



### ***DESCRIPTION***

The **DSS** charge controller from Soléner is designed for use in all kinds of standalone photovoltaic installations. It is very reliable and versatile, due to the automatic selection of operation voltage, the built-in protections, the solid stage design and the range of selectable batteries available. Another features are compact design and easy installation.

### ***STATUS INDICATORS***

#### **Charging mode**

The yellow LED informs about the charging mode using groups of blinks. One blink means floating charge, two blinks bulk charge and three blinks equalization charge.

#### **Overload/shortcircuit**

The red LED blinks whenever the load current is too high. When there is a shortcircuit or a three-second overload the controller shuts down the output and this LED remains ON. Pressing the reset button (after removing the shortcircuit) will restore the output.

## Battery status

The battery status is shown via a “traffic light” (three LEDs in the right side).

The red LED blinks when the battery has low charge. When the battery is empty, the LED remains ON and the output is disconnected. When the battery is recharged the output is reconnected automatically.

The yellow LED blinks when the battery has medium charge.

The green LED blinks when the battery is near full charge. It remains ON when the battery is fully charged and the input is open.

## SETUP

You can select four different battery types using two jumpers (**JPA & JPB**), as shown in the table below:

	JPA	JPB
Modified SLI (default)	OFF	OFF
Tubular vented	ON	OFF
Tubular sealed	OFF	ON
AGM	ON	ON

## INSTALLATION

The **DSS** charge controllers are protected against incorrect connections, but the loads and/or modules may be damaged, so be careful.

The connection order should be:

- 1°.- Load
- 2°.- Battery
- 3°.- Modules

The disconnection order should be:

- 1°.- Modules
- 2°.- Battery
- 3°.- Load

The controller is protected against battery disconnection, but you should never connect the modules if there is no battery.

## **OPERATION**

This controller uses a state machine for battery charging. When you power the controller it will begin a equalization charge (this charge will repeat every 30 days or when the controller turns off the output due to a low battery condition). When this charge ends, the controller starts a bulk charge. At the end of the bulk charge the controller starts the floating charge, and the battery is fully charged.

## **CHARACTERISTICS**

### **Physical**

Length, width, height:	172 x 105 x 24 mm
Weight:	600 g
Enclosure:	Galvanized steel
Painting:	Furnaced Epoxy
Protection level:	IP 32

### **Electrical**

Nominal voltaje:	12/24V with automatic selection
Maximum input current:	10/20/30 A, depending on model
Maximum output current:	10/20/30 A, depending on model
Overload capacity:	25%
Self consumption:	< 30 mA
Input/output losses:	< 1/1.8/2.4 W

### **General**

Regulation:	Series, solid state switches
Battery selection:	Four options
Charging algorithm:	State machine with three states
Status indication:	5 LEDs
Temperature compensation:	Yes
Automatic reconnection:	Yes (except from a shortcircuit)
Protection against reverse polarity:	Yes
Protection against output overload:	Yes
Protection against high voltages:	Yes
Protection against battery disconnection:	Yes
Harsh environment protection:	Yes
Full load temperature range:	-20 to +50 °C