Smartpack S Controller

Navigation and Menu Tree

System Status	This section is read-only access. Scroll through the menus and interrogate or edit the system information about AC mains, generators, rectifiers, solar chargers, DC-DC converters, system load, battery and voltage information, inputs and outputs, and control system components information.
System Configuration	**Note**: This section is password-protected and should be used only by System Administrators. Use this section to interrogate the system, and to make changes or reprogram the system factory default parameters. Administrators can program basic system parameters, network configuration, system voltages, system calibrations, generator configuration, rectifier configuration, solar charger configuration, DC-DC converter configuration, battery configuration, battery test and battery boost configuration, and symmetry configuration.
Alarm Configuration	**Note**: This section is password-protected and should be used only by System Administrators. Use this section to configure the system LVD devices and system alarm tables, to create/delete and to enable/disable alarms and alarm groups, enable/disable inputs and outputs of the system, program alarms alarm levels and alarm severity levels for AC mains alarm, generator alarm, rectifier alarm, solar charger alarm, DC-DC converter alarm, load alarm, battery alarm, inputs/outputs alarm, and control system alarm.
System Commands	**Note**: This section is password-protected and should be used only by System Administrators. Use this section to execute commands to start and stop specific functions of the power system. Such commands include (but are not limited to): reset alarms, start/stop battery test, start/stop battery boost, reset the system configuration, relay test. **Note**: testing relays may activate the system LVD devices.
Upload/ Download	**Note**: This section is password-protected and should be used only by System Administrators. This section of the controller allows you to download Information and data from the controller and store it in the controller's memory. Configuration profiles and software upgrade can be uploaded to the control system, to the Smartpack S Controller, the Smartpack2 Basic Controller, Smartpack2 Basic Industrial Controller, and CAN nodes.
Logs and Reports	This section is read-only access. Use this section to access information about active alarms, system events, voltage information, load information, battery information, and battery test results. The system hardware and software inventory can be displayed in this section.
Statistics	This section is read-only access. It displays daily and monthly energy statistics for the highest, lowest and average values.
Commissioning	This section is read-only access. It displays general information and guided steps to commissioning the power system.

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ELTEK

Navigation and Menu Tree
Smartpack S Controller

Smartpack S Shelf Mount

Navigation Keys

Graphical Color Display

Status LEDs

Smartpack S Panel Mount

Navigation Keys

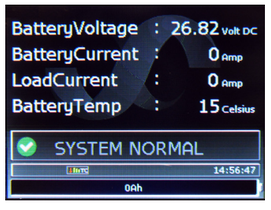
Graphical Color Display

Status LEDs

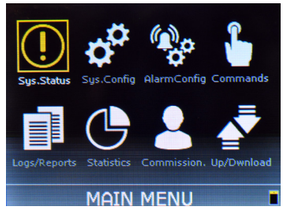
Navigation Keys

Enter Key	To change from Status mode to Menu mode and to select options, enter values	**Up or Left Key**	To navigate up or left, and to highlight options; also used to increase values
Cancel Key	To navigate to previous level, view alarms, and cancel options and values	**Down or Right Key**	To navigate down or right, and to highlight options; also used to decrease values

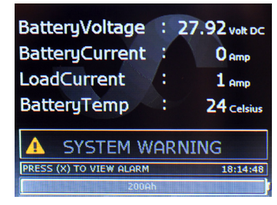
Menu Navigation



Press ▲ ▼ ↵ keys to go to the MAIN menu.



Press ↵ key to go inside a menu.



Press ✕ key to view Alarms.
(ALARM only appears when an alarm is active.)

