# Chloride® BMS

Battery Monitoring System

## Chloride® Monitoring

**Unique architecture designed for industrial applications**

**Compatible with Lead Acid and NiCd technologies**

## Benefits

**Increased personnel safety** by eliminating manual testing of high voltage equipment

**Reduced maintenance costs** through preventive maintenance instead of emergency replacement

**Maximized battery life** through smart diagnostics, regular data analysis and on-time remedial action

**Increased safety on site** as back-up power remains available when most needed and less human presence is required in battery room

## Features

**24/7 alarm notification**

**Event Log** of all activities affecting the battery bank

**Remote access** – via TCP/IP or Modbus

**Automatic capture of data** and report generation

Individual battery **impedance** measurement

Individual and ambient battery **temperature** measurement

Individual and battery **string voltage and current measurement**

**Compatible with Ni-Cd and Lead batteries**, vented or gas-recombination types

**Optical isolation** to increase safety

**Wide choice of configurations** to meet the most complex architectures

Chloride® BMS is a battery monitoring tool to effectively manage stand-by battery banks, thereby ensuring the reliability of back-up power systems. It helps to minimize the risk of failure for critical systems.
Chloride® BMS enables maintenance teams to easily monitor battery health status and resolve potential issues before they become costly problems.

## Range Overview

Chloride® BMS is the ultimate battery monitoring tool to predict and detect stand-by battery bank issues.

Routine testing is essential to evaluate the performance of any battery. The Chloride® BMS continuous monitoring tool allows preventive detection of any potential deviation: all vital parameters, including voltage, current, impedance and temperature are constantly measured to provide an accurate diagnostic of the battery health status.

A wide scope of communication features such as email, SMS and serial link allows the maintenance manager to get the right information early enough to prevent power failures.

By using the link battery management software, operator can easily access real time battery status and measurements, view alarm and battery history and check alarm status of all connected cells. It is also possible to initiate and manage battery dedicated reports.

## Applications

- Power generation plants
- Oil and gas, petrochemical and chemical industries
- Power generation plants
- Power transmission and distribution
- Continuous process industries

*Controller Module monitoring sensors data*

# Chloride® BMS

Battery Monitoring System

## Technical Data Chloride® BMS box

| Purpose |
|---|
| The Chloride BMS box is a wall-mounted box to interconnect the monitored battery with the monitoring software tool and which allows remote indication via serial link and volt-free contacts. |

| General data | |
|---|---|
| Power supply voltage range | 48 Vdc - 400 Vdc (from battery) |
| Dimensions | Height: 460 mm Width: 585 mm Depth: 400 mm |
| Ingress protection | IP42 according to IEC60529 |
| Frame colour | Black RAL 9005 |
| Cable entry | Bottom |
| Operating temperature | 0°C to 50°C |
| Storage temperature | 0°C to 70°C |

| Communication | |
|---|---|
| Relay outputs (volt free contacts) | 1 for MX (General fault)<br>4 for LX (Voltage fault - Temperature fault - Impedance fault System fault) |
| Com port 1 | Ethernet - RS485 |
| Com port 2 (MX only) | USB |

## Technical Data mSensor module

| Purpose | | | | | | |
|---|---|---|---|---|---|---|
| mSensor is the measurement module which can measure individual monoblock voltage, impedance and temperature. | | | | | | |
| Application | Lead Acid or Nickel-Cadmium<br>Vented or Recombination | | | | | |
| **Measurements** | | | | | | |
| Input configuration | Single or Dual monoblocks sensors | | | | | |
| Nominal voltage | 1V | 2V | 4V | 6V | 8V | 12V |
| Voltage measure | 0.8V - 1.9V | 1.6V - 2.6V | 3.2V - 5.2V | 4.8V - 7.8V | 6.4V - 10.4V | 9.6V - 15.6V |
| Impedance measure | 0.15 - 5 mΩ | 0.15 - 5 mΩ | 0.15 - 5 mΩ | 0.5 - 20 mΩ | 0.5 - 20 mΩ | 1 - 40mΩ |
| Temperature measure | -10°C to +70°C (measured on negative post of battery) | | | | | |
| General Data | | | | | | |
| Power supply | Powered by the monoblocks being monitored | | | | | |
| Interface to Controller | BBUS (75m max cable length per BBUS port) | | | | | |

*(1)A monoblock represents one or more battery cells in a container*
*(2)Available as option*
*(3)PC is not part of our scope of supply*

## Controller data acquisition module

| Purpose |
|---|
| The Controller module allows to measure string values and makes data acquisition from the connected mSensors. |

| Battery string measured values | |
|---|---|
| String voltage range | 2 V - 600 V |
| String current<br>• measurement range<br>• number of string (current measures) | <br>0 A - 2000 A<br>4 for MX / 8 for LX |
| String amblent temperature<br>• measurement range<br>• number of measures | <br>0°C to 50°C<br>up to 5. Only 1 sensor per battery room if several strings in the same battery room |

| Acquisition of battery monoblock measured values | |
|---|---|
| Number of monoblocks(1) | up to 200 (MX version) 512 (LX version) |
| Voltage (depending on battery type and mSensor type) | from 1 V to 12 V |
| Impedance(2) (depending on block voltage and mSensor) | from 0.15 to 40 mΩ<br>for Lead Acid batteries ONLY |
| Temperature(2) | from -10 °C to +70 °C |

| General data | |
|---|---|
| LCD display | Controller LX only |
| Power supply voltage range | 48 Vdc - 110 Vdc |
| Dimensions LX<br>Dimensions MX | Height: 45 mm (1U) Width: 430 mm Depth: 265 mm<br>Height: 36 mm Width: 250 mm Depth: 155 mm |

| Communication | |
|---|---|
| LEDs | 4 status LEDs on the panel of the module (controller MX)<br>8 status LEDs on the panel of the module (controller LX) |
| Service port (factory settings) | Ethernet for LX / USB for MX |
| Digital inputs LX | 2 |

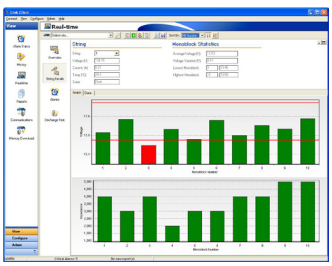
## Link battery management software

| Purpose |
|---|
| Link battery management software provides simple interface for battery status and alarms |

| Recommended PC system requirements (3) | |
|---|---|
| Processor | Intel E5400 DUAL CORE or better |
| Operating system | Windows XP Professional or greater |
| RAM | 2 GB |

*Chloride® BMS Box with Controller modules installed*

*Link software screenshot*



*mSensor module*

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