

# CIS-N series (5 – 20 A)

Solar Charge Controller



- Developed for applications in demanding and harsh environments, especially in the oil and gas industry
- Fully protected by the encapsulated case (protection class IP68): increased lifetime and reliability, reduced costs
- Intelligent timer and dimming functions available for lighting control
- Auto-protect function: two voltage disconnects extends system operation time and reliability
- Can be operated via the remote control unit CIS-CU
- Small size: fits everywhere
- Negative grounded
- Configure the CIS-N via MXI-IR and the CISCOM SW (Template)

## CIS series:

Charge controllers are the core of every PV system, precisely controlling the energy flow, protecting the battery, and increasing system efficiency.

Harsh weather conditions may damage the electronics. In order to protect these core elements, thus increasing system operation time, reliability, efficiency, and saving costs, Phocos has designed a product line with a fully encapsulated housing (protection class IP68): the CIS series.

It is the first line of fully encapsulated 4-stage PWM-charge controllers that withstand extreme temperature shocks, dust, and water. CIS series charge controllers are extremely robust, as they do not contain any moving parts, switches, or buttons. All connections to other devices are realized by lead wires rather than wire terminals, eliminating risk of damage from external influences. Settings such as battery type, deep discharge thresholds, timers, and other configuration items are made quickly and easily by infrared remote control. The high quality 4-stage PWM-charging is combined with low voltage disconnect, flexible load timer functions, and a multi-LED system status display. The small size of the devices gives extra flexibility, as they fit in every application.

It is available in two versions:

- A single load version with dimming output (CIS): the CIS comes with one load and one control output for dimmable ballasted lamps.
- A dual load version with two load outputs (CIS-2L): the CIS-2L comes with two charge outputs to independently control two loads.

## CIS-N series:

CIS-N series is a new member of the CIS series. It was specifically developed to bring optimum performance and the useful features of the popular positive-grounded CIS charge controller to negative-grounded applications. Thanks to its robustness and design, this charge controller is ideal for applications in demanding environments like the gas and oil industry, for traffic systems (e.g. traffic control systems, signal lamps), and for any PV applications which are exposed to harsh environmental conditions.

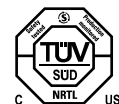


Hazardous Locations (HazLoc)

Tested According to:

ANSI/ISA 12.12.01-2012

Class I Division 2 (Groups A-D)



Ordinary Locations (OrdLoc)

Tested According to:

UL1741:2005

CAN/CSA C22.2 No. 107.1-01

# CIS-N series (5 – 20 A)

Solar Charge Controller

Type	CIS-N 05	CIS-N 10	CIS-N 20
	CIS-N 05 2L	CIS-N 10 2L	CIS-N 20 2L
System voltage	12/24 V auto recognition		
Max. charge 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 h 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	50 V @ 24 V 30 V @ 12 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	Negative grounding		
Ambient temperature	–40 to +60 °C		
Max. altitude	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		
Connection wire length	10 cm		
Dimensions (W x H x D)	82 x 64 x 20 mm		
Weight	150 g		
Wire cross section	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>
Type of protection	IP68 (1.5 m, 72 h)		
<b>Technical data dimming output</b>	<b>CIS-N 05</b>	<b>CIS-N 10</b>	<b>CIS-N 20</b>
Dimming value	0 – 100% output power		
Dimming output voltage	0 – 10 V (max. 1 mA)		