ABB Ability™ Condition Monitoring for Energy Storage Systems


Condition monitoring remote services
ABB Ability™ Condition Monitoring consists of a suite of remote services which provide key operational information about the connected products.

Energy Storage System monitoring
ABB Ability™ enables to review the condition of the ESS remotely, e.g. through a web browser or data interface.

Receive valuable product insights
Analysis of aggregated field data provides valuable insights into the current health to identify and implement corrective actions and optimize its usage.

Speed up service response time
Remote access to data significantly reduces the time taken to analyze field data and plan corrective actions without physical presence on the vehicle.

Reduce unplanned downtime
Early detection of potential issues and assessment of their risks before they lead to a failure.

Data-driven decisions
Leverage real-time and historical data with the condition monitoring capabilities to make informed decisions and ensure safe and optimal utilization of the equipment.

Fleet overview
Review and compare the information about the equipment in your fleet through one portal.

Stay informed
Receive email notifications about important events and stay ahead with reports about the equipment in your fleet.
### Online features and assisted services

#### Online features
Our standard online features offer industry leading monitoring capabilities to fit your needs — whether you want to view the ESS status through the ABB web portal or integrate this data with your existing monitoring systems.

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<th>Feature</th>
<th>Description</th>
<th>Benefits</th>
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| **Condition monitoring** | ABB portal  
- Secure and personal access to the portal  
- Track condition of ESS KPIs within vehicles and fleets  
- Review ESS performance history  
- View signal graphs for state of charge, temperature, power and more  
- View KPIs for energy usage, state of health and more |  
- Monitor the performance of your ESS remotely within a fleet and vehicle structure  
- All ESS operations data available through one portal — compare key performance indicators (KPIs) of different ESS and vehicles |
| **Data interface** | Interface for receiving Condition Monitoring data from ABB Ability™ cloud in your own monitoring systems |  
- Embedded ESS operational data in your own monitoring infrastructure and asset management system |
| **Online storage for diagnostics data** | Data storage  
- Automated data transfer to ABB Ability™ cloud |  
- No physical vehicle access necessary to retrieve diagnostics data  
- Improved service analysis process in the event of failure |
| **Automated reporting** | Create custom reports |  
- Automated summary report of operational data |
| **Alarm management** | Define alarms for the ESS based on events or conditions |  
- Immediate information when condition signals exceed the set limits  
- Maintenance and repair actions without delays |
| **Event management** | See events of the ESS in an event list view |  
- Fast and easy monitoring of ESS events |
| **Direct links** | Use a direct link to share insights/visualizations with colleagues or remote operator for further discussion or analysis |  
- Easily share filtered analysis view with working colleagues |

1) Planned features for future updates

#### On-demand assisted services
Include digitally enabled remote assistance by ABB technical support, advanced analytics expert reports, and a range of other features to make your maintenance operations more effective.

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<td><strong>Individual expert report</strong></td>
<td>ABB generated reports, with comments and recommendations from an ESS expert, including notes based on the drive signal data</td>
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- Get expert information for maintenance and repair planning activities  
- Receive advice and consultation regarding ESS usage |
| **Remote assistance** | Local ABB technical support, connected to ESS signal data and condition information |  
- Remote advice from ABB experts based on diagnosis or operational data |
| **Training** | Remote training to gain insights into the data provided by ESS Condition Monitoring. |  
- Improve your expertise and optimize analytical tools in ESS remote Condition Monitoring |
**Service delivery process**

1. **ESS installation on vehicle(s)**
   The ESS is being installed and commissioned by the train manufacturer. No separate hardware inside the ESS is needed to provide data transfer to the vehicle communication unit.

2. **Remote Condition Monitoring activation**
   Once the vehicles are set up, the data from the ESS can be transferred to the ABB Ability™ cloud.

3. **Configure monitoring**
   After configuration in the ABB Ability™ cloud, the data is prepared and ready to be reviewed in the portal.

4. **Using ABB Ability™ Condition Monitoring portal**
   Access the portal where all the service data is collected.
   Use a standard web browser to visualize the ESS data.

5. **Using the cloud interface**
   Use the ABB Ability™ API (application programming interface) to access the Condition Monitoring data for your own monitoring system.

6. **Receiving email alerts and expert reports**
   - **Email alert and reports**
     Receive instant email notifications.
   - **Expert reports**
     Based on your chosen service, you can receive an expert report on the required information.