

Brief Product Summary

Plasmatronics Pty Ltd

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Product = PR1210(L) & PR2410(L) Regulators

Fully encapsulated, Suitable for marine applications, 10Amp, 2 Stage



PR1210 12V (Flooded batteries)



PR1210L 12V (Gel batteries)



PR2410 24V (Flooded batteries)



PR2410L 24V (Gel batteries)

Product = PL20, PL40, PL60 Regulators

12-48V, fully programmable, inc generator, wind, & event control



PL20

(20A Charge, 20A Load)



PL40

(40A Charge, 7A Load)



PL60

(60A Charge, 30A Load)



PL20 (cover off)

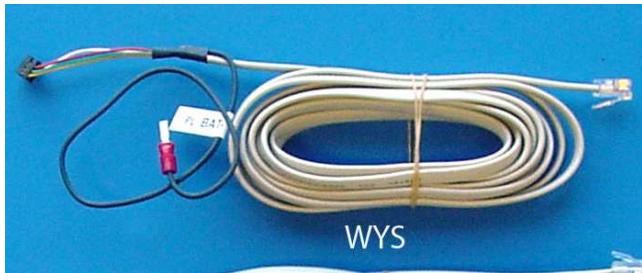


PL40 (cover off)



PL60 (cover off)

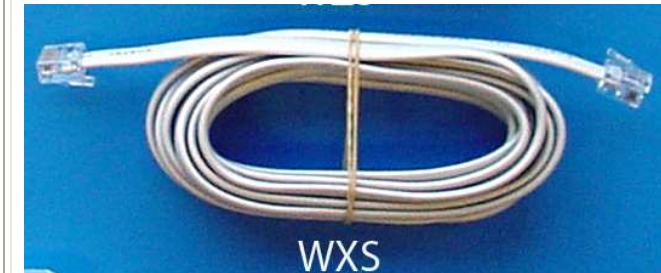
Product = PL Regulator Accessories



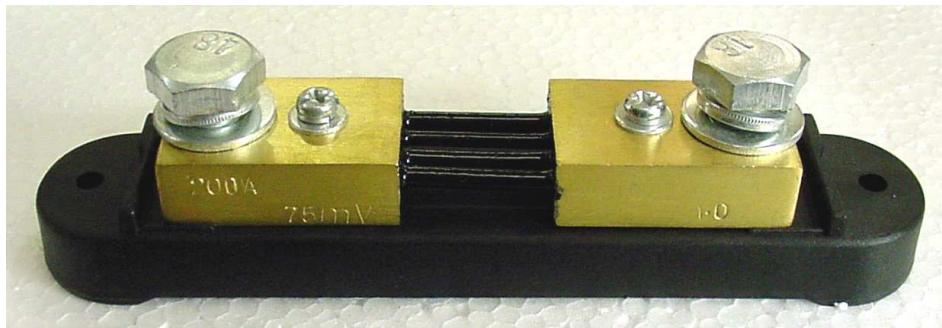
WYS Shielded Cable
PL20/40 to accessory



WZS Shielded Cable
PL60 to accessory



WXS Shielded Cable
accessory to accessory
or extension to WYS/WZS

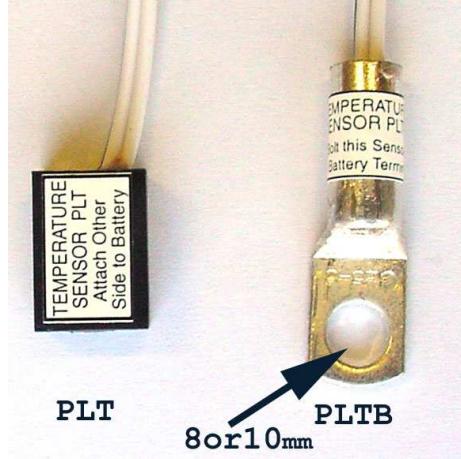


SH200 Shunt (200Amp)



PLS2 Shunt Adapter

Product = PL Regulator Accessories (continued)



PLT & PLTB (Batt Temp Sensors)



PLI RS232 Serial Interface



New Keypad

PLM Remote Monitor (inc backlight & alarm)



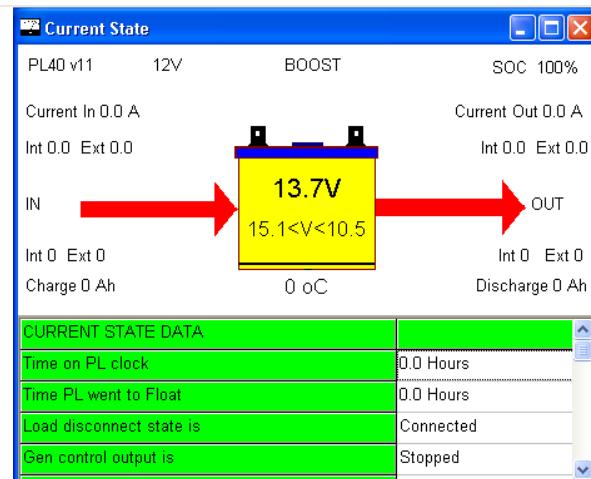
PLA Synchronisation / Alarm Unit

Product = PLCOM software (free from website)

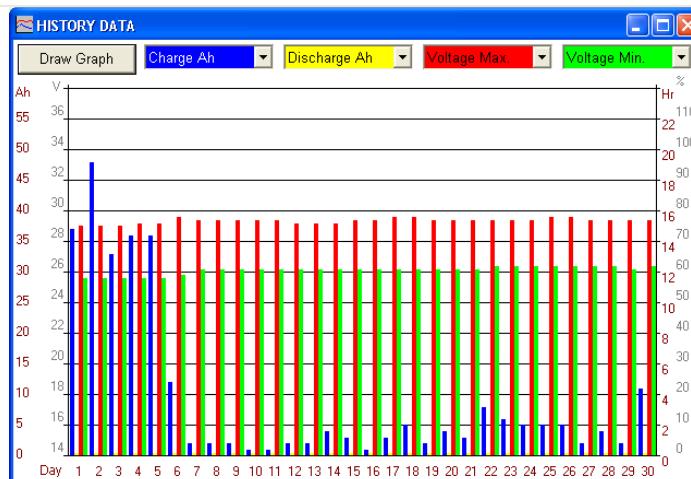
Remotely configure regulator settings, download history, etc via serial port