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Delta Part No. 5017456200

SYSTEM STATUS

- **Mains** [Select Group]
  - No Of Phases
  - Mains Low
  - Mains Volt 1
  - Mains Volt 2
  - Mains Volt 3
- **Generator** Generator Fail
  - Generator Activation
  - Discharge Value
  - Mains Not Present
  - Charge Time
  - Fuel Remaining
- **Rectifiers** [Select Group]
  - No Of Modules
  - Rectifier Current
  - Rectifier Error
  - Rectifier Low Mains
  - Rectifier Comm Err
  - Rectifier Capacity
  - Rect Curr Share Err
  - Rectifier Temp
- **Solar** No Of Solar Chargers
  - Solar Current
  - Solar Charger Error
  - Solar Comm Error
  - Solar Symmetry Error
  - Solar Charger Temp
- **DcDc** No Of DcDc Convs
  - DcDc Current
  - DcDc Error
  - DcDc Comm Error
  - DcDc Capacity
  - DcDc Temp
- **Load** No Of Load Groups
  - DC Load Capacity
  - Load Current
  - Status Fuse
  - Status LVLD
- **Battery** Battery Voltage
  - Battery Current
  - Battery Temp
  - Battery Life Time
  - LVBD
  - Fuse
  - Battery Quality
  - Bad Test Results
  - Battery Tot Cap
  - Battery Rem Cap
  - Battery Used Cap
  - Battery Time Left
  - Delta String Curr
  - Ah Charged
  - Ah Discharged
- **Inputs** ProgInput 1.1 . . . 1.3
  - *User-defined names* ProgInput 1.4 . . . 1.6*
    - *Smartpack S only
  - ProgInput 81.1... 81.6†
    - †Smartpack2 Master only
- **Outputs** Major alarm
  - Minor alarm
  - Mains alarm
  - Fuse alarm
  - Battery high
  - *User-defined names* Battery low
  - Rectifier alarm
  - Alarm Group 08 ...17
  - Output Blocked
  - LVBD
  - LVLD1
  - LVLD2
- **CtrlSystem** No Of Ctrl Unit(s)
  - Ctrl Unit Error
  - Ambient Temp
  - Batt-Ambient Temp
  - User Suspended
  - Update can unit
  - Temperature 1.1 ... 1.4
  - Earth Fault 1
- **Outdoor** Outdoor hardware ↕

