

NO-BREAK POWER SUPPLY SYSTEM DC BOX-SMART

DESCRIPTION

DC BOX Smart is an integrated non-break DC uninterruptible power supply system. It provides support for clean energy sources such as solar and wind power. But it can also use mains or genset power. As it has no switching systems, the output is not interrupted at any time.

Due to its internal topology, it is suitable for use in low or medium power applications with long autonomy. It provides an open industrial communications and control platform.

The advanced control software makes it possible to intelligently manage the balance of use of the connected devices and, through a platform, improve the management experience and have useful information 7/24 365 days a year. It also supports integration with external IoT devices and message relaying to other platforms.

Support for lighting systems allows monitoring and dimming of LED luminaries, making them smart. It can be used individually or in complex networks.

APPLICATIONS

- Radio links
- PAYG systems
- Communication Shelters
- Surveillance cameras
- PLCs
- Emergency lighting
- Park lighting
- Rural lighting
- Bus stops
- Signalling beacons
- Access points
- SOS systems
- Alarm systems
- Electrical manoeuvring
- SOHO connectivity
- Off-grid IoT systems
- Public signage
- Domotics
- Traffic lights
- Speed cameras
- etc.

FEATURES

- Multiple input types
- Native MPPT support for solar panels
- Support for wind generators
- Configurable 12/24VDC output
- Analogue and digital inputs and outputs
- Overload and short circuit protection
- Internal voltage, temperature and current monitoring
- Remote management: Wi-Fi, Ethernet, BT.
- Intelligent output management: load balancing
- Support for intelligent lighting
- Support for lead-acid, Lithium and custom batteries
- Natural cooling (fanless)



SPECIFICATIONS

| PARAMETERS | | DC-BOX SMART |
|------------------------------|----------------------|----------------------------------|
| Inputs | MPPT/DC | 18-60Vdc / <=480W (1) |
| Regulated outputs | Output | 12/24Vdc <=150W |
| | Rated current @12Vdc | 13A |
| | Rated current @24Vdc | 6.5A |
| | Regulation | Vdc +/- 1% |
| | Ripple | +/- 200mv |
| Non-regulated outputs | Type | From Battery |
| Battery Charger (2) | Charging modes | Float/3 stages/4 Stages/custom |
| | Nominal Voltage | 12/24Vdc |
| | Current (3) | <=20A/h |
| Battery (4) | Type | Pb-Ac/Li-Ion/LiFePO4/Custom |
| | Nominal voltage (5) | 12/24Vdc |
| Protections | Inputs | Current limit |
| | Outputs | Short-circuit and over current |
| | Battery | Under voltage |
| | Temperature | Device critical |
| | Energy | End of power |
| Digital I/O | Input | 1 Digital |
| | | 1 Analogue (Battery temp/custom) |
| | Output | 1 PWM/Digital |
| | PWM Output | 0-10Vdc |
| Communications | | Wi-Fi, Bluetooth, Ethernet |
| Measurements | Inputs | Voltage and Current |
| | Outputs | Voltage and Current |
| | Battery | Voltage and Current |
| | Input Power | Calculated |
| | Output Power | Calculated |
| Reset | Output | Watchdog/Remote |
| Working environment | Humidity | 20- 90% Non-cond. RH |
| | Temperature | -30 to +70°C |
| Mechanical | Enclosure Material | Anodized aluminium |
| | Dimensions | 192 x 38 x 142 W x H x D (mm) |
| | Weight | 950g |

- (1) Panels can be placed in series and parallel as long as the open circuit voltage does not exceed 60Vdc. The MPPT regulator will limit the current so that higher power panels can be used.
- (2) The battery charger can support almost any type of existing or future battery. Improper configuration will damage the batteries.
- (3) The input power will be intelligently distributed prioritising consumption over output. Unused power will be diverted to the battery charge. For small batteries, the charging current can be limited to a minimum even without consumption at the output and surplus at the input.
- (4) The battery voltage is independent of the regulated output voltage. It is possible to use 12Vdc batteries and obtain a 24Vdc output, for example. There is no limit to the power of the batteries but the time it will take to charge must be taken into account.
- (5) Due to the current limit, to achieve maximum charging power and if large panels are used, it is recommended to use nominal 24Vdc battery banks.