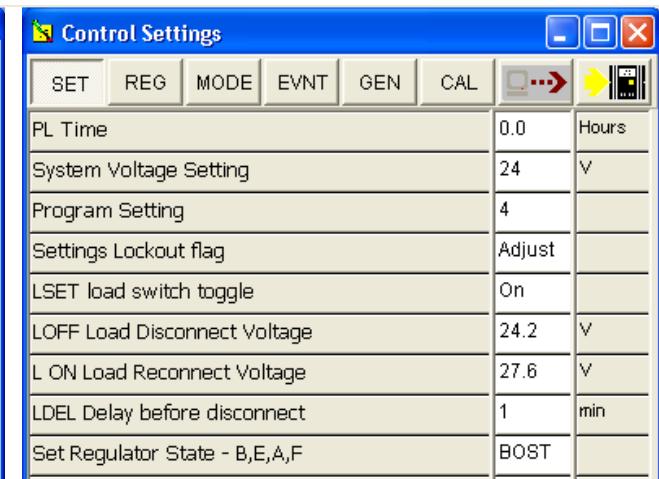
Main PLCOM Window



Current Status

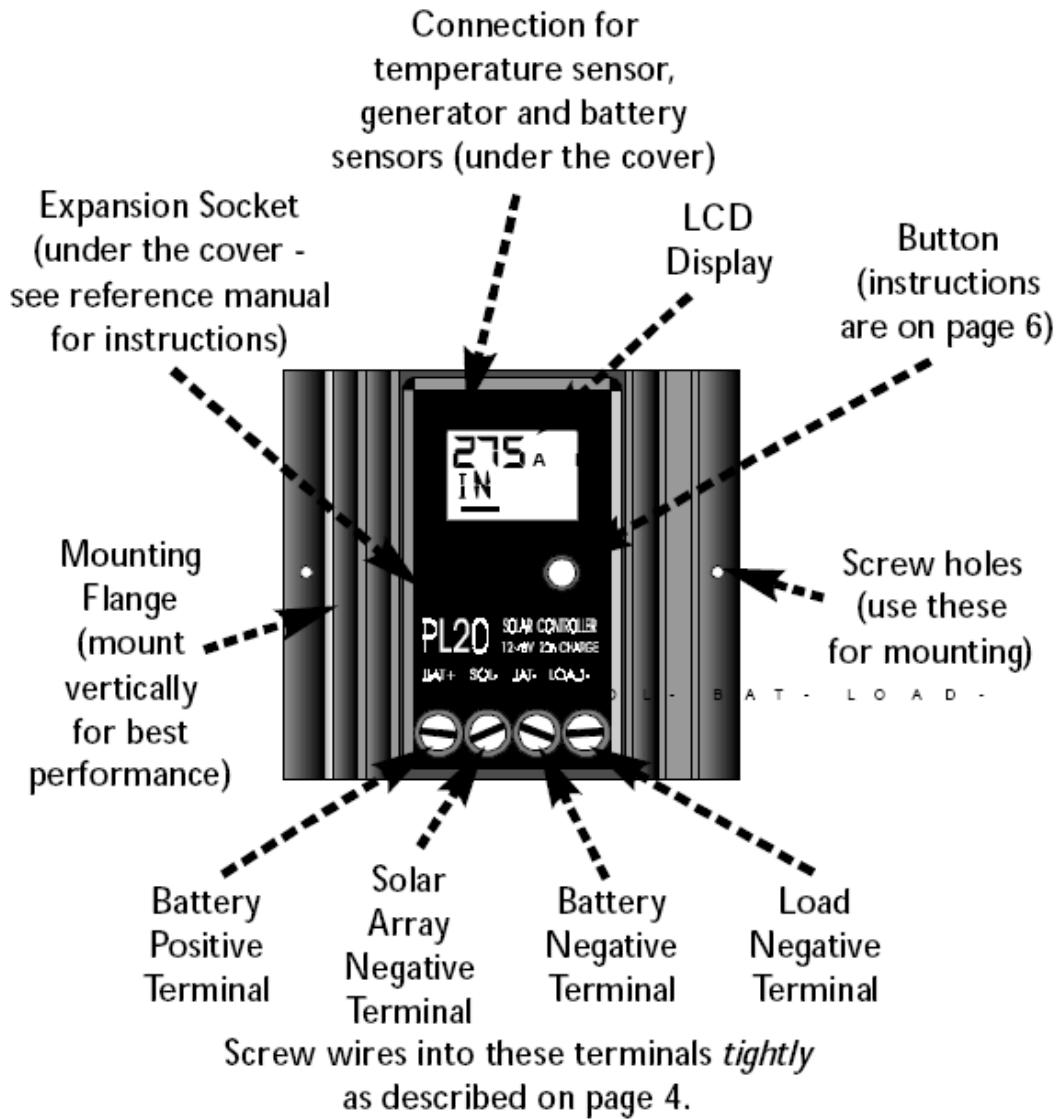


History Data

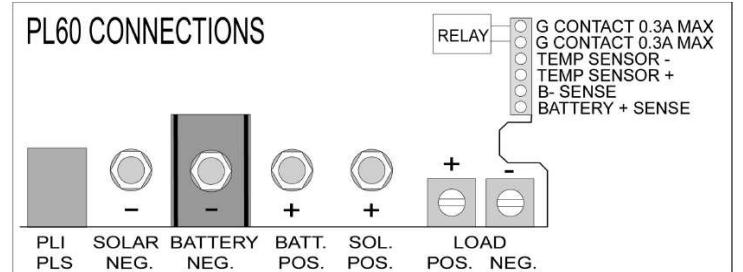
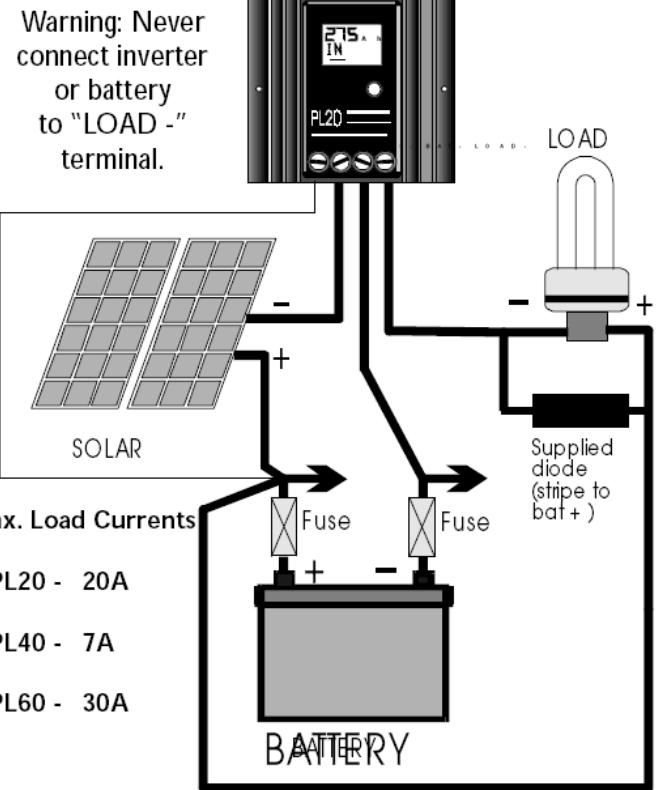


Control Settings

PL User Manual Connection Diagrams



Warning: The PL regulator is for DC current ONLY



PL Regulator Features

Adjustable: All settings are adjustable, and are stored in non volatile memory so you don't lose your custom set up if the unit needs to be disconnected from the battery.

Display: User friendly LCD display. Each number has a label.

Energy metering: Daily Load and Charge Ah plus State of Charge, all recorded for 30 days.

Four Stage Regulation: Boost, Absorption, Float, and Equalisation available as appropriate for the battery type.

History: Records Charge and Load Ah, Max and Min battery voltages, SOC, and Float times for the last 30 days. You can tell how much energy was really collected and used. This history can be very useful when diagnosing a system problem.

Generator Control: A sophisticated generator controller is included, with four different modes of control, and a quiet time option.

Event Control: A powerful event controller/timer allows the Load and/or General Purpose terminal to turn on or off a wide range of loads (eg pumps, lights, motors etc.), under a user specified set of conditions.

Alarm: There is an adjustable high or low battery voltage alarm output, which can drive an external alarm device.

Second Battery: When the main battery is full, the PL can supply a signal to switch a relay, so that some or all of the array can charge a second battery. The second battery charging is also controlled.

