202 (R05/08) Printed in USA

**Emerson Network Power.**  
The global leader in enabling  
*Business-Critical Continuity™*.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- Embedded Power
- Monitoring**
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

*Business-Critical Continuity*, Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co. ©2008 Emerson Electric Co.