

CIS series (5 – 20 A)

Industrial Solar Charge Controller



- Robust Aluminum Housing
- Epoxy Encapsulated PCB to Prevent Corrosion (IP68)
- Compact Size
- Infrared Remote Control Programming Accessory (CU)
- Intelligent Timer Functions
- Widely Programmable
- External Temperature Sensor (Optional)
- 4 Stage Battery Charging (Main, Float, Boost, Equalization)
- Dual load or Dimmable Load Output
- Automatic System Voltage Recognition (12/24 V)

PV-Systems exposed to extreme weather/environmental conditions (street lights, navigation buoys, etc.) have increased risk for damage in the power electronics. In order to assure reliable battery charge control under such conditions, Phocos developed an encapsulated charge controller (IP68) to prevent corrosion: CIS.

CIS is an industrial-grade charge controller that is suitable for all practical PV applications. High-quality, 4-stage PWM-charging is combined with amazing features such as: low-voltage disconnect, flexible load timer functions, and a multi-LED system status display. CIS is available in two versions:

- Dual load to independently control two loads
- Output Dimming to save energy in lighting applications.

The CIS has no moving parts, switches or buttons. Settings such as battery type, deep discharge thresholds, timers, etc. are made quickly and easily via infrared remote control accessory.

All devices are connected to the controller by supplied lead wires rather than wire terminals. This feature eliminates the risk of damage from external influences (corrosion, dust, water, bugs, chemicals, physical shock) where components make electrical contact to the controller.

The extremely compact aluminum housing even allows for mounting CIS inside street light poles. CIS was developed in accordance with well-established Phocos standards incorporating the latest technology, highest-quality and best possible cost/performance ratio.



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Type	CIS 05 CIS-2L 05	CIS 10 CIS-2L 10	CIS 20 CIS-2L 20
System voltage	12/24 V auto recognition		
Max. charge/load current	5 A	10 A	20 A
Float charge	13.8/27.6 V (25 °C)		
Main charge	14.4/28.8 V (25 °C), 30 min. (daily)		
Boost charge	14.4/28.8 V (25 °C), 2 h activation: battery voltage < 12.3/24.6 V		
Equalization	14.8/29.6 V (25 °C), 2 Std. activation: battery voltage < 12.1/24.2 V (at least every 30 days)		
Deep discharge protection:			
Cut-off voltage	11 – 12 V / 22 – 24 V		
Reconnect level	12.8/25.6 V		
Overvoltage protection	15.5/31.0 V		
Undervoltage protection	10.5/21 V		
Max. panel voltage (Overvoltage protection by varistor)	55 V		
Temperature compensation (Charge voltage)	–25 mV/K at 12 V –50 mV/K at 24 V		
Max. self consumption	5 – 8 mA at 12 V 6 – 10 mA at 24 V		
Grounding	positive grounding possible		
Ambient temperature	–40 to +60 °C		
Max. height	4,000 m above sea level		
Battery type	lead acid (GEL, AGM, flooded)		
Adjustment range:			
Evening/morning hours	0 – 15 h / 0 – 14 h		
Night/day detection	2.5 – 10 V		
Wire length	10 cm		
Dimensions (B x H x T)	82 x 58 x 20 mm		
Weight	150 g		
Wire cross section	1.5 mm ²	1.5 mm ²	2.5 mm ²
Type of protection	IP68 (1.5 m, 72 h)		
Technical data dimming output	CIS 05	CIS 10	CIS 20
Dimming value	0 – 100% output power		
Dimming output voltage	0 – 5 V (max. 1 mA)		