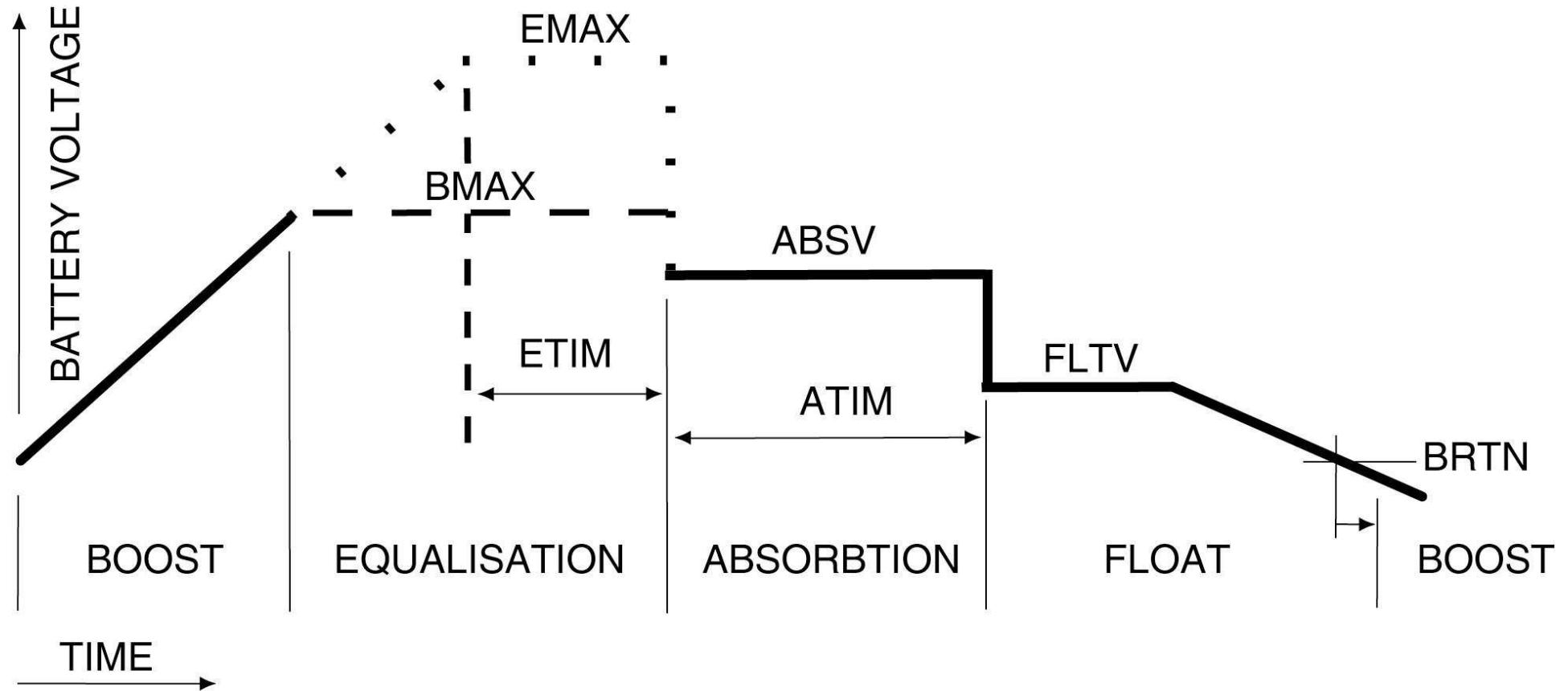
Remote control: The PLM remote display allows all functions to be accessed from up to 100 metres away. Fits in a standard light switch mounting plate.

Data Comms: Communication with a computer is possible via the optional PLI interface. This allows fast downloading of all data and adjustment of settings. Can be used via a modem for remote sites etc.

Protection: Protected against short circuits, reverse flow, and lightning. Low battery load disconnect function built in. Current limiting in the event of over temperature or over current. Full conformal coating protects against corrosion.

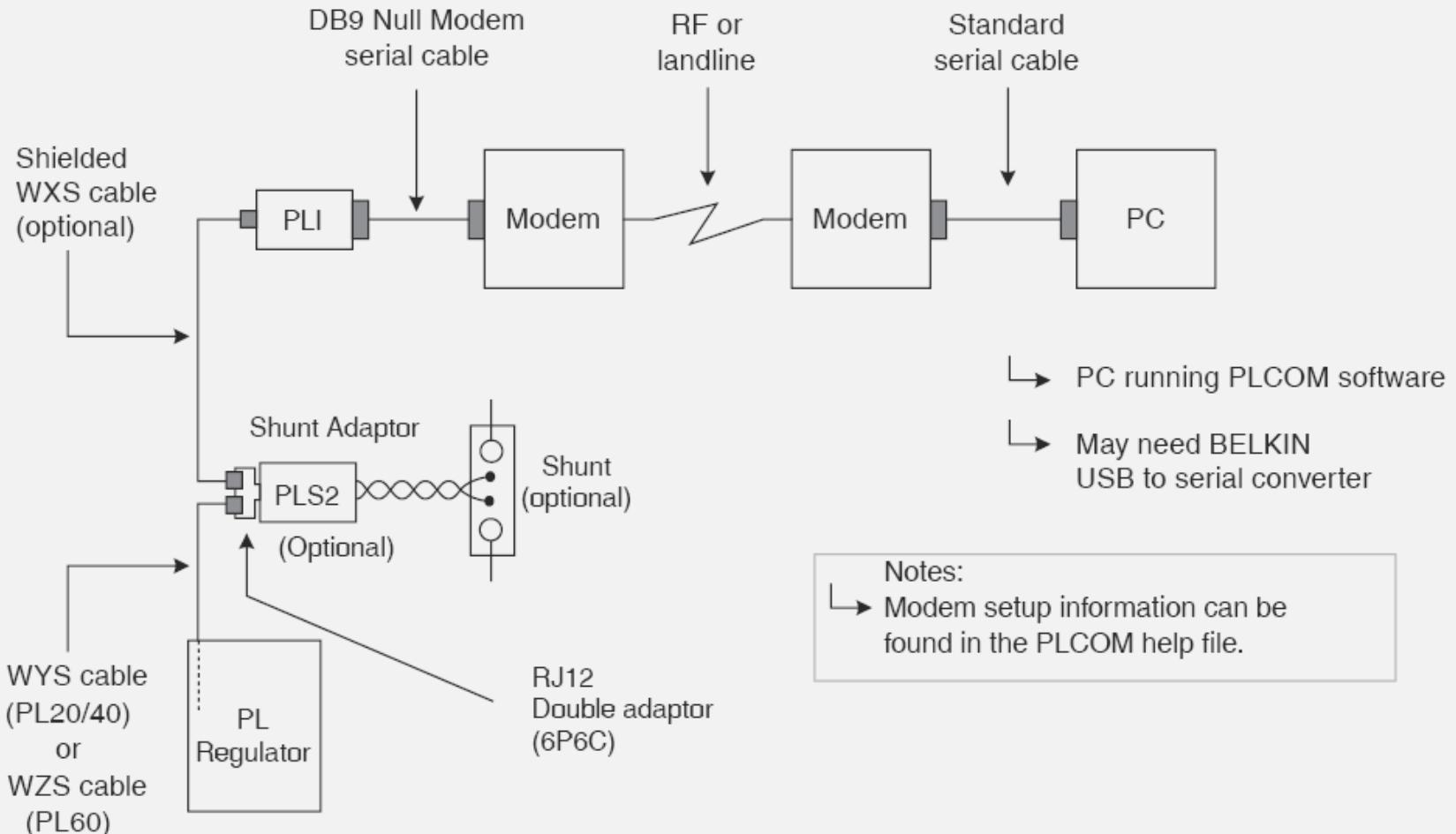
External Shunts: Up to two external shunts can be added using optional DC isolated PLS2 shunt adaptors. Inverter and/or battery charger current and other external currents can be included in the Ah readings and SOC.

PL Series Battery Charge Regulation Cycle



Four stage charging algorithm incorporating true Pulse Width Modulated (PWM) constant voltage control (slow switching ‘On/Off’ option selectable if required)

PL Regulator - Remote monitoring via modem



This diagram is for reference only. Wiring and fuses etc. must be installed as specified by the relevant Australian Standards.

