

USE AND MAINTENANCE INSTRUCTIONS

190W Photovoltaic kit for:

- **Talos N photovoltaic**
- **APL Solar and APL Solar Active control unit**

To use the photovoltaic kit correctly, follow the instructions below:

Installation guide

Place the photovoltaic panel on the pole facing south. **Make sure there are no obstacles to sunlight (trees, buildings, etc.) from 10 a.m. to 4 p.m.**, especially during Winter. Place the box nearby the photovoltaic panel. Generally, the box is installed on the same pole as the photovoltaic panel. In the case of a compact photovoltaic kit, the panel and the box are integrated in a single solution.

Access the box and connect the devices to the charge regulator respecting the safety standards in force, as indicated below:

1. Positive and negative load
2. Positive and negative battery
3. Positive and negative photovoltaic panel

BE CAREFUL:

1. Connect a sufficiently charged battery (> 12.8V)
2. Respect the polarity indicated on the terminal blocks
3. Verify the presence of the fuse **F** in the battery as shown in Fig. 1.
4. With a battery voltage <11.4V, the load is turned off and it will be turned on once the battery is charged and reaches a voltages of 12.6V.



Functioning

Verify the correct functioning making sure that:

- The steady green light (4) up when the photovoltaic panel is illuminated by the sun.
- The presence of voltage on the load output terminals (1).

BATTERY TESTER

There is a battery tester (5) that shows the level of charge. If the battery drops below 11.4 volts, the system turns off the power and flashes a red light. When the battery goes back up to 12.6 volts, the power turns on again. To learn more, check the section "Charge Regulator Functioning Table".

Check that the connected load switches on correctly.

The device is correctly installed.



Fig. 1

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Charge regulator functioning table

LED	STATUS	DESCRIPTION	SOLUTION
PHOTOVOLTAIC PANEL LED	Steady green light	Battery on charge	Correct functioning
	Flashing green light	Night or disconnected panel	Correct functioning
	Steady orange light	Night or disconnected panel	Check connections, sun exposure and voltage
BATTERY LED	Steady green light	The battery charged (<13.5V)	Correct functioning
	Steady yellow light	Medium battery charge (12.5÷13V)	Correct functioning
	Steady red light	Low battery (<12.5V)	Check sun exposure and battery voltage
	Flashing red light	Dead battery (the load is off)	Check connections, sun exposure and battery voltage



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FEATURES OF THE PHOTOVOLTAIC CHARGE REGULATOR		
Regulator code		81015
Charge regulator model		PS-15
Photovoltaic panel maximum current		15 A
Maximum load current		15 A
Maximum photovoltaic panel power		200 W
Maximum photovoltaic panel voltage		60 Vdc
Battery type		LiFePO4 12 Vdc
Self-consumption current		22 mA
Charging voltage - battery		14,4 Vdc with temperature compensation (-3.0mV/°C/2V)
Protection	Disconnected load	<11,4 Vdc
Block download	Reconnected load	>12,6 Vdc
Operating temperature		-30 °C ÷ +60 °C
IP protection		IP 20
Electric protections		Photovoltaic panel polarity inversion, excessive charging current Battery polarity inversion, load short-circuit

Maintenance

Check periodically:

1. The charge level of the battery, especially during Winter
2. The cleanliness of the panel to guarantee the efficiency during the charge (e.g., snow, leaves etc.)
3. The condition of the electric connections. Replace in case of deterioration of the insulation material
4. The tightening of the bolts

For further information, please contact

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