SYSTEM CONFIG

- **PowerSystem** General System Config
  - ReferenceVoltage
  - Number Of Battery Cells
  - Batt Capacity Scale - Ah/Percent?
  - Temp Scale-Celsius/Fahrenheit?
  - Syst Polarity - Positive/Negative?
  - Curr Resolution - Amp/DeciAmp?
  - Generator Func - Std/Advanced?
  - Critical Criteria
  - Language
  - Year
  - Month
  - Day
  - Hour
  - Minute
  - Agent IPv4 Address
  - Network Subnet Mask
  - Default Gateway
  - Change Service Password
  - Display timeout - (0 = Off)
  - Keylock timeout - (0 = Off)
  - Agent IPv6 Address
- System Voltages
  - Reference Voltage
  - Boost Voltage
  - Battery Test End Voltage
  - Rectifier Standby Voltage
  - Battery Disconnect Voltage
  - Battery Reconnect Voltage
  - Rectifier OVS Limit
  - Rectifier Emergency Voltage
- Task Scheduler
  - Sel.Task(up/dwn) [01 – 10]
- SystemCalibration
  - Voltage-HiPoint Cal Value [V]
  - Voltage-HiPoint A/D Value
  - Voltage-LoPoint Cal Value [V]
  - Voltage-LoPoint A/D value
  - Current-HiPoint Cal Value [A]
  - Current-HiPoint A/D Value
  - Current-LoPoint Cal Value [A]
  - Current-HiPoint Cal Value [A]
  - Current-HiPoint A/D Value
  - Current-LoPoint Cal Value [A]
  - Current-LoPoint A/D Value
- **Mains** [SelectGroup Up/Dwn]
  - Number Of Phases
  - Suppr.Mains Monitoring-Ena/Disa?
- **Generator** Generator - Enable/Disable?
  - Long Charge Time [h]
  - Stop Delay [min]
  - Mains Fail Delay [min]
  - Enable Boost During Charge
- **Generator cont.** Primary AI Group (OutpToActivate)
  - Sec AI Grp (OutpToActivate)
  - Cpty Crtl Start/Stop-Ena/Dis?
  - Start Gen On Disch Limit [%]
  - Stop Gen On Charge Limit [%]
  - Curr Lim Ctrl Stop/Ena/Dis?
  - Gen Stop Current Limit [A]
  - Voltage Contr Start-Ena/Dis?
  - Start Generator on Voltage[V]
  - Stop GenOn time limit[h]
  - Cap/time Ctrl Start/StopEna/Dis?
  - StartGenOnDischargeLimit[%]
  - Stop Gen On Time Limit [h]
  - Solar Generator Stop-Ena/Disa?
  - Wind Generator Stop-Ena/Disa?
  - Daily Generator Start Ena/Dis?
  - Sunday - Start [h]
  - Sunday - Stop [h]
  - Sunday -AI Group to Activate
  - Monday - Start [h]
  - Monday - Stop [h]
  - Monday -AI Group to Activate
  - Tuesday - Start [h]
  - Tuesday - Stop [h]
  - Tuesday - AI Group to Activate
  - Wednesday - Start [h]
  - Wednesday - Stop [h]
  - Wednesday - AI Group to Activate
  - Thursday - Start [h]
  - Thursday - Stop [h]
  - Thursday - AIGroup to Activate
  - Friday - Start [h]
  - Friday - Stop [h]
  - Friday - AI Group to Activate
  - Saturday - Start [h]
  - Saturday - Stop [h]
  - Saturday -AI Group to Activate
  - Monthly Start Time [h]
  - Monthly Start Day (1. start)
  - Monthly Start Day (2. start)
  - Monthly AI Grp To Activate
- **Rectifiers** [SelectGroup up/dwn]
  - No Of Groups/Module(s)
  - Suppr Err d Mains Fail - Y/N?
  - Walk In Time - Short/Long?
  - Module - BattPowered or Not?
  - OVS Limit [V/Cell]
  - Current Limit enable On/Off?
  - Current Limit value [A]
- **Rectifiers cont.** Emergency Volt value [V]
  - Gen dep Start Up Delay On/Off?
  - Generator Start Up Delay [min]
  - Efficiency Management?
  - EffMgrRedundancyMode-On/Off
  - EffMgr Off Delay [min]
  - Eff Mgr Shuffl Time [hour(s)]
- **Solar** No Of Solar Charger(s)
  - Suppr SolErr d.Mains Fail - Y/N?
  - OVS Limit [V/cell]
- **DcDc** No Of DcDc Converters
  - Reference Voltage
  - OVS Limit [V/Cell]
  - Current Limit enable – On/Off?
  - Current Limit value [A]
- **Load** No Of Load Groups
  - No Of LVLDs
- **Battery** Battery Config
  - No Of Battery Banks
  - No Of Battery Strings
  - Capacity Per String [Ah]
  - Temp Compensation - On/Off?
  - Reference Voltage [V/Cell]
  - Reference Temperature [C]
  - Temperature Slope [mV/C/Cell]
  - Min Compensation Volt [V/Cell]
  - Max Compensation Volt [V/Cell]
  - Battery Current Limit - On/Off?
  - Current Limit Value [A] (MainsFeed)
  - Current Limit Value [A] (GenFeed)
- Battery Test Configuration
  - Normal or Simplified BattTest?
  - End Voltage Simple Test [V/Cell]
  - Max TestDuration Enable/Disable?
  - Max TestDuration [min]
  - Max Discharge Stop Enable/Disable?
  - Max Discharge Stop [Ah]
  - Guard Time - Enable/Disable?
  - Guard Time [hours]
  - AlarmGrp to Activate during test
  - Interval Test Enable/Disable?
  - Next Interval StartYear
  - Next Interval StarMonth
  - Next Interval StartDay
  - Next Interval StartHour
  - Next Interval StartMinute
  - Interval Period [days]
  - AutoTest Enable/Disable?
  - DiscontinuanceTest Enable/Disable?
  - Repeat Frequency [days]
  - Max duration [minutes]
- **Battery, cont.** BatteryBoost Configuration
  - Boost Voltage [V/Cell]
  - Stop Boost Curr Thres Ena/Disa?
  - Stop Boost Curr Threshold [A]
  - Alarm Grp to Activate during Boost
  - Manual Boost Max Duration [min]
  - Interval Boost Enable/Disable?
  - Next Interval Start Year
  - Next Interval Star Month
  - Next Interval Start Day
  - Next Interval Start Hour
  - Next Interval Start Minute
  - Interval Period [days]
  - Interval Boost Max Duration [min]
  - Auto Boost - Enable/Disable?
  - Auto Boost Max Duration [min]
  - Auto Boost Charge Factor [%]
  - Auto Boost Discharge Thresh [Ah]
  - Auto Boost Voltage Thresh Ena/Disa?
  - Auto Boost Voltage Threshold [V]
- Symmetry Configuration
  - Symmetry Measurement Ena/Disa?
  - Symmetry Voltage range [V]
  - Symm Mode - Continuous/Dischrg?
  - Symmetry Discharge Delay [min]
- BatteryLifeTime Config
  - Temperature Range [01-10] Ena/Disa?
  - Temperature Limit [C]
  - Temperature Weight
  - Hours within Temp Range
- **Ctrl System** CtrlUnit [1-10] (up/down)
  - SmartNode [1-10] (up/down)
- **OutDoor** [System dependent] ↕