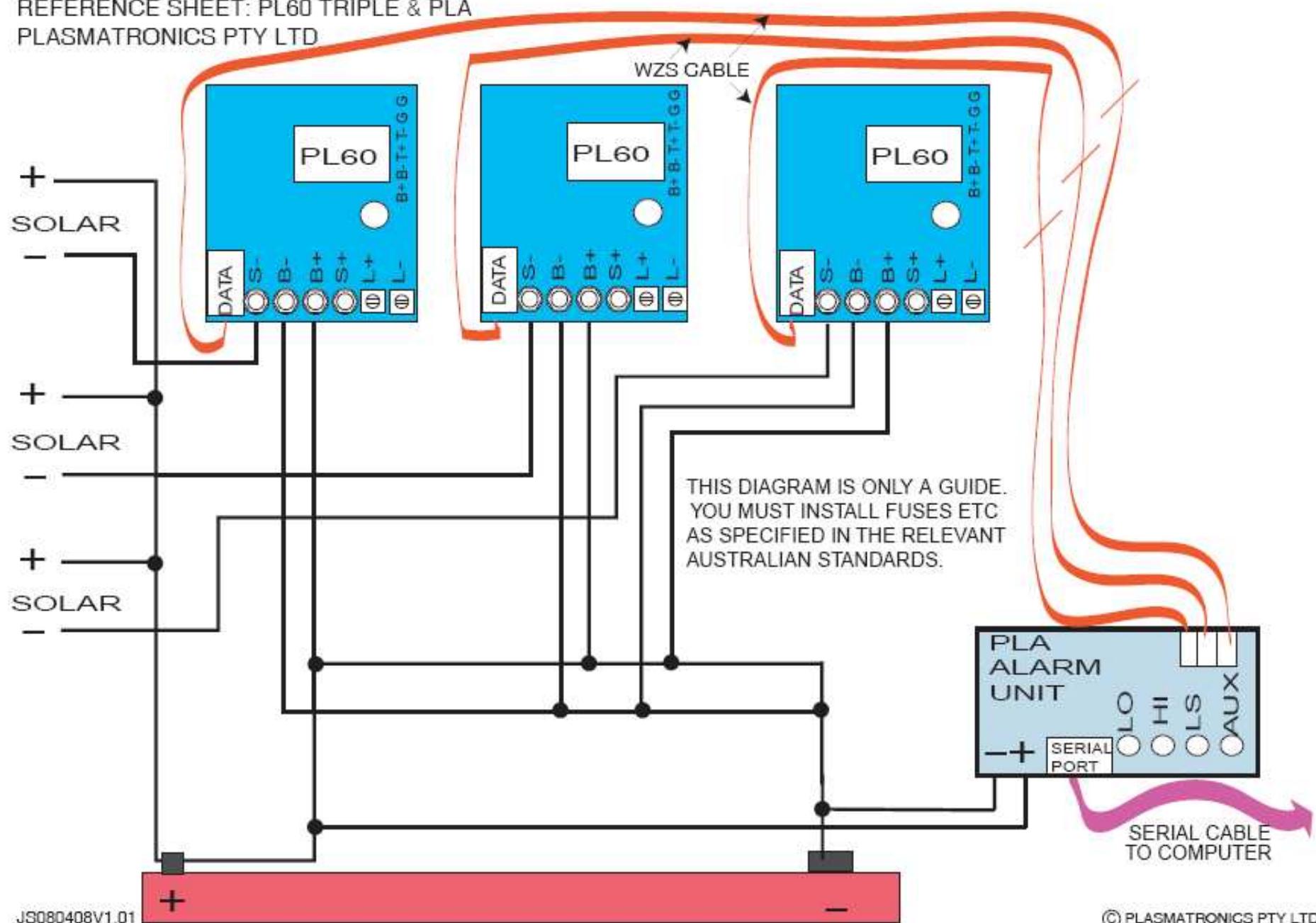
Plasmatronics Pty Ltd

16/04/08 V1.11 CL

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REFERENCE SHEET: PL60 TRIPLE & PLA
PLASMATRONICS PTY LTD



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Product = DINGO 20/20 (Negative Gnd Regulator)

12-48V, fully programmable, inc generator, wind, & event control

New



Modular System Design

20A Charge | 20A Load

Product = DINGO 20/20 (Negative Gnd Regulator)

What's the same?

- All the best features of the PL series



What's new?

- **Negative Ground...**

This makes it much easier to use in vehicles and easier to understand for people used to working with vehicle systems.

- **Enhanced one button interface...**

Now includes *Reverse gear* for going backwards, and *Fast Forward* for setting very large number (e.g. Battery capacity)

- **LED backlighting...**

makes the display readable in any light conditions.

- **Hidden Wiring...**

All the wires are covered. Wiring to the unit can be kept out of sight inside the wall or behind the mounting panel.

- **More terminals...**

A terminal for every wire. Wiring is simpler and quicker. No need for External electrical commoning points or busbars.

- **New Communications Bus.**

Rugged new RS485 bus that allows unprecedented flexibility in system design with many new modular accessories.

- **More Data Storage...**

512 days worth of system history data can be stored (99 days accessible via the regulators display).

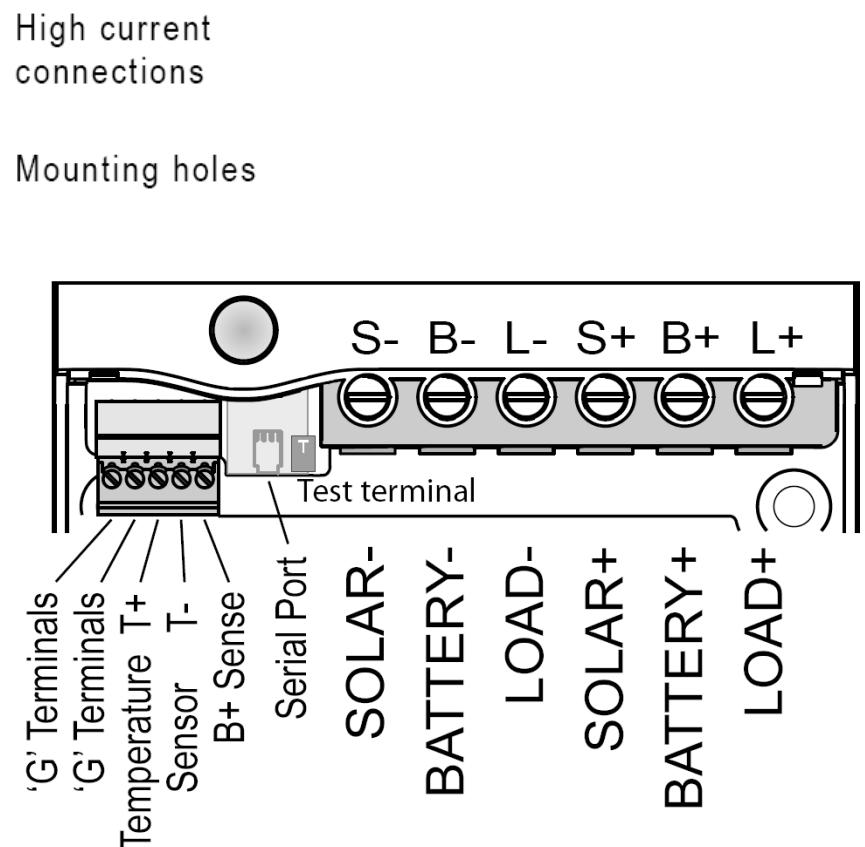
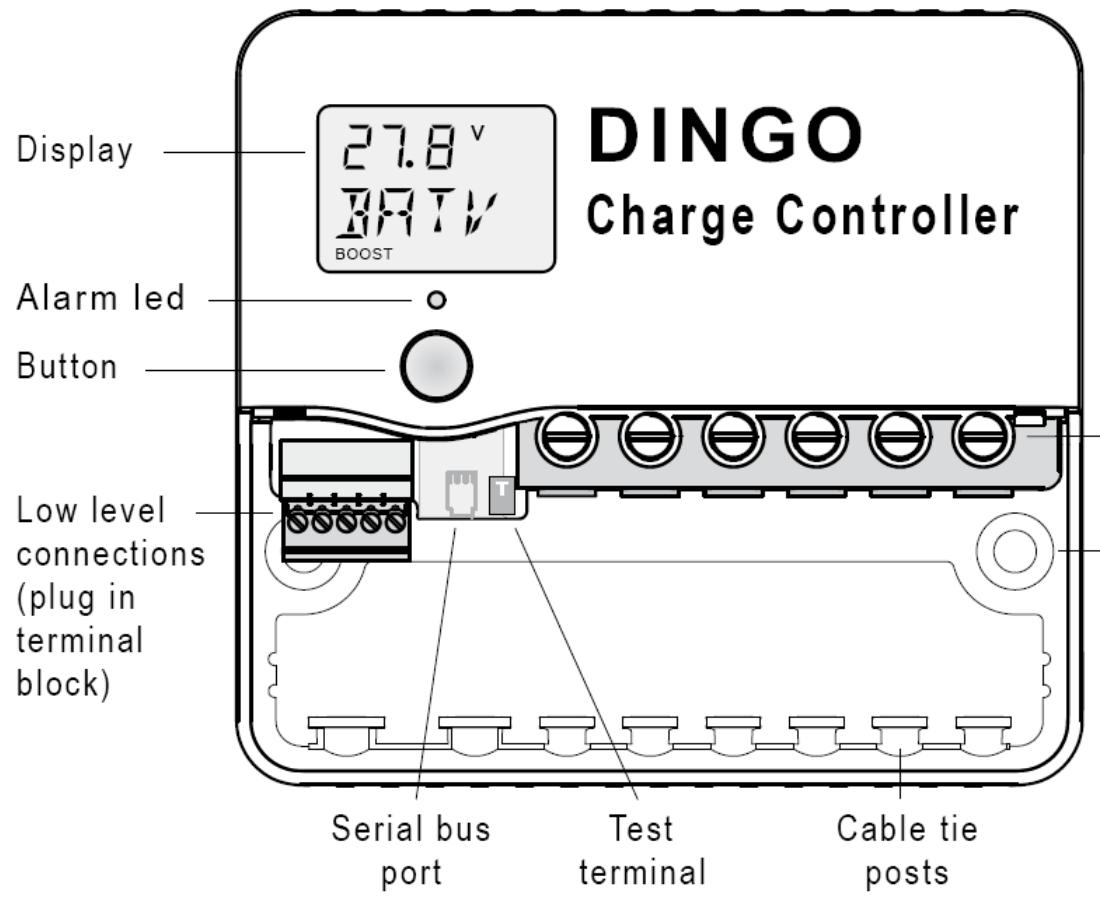
- **Generator Terminals...**

Voltage free contacts, as required by many generator start systems, are now included in the basic controller (like PL60 has).

