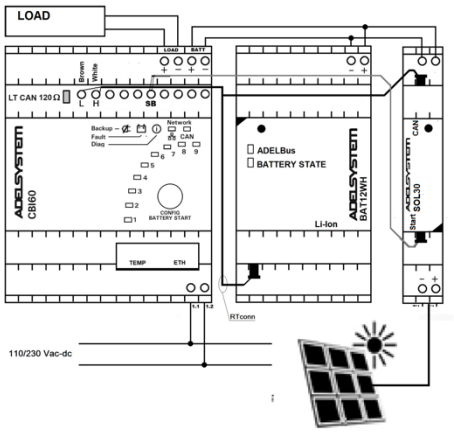
SOL30 Solar Controller MPPT



MPPT Maximum Power Point Tracking Buck-Boost
Maximizes Energy Harvest Using MPPT Technology to determine and adjust to the true maximum power point as solar insolation changes throughout the day

High Efficiency
At low, medium, and high power levels

Data Logging
Up to 10 days of detailed power and load data connected to CBI60

Automatic PV Based Lighting Control
Field adjustable, multi-event load control enables powerful options for PV lighting systems

ADELBus Communications (CAN)
Communications protocol allows for monitoring, recording, configuring, updating

High Strength
Polycarbonate case for DIN rail or Wall mount application

Self Diagnostics
Continuous monitoring and reporting of any errors through its status LED's and ADELBus through DC Ups Web Server

Fan less Design: For long-term reliability

Easy Configuring
Adjustments to charging and control settings by Web Server

Temperature compensated Charger

Auto-detector of environment Voltage: 12 / 24V

Main Protections:
Low Battery, Over temperature, Battery Inversion, Overload Charging

Technical features

The SOL30 MPPT solar controller is an advanced maximum power point tracking (MPPT) battery charger for off-grid photovoltaic (PV) systems. .It is developed for connecting to an Adel System DC-UPS, it automatically maximizes the efficiency by using all the solar power available to charge the battery and supply the load. The device is working in parallel to the main input Vac, when the sun is present the DC UPS prioritizes energy coming from the sun to power the load and charge the battery if necessary.

The "Battery Care" algorithm performs rapid and automatic charging. Each fault is signaled by a blink code of Diagnosis Led or via ADELBus in order to be easily detected and removed during installation and operation. Connected to an Adel System DC-UPS via ADELBus, the battery configuration set on the DC-UPS is automatically transferred onto the SOL30. Open Lead Acid, AGM and Gel Lead Acid; Ni-Cd, Li-Ion are rechargeable using the same device.

Output voltage 12V / 24V automatically selected based on battery settings.

Rugged casing with bracket for DIN rail or Wall mounting.

Norms and Certifications

In Conformity to: Safety EN IEC 62368-1: 2014/AC:2015; EN54-4 Fire Detection and fire alarm systems; 89/336/EEC; EMC Directive 2014/35/UE and Low voltage Directive *2014/35/UE*; DIN41773 (Charging cycle); Emission: IEC 61000-6-4; Immunity: IEC 61000-6-2. CE.

PV Input	
PV module Open circuit voltage	**12 – 35 max 45V (1 min)**
Range MPPT	**18 – 35 V**
Nominal PV module	**24V**
PV module power min- max	**30 – 120W**
Internal fuse (not replaceable)	**6.3 A**
External Fuse (recommended) or MCB curve B	**10 A**
Reverse polarity protection on PV	**Yes**
Nighttime reverse current protection	**Yes**
Battery Connection 24 V	
Output voltage (at In)	**22 – 28.8 Vdc**
Nominal current Ibat	**1.25 A ±5%**
Battery Connection 12 V	
Output voltage (at In)	**10 – 14.4 Vdc**
Nominal current Ibat	**1.25 A ±5%**
Generic Battery Output	
Charging Curve automatic:	**Follow's DC Ups Configurations**
Boost-Fast charge Switch Configuration 25°C (V/cell)	**Follow's DC Ups Configurations**
Float Charge Switch Configuration 25°C (V/cell):	**Follow's DC Ups Configurations**
Max.Time Boost–Bulk charge (Typ. At IN)	**Follow's DC Ups Configurations**
Min.Time Boost–Bulk charge (Typ. At IN)	**Follow's DC Ups Configurations**
Reverse polarity battery protection	**Yes**
Overload protection	**Yes**
Short circuit protection	**Yes**
Hight temperature protection	**Yes**
Indicators and Command	
Status LED Green flashing	**Battery Charging**
Status LED Orange blinking	**Not Charging**
Status LED Red blinking	**Fault code**
CAN LED Green solid or flashing	**CAN bus active**
CAN LED Red/Green flickering	**Awaiting configuration**
CAN LED Red solid	**CAN bus error**
Push Button to turn ON and OFF the SOL30	**from battery (with auto turn-off)**
Ambient Conditions	
Nominal Temperature operation	**-25 up to +60°C (>60°derating 2.5%°C)**
Ambient Temperature operation	**-25 up to +70 °C**
Ambient Temperature storage	**-40 up to +85 °C**
Humidity at 25 °C, no condensation	**95 % to 25 °C (acc. to IEC 60721)**
Vibration (operation) IEC 60068-2-6	**<15 Hz, amplitude ± 2.5mm <15Hz-150Hz, 2.3G 90 min.**
Altitude: 0 to 6 000m - 0 to 19685ft	**No restrictions**
General Data	
Leakage Current	**< 5mA**
Peak Efficiency	**91%**
Dissipation Power	**6 W**
Protection Class (EN/IEC 60529)	**IP20**
Reliability: MTBF IEC 61709	**> 700.000 h**
Protection class	**III**
Pollution Degree Environment	**2**
Housing material	**Polycarbonate**
Foot latch material	**Plastic POM**
Dimension (w-h-d) mm	**18 x 90 x 62**
Weight	**0.1 kg approx.**
Connection	
Input 30V	**Screw Type:** — **0.2 - 2.5 mm² (24 – 12 AWG); 0.6 - 0.8 Nm**
Input 0V	**Screw Type**
Outputs 12V / 24V	**Screw Type**
Data and Communications	
Remote monitoring data:	**Aux 1**
Protocol:	**ADELBus (CAN)**

Accessory

RTConn: connector cable for the connection to the ADELBus and Aux 1