LOGS / REPORTS

- **Active Alarm(s)** Show all active alarms ↕
- **Event Log** Show all events ↕
- **Data Log**
  - Battery Voltage — Show all events ↕
  - Battery Current — Show all events ↕
  - Load Current — Show all events ↕
  - Rectifier Current — Show all events ↕
  - Mains Volt 1 [...3] — Show all events ↕
  - DC Load Power — Show all events ↕
  - Battery Temp — Show all events ↕
  - Battery Rem Cap — Show all events ↕
- **Battery Test Log** Show test results
- **Inventory Report**
  - Company
  - Site
  - Model
  - Install Date
  - Serial Number
  - Service Date
  - Responsible
  - Message 1
  - Message 2
  - SP2 Master1 [with SP2]
  - SW Info
  - HW Info
  - Smartpack S 1 [with SPS]
  - SW Info
  - HW Info
  - Flatpack S/Flatpack 2 rects.
  - SW Info
  - HW Info
  - Battery Mon [if present]
  - SW Info
  - HW Info
  - I/O Unit 1 [if present]
  - SW Info
  - HW Info
  - [Any other hardware] ↕

STATISTICS

- **LoadCurrent**
  - Daily Highest — Show all events ↕
  - Daily Lowest — Show all events ↕
  - Highest Hour Average — Show all events ↕
  - Month Highest Peak — Show all events ↕
  - Month Highest Average — Show all events ↕
- **BatteryCurrent**
  - Daily Highest — Show all events ↕
  - Daily Lowest — Show all events ↕
  - Highest Hour Average — Show all events ↕
  - Month Highest Peak — Show all events ↕
  - Month Highest Average — Show all events ↕
- **BatteryVoltage**
  - Daily Highest — Show all events ↕
  - Daily Lowest — Show all events ↕
  - Highest Hour Average — Show all events ↕
  - Month Highest Peak — Show all events ↕
  - Month Highest Average — Show all events ↕
- **BatteryTemp**
  - DailyHighest — Show all events ↕
  - DailyLowest — Show all events ↕
  - HighestHour Average — Show all events ↕
  - Month Highest Peak — Show all events ↕
  - Month Highest Average — Show all events ↕
- **RectifierCurrent**
  - Daily Highest — Show all events ↕
  - Daily Lowest — Show all events ↕
  - Highest Hour Average — Show all events ↕
  - Month Highest Peak — Show all events ↕
  - Month Highest Average — Show all events ↕
- **SystemValues(Peak/Avg)**
  - Battery Voltage
  - Battery Current
  - Battery Temp
  - Load Current
  - Tot Rect Current
  - Mains Volt 1 [...3]