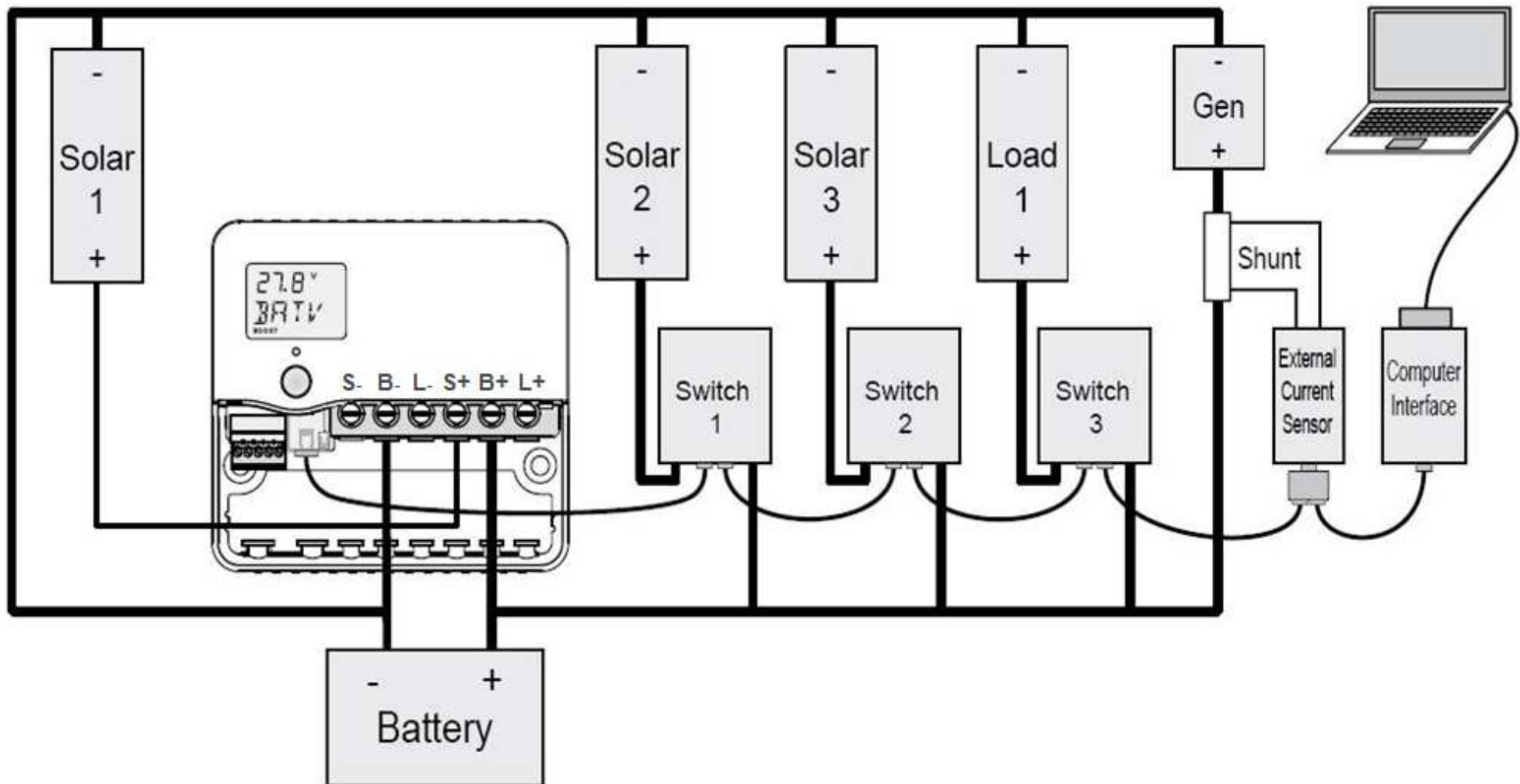
- **Accessories...**

- The **DSA** reads external charge or load currents. You can use up to 4 per system.
- The **DUSB** provides a USB interface to a PC. This allows the user to download data from the controller & change settings.
- The **D232** provides an RS232 interface (DTE) designed for remote computer access via a modem.
- *Future accessories will include switching charge/load modules for huge system expansion, MPPT modules, etc.*

DINGO Controller



DINGO Expansion via Modular System



Product = PRISM software (for DINGO regulators)

Remotely configure regulator, download history, etc via USB or RS232 port

The screenshot displays the PRISM software interface for a DINGO regulator. The window title is "PRISM" and the main tab is "Settings: Device31796".

System Panel:

- Time: 10:13
- VOLT: 12V
- PROG: 4 ...

REG Panel:

- BMAX: 14.2 Volts
- EMAX: 14.0 Volts
- ETIM: 0.0 hours
- EFRQ: 45 days
- ABSV: 14.0 Volts
- ATIM: 2.0 hours
- FLTIV: 13.8 Volts
- HYST: 0.4 Volts
- BRTN: 12.3 Volts
- CHRG: 20.0 Amps
- BFRQ: 15 days
- TCMP: 0

Mode Panel:

- LSET: 1 ...
- GSET: 2 ...
- BSET: 0 ...
- BAT2: 14.0 Volts
- PWM: 1 ...
- BCAP: 100 Ah
- ALRM: 11.4 Volts
- Reset Device...
- Reset PROG4 settings...

Load Panel:

- LOFF: 11.3 Volts
- LON: 12.8 Volts
- LDEL: 10 mins

Events Panel:

- STRT: Time > {value} (setting) 0
- STOP: Time > {value} (setting) 250
- EMOD: 2 ...
- TMOD: Always active (setting) 0

Generator Panel:

- GMOD: 0 ...
- GON: 11.5 Volts Queried 9.94 sec ago : Again in 90.06
- GOFF: 13.8 Volts
- GDEL: 10 mins
- GEXD: 30 days
- GRUN: 1.0 hour

Actions Panel:

- Synchronize to PC Time
- Export Settings
- Import Settings

Information on the currently selected property:

PROG

Program number
Double click to edit

This property can be assigned the following values:

- 0: Flooded Battery, NO night light, Low battery disconnect
- 1: Sealed Battery, NO night light, Low battery disconnect
- 2: Flooded Battery, Night light, Low battery disconnect
- 3: Sealed Battery, Night light, Low battery disconnect
- 4: User configured settings

Physical Device Image: A photograph of the DINGO regulator unit. It has a digital display showing "12.1 V" and "BATV" with buttons labeled "BOOST" and "GEI".

