
Honeywell

Power Supply Unit HLS PS Series

HLSPS25-XPB and HLSPS50-XPB

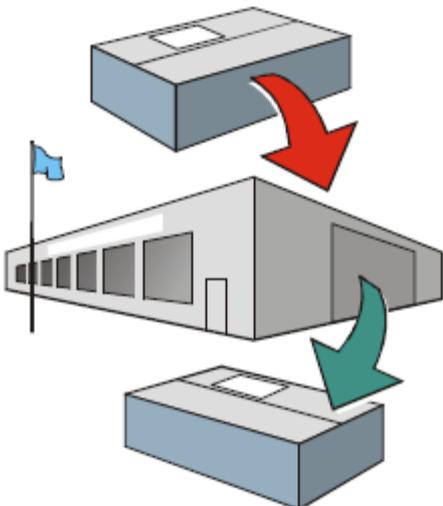
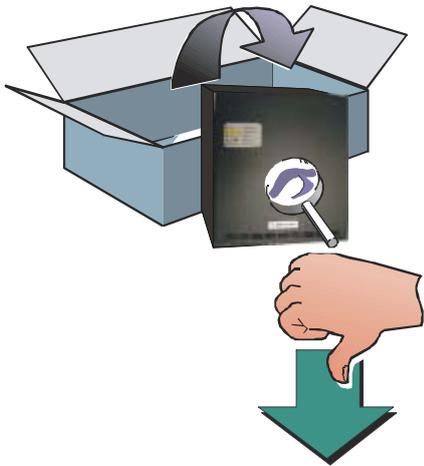


User manual

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1. POWER SUPPLIES HLS PS SERIES INSTALLATION

The HLS PS Series is easy to install providing the recommended procedures described in this manual are followed.

Follow all installation instructions described in this manual. These instructions must be understood and followed to avoid damage to the S Series and associated equipment.

1.1 Checking the HLS PS Series for damage

Before attempting to install your power supply you should do the following.

The procedure describe bellow tells you what to do in the unlikely event that the supplied equipment has been damaged after leaving the factory. However, if you have problems regarding the quality of any supplied order items, follow the procedure bellow:

1. If, after removing the HLS PS Series, a visual inspection reveals that it has been damaged, you **MUST NOT** continue with the installation but contact your supplier for advice on what to do next.

Similarly, if the product is found to be faulty during installation, contact your supplier immediately.

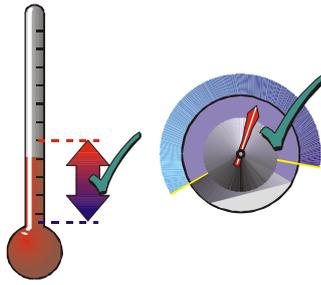
2. To aid your supplier, you are requested to note all the details relevant to your complaint, clearly stating details of any technical problems, date of receipt, packaging condition, etc. and forward this to your supplier.

3. Where the product needs to be returned to your supplier, you are requested to use the original packaging wherever possible.



WARNING

- The building where the device is connected should have surge and earth protections and these should be easily accessible in order to disconnect the unit from mains by its two poles.



1.2 Pre-installation check list

Before selecting the location for the HLS PS Series, DO make sure that:

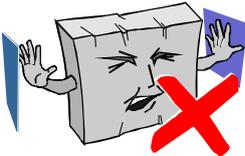
a) The ambient temperature is in the range:
-5 °C to 40 °C



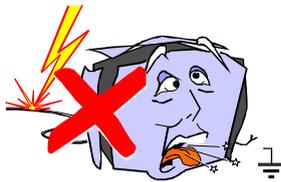
b) The relative humidity is below:
93% (non-condensing)



c) DO NOT locate the equipment where it is exposed to high levels of moisture.



