

# CIS-MPPT (10 - 20 A)

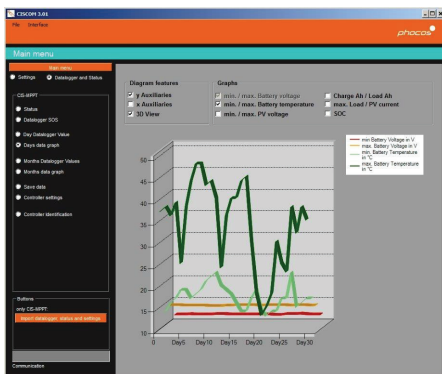
Industrial Solar Charge Controller with Maximum Power Point Tracking Technology



## Tough. Powerful. Intelligent.

- Smallest size in its power class
- Water, dust & insect proof design
- Optional light timer and dimming functions
- 2 year datalogging memory
- Compatible with 60-cell modules

### Optimize your PV system with CISCOM



Phocos' innovative MPPT technology yields up to 30% more energy than PWM controllers. In addition, our signature **Power+**™ current limiter allows for oversizing PV power by up to 50% for winter months without damage in summer months.

The CIS-MPPT controllers are optimized to work with 60-cell modules. They ensure maximum performance and yield from all types of PV systems year-round and in any environment.

Phocos' CIS-MPPT controllers are equipped with 2 year datalogging memory.

### Innovative Design

- Infrared-programmable load timing feature with dimming ideal for lighting systems
- 2-Year log of system performance data accessible via MXI-IR accessory, PC software (CISCOM)

### Maximum Efficiency Charging

- Up to 98% power conversion efficiency
- 3-stage I/U curve sweep algorithm increases battery lifespan

### Rugged Construction

- Anodized aluminum extrusion with built-in heat dissipation
- Fully encapsulated design prevents damage from corrosion, insects and/or dust.

### Flexible

- Works in 12 or 24V battery systems (automatic battery voltage detection)
- Compatible with 60-cell modules

### Application Examples

- SCADA Systems
- RVs
- Solar Message Boards
- Solar Lighting
- Security/Surveillance
- Wifi/Repeater Stations
- Transportation



## Technical Data