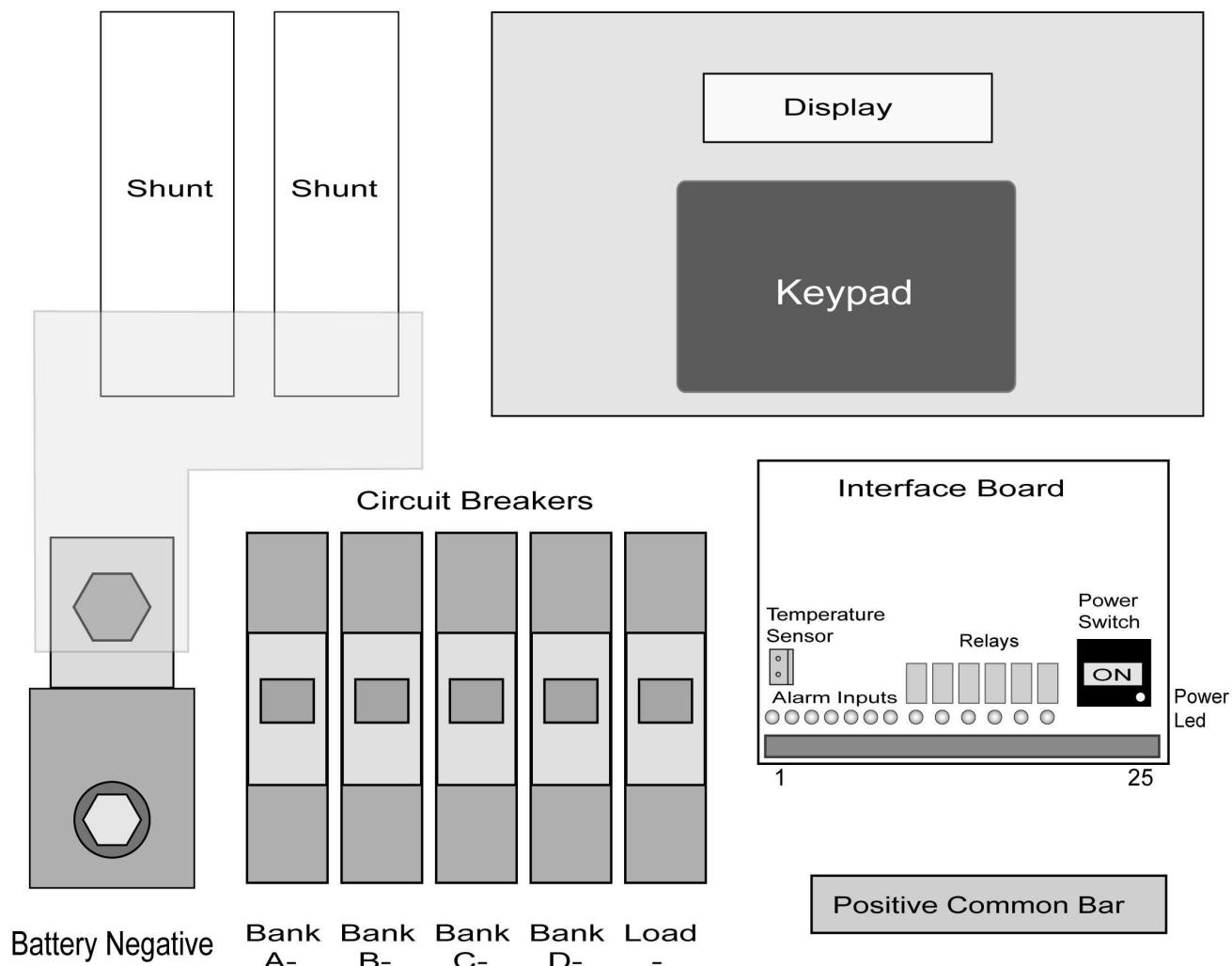
Product = SPSD (Bank Switching Regulator)

12 or 24 or 48V, up to 4 solar banks (300A max), Pos/Neg Gnd, low EMI



Standard Cabinet SPSD

SPSD INTERNAL LAYOUT DIAGRAM



Interface board signal terminal connections

Terminal	Function	Terminal	Function
1	Alarm Common Input	13	Generator Control
2	Alarm 1	14	Generator Control
3	Alarm 2	15	Logic Fail Alarm
4	Alarm 3	16	Logic Fail Alarm
5	Alarm 4	17	Load Voltage Alarm
6	Alarm 5	18	Load Voltage Alarm
7	Alarm 6	19	Solar Bank Switch Fail Alarm
8	Alarm 7	20	Solar Bank Switch Fail Alarm
9	Battery Low Voltage Alarm	21	Serial Port RS232 RX
10	Battery Low Voltage Alarm	22	Serial Port RS232 TX
11	Battery High Voltage Alarm	23	Serial Port Signal Ground
12	Battery High Voltage Alarm	24	Serial Port RS485 S+
		25	Serial Port RS485 S-

Product = SPSD (Bank Switching Regulator)

12 or 24 or 48V, up to 4 solar banks (200A max), Pos/Neg Gnd, low EMI



19" RACK Mount SPSD

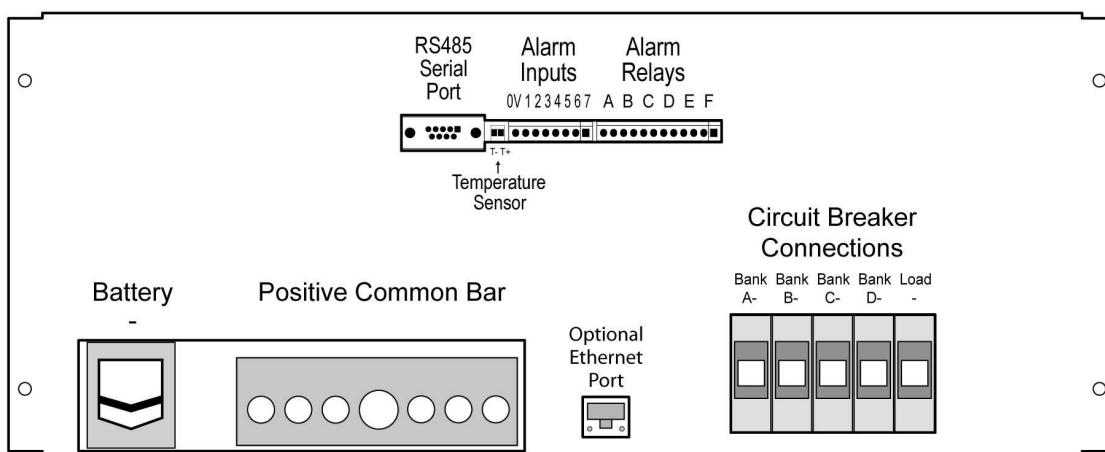
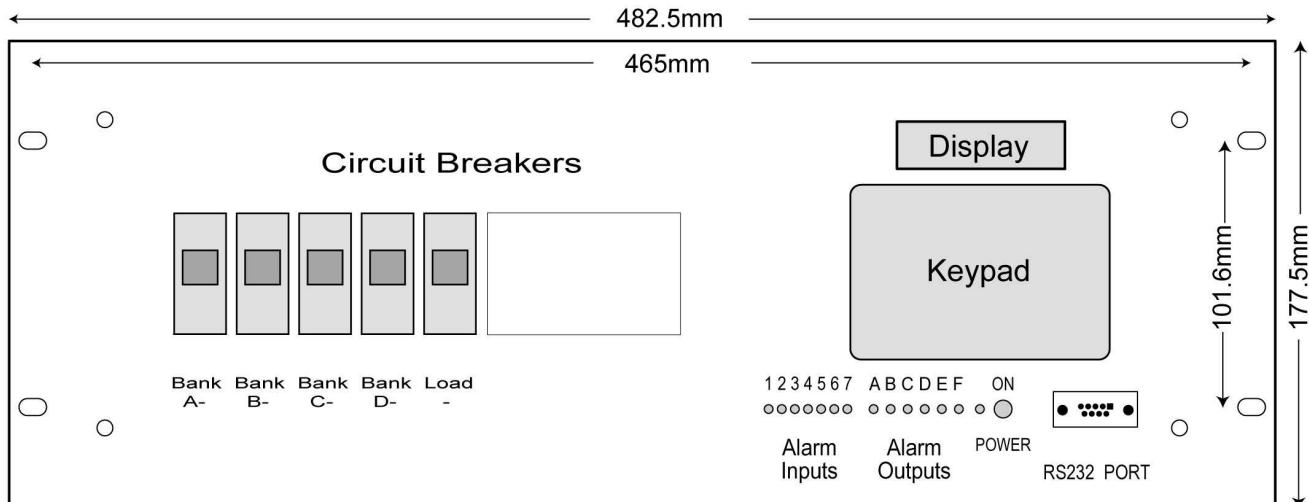
Product = SPSD (Bank Switching Regulator)