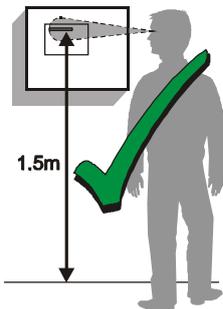
d) DO NOT locate the equipment where there are high levels of vibration or shock.



e) DO NOT site the HLS PS Series where there would be restricted access to the internal equipment and wiring connections.

1.3 Transient protection

As with all solid state devices, this system may operate erratically or can be damaged if subjected to lightning-induced transients. This equipment contains transient protection devices. Although no system is immune from lightning transients and interference, for these devices to function correctly, and to reduce susceptibility, this equipment must be earthed correctly. The use of overhead or outside aerial wiring is not recommended due to the increased susceptibility to nearby lightning strikes.



The HLS PS Series is wall mounted in a position, which allows clear visibility of indicator LEDs. The height above floor level should be chosen such that the indicators are just above normal eye level (approximately 1.5 metres).

1.4 Cleaning

The HLS PS Series case may be cleaned periodically by wiping with a soft, damp lint-free cloth. Do not use solvents.



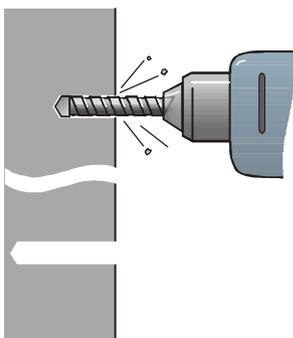
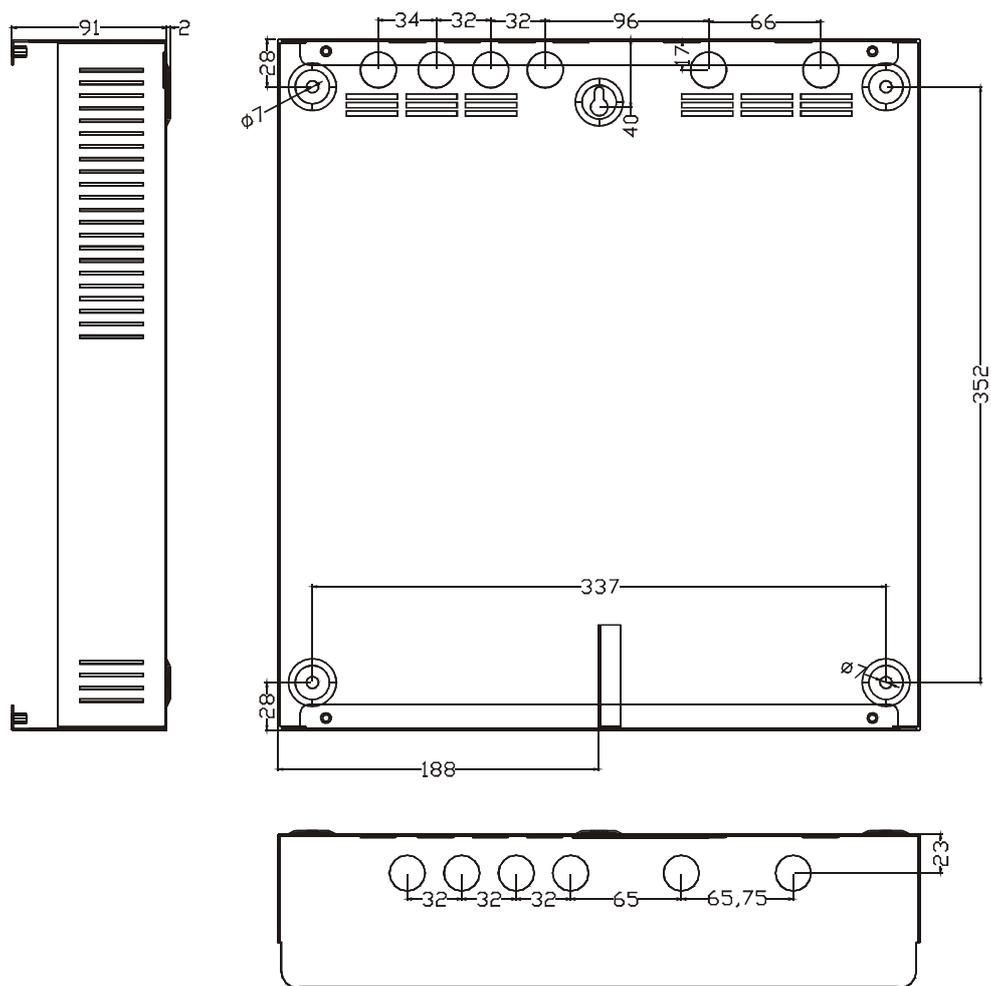
1.5 Back Box HLS PS Series fixing

