



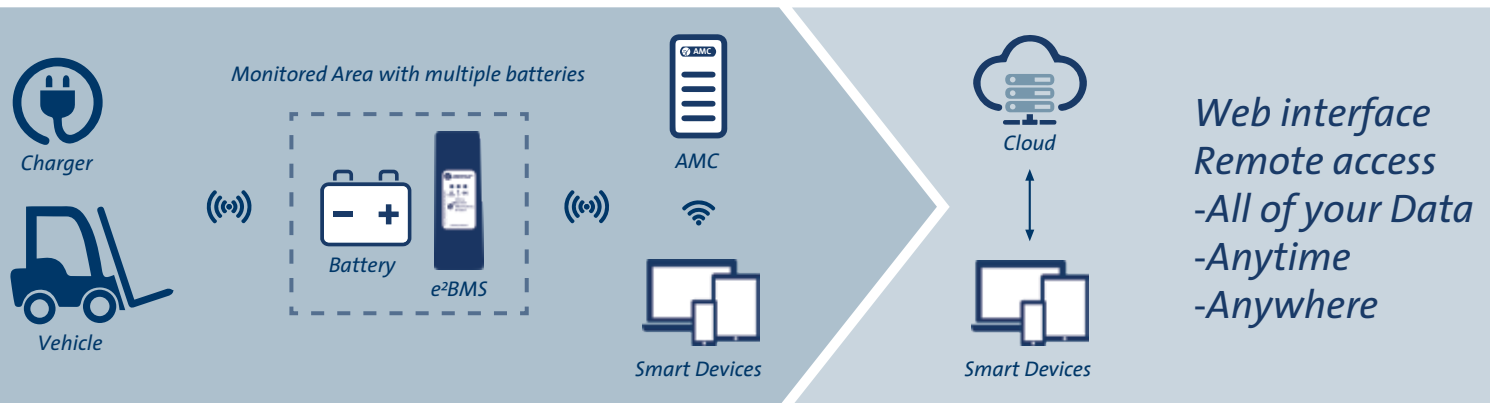
COST SAVINGS

RELIABILITY

QUALITY

ADVANCED BATTERY MANAGEMENT

*Optimise Your Battery Operation
With Enhanced Connectivity*



*Increase reliability and quality of your operation
and extend the service life of your battery!*



Wireless



GPRS
(Optional)

CANbus

THE NEW ABERTAX® BATTERY SENTINEL SYSTEM

Optimise Your Battery Operation

Lead acid batteries for motive power applications are typically specified as having a service life of 1,200 cycles. This, however, is based upon several assumptions such as: operating the battery at approximately 30°C; regularly topping up the electrolyte and not subjecting it to extreme use. The expected service life is significantly reduced if the battery is operated regularly at higher temperatures, if the water is not replenished regularly, if it is frequently subjected to discharges above 80% and if the battery is not fully charged regularly using partial or intermediate charges instead. According to ZVEI (Zentralverband der Elektroindustrie), the expected number of cycles of a battery will be reduced by up to 50% for every 10 °C rise in temperature. Operating the battery at a low electrolyte level for more than 240 hours will also reduce the specified battery capacity by up to 10%. Incomplete charging and deep discharging lead to further reductions.

When subjected to these extreme events, the battery capacity will drop below 80% of its nominal value before its typical 5-year specification and may need to be replaced earlier.

Clearly, in order to maximise the battery utilisation and therefore achieve optimal depreciation of the battery for any application, it is necessary to continuously monitor the main battery parameters such that adverse conditions may be identified, and corrective action can be taken.

AMC - ABERTAX MASTER CONTROLLER



- Webserver with LAN, WLAN and USB connection
- Integrated RF communication system to ABERTAX e²BMS
- Intranet access through web browser
- Remote access via Internet (DSL) or GPRS modem (option)
- User interface for administration
- Webinterface (ABS - ABERTAX Battery Sentinel) integrated

TECHNICAL SPECIFICATIONS

Supply Voltage:	5V +- 10%
Dimensions:	125x80x30mm
Power Consumption (typ):	5W
Power Consumption (max):	10W

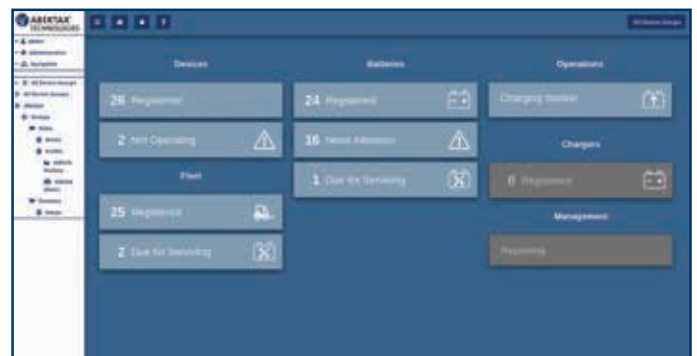
ABERTAX has been designing and manufacturing battery monitoring systems for over 15 years. Our battery monitoring devices collect battery information from several sensors, process the data using powerful algorithms and exchange this data with our software products via both wired (ABERTAX® BMS) and wireless (ABERTAX® e²BMS) connections. Furthermore, for over 5 years now, the battery data may also be viewed in real time thanks to an optional integrated cellular modem that can upload data continuously and automatically to a cloud server and viewed over the internet using a web browser.

ABERTAX's most recent development is setting new standards in terms of data connectivity. Our latest product, the Abertax Battery Sentinel (ABS), regularly monitors all your devices from one on-site location, such as a warehouse, and allows remote viewing of the collected data over the Internet or over your own internal company network. In larger buildings, or across multiple sites, data can be passed on to the ABS via the company's own WLAN or LAN using ABERTAX® transceiver units, accumulating the data from hundreds of devices onto a single on-site storage and processing node called the ABERTAX Master Controller (AMC).

Apart from evaluating individual battery data, consolidated reports of the condition of all the batteries used in the company is also possible. With this extended overview, significant improvements can be made to create budgets, plan service calls and schedule maintenance operations to ensure your batteries operate under optimum conditions and reward you with maximum return on investment.

The potential savings obtained far exceed the cost of implementing such a system.

ABS - ABERTAX BATTERY SENTINEL





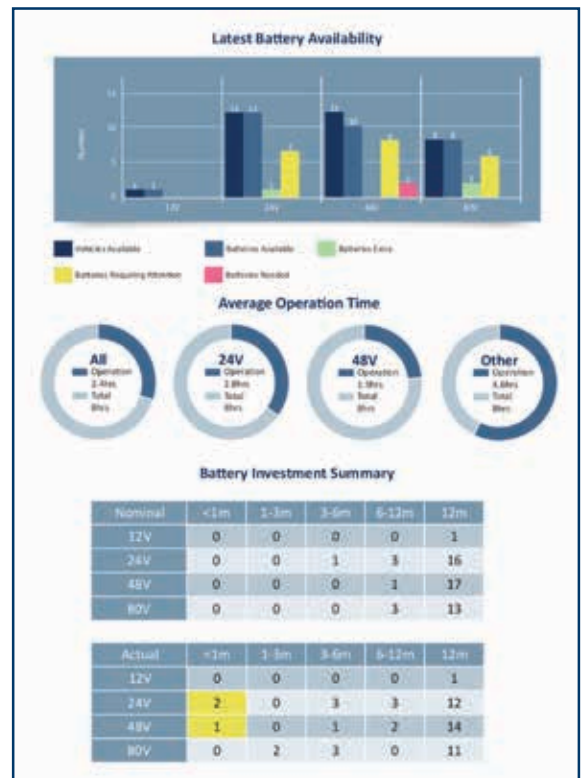
DATA COLLECTION



INDIVIDUAL BATTERY REPORT



MANAGEMENT REPORT





CHARGE MANAGEMENT



- Maximum Flexibility
- One Charger for all batteries
- Charger adapts charge parameters to the battery
- Wireless communication between charger and battery, up to 100m range
- Adaptation to current and historical battery data
- Remote charging control
- Highest level of security: Optimized charge profile

Although most chargers employ a controlled characteristic charge profile, the battery may not be optimally charged due to other factors related to the battery usage.

The latest Abertax patent pending development provides a solution. In cooperation with IEB Brilon, a communication system called AllPairs was developed to exchange data between the e²BMS battery monitoring system and the IEB charger.

When the battery is connected to the charger, all the relevant parameters, including battery voltage, temperature, state of charge and so on are sent to the charger in order to optimize the charge profile according to the real time battery conditions.



FLEET MANAGEMENT



- Schedule service intervals for your vehicles
- Optimize the type and number of vehicles in your fleet

In addition to an overview of the batteries in use, the new ABERTAX[®] Battery Sentinel provides comprehensive fleet management. The entire fleet can be collectively monitored.

Service intervals can be scheduled and displayed. Additional user parameters can be tied to the system.

By implementing the ABERTAX[®] Battery Sentinel you can effectively manage your fleet size both in terms of number as well as the size of the vehicles.

The ABERTAX[®] e²BMS device can be equipped with an optional CAN interface. This makes it possible to integrate the devices with existing vehicle tracking systems (via GPS) and, if necessary, forward the battery data to their cloud or IOT platforms.

ABERTAX[®] TECHNOLOGIES Leaders in Battery Ancillaries

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