



## Cellwatch Frontier – Automated Daily Battery Monitoring for Remote Sites

Cellwatch Frontier™ is the most effective battery monitoring system for remote sites available on the market today. The system provides daily testing and monitoring of all batteries at distributed sites like cell towers. It can monitor multiple battery strings including backup for communications equipment, generator start, and switchgear. Cellwatch Frontier is the only solution that can monitor 2-16 volt batteries for short and long duration loads with a single system.

### Eliminate unplanned outages due to battery failure

Increasingly, multi-site operators with mission critical systems rely on automated battery monitoring to ensure that backup power systems will carry the load when the primary electrical power is interrupted. Cellwatch Frontier is designed to integrate with existing network management systems (OAM&P) and building/site management systems to easily centralize monitoring of battery health and integrate battery monitoring into existing maintenance procedures. This ensures maximum efficiency and effectiveness for the system administrator, while reducing costs and effort for maintenance and support teams.

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*The Cellwatch battery monitoring technology is used today by data centre operators, major banks, military installations, hospitals, and universities throughout the world where mission critical power protection is essential. It is field proven in over 2,000 locations around the world. Built for large scale, a single Cellwatch installation is monitoring over 16,000 batteries.*

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### Increase uptime during power outages

Network operators can decrease the risk of outages by eliminating the risk of battery failure. By ensuring remote batteries will work when needed, operators can improve their response to unplanned outages due to weather or power grid failures.

### Reduce site visits and maintenance costs

With the Cellwatch Frontier system, there is no longer a need to go on-site to conduct tests or to measure the battery. There is significant cost savings by eliminating a large number of service visits to perform maintenance operations. Your field support team will know when and where to go so they can be much more efficient and effective.

### Lower battery replacement costs

Extend the life of your battery and eliminate indiscriminate replacement practices by knowing when a battery needs to be replaced with daily monitoring.

### Increase reliability of battery backup system

Cellwatch Frontier integrates into existing network and site management systems and condition-based maintenance can be supported within existing operations procedures. This enables centralized monitoring of the entire network of remote sites.

### Improve workplace safety

Automated battery monitoring decreases the need for personnel to come into contact with and handle batteries. The monitoring technology is optically isolated thus reducing exposure to high battery voltages.

### Slash fuel and vehicle expenses

A huge amount of battery maintenance time is simply traveling to and from sites. Utilizing Cellwatch Frontier reduces truck rolls decreasing fuel consumption and reducing a provider's footprint.

### Cell Level Battery Monitoring

Cellwatch Frontier measures voltage and ohmic value for each jar or cell as well as temperature and DC current to provide a complete picture of battery health.

### Cell Level Alarms

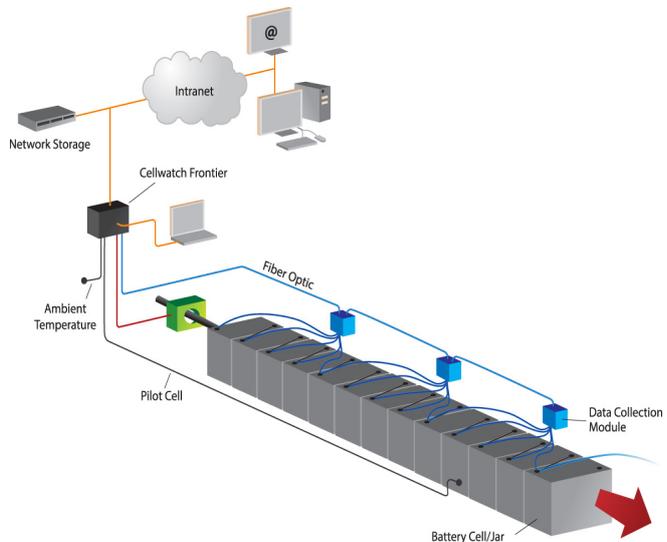
Frontier triggers alarms when any value is beyond its acceptable range, indicating an issue with a battery or cell. Alarm conditions are indicated on device LEDs, site web pages and centralized network management systems.

### Flexible and Scalable

With its modular architecture, Cellwatch Frontier is designed for easy installation supporting essentially any combination of 2 to 16 volt cells configured for short or long duration discharge. Installers can customize the setup to reflect the variation from site to site accommodating deployment deviations as they arise.

### Reliable and Economical

The Cellwatch Frontier components were designed to have an extremely long life and the major components of the solution have an availability factor of greater than 99.999%. The Cellwatch Frontier system is highly reliable and provides an extremely high return on investment.



Cellwatch Frontier systems are comprised of two major components: the Frontier device and a Data Collection Module (DCM). DCMs are connected to each cell and measure its voltage and ohmic value. DCMs are networked with the Frontier device via fibre optic cable for electrical isolation and safety. The Frontier unit aggregates the data from the DCMs along with current and temperature information to provide a complete picture of the health of all the cells in the battery plant at a site. Cellwatch Frontier integrates with site or network management systems (NMS) to provide a unified view of the battery health across all the distributed sites.

*Cellwatch's unique testing method has no impact on the cell's capacity and no impact on the cell's useful life.*

#### Specifications:

Monitors VLA, VRLA, or Ni-Cad cells  
20-150 volts DC  
100-240 volts AC

#### Power Source:

Charger, Battery, AC or DC supply  
Wall or rack mount versions

#### Connections:

4x Temperature probes  
2x CTs for wall mount model  
4x CTs for rack mount model  
4x Digital Inputs  
5x Hardware relays for wired alarm  
RJ45 Ethernet port  
Serial – RS485

#### Interfaces:

DNP3, SNMP, Modbus for SCADA integration  
USB port for on-site administration  
Web pages for remote management