When a suitable location has been found for installing the HLS PS Series, proceed as follows:

1. Hold the back box assembly in the required position against the wall and mark the position of the fixing holes, while ensuring the panel is level.

The drawing below shows the position of the fixing holes at the back box.

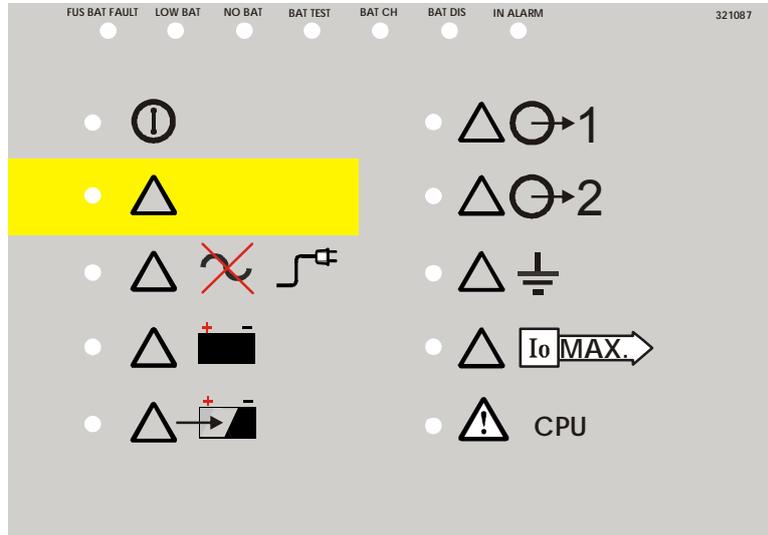
Do NOT use the back box as a guide when drilling!



2. Drill and plug the wall.
3. Prepare apertures required for cable access.
4. Screw the back box to the wall using the fixing holes and appropriate-sized screws.

2. HLS PS Functions and indicators

FRONT PANEL:



LEGEND:

	=> ON		=> OUTPUT 1 FAULT
	=> FAULT		=> OUTPUT 2 FAULT
	=> MAIN SUPPLY FAULT		=> EARTH FAULT
	=> BATTERY FAULT		=> OVERLOAD
	=> BATTERY CHARGER FAULT		=> SYSTEM FAULT

INTERNAL LEDS:



FUS BAT FAULT	=> Battery fuse is open	BAT DIS	=> Discharging battery
LOW BAT	=> Battery below 25% capacity	IN ALARM	=> Alarm input activated. Battery charger disabled
NO BAT	=> Battery is not detected		
BAT TEST	=> Dynamic test running		
BAT CH	=> Charging battery		

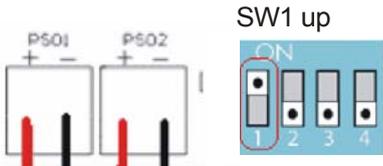
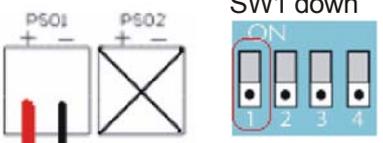
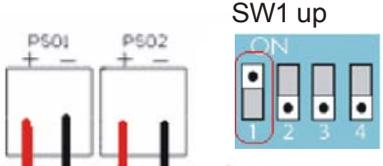
2.1 HLS PS25 / HLS PS50 characteristics

These Power Supplies Units are designed to comply with the requirements of EN54-4 in order to provide fire control systems with backup supply.

