

Charging analysis

Run the automatic analysis

Sync time on Info. Collect history, then connect. On Data, refresh battery history and tap **Analyse charging**.

Morning voltage, overnight changes and recorded charge help assess the panel and placement. At least two valid mornings are needed; three or more show trends. Tap **Daily readings** for details.

↗ Rising	Review recovery and recorded charge.
→ Steady	Check stability over several days.
↘ Falling	Check sunlight, shade, wiring, vehicle loads and the battery.

For a useful comparison

Compare continuous parking with similar sunlight. Driving and external charging affect results. Insufficient data does not mean a mismatched panel. Still check voltage, connectors and polarity.

History and readings

History: every 30 minutes; 720 entries, 15 days with valid data. Statistics: 7 days / 12 months. Live charts: 1, 5 or 30 minutes. Reconnecting keeps records.

Home/live charts use compensated voltage; history/button records use terminal voltage. Battery level is estimated; charge is not net gain. Vehicle discharge, PV input power and battery temperature are not measured. No parking-day prediction.

Calibration and reset

System settings / measurement calibration:

Line compensation: 0-300 mΩ, default 50 mΩ.

Current zero threshold: 0-200 mA, default 50 mA.

Zero disables each. Saved values take priority; read back to verify. Do not use starting resistance for line compensation.

Save data before reset. Settings, time, statistics, records and logs are cleared; factory calibration stays. Both values return to defaults. Resync time.

BSM12-1B

Solar Maintenance Charge Controller

12 V lead-acid batteries

OBD connection



Maintenance charging · Charging analysis
Starting-voltage recording

Get the app

Get the dedicated BSM app from your supplier. Follow the connection steps inside.

For maintenance charging of 12 V lead-acid batteries with an external solar panel. Not a jump starter.

Use while parked. Secure the panel and cables. Keep airbags, pedals and moving parts clear. Stow before driving.

Panel & installation



Solar panel

Controller

Vehicle OBD

Layout only, not connection order or socket location

Recommended panel

About 35 W

Recommended power

About 18 V

Maximum power-point voltage

Long strip

Preferred shape

Voltage 18 V is the maximum power-point voltage, not open-circuit voltage or maximum input.

Size Fit the available space. Keep the driver's view clear.

Match Match connector and polarity. Check maximum power-point current, short-circuit current and maximum cold-weather open-circuit voltage.

Use the matched panel. Do not add series/parallel panels. 35 W is not the controller rating. Use the app to check performance. Glass, tint, shade and temperature affect charging.

Front, left to right: button / communication / charge

Comms	Steady: recording (priority). Flashes once a second: waiting. Once every 5 seconds: connected.
Charge	Flashes once a second: charging. Once every 5 seconds: float.
Lights off	Comms: not advertising, connected or recording. Charge: no signal or uncertain; not proof of full charge.

Hardware controls charging independently. The app does not set stages. Float does not mean full.

Record starting voltage

Three steps: press, start, view.



1 Press once

Starts recording and Bluetooth advertising.
No phone needed. Do not hold.



2 Start promptly

Start as usual. Records **up to 15 seconds** from the press.



3 View in the app

Connect, open **Battery** and tap **Sync records** to view the curve.

Cannot restart while recording/saving; holding does not repeat. May end early after recovery. Stores 32 records; oldest overwritten when full.

Connect for the first time

Enable Bluetooth and nearby-device permissions. Press the button; select your BSM in app Bluetooth settings. Advertising lasts about 5 minutes; press to reopen/extend. Connected devices stay connected. Disconnecting reopens advertising.

Understand the results

View minimum voltage, drop, recovery time and pre-change voltage. **Reanalyze all** recalculates cached data offline. Valid, complete records support comparison.

Resistance assumes 200-400 A starting current. Ratings concern this drop, not measured current, exact resistance or overall health. Gaps may miss the minimum; unavailable times show a dash.

During recording: PV, current and power readings pause. Charging and Bluetooth continue. Missing intervals are not added to recorded charge.