

# Smartpack Controller

## Monitoring and Control Unit



### Powerful and cost effective control module

The *Smartpack* controller is a monitoring and control unit used as the vital nerve center of the DC power plant. You operate the system from the elegant front panel, using three front keys and the LCD-display. They represent the main interface between you and the system.

### Applications

#### CAN bus communication

Smartpack utilizes a digital interface architecture (CAN bus communication). It allows the unit to support dedicated communication channel with each rectifier, providing for increased number of functions and greater flexibility.

#### Modular design

The Smartpack is extremely flexible in its expandability. Additional units connected to the CAN bus can be added to provide extended functionality and increased number of measuring points. Accordingly, system components can be set up and upgraded to meet the demand of any tailor-made power solution.

### Product Description

The Smartpack controller is a powerful and cost-effective module, developed for monitoring and controlling a wide range of Eltek Valere's DC power supply systems, such as Powerpack, Flatpack2 and Minipack DC power systems.

You can also operate the system locally via a PC using the PowerSuite PC application, or remotely via modem, Ethernet and the Web. The module then utilizes the USB- or RS-232 ports to interface with a local PC, SNMP or Web adapters.

The Smartpack controllers are CE, UL and NEBS tested as part of systems approvals.

### Key Features

- ✓ Front panel LCD and buttons for on-site service without PC. (Not on Basic Slave model)
- ✓ USB- or RS-232 interface for PC connection locally or remote monitoring and control via modem, Ethernet, web or SNMP.
- ✓ 6/2 user programmable relay outputs for traditional remote monitoring
- ✓ 6/2 user programmable inputs for monitoring of other equipment on site
- ✓ Battery monitoring and testing without site attendance
- ✓ Temperature compensated charging for increased battery lifetime
- ✓ Battery lifetime indication
- ✓ Password protected operator access levels
- ✓ Alarm/event log with time and date
- ✓ Windows-based PC communication software

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## Additional Technical Specifications

### Remote Monitoring and Control

- ✓ **From a PC running PowerSuite**  
a Windows-based communication program installed on a remote computer, the system can be monitored and controlled via modem or Ethernet network
- ✓ **From a PC running a WEB Browser**  
the system can be monitored and controlled via Ethernet network
- ✓ **From an NMS via Ethernet (SNMP)**  
With an SNMP agent connected to the Smartpack, the system can be monitored and controlled from a Network Management System (NMS) through Ethernet on Simple Network Management Protocol (SNMP)

#### Using alarm relays (voltage free contacts)

6/2 internal failsafe alarm relays provide voltage free contacts that can be connected to equipment used for traditional alarm monitoring

### Local Monitoring and Control

- ✓ **From a PC running PowerSuite**  
a Windows-based communication software, can also communicate with the Smartpack through an USB serial or RS-232 cable
- ✓ **LCD and three keypads for local operations**  
If any alarm (major or minor) is activated, a (red or yellow) LED is lit in the front panel, the alarm text appears in the LCD and the corresponding alarm relay is activated

In normal operation, the front LCD will display the output voltage, battery current, load current and charge mode. (Not on Basic Slave version)

### Features

#### System

- Output Voltage Measurement
- Total Load Current Measurement
- Load/Battery Disconnect
- Alarm Level Settings (major / minor)
- Alarm Log (up to 1000 events, 10k on HW v2)
- Real Time Clock with Battery Backup
- Site Text/ID
- Test of Relay Outputs
- Voltage Level setup
- Data logging (up to 7000 data points)
- Energy logging (hourly, daily and weekly)

#### Battery

- Battery Current Measurement
- Battery Temperature Measurement (optional)
- Battery Testing (acc. to discharge table or set time limit)
- Battery Test Information (10 latest tests)
- Setup of Battery Data
- Battery shunt setup
- Battery quality indication
- Battery Boost Charging
- Battery Cable Voltage Drop Compensation
- Temperature Compensated Charging
- Protection against Temperature Probe Failure

#### Rectifier

- Available information about each rectifier, e.g. serial number, version, internal temperature
- Individual Rectifier Current Measurement
- Individual Rectifier Input Voltage
- Efficiency Management

#### Generator and solar charger support

- Generator On/Off control signaling based on SOC monitoring for battery cycling applications, adjustable limits
- Time based, daily and/or monthly on/off signaling
- Prioritize power from solar charger when available
- Suppress solar charger warning during full panel shading

### Available Alarms

All alarms can be set up with monitoring of minor, major, average and peak levels.

#### System

- Mains Failure (individual phases)
- Digital Inputs (programmable names)
- Load Disconnect (voltage or timer)
- Load Fuse
- Load Current

#### Battery

- High Battery voltage
- Low Battery voltage
- High Battery temperature
- Low Battery temperature
- Battery Capacity
- Battery Disconnect
- Battery Fuse
- Symmetry Failure
- Battery quality indication
- Battery discharge current

#### Rectifier

- Rectifier Failure
- Critical Rectifier Failure (> 1, programmable)
- Rectifier Capacity w. programmable level
- Rectifier Current Limit
- Rectifier Overvoltage Protection
- Rectifier Current

### Specifications

Input Voltage	18-75VDC, covering 24, 48 and 60 nominal systems voltages.
Power consumption	4.5W max (stand alone – no CAN control nodes powered)
Dimensions (WxHxD)	109 x 44 (1U) x 140mm 4.3 x 1.7 x 5.5"

Specifications are subject to change without notice

242100.100.DS3- v8

### Optional Control Devices/CAN nodes

Part no.	Description
242100.300	Battery Monitor
242100.301	Load Monitor
242100.304	I/O Monitor (Outdoor)
242100.200	Smartnode RS232/485

Part no.	Description	Part numbers
242100.110	Smartpack Extended (6 + 6 I/O, 2 String Battery connection)	
242100.111	Smartpack RS-232 front (RS-232, 6 + 6 I/O, 2 String Battery connection)	
242100.118	Smartpack WEB/SNMP (Ethernet, 6 + 6 I/O, 1 String Battery connection)	
242100.000	Smartpack Basic Slave (without display, buttons & internal power for distributed systems)	

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