12 or 24 or 48V, up to 4 solar banks (200A max), Pos/Neg Gnd, low EMI



19" RACK Mount SPSD (Back View)

SPSD Rack Mount exterior



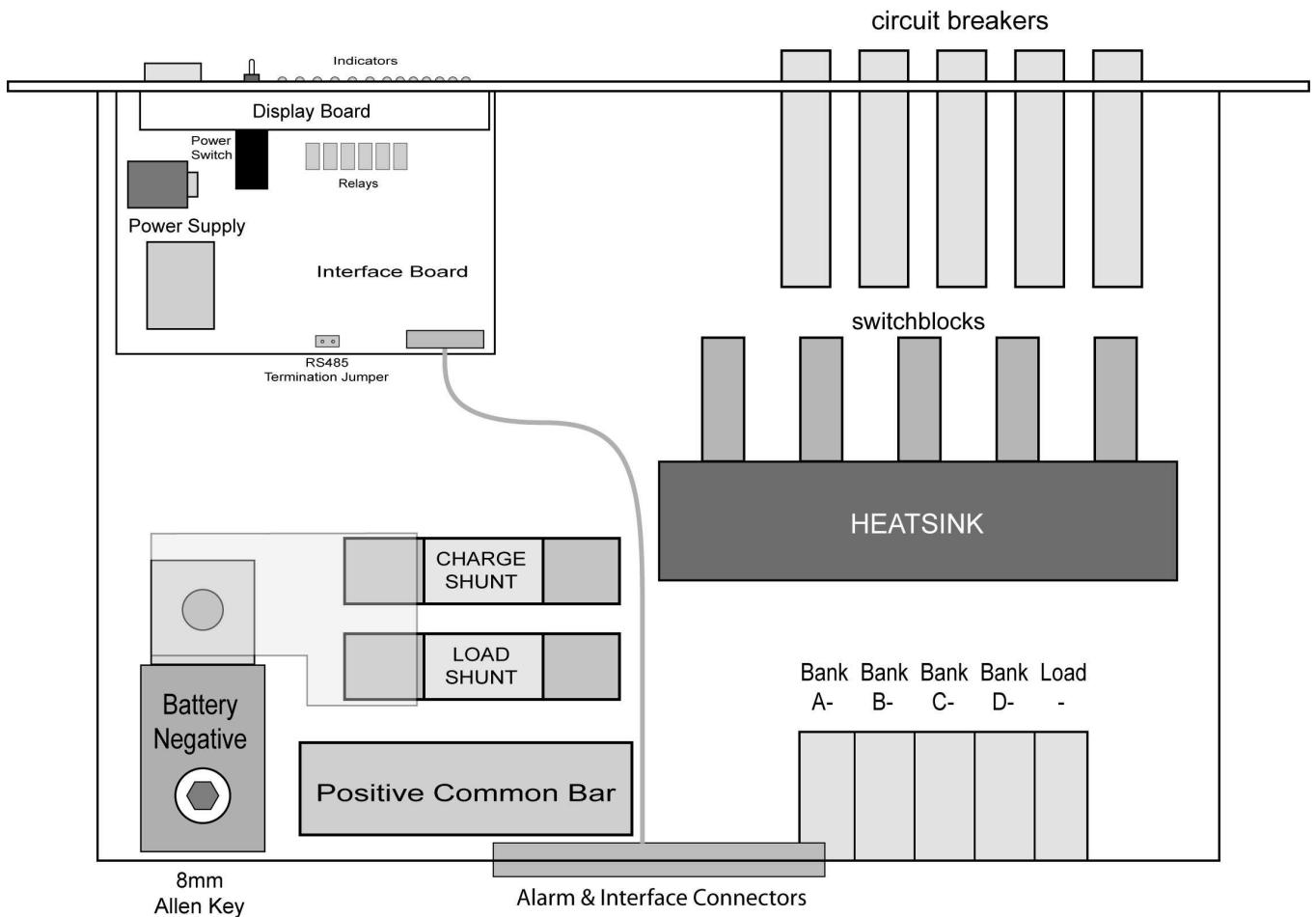
Rack Height 4U Depth 285mm
ALLOW 1U (44mm) ABOVE & BELOW FOR COOLING AIR FLOW

Indicator and signal terminal connections

Terminal	Function	Terminal	Function
0V	Alarm Common Input (Bat-)	A	Battery Low Voltage Alarm
1	Alarm Input 1	B	Battery High Voltage Alarm
2	Alarm Input 2	C	Generator Control
3	Alarm Input 3	D	Logic Fail Alarm
4	Alarm Input 4	E	Load Voltage Alarm
5	Alarm Input 5	F	Solar Bank Switch Fail Alarm
6	Alarm Input 6		(alarm outputs are voltage free contact pairs)
7	Alarm Input 7		

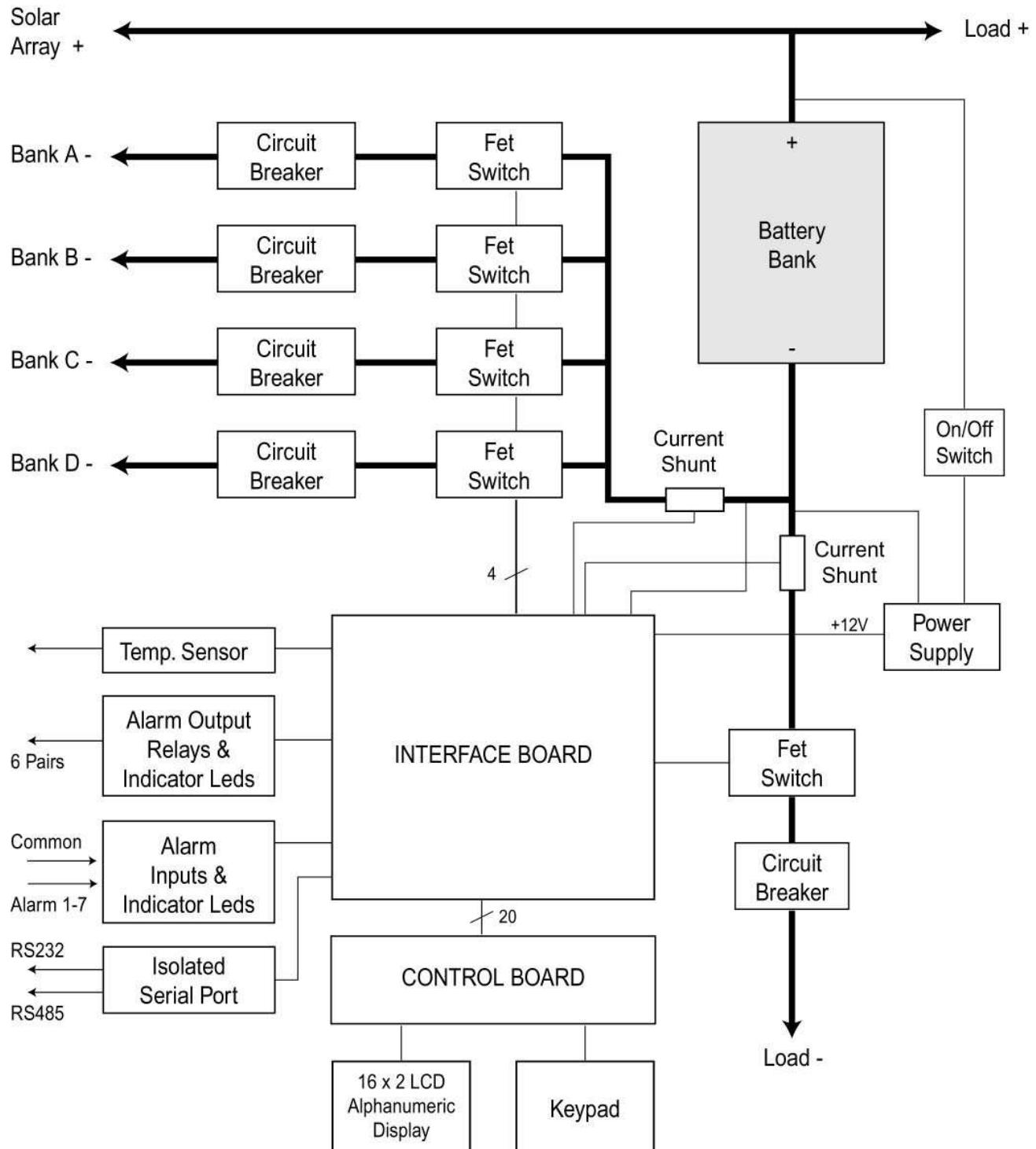
RS232 Serial Port is a DB9F connected as a DCE interface 2-TX 3-RX 5-GND 1,6,8 - +5V
RS485 Serial Port is a DB9F with D+ on pin 7, D- on pin 9 and ground on pin 1
(The signal ground is common to RS232 and RS485 and is isolated from the controller)