The HLS PS Series operates at 115/230 Vac and 50/60 Hz.

Both Power Supply Units, HLS PS25 and HLS PS50, are very similar: they consist of a 2x65W, which means 130W in HLS PS50 and 1x65W in HLS PS25 and a standard module control which supervises the entire power supply.

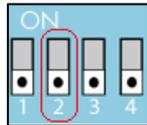
HLS PS25 and HLS PS50 power supplies provide 2.5 Amp and 5 Amp respectively and 300mA to 600mA of them are dedicated to charge batteries. These power supplies are able to supply either up to 1.10 and 2.20 Amp current at each PSO1 and PSO2 outputs. This is the default set up (DIP SW1 ON, up position). However, power supplies can also supply all the current in only one output by placing the DIP SW1 in the down position, OFF. This way, all the current (2.20Amp or 4.40Amp respectively) will be supplied through PSO1 output.

HLS PS25	PS01 Output current	PS02 Output current
	1.1 Amp	1.1 Amp
	2.20 Amp	0
HLS PS50	PS01 Output current	PS02 Output current
	2.20 Amp	2.20 Amp
	4.40 Amp	0

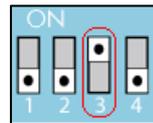
2.2 Battery

DIP SW2 allows selecting the maximum current of battery load, depending on the batteries inside the power supply unit box.

With DIP SW2 in ON position (up), 7Amp/h batteries can be charged at 300mA. When DIP SW2 is in OFF position (down), 20Amp/h batteries can be charged at 600mA.



In this example, **DIP SW2** is in OFF position (down) and the load current will be limited to 600mA.



DIP SW3. This DIP switch is in ON position (up). For future use.

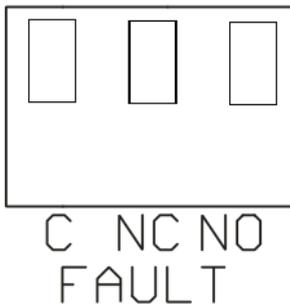
DIP SW4. For future use.

2.3 Fault relay

The Power Supply has a fault relay to report any anomaly to a remote control unit.

Any fault has a delay of 30 seconds from the fault signal to fault relay confirmation, except when there is a mains AC loss, which will be indicated after an 8-minute delay to avoid faults from intermittent power cuts.

In stand-by, the fault relay is energized indicating its normal operation. In case of any fault, the relay deactivates after the confirmation time.



Fault relay operation

FAULT switch with three terminals

Terminal 1 (left) C common

Terminal 2 (centre) NC or Normally Closed

Terminal 3 (right) NO or Normally Open

Fault relay operates as follows:

