SOLAR POWER SUPPLY

❍ FOR USE WHERE CONNECTION TO MAINS ELECTRICITY IS NOT POSSIBLE

❑ APPLICATIONS

- Environmental measurement :
  Radiological monitoring,
  Radon activity monitoring,
  Meteorological measurements.

❑ Power supply appliance by solar panel designed to provide continuous power for sampling or measuring instruments.

❑ Photovoltaic power supply includes a solar panel associated with a battery.

❑ In normal conditions of use, round the clock operation of the unit is guaranteed.

❑ The battery is dimensioned for 2 weeks' supply to the connected appliance in the absence of sunshine or with snow covering the solar panel.

Specifications ⇨

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SOLAR POWER SUPPLY

SPECIFICATIONS

Principle :
The solar power supply appliance serves as the base for a sampling device or a measuring instrument.
During the day, the solar panel charges the integral battery and provides the energy required to operate the connected appliance.
At night, the energy stored by the battery is released.
The associated appliance therefore operates continuously.

Among the ALGADE appliances suitable for use on this base:

- Site sampler 12 V
- Radhome HR

Characteristics common to the appliances that can be connected:
Power supply voltage: 12 V DC.
Maximum current consumed:
0.2 A In continuous operation 24 hours a day
1 A In operation 8 hours a day.

Extra features :
Dimensioning tried and tested.
2 detachable wheels for handling in the field
Adjustable telescopic pole,
Height when opened 1m 45.
The sensitive elements are protected by the plastic cover, closed by special screws.
The casing makes it possible to install telecommunication components. (GSM, radio module).

Base frame composed of :
a square base with aluminium supports incorporating an under-frame stand, wheel axle, pole attachment.

A multi-layer polyester casing combining rigidity and good resistance to solar radiation.

The frame positions the solar sensor at an angle of 45° to the ground.
Resists winds of 150 $km.h^{-1}$.

Solar sensor :
Composed of 36 cells in high yield polycrystalline silicon.
Functions in direct or diffused sunlight.
Offers great resistance to environmental attack.
Maximum power: 50 W.
Surface of sensor: 0.44 m^2.
No load maximum voltage : 21 V

Battery :
Waterproof, lead 12Volts
As standard 115 Ah.

Regulator :
The "solar" current from the photovoltaic modules transits via an electronic module which:
-protects the battery from polarity inversions.
-fully charges the battery
-stops charging when the battery voltage is sufficient.
-off-loads the charge if the battery reaches a deep discharge threshold.

Regulation threshold: 15.7 V.
Power cut-off threshold: 11.3 V
Specific power consumed: 0.05W

Environment :
-20°C to +70°C / 10-100 % relative humidity.
Protection index: IP54.
Sound level: < 40 dBA.
Compliant with the standards CEM EN 55022, CEI 61000-4

Casing :
Stainless steel frame 316 L
Multi-layer fibreglass casing
L*d*h: 520*420*900 mm. (cover alone)
Weight: 67 kg

The solar power supply is delivered pre-wired with :

- 1 telescopic pole,
- 2 detachable wheels with key,
- 1 set of 10 special closure screws,
- 1 screwdriver.

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To order :

1 –Solar power supply

Photovoltaic power supply P-515-102
(with 50W solar panel, regulator, base, lead battery 12V 115 Ah)

2 –Options

30 W Solar panel M-515-109
Lead battery 12 V 50 Ah