SPSD Rack Mount interior

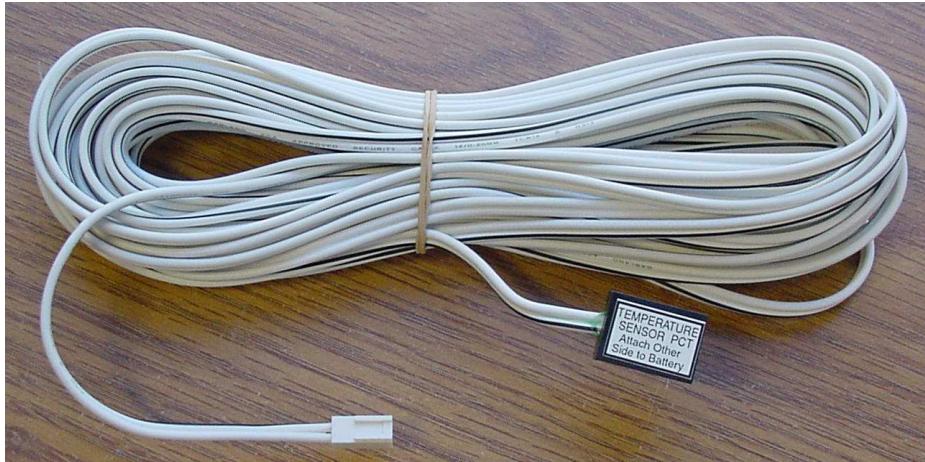


Top View

SPSD SOLAR CONTROLLER (B version Positive Ground) Block Diagram



Product = SPSD Regulator Accessories



PCT (Batt Temp Sensor, 10m lead)



'E-NET' Ethernet adapter
for browser control over LAN/WWW

- 10BaseT Ethernet connection.
- TCP/IP, HTTP, DHCP support.
- Fixed IP or DHCP allocated.

Product = SPSTALK software (\$=POA)

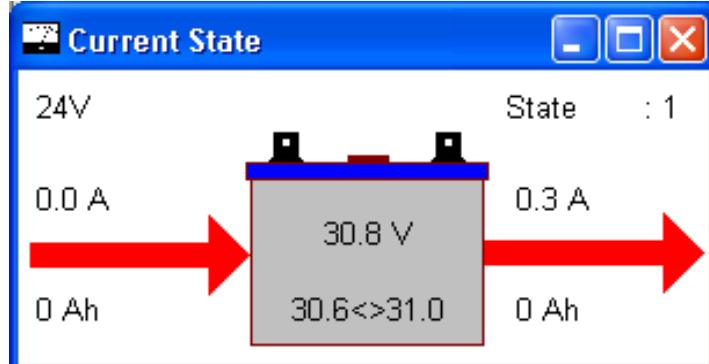
Remotely configure regulator settings, download history, etc via serial port



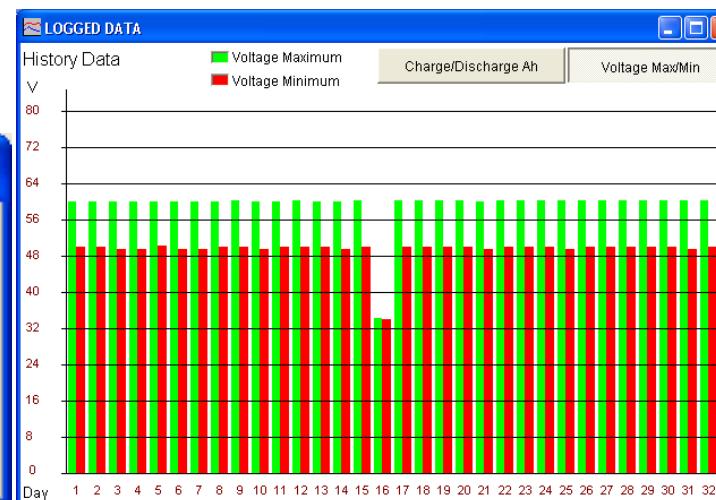
Main SPSTALK Window



Alarm Status



Current Status



History Data

Settings	
Control Settings	
Boost Maximum Voltage	30.0
Boost Taper Voltage	29.4
Number of Banks Used	4
Float Maximum Voltage	28.4
Float Minimum Voltage	27.4
Boost Cut-in Voltage	25.4
Absolute Maximum Voltage	30.0
Temperature Comp. /cell	-5
State Change Delay	0.8
Display Temperature Setting	0
Display Contrast	17
Load Disconnect Voltage	22.4
Load Reconnect Voltage	25.6
Delay before disconnect	200
Low Battery Alarm on at	23.0
Communication Baud Rate	2400

Control Settings

Product = SPSD-ENET (Ethernet Adapter) (\$=POA)

Remotely configure regulator settings, download history, etc via network

SPSD Solar Charge Controller Status - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://spsd-
Google Search PageRank

SPSD Solar Controller

Status Settings History

Battery Voltage	31.9 V
Controller Type	Positive Ground 48V 150/200A
Charge Current	0.0 A
Load Current	1.2 A
Day Charge Ah	0 Ah
Day Load Ah	26 Ah
Regulator State	0
Day Maximum V	32.0 V
Day Minimum V	31.6 V

Done

SPSD Status



SPSD Solar Charge Controller Settings - Mozilla Firefox

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SPSD Solar Controller

Status Settings History

Boost Maximum Voltage (V)	58.0
Boost Taper Voltage (V)	56.0
Number of Banks Used	1
Float Maximum Voltage (V)	56.0
Float Minimum Voltage (V)	54.0
Boost Cut-in Voltage (V)	49.6
Absolute Maximum Voltage (V)	60.8
Temperature Compensation (mV/cell)	0
State Change Delay (minutes)	1.0
Display Temperature Setting (Deg C)	0
Display Contrast	24
Load Disconnect Voltage (V)	44.8
Load Reconnect Voltage (V)	51.2
Delay Before Disconnect (seconds)	200
Low Battery Alarm (V)	46.0

Send

Done

SPSD Settings

SPSD Solar Charge Controller History - Mozilla Firefox

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Google Search PageRank

SPSD Solar Controller

Status Settings History

Day	Charge (Ah)	Load (Ah)	Minimum V	Maximum V
1	0	0	31.6	32.0
2	70	87	46.0	57.2
3	306	93	49.6	61.2
4	296	67	48.8	60.4
5	276	85	47.6	61.2
6	220	69	48.0	60.0
7	80	55	52.0	56.0
8	90	50	52.0	56.0
9	276	40	51.6	60.4
10	210	57	50.0	61.6
11	306	70	49.6	61.2

SPSD History



Password protected access to SPSD regulator via internet browser.

SPSD Regulator Features

- ❖ 12V or 24V or 48V models, 100A – 300A models available.
- ❖ Rugged IP66 sealed case (300A max) or 19" Rack mounting models (200A max).
- ❖ Up to 4 solar banks.
- ❖ Positive or Negative Ground models.
- ❖ Low EMI.
- ❖ Bank (sub array) switching design.
- ❖ Fully adjustable settings.
- ❖ Taper charge without heat.
- ❖ 2 stage boost/float charging.
- ❖ Temperature compensated regulation voltages.
- ❖ Comprehensive metering.
- ❖ Built in Test Programs.
- ❖ Low battery protection.
- ❖ Performance data logging.
- ❖ Remote control & monitoring.
- ❖ Lightning protection.
- ❖ Overload protection.
- ❖ Reverse polarity protection.

