

# Albér™ BDS-40

Comprehensive UPS Battery Diagnostic System



## Benefits

- The Albér™ BDS-40 scans pertinent battery parameters every 4 seconds, including overall string 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 the limits
- Industry standard MODBUS protocol interfaces to third party building management systems via RS-232 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



Albér BDS-40 Battery Monitoring System is built for today's UPS Battery System Configurations, designed and optimized for UPS systems using 12 or 16 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. The Albér BDS-40 can also monitor seal batteries on racks.

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. The Albér BDS-40 uses an integral Ethernet network card as standard.

## Easy To Use

Albér™ 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

## Advanced technology by Vertiv™

Vertiv offers the latest in UPS battery monitoring technology with products by Albér BDS products.— Vertiv technologies are designed to prevent battery failure, optimize useful battery life, reduce maintenance cost and increase safety.

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

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 identifies any out-of-tolerance condition. If resistance values exceed set thresholds, the user can take proactive actions.

Sealed batteries are sensitive to temperature and float voltage settings.

Monitoring these conditions can considerably extend useful battery life.

A Vertiv™ 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 and 16 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 Vertiv™ 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 ±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, 16-volt jars per string are supported.
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### 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)
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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.
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### Measurement Range/Accuracy

Cell voltage:	0 to 20V, 0.15% of reading ±4mV
Resistance	0 to 32000 μΩ, 5% of reading ±1μΩ
String voltage:	0 to 600.0V, 0.2% of reading ±0.5V
Intertier Resistance	0 to 5mΩ, 5% of reading ±5μΩ
Temperature	0°C to 80°C (32°F to 176°F), ±1°C
Discharge Current:	0 to 4000A, ±5% of full scale (using CT)
Float Current:	0 - 5000mA ±5mA