No supervision (without power) or in fault condition

Between C and NC → continuity

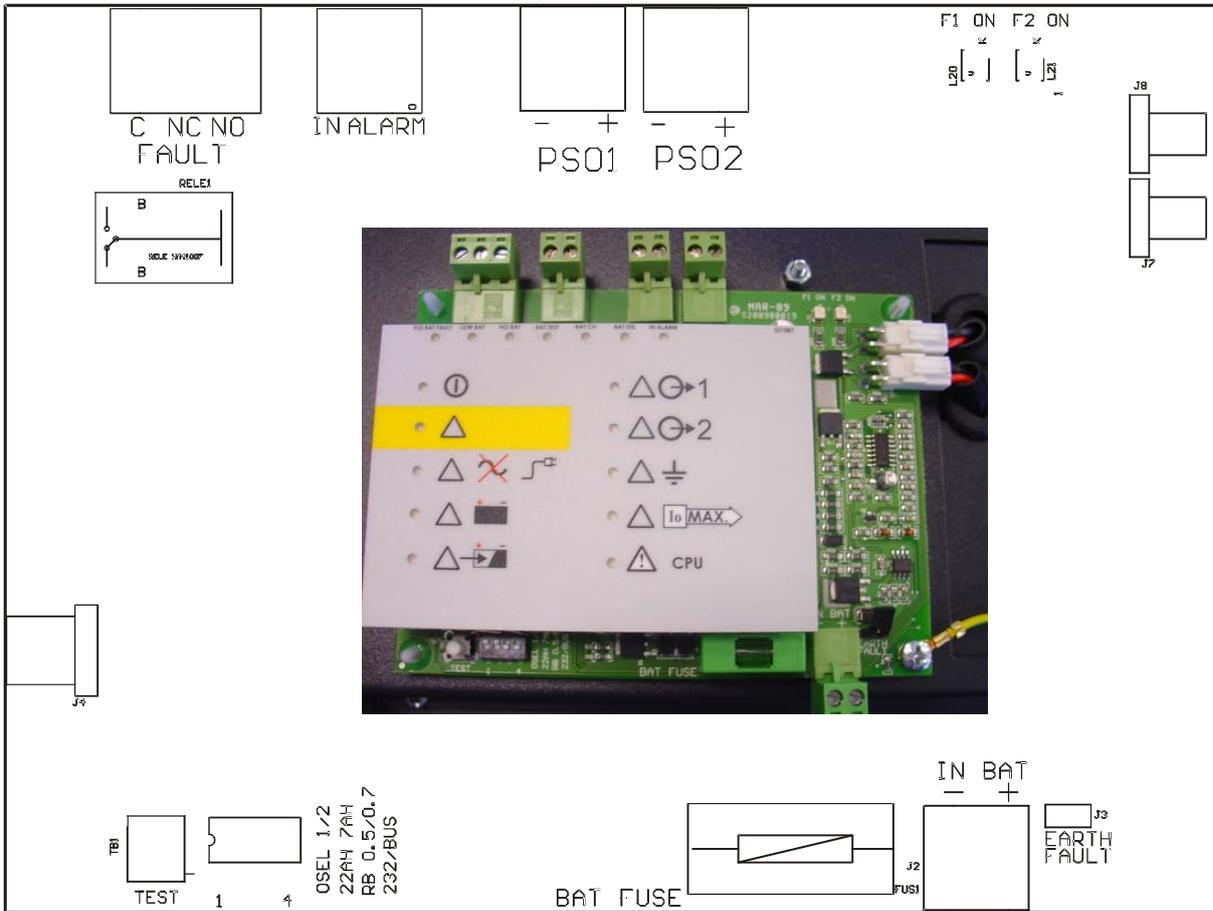
Between C and NO → open circuit

Operating with supervision without faults, i.e. in NORMAL STATE

Between C and NC → open circuit

Between C and NO → continuity

2.4 Control Unit Connections:



The following 4 connectors are placed at the top of the Control Unit:

- FAULT (C)** Fault Relay Common
- FAULT (NC)** Normally Closed Contact
- FAULT (NO)** Normally Open Contact

The fault relay may be linked to an analogue input module to report any fault to a third equipment like a FACP (Fire Alarm Control Panel).

