CIS-N-MPPT-DALI Series

Industrial MPPT Charge Controller w/DALI Lighting Control

Product Introduction

The CIS-N-MPPT-DALI is a multi-functional solar charge controller with built-in LED boost driver for solar outdoor lighting systems. Designed for the harshest industrial environments, the CIS-N-MPPT-DALI features a rugged, fully potted (IP68) enclosure that prevents damage from dust, insect and water ingress.

The CIS-N-MPPT-DALI integrates two power converters: a Buck MPPT to charge the battery from PV panels and a Boost LED driver to power the LED engine from the battery.

Certified DALI D4i offers key advantages such as interoperability with other DALI compatible devices, precise dimming control over a wide range of dimming levels, support of extensive and scalable lighting networks.

Product Features

- LFP wake-up
- Power turn-on options from PV and Battery
- Multi-stage charge algorithm for different chemistries
- Intuitive LED user interface
- External battery temperature sensor
- Hybrid charge control (SSR for external AC to DC)
- Compatibility with DALI lighting control systems via DALI interface
- RS-485 communication interface (PhocosLink PC)
- 2 years internal datalogger
- IP68 Ingress Protection

LED-Driver Data

Type	CIS-N-MPPT-DALI-60W	CIS-N-MPPT-DALI-120W
Output Voltage	15-55 V (12 V) / 30-55 V (24 V)	15-55 V (12 V) / 30-55 V (24 V)
Continuous Output Current	250 - 2500mA (selectable in 1% steps of 25mA)	350 - 3,500 mA (selectable in 1% steps of 35mA)
Max. Load Power	60W (12.0 V) / 120W (24.0 V)	120 W (≥12.0 V) / 190 W (24 V)
Dimming Level	5% - 100%, PWM-dimming in 1% steps	5% - 100%, PWM-dimming in 1% steps

Technical Data

Type	CIS-N-MPPT-DALI-60W	CIS-N-MPPT DALI-120W
System Voltage	12 / 24 V auto recognition	12 / 24 V auto recognition
Max. Charge Current	10A	15A
Max. External Load Current	5A	5A
Float Charge	Pb: 13.8 / 27.6 V (25 °C) ; LFP: 14.0 / 28.0 V	Pb: 13.8 / 27.6 V (25 °C) ; LFP: 14.0 / 28.0 V
Main Charge	Pb: 14.4 / 28.8 V (25 °C); LFP: 14.1 / 28.2 V 0.5 h daily	Pb: 14.4 / 28.8 V (25 °C); LFP: 14.1 / 28.2 V 0.5 h daily
Boost Charge	Pb: 14.4 / 28.8 V (25 °C), 2 h activation: battery voltage <12.3 / 24.6 V LFP: 14.1 / 28.2 V (25 °C), 1 h activation: battery voltage <12.0 / 24.0 V	Pb: 14.4 / 28.8 V (25 °C), 2 h activation: battery voltage <12.3 / 24.6 V LFP: 14.1 / 28.2 V (25 °C), 1 h activation: battery voltage <12.0 / 24.0 V
Equalization Charge	Pb liquid: 14.8 / 29.6 V (25 °C), 2 h activation: battery voltage <12.1 / 24.2 V (at least every 30 days)	Pb liquid: 14.8 / 29.6 V (25 °C), 2 h activation: battery voltage <12.1 / 24.2 V (at least every 30 days)
Deep-Discharge Protection	11.5-12.0 / 23.0-24.0 V (by SOC) 11.0-12.0 / 22.0-24.0 V (by voltage)	11.5-12.0 / 23.0-24.0 V (by SOC) 11.0-12.0 / 22.0-24.0 V (by voltage)
Reconnect Level	Pb: 12.8 / 25.6 V; LFP: 12.2 / 24.4 V	Pb: 12.8 / 25.6 V; LFP: 12.2 / 24.4 V
Over voltage Protection	Pb: 15.5 / 31.0 V; LFP: 14.8 / 29.6 V	Pb: 15.5 / 31.0 V; LFP: 14.8 / 29.6 V
Under voltage Protection	10.5 / 21.0 V	10.5 / 21.0 V
Max PV Panel Voltage	55 V	85 V
MPP Voltage Range	(Battery Voltage + 1V) to 45 V	(Battery Voltage + 1 V) to 70 V
Max. Usable PV Power	150 W / 300 W	225 W / 450 W
Max. PV Array Power	300 W / 600 W	500 Wp / 1000 Wp
Temperature Compensation	-25 mV/K (12 V) / -50 mV/K (24 V) (Lead Acid only)	-25 mV/K (12 V) / -50 mV/K (24 V) (Lead Acid only)
Idle Self-Consumption	<30 mA	<30 mA
Grounding	Common Negative	Common Negative
Ambient Temperature	-40 to +60 °C	-40 to +60 °C
Battery Type	Lead acid (GEL/AGM, Flooded), LFP, Custom	Lead acid (GEL/AGM, Flooded), LFP, Custom
Datalogger	2 years	2 years
Wire Cross Section	1.5mm² (AWG 15)	2.5 mm² (AWG 13)
Dimensions (WxHxD)	160 x 96.6 x 27.0	160 x 96.1 x 48.25 mm / 6.3 x 3.78 x 1.9 in
Weight	670 g	1080 g
Ingress Protection	IP68 (1.5 m, 72 h)	IP68 (1.5 m, 72 h)
Certificates	CE compliant, RoHS compliant, DALI D4i Certified: Part 101, 102, 207, 250, 251, 252, 253, 150	CE compliant, RoHS compliant, DALI D4i Certified: Part 101, 102, 207, 250, 251, 252, 253, 150
Warranty	5 years	5 years