ALARM CONFIG

- **Mains** [Select Group]
  - Mains Low 1
  - Mains Volt 1.1
  - Mains Volt 1.2
  - Mains Volt 1.3
- **Generator** Generator Fail
  - Fuel Remaining 1
- **Rectifiers** [Select Group]
  - Rect Current [Grp 1]
  - Rect Error [Grp 1]
  - Rect Low Mains [Grp 1]
  - Rect Capacity
  - RectComm Err [Grp 1]
  - Curr Share Err [Grp1]
  - Rect Temp [Grp 1]
- **Solar** Solar Current
  - Solar Charger Err
  - Solar Comm Err
  - Solar Symmetry Err
  - Solar Charger Temp
- **DcDc** DcDc Current
  - DcDc Error
  - DcDc CommError
  - DcDc Capacity
  - DcDc Temp
- **Load** Load Current
  - Load Fuse 1
  - LVLD 1.1
  - Drop diode 1.1
  - Drop diode 1.2
  - Drop diode 1.3
- **Battery** Battery Voltage
  - Battery Current
  - Battery Temp
  - Battery Life Time
  - LVBD
  - Fuse
  - Battery Quality
  - Bad Test Results
  - Battery Tot Cap
  - Battery Rem Cap
  - Battery Time Left
  - Delta String Curr
  - Battery Used Cap
  - Ah Charged
  - Ah Discharged
  - Battery Volt bank 1
  - Battery Fuses 1
  - Battery Temp1.1...1.4
  - Batt Curr bank 1
- Symm Volt 1.1
- Symm Volt 1.2
- Batt MonTemp 1
- Batt Mon Fuse 1
- Batt Mon Curr 1
- Batt Mon Sym1.1
- Batt Mon Sym1.2
- Batt Mon Sym1.3
- Batt Mon Sym1.4
- **Inputs** Vritual Input 1.1...1.4*
  - *Smartpack2 Master only
  - Prog Input 1.1...1.3
  - ProgInput 1.4 . . . 1.5†
    - †Smartpack S only
  - ProgInput 81.1... 81.6*
    - *Smartpack2 Master only
- **Outputs** Major alarm
  - Minor alarm
  - Mains alarm
  - Fuse alarm
  - Battery high
  - Battery low
  - Rectifier alarm
  - Alarm Groups 08 to 17
  - Output Blocked
- [Other Groups]
- **CtrlSystem** Ctrl Unit Error
  - Ambient Termp
  - Batt Ambient Temp
  - Temperature 1.1
  - Temperature 1.2
  - Temperature 1.3
  - Tempterature 1.4
  - Earth Fault 1
  - CU Err. Batt Monitor
  - CU Err. IO-Unit
- **OutDoor** Outdoor alarms ↕

COMMANDS

- **System Commands** Reset Manual Alarm(s)
  - Reset Number of Module(s)
  - Delete Event Log
  - Set Default + xml-file(s) Configurations
  - LED Test
  - Block Outputs - On
  - Block Outputs - Off
  - Reboot System
  - Set Default Calibration
  - Activate AC Bypass Mode
- **Battery Commands** Start Battery Test
  - Stop Battery Test
  - Start Battery Boost
  - Stop Battery Boost
  - Start Battery Equalize
  - Stop Battery Equalize
  - Reset Battery Lifetime Monitor
- **Output Test** Output Relay # 1... #7
- **Virtual Input Cmd**

UP / DOWNLOAD

- **Software Upgrade** SP2 Master 11
  - SP2 Basic 1
  - BatteryMon 1
  - I/O Unit 1
  - Other Units ↕
- **Save Event Log**
- **Save Data Log**
- **Save Energy Log**
- **Save/Load Config** Save Config to File — SP2 Master 11, SP2 Basic 1, BatteryMon 1, I/O Unit 1, Other Units ↕
- Load Config from File — SP2 Master 11, SP2 Basic 1, BatteryMon 1, I/O Unit 1, Other Units ↕

COMMISSIONING

This section is read-only access. It displays general information and guided steps to commissioning the power system.

This document reflects software version 2.8.x of the Smartpack2 and Smartpack S Controllers and is subject to change without notice.