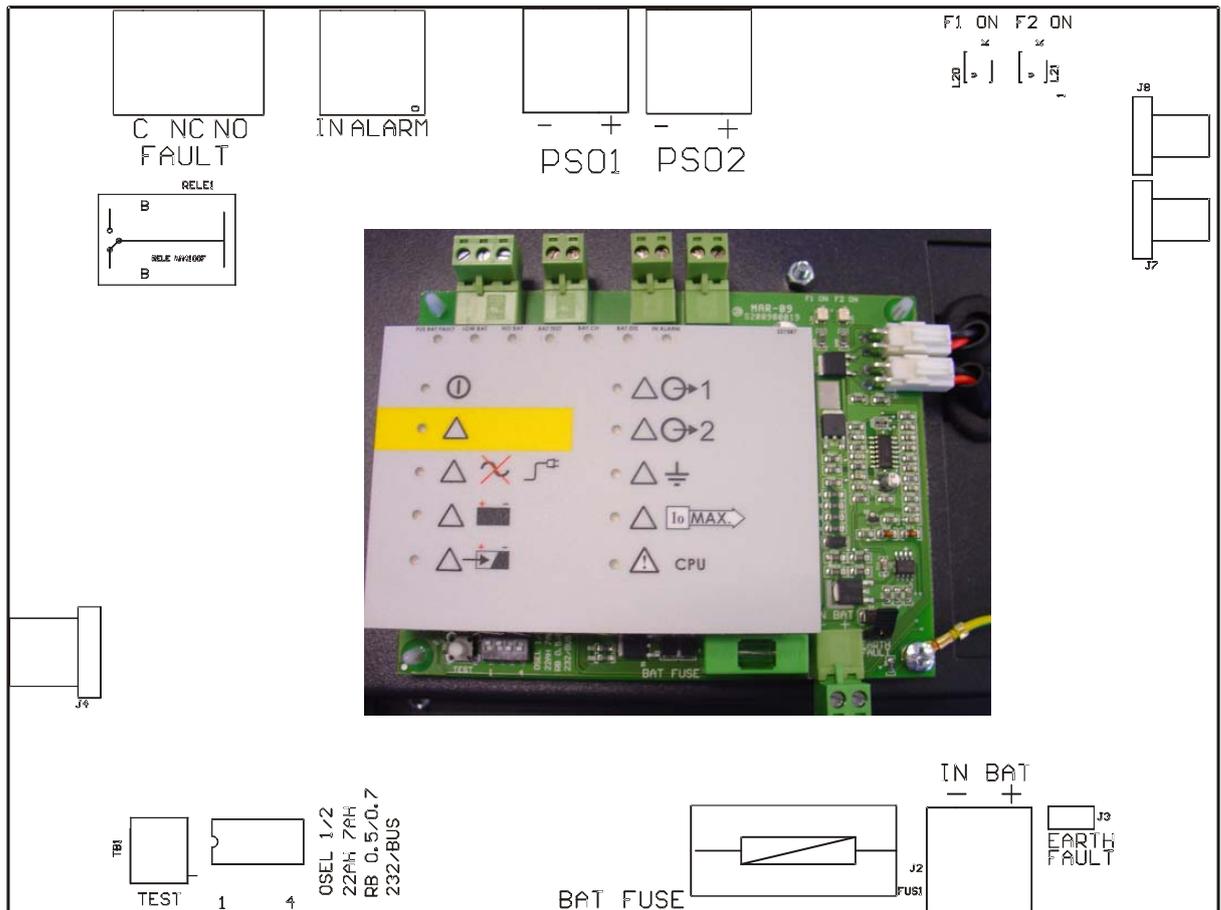


- IN ALARM (+)**
- IN ALARM (-)**

Alarm input to disable, momentarily, the battery charger and be able to supply 300-600mA from battery load to the outputs. For this, it is necessary to link both IN ALARM terminals by means of a jumper or short-circuit.

When this input is activated, the control unit will have an extra current of battery load 0.3 A or 0.6 A, depending on the DIP SW2 for outputs. Thus, if the power supply is in Overload (Imax) state, the indication will disappear by activating this input, provided that the excess current is the current which is supplying batteries.

- PSO1** Output 1 (+)
- PSO1** Output 1 (-)
- PSO2** Output 2 (+)
- PSO2** Output 2 (-)



The following is placed at the bottom of the Control Unit:

- IN BAT** Batteries (+)
- IN BAT** Batteries (-)

TEST The test button allows performing a led test and makes a real test of batteries forcing them to supply current of 1 A approx. for a minute. In case batteries fail, a Battery fault will be reported. The HLS PS Series will supervise automatically the battery each 3 hours. If the battery load is in normal condition, the fault signal will disappear.

