Overview

Daytech's CLEAN ENERGY Series of Solar Battery MPPT Charge Controllers offers a high-performance solution for your off-grid, stand-alone power or remote solar power system needs. With advanced MPPT (maximum power point tracking) control algorithm for solar power optimisation, on-board LCD screem, aluminium heatsink for heat dissipation and battery charge control and protection features, the CLEAN ENERGY Series is reliable, safe and practical.

The charge controller is usable for a wide variety of situations, allowing fast and accurate tracking for the best use of your photovoltaic array. You need a high-quality charge controller, to obtain the maximum solar energy to safely charge your 12V, 24V or 48V batteries within a shorter time period. The CLEAN ENERGY Series delivers on this promise, remarkably improving energy efficiency, providing safety features and allowing your batteries to last significantly longer.

Remotely or locally monitor your system with local computer plugin interface, or another monitoring device, such as Daytech's IoT-SmartNode. All-round electronic fault detection, self-test and diagnostic function and enhanced electronic protection functions reduces the possibility of damages to the system components resulting from installation errors or system failures.

Applications

| Solar Car | Solar Home | Solar Backpack | Solar Boat | Solar Street Light | Solar Power Generator |

- Personal Power Plants / Battery Systems – for Home, Automotive, Marine & Commercial.
- Off-Grid Buildings, Homes, Sheds, Facilities, offices, barns, rural and agricultural.
- Energy Storage: UPS, backup, renewable energy, power station, solar lighting, solar pumping.
- EV / RV / Camper: Caravan, 4x4, golf trolleys, electric scooters.
- Solar/Wind Power Off-grid System, Domestic/Commercial/Industrial Energy Storage.
- Telecommunications Base Stations, IoT Gateways, Digital Signage, Environmental Monitoring.
- Portable power equipment.

Features

- Advanced Maximum Power Point Tracking (MPPT) technology, with efficiency greater than 99.9%.
- System charge conversion efficiency of up to 98%.
- Reliable automatic limit function of PV input power, ensuring wide voltage range and no overloads.
- ABS housing with aluminium heatsink design, ensuring excellent heat dissipation.
- 12/24/48VDC Battery charging, automatically recognition or user-defined working voltage.
- Simple and clear LCD display showing system status. Large terminals for easy and safe wiring.
- Multiple load control modes: manual control, ON/OFF control, dusk till dawn ON, evening ON.
- Supports 4 charging options: Sealed, Gel, Flooded and Lithium Chemistries.
- Four stage charge control: MPPT, boost, equalization, float. Low and High voltage cut-offs are fully adjustable, ensuring maximum battery life. Also allows battery recovery for Lithium chemistries.
- Battery temperature sensing and compensation function. Real-time energy statistics function.
- Option for Bluetooth communications, or available for PC monitoring and connecting to external IoT systems such as Daytech's SmartNode, for accurate real-time data and configuration of settings.
- Highest quality batch manufactured for Daytech Energy (Australia). Every Unit is Quality Tested and Approved by Daytech's factory technicians before dispatch.

Technical Specifications

Battery Charger Chemistry	Gel, AGM, Liquid, Lithium (default: Gel) and optional User Defined – Can program for various chemistries, such as Li-ion, Lithium Iron Phosphate (LiFePO4), LTO, etc.
Nominal System Voltage	DT2010A: 12VDC / 24VDC Auto Detect DT3010A: 12VDC / 24VDC Auto Detect DT4010A: 24VDC / 48VDC Auto Detect
Rated Charge Current	DT2010A: 20A DT3010A: 30A DT4010A: 40A
Max. Discharge current (Load)	DT2010A: 20A DT3010A: 30A DT4010A: 30A
Low Voltage Disconnect	DT2010A: 10.8~11.8V/21.6~23.6V DT3010A: 10.8~11.8V/21.6~23.6V DT4010A: 18.0~60.0V(Lithium, default: 21.0V)
MPPT Voltage Charging Range	DT2010A: <14.5VDC ~ 29VDC @25degC DT3010A: <14.5VDC ~ 29VDC @25degC DT4010A: <29.0/58.0V@25℃
Max PV Input Power	DT2010A: 260W(12VDC) / 520W (24VDC) DT3010A: 390W(12VDC) / 780W (24VDC) DT4010A: 1000W(24VDC) / 2000W (48VDC)
Max PV Voltage	DT2010A: 100V(-20℃), 90V(25℃) DT3010A: 100V(-20℃), 90V(25℃) DT4010A: 150V(-20℃), 138V(25℃)
Self-Consumption	≤15mA
Communication Interface	Optional RS485 (RJ45) – needs to be specified at time of order
Grounding	Common Negative
Dimensions (mm)	DT2010A: 189 * 182 * 64 DT3010A: 189 * 255 * 69 DT4010A: 189 * 255 * 89
Power Cabling	Use flex panel wire for higher Current Carrying Capacity. DT2010A: 10mm2 DT3010A: 16mm2 DT4010A: 16mm2
Weight	DT2010A: 1.3kg DT3010A: 2.0kg DT4010A: 2.5kg
Temperature Range	Operating Temperature: -30 ~ +55°C
	Storage Temperature: -30 ~ +75°C
Humidity Range	≤95% (RH)
Package material	Cast Aluminium Housing, powder coated
IP Rating	IP32, requires enclosure for outdoor use.
Warranty	2 years Limited*

* Limited Warranty – Warranty applies for use within specified temperature, current and voltage parameters ONLY.

Product Photos – CLEAN ENERGY SERIES DT2010A

Product Photos – CLEAN ENERGY SERIES DT3010A

Daytech Pty Ltd

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Product Photos – CLEAN ENERGY SERIES DT4010A

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