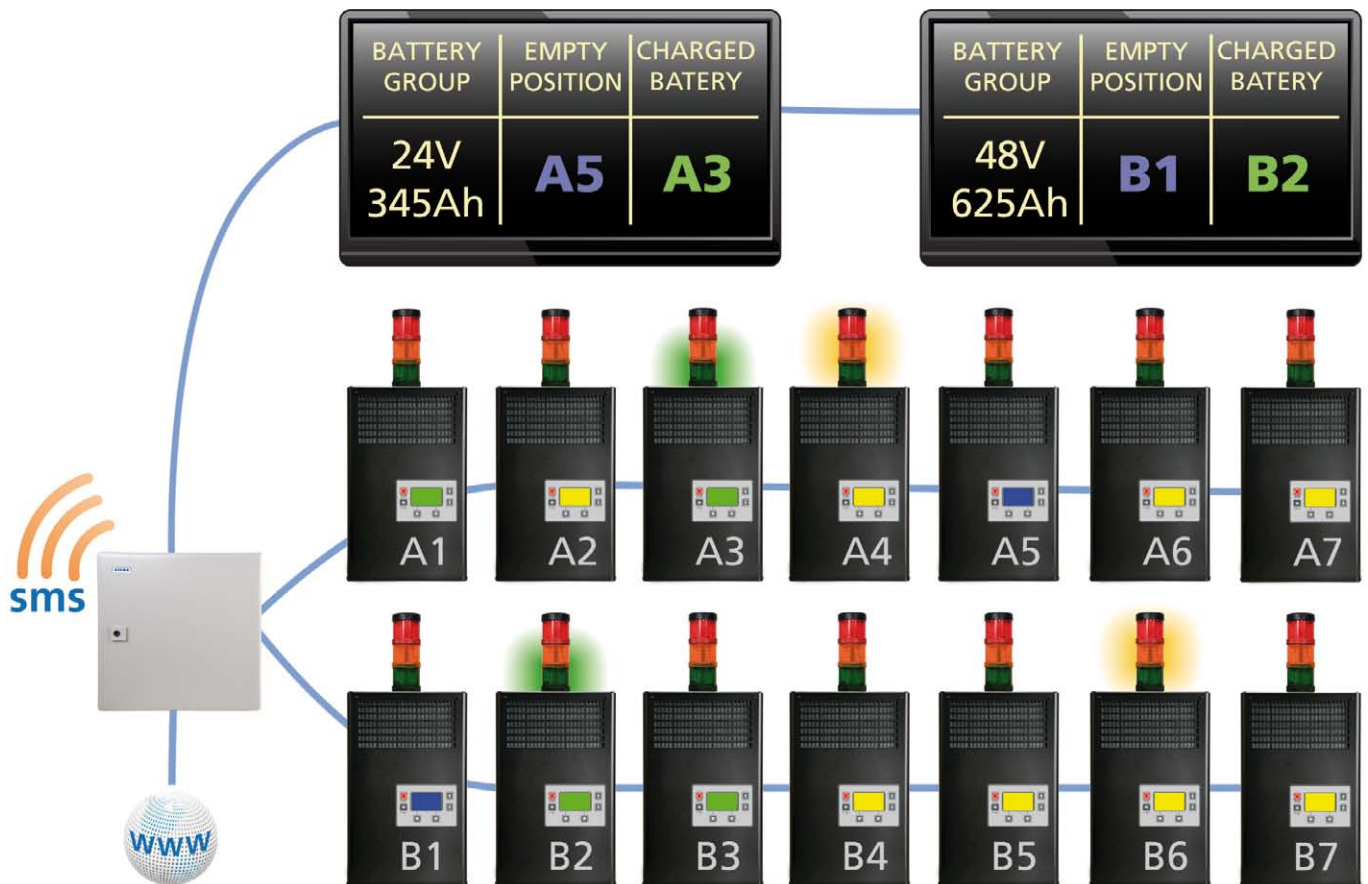


AXINET

BATTERY MANAGEMENT SYSTEM

system for monitoring and controlling
the performance of charger stations





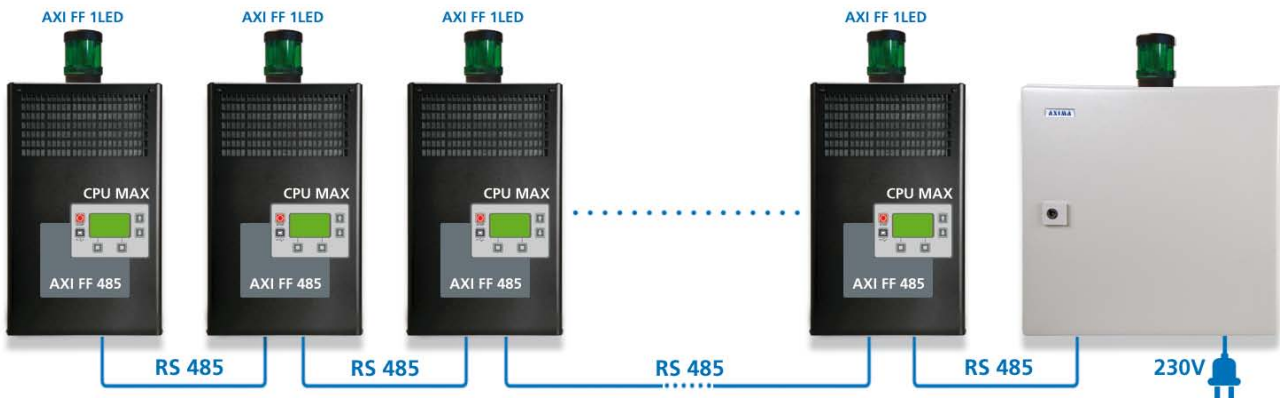
- AXInet is management and monitoring system for FLEXIS chargers. FLEXIS chargers is possible to interconnect to the data-net and to connect to the superior system.
- Data network allows to connect up to 255 devices.



- Battery return place assigning, charged battery indication
- identification of batteries, personnel and forklifts
- Sending information about operating events via SMS
- Clear visualization of individual charging points
- Utilization reports and statistics

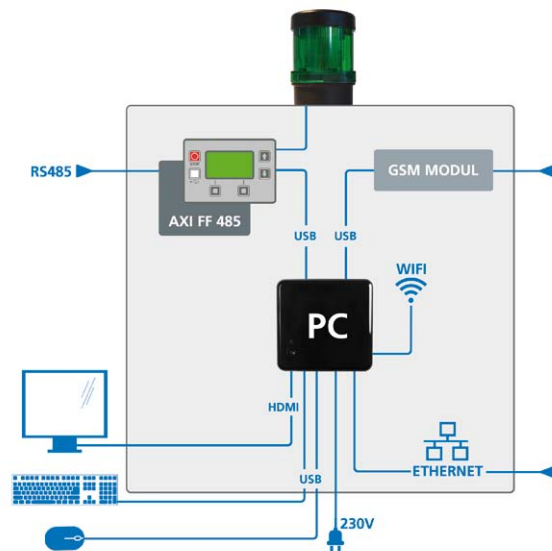


HARDWARE AND SOFTWARE



The AXINET system is comprised of:

- HF FLEXIS charger dimensioned according to the relevant battery and requested charging time, which contains:
 - CPU MAX – fully-fitted control system
 - AXI FF 485 – control board for communication via the RS485 line
 - AXI FF 1LED - green LED, if optical signalisation of battery ready for removal is selected
 - 2-metre RS485 connection cable (or other length as per requirement)
- AXINET central system unit, which contains:
 - Intel NUC D34010 i3/4G/60G SSD/W7P32 computer with power supply
 - Flexis CPU MAX VEN control system
 - AXI FF 485 (or AXI FF CAN)
 - GSM module (optional)
 - wi-fi Router (optional)
 - USB keyboard and mouse (optional)
 - HDMI monitor (optional)
 - industrial level casing
- Display unit (optional)
 - large screen monitor
 - wi-fi or Ethernet connection
 - internet browser
 - mobile telephone



Software system optimised for Windows 7/32 bit Professional operating system; system language dependant upon customer location/preference.

System software operates on a modular basis:

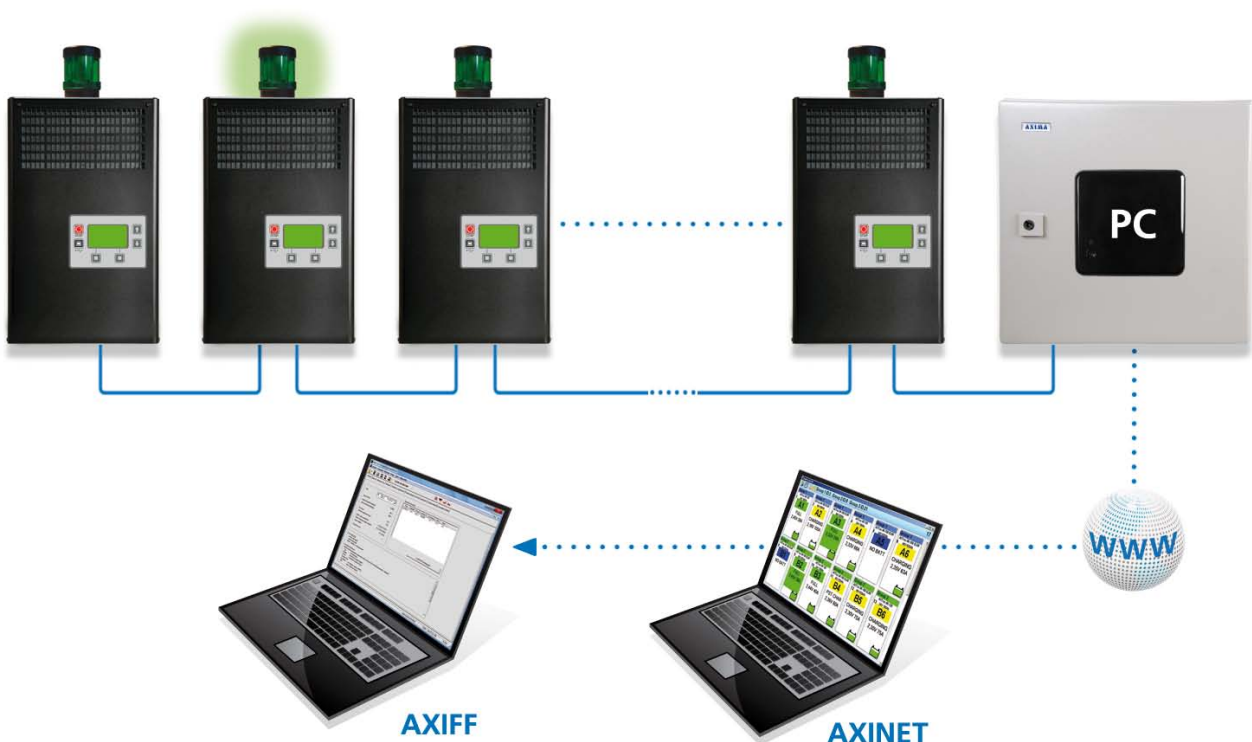
BASIC
TABLO
GSM
STATISTIC
IDENTIFICATION

The basic module BASIC is always active. Additional programme modules are activated based on the requirements of a given application. Activation of additional modules may require additional hardware installation in order to optimise performance.

BASIC MODULE

Basic system module

- for system configuration, the following user options are available:
 - charger number
 - group names
 - grouping chargers
 - grouping chargers into rooms (regions)
 - individual charger names
 - SMS telephone number for individual groups
 - email address for individual groups
 - defining events to trigger SMS or email report
 - restrictions on sending
- utilisation of AXInet programme
 - system state displayed on monitor (via HDMI)
 - display can relay total information or that for individual rooms
- utilisation of Take this technology
 - indicates the position of the oldest fully charged battery in a given group; system sends a command to display green light to the relevant charger
 - operation setting options: indicating charged battery, indicating empty space, indicating both positions at once, blocking a faulty charging location



TABLO MODULE

Enables the displaying of charging location on large-screen monitors

Display options:

- several groups in one representation
- each group represented separately
- individual representations for displaying related information



GSM MODULE

Alarm dispatch module

- carries out the sending of SMS messages to a pre-selected telephone number in case of a pre-selected event occurrence
- carries out the sending of an email to a pre-selected email address in the event of a pre-selected event occurrence
- enables the selection of a different telephone number or email address for each group
- enables setting a limit on the number of SMS reports during an event occurrence in more than one charger
- enables limiting the number of sent SMS reports during repeat occurrences of event
- reports zero telephone credit or connection fault



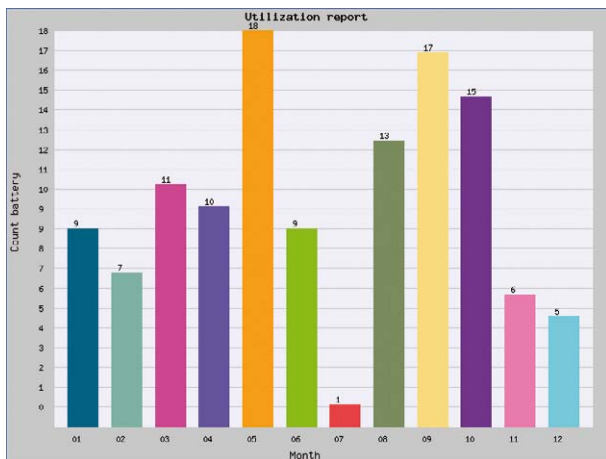
STATISTIC MODULE

Module for operation reports

- processes structured tables and graphs from information collated from system database:
 - number of battery cycles
 - number of charger cycles
 - battery life
- each database entry includes information on battery identification, identification of controller, identification of carrier
- option to export information to XLS format

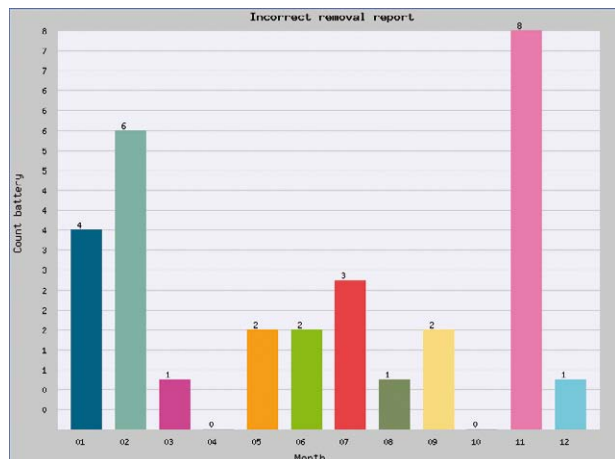
Utilization report

charger usage, number of completed charges, dependency graph showing number of completed cycles per given day



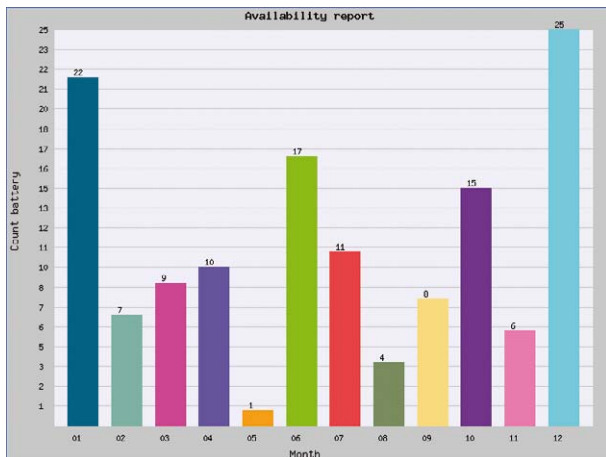
Incorrect removal report

saves date and time of an incorrectly removed battery in table form, dependency graph showing number of incorrectly removed batteries per given day



Availability report

displays a graph showing both the minimum and maximum number of batteries ready for removal on a given day



Graf cyklů nabíječů

displays the number of cycles and charger labels and groups

Nabíječ	Cykly	Název	Skupina	Typ
1	18	1	A	Flexis 96-125 24V 100Ah
2	20	2	A	Flexis 96-100 EUW 80V 620Ah
3	19	3	A	Flexis 96-100 EUW 80V 620Ah
4	21	4	D	Flexis 96-125 24V 100Ah
5	24	5	D	Flexis 96-100 EUW 80V 620Ah
6	25	6	D	Flexis 96-100 EUW 80V 620Ah
7	22	7	Group 8	Flexis 96-125 24V 100Ah
8	20	8	Group 8	Flexis 96-100 EUW 80V 620Ah
9	18	9	Group 8	Flexis 96-100 EUW 80V 620Ah
10	21	10	F	Flexis 96-125 24V 100Ah
11	18	11	F	Flexis 96-100 EUW 80V 620Ah
12	19	12	F	Flexis 96-100 EUW 80V 620Ah
13	18	13	F	Flexis 96-125 24V 100Ah
14	19	14	J	Flexis 96-100 EUW 80V 620Ah
15	20	15	J	Flexis 96-100 EUW 80V 620Ah
16	21	16	J	Flexis 96-125 24V 100Ah
17	22	17	T	Flexis 96-100 EUW 80V 620Ah
18	19	18	T	Flexis 96-100 EUW 80V 620Ah

IDENTIFIKACE MODULE

Module for identifying system units

- enables the following system setting to be entered:
 - identification of battery
 - identification of controller
 - identification of carrier
- enables reading of identification data:
 - barcode
 - QR code
 - RFID chip
- the above assumes that only one data reading system will be used at a time for a particular application. Readers are outfitted with docking stations and Bluetooth technology with a range of 70 metres
- to identify a battery, activate display showing empty charger spaces in the TABLO (if indication of empty spaces is activated)