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Section 8.2.4 requires that any Earth fault which may affect an obligatory function should be indicated independently.

The cable size should be calculated according to the maximum length, the maximum voltage drop supported by devices and the minimum voltage of battery system.

2.5 Indicator leds:

ON Led

This led is ON when the Control Unit is powered.



Fault Led

Yellow led that is ON in case of a Power Supply Fault. When this indication is activated, the C and NC contacts of the fault relay will be closed.



MAINS SUPPLY FAULT Led

Power Supply is not detected by the Control Unit and it is powered by batteries. The internal led BAT-DIS is also activated. The led is ON immediately after detecting power. However, the fault relay signal and the FAULT led do not activate until the power supply fault remains for more than 8 minutes.



BATTERY FAULT Led

Battery is not detected by the Control Unit or the battery voltage is below 22.4 Vdc, i.e., the 50% of its capacity. The FAULT Led and the fault relay signal are also activated.



In case the internal led LOW BAT is flashing it means that the battery voltage is close to 22.4 Vdc.

When the battery voltage is lower than 20.4 Vdc, both outputs, PSO1 and P SO2, and the Output 1 and 2 leds will indicate a fault condition.

The FAULT Led and the fault relay signal are also activated

BATTERY CHARGER FAULT Led

This led is on when there is a battery charger fault.





OUTPUT 1 FAULT Led

Indicates that the output 1 is not powered.



OUTPUT 2 FAULT Led

Indicates that the output 2 is not powered.



EARTH FAULT Led

Indicates an Earth Fault if one of the wirings (+) or (-) is linked to earth.

If J3 is not connected, there will not be earth fault supervision.

Earth fault solution: Make sure that there are no links between Earth and Output 1 and 2 (+) y (-).



OVERLOAD Led

Indicates that the equipment exceeds the maximum current, 5 A.

A momentary peak voltage may be provided by disabling the battery load current in case of alarm by using the IN ALARM connection, which switches the battery current of 300 or 600mA to the outputs.



SYSTEM FAULT Led

Indicates that the Power Supply microprocessor is not operating correctly.

3. Specification

Dimensions:	377 mm (w) x 408 mm (h) x 92 mm (d).
Power Supply Wattage:	130 W (HLSPS50) y 65 W (HLSPS25). The HLSPS50 power supply has a total of 5Amp and 300mA to 600mA of them are dedicated to charge batteries.
Input Voltage:	115 - 230 Vac; 50/60 Hz
Output voltage:	28 VDC +/-2% VDC (overload and short circuit protection).
Power Supply Outputs:	2
Terminals:	Removable terminals for 2.5 mm cable.
Optional conversion 2 outputs to 1 output:	Yes, using DIP SW1.
Maximum current per output*:	1.10 Amp (HLSPS25); 2.20 Amp (HLSPS50).
Maximum current using only one output	2.20 Amp (HLSPS25); 4.40 Amp (HLSPS50).
Alarm input:	By linking both terminals with a jumper (or short-circuit), this input allows the battery charger momentary disablement in order to provide extra 300/600 mA to the outputs.
Battery load current:	300 mA (7 Amp/hour) / 600 mA (17 Amp/hour). 80% of the Battery Capacity is charged in less than 24 h and the 100% in less than 48 h.
Fault relay:	C, NC, NO contacts. 1 Amp/24Vdc maximum. Energized in normal state.
State Indicators:	10 external leds (5 mm) + 7 internal (SMD).
Battery room:	For 2 x 22 Amp/hour
Conduit knockouts:	Ø 21 mm 6 at the top of the back box 6 at the rear top of the back box
Earth Fault Supervision:	Configurable (ON/OFF)
Standards:	Design according to EN5 4-4; UL19 50; TUV EN6 0950 and EMC standards, EN55022, IEC1000-4-2,3,4,5 IEC1000-3-2.
Vibration test:	10-500 Hz 2G 10 min/1 cycle during 60 min. on each axle.

NOTE: Shield cables are required for power supply units' connection.

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