Monitoring
For *Business-Critical Continuity*™

Albér MPM-100

Economical Battery Monitoring For Communications And Power Industry Applications

The Albér MPM-100 Battery Monitor

Albér MPM-100 is a battery diagnostic system designed for lower cell count applications such as telecomm or stationary battery systems. It identifies potential problems by continuously monitoring 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 initiates for any out-of-tolerance condition. If resistance values exceed set thresholds, the user can take the proactive action of replacing the bad battery before it affects the others in the string, or before it causes complete string failure.

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.

Albér MPM-100 multi-purpose battery monitor accommodates more than 80 different battery configurations and can be modified for nonstandard configurations. With its automatic polling and data transfer algorithms, the MPM Battery Monitor Data Manager (BMDM) software enables a central computer to manage over 1000 battery systems. The software is included with every system.

The Albér MPM-100 is available in either 19" or 23" rack mount, and can be configured for most power, telecom, and cellular applications. The MPM-100 has a self-contained processing unit and can communicate with an automatic callout system upon alarm or discharge current sensing. Connection to a monitoring site may be via the network or through the internal modem, or locally to a computer via the RS-232/USB port.

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

Like all Albér monitors, the Albér MPM-100 uses a patented Internal DC Resistance test method that bypasses the limitations of outdated AC based impedance testing.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.

A battery monitor provides the user with information such as temperature and cell voltages, 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.

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.

Albér MPM-100 Measurement Capabilities Include:

- Cell/module voltages (100 total)
- Overall voltage
- String currents (up to four strings)
- Temperature (up to eight inputs)
- Internal and intercell resistances
- Contact closure or binary inputs (16)

Features:

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

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Albér MPM-100 **Specifications**

Power		
15 watts maximum. When monitoring 24V to 48V batteries, operates directly from the bus . When monitoring 120VDC batteries, powered off the battery or a 115 VAC wall plug transformer. The transformer must be on a protected, uninterruptible power supply (UPS).		
Wall Plug Transformer:	Albér part number 4000-029	
Input:	100 to 240VAC, 50Hz/60Hz, 1.0A maximum	
Output:	24VDC (nominal), 1.5A 36W maximum	
Fuses On PC Board (Not user replaceable)		
Fuse F1/F1A: 2A FB		
Fuse F2: 1A FB		
Fuse F3: 0.5A FB		
Measurement Range/Inputs	**Range**	**Tolerance**
100 cell voltage channels	2V range (0 — 4V)	0.1% ±1mV
	4V range (0 — 8V)	0.1% ±2mV
	6V range (0 — 8.5V)	0.1% ±2mV
	8V range (0 — 10V)	0.1% ±10mV
	12V range (0 — 16V)	0.1% ±10mV
One string voltage channel	0 to 150 volts	0.1% of reading ±0.1V
Eight temperature channels*†	0°C to 80°C 32°F to 176°F	±1°C
Eight intertier resistance channels†	0 to 5mΩ	5% of reading ±5μΩ
Four discharge current channels*	0 to 4000A	0.1% of reading • 1A (using shunt)
Four float current channels*	0 to 5000mA	±50mA
Sixteen optically isolated contact closure inputs for normally open or normally closed.†		
Alarm reset. Normally open dry contact required.		
*Optional temperature and Current Transducers are required.		
† Actual number of inputs are model dependent. Contact Albér for additional information 954-623-6660.		
Outputs		
3 programmable relay contacts configured to N/O or N/C		
Parameters alarm contact: one Form C alarm relay contact, 2A at 30VDC.		
Hardware failure or power failure alarm contact: one Form C alarm relay control output: N/O or N/C contact, 2A at 30VDC.		
Charger control relay: one N/O dry contact, 2A at 30VDC.		
LEDs (one each): green status, red alarm, red alarm disable, green resistance test on, & red hardware error.		
Measurement Range / Tolerance		
Cell resistance	0 to 32,000μΩ	5% of reading±1μΩ
Communication		
A USB port		
A modem serial port		
An RJ—45 connection or RS—232 connection		
Protocols: MODBUS and SNMP		
Data Storage		
E^2 nonvolatile memory for calibration constants, alarm levels, telephone numbers, and setup information.		
100 alarm events in revolving nonvolatile memory.		
32K bytes of discharge data in nonvolatile memory.		
1.6K bytes resistance test records.		
1.65K bytes historical data.		
Flash memory for firmware revision updates.		
Operating Environment		
Temperature range:	5°C to 40°C (41°F to 104°F)	
Humidity range:	0% to 80% RH (non condensing) at 5°C to 31°C 0% to 50% RH (non condensing) at 32°C to 40°C	
Indoor use only.		
Installation category II		
Pollution degree 2.		
Altitude 0 to 2000 meters above sea level.		
Packaging		
Rack mount.		
Wall mount with optional mounting brackets.		
Dimensions		
19"W x 10"D x 1.75"H		
6 lbs.		
Agencies		
UL listed. File number E212234.		
CE approved.		

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