



CSE
Power Technologies Inc.

6-6135 de Maisonneuve Blvd W.
Montreal, QC H4A 2A3
Tel: 514-313-9149

Clear Sky Energy Powering the Present · Safeguarding the Future

CSE HIGH PERFORMANCE AUTOMOTIVE SOLAR CHARGER

Technical Specifications

www.csepowertech.com | info@csepowertech.com

High Performance Automotive Solar Charger

Use the abundant and clean energy of the Sun to maintain your car battery!

CSE's automotive solar charger is designed to help you avoid costly battery replacements. It will help maintain your 12V car battery, sending a compensating charge for natural losses and drain from on-board electronics.

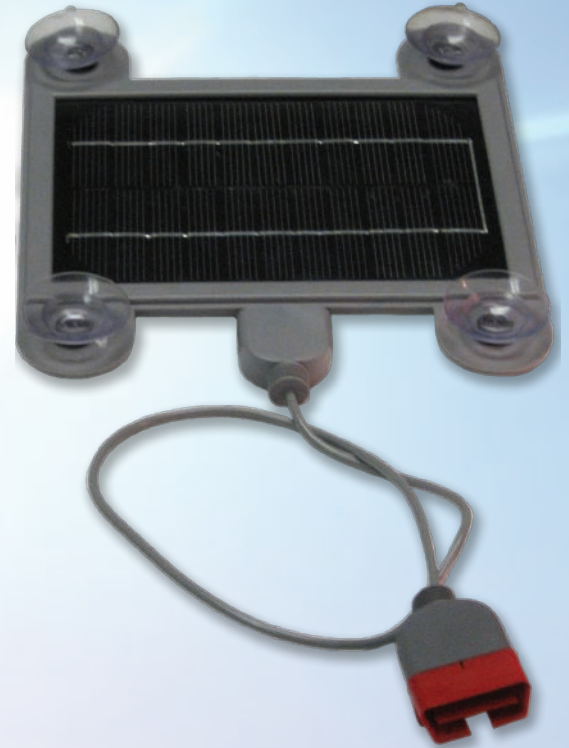
Our new proprietary electronic solar charging technology offers higher recharging performance than any other automotive solar solution on the market today! With an innovative built-in Maximum Power Point Tracking (MPPT) charge regulator, it will trickle-charge your 12V car battery while continuously monitoring it to protect against overcharge.

Did you know?

Solar cell performance decreases as the temperature rises! Most automotive solar chargers simply cannot function in the high temperatures found inside a vehicle. They thus provide little or no power to the vehicle battery during the best solar charging periods: when sunshine is at its peak.

The Solution:

Our built-in MPPT charge controller uses temperature compensation to electronically adjust the solar module (panel) output and extract the most power. This new "patent pending" MPPT technology provides:



Maximum energy extraction & recharging regardless of the operating temperature and battery state of charge.
CSE solar power = More power in your battery!

Did you know?

Cigarette Lighter Adaptors (CLA) used in vehicles' 12V receptacle should be UL certified for safety reasons? Most solar car chargers have a CLA which is NOT UL certified, potentially causing injuries and/or damage from electrical malfunctions. Additionally, most 12V lighter receptacles are disconnected from battery when the vehicle is in key-off mode. Thus, solar panels with a CLA send no power to the battery in these cases.

The Solution:

CSE's solar charger has an OBD II connector which is SAE (Society of Automotive Engineers) compliant. The OBD II provides a direct, safe and reliable connection to the battery regardless of the ignition switch position. The CSE solar charger is easily connected to the OBD II receptacle which is located inside vehicles. The OBD II ensures your battery is safely being charged when you need it most, when the engine is off.

Engineered specifically to meet strict automotive quality standards.



High Performance Automotive Solar Charger

Product Features:

- High efficiency mono-crystalline solar cells (14-17%)
- Quick-connect with the universal SAE compliant OBD II connector – Safe and easy to operate
- Lightweight and Robust construction - Solar Polymer Lamination & ABS frame
- Advanced MPPT charging & battery protection with Temperature compensation
- Easy to install on a window or windshield with suction cups included
- ROHS compliant (lead-free)
- Glass free

Charging Specifications:

Operating Charging Voltage:	12 to 14.5 V
Operating Power:	2.5 to 2.7 W
Maximum Operating Current:	230 mA
Operating Temperature:	-20 to 100°C (-4 to 212°F)

Built-in Charge Regulator Features:

- Electronic Temperature control
- Electronic regulated output voltage
- Electronic regulated output current
- Electronic Shading Protection
- Electronic reverse current protection
- Electronic overvoltage protection
- Electronic thermal shutdown

Physical Specifications:

Total length:	23 cm (9.1 in)
Total width:	16 cm (6.3 in)
Thickness:	1.2- 2.1 cm (0.5-0.9 in)
Weight:	500 g (1.1 lbs)
OBD II cable length:	1.2m (4 ft)

Solar charger includes:

Mono-crystalline solar module in an ABS plastic frame • Built-in advanced MPPT charge regulator
(4) Heavy duty 50mm (2 in) suction cups • Quick-connect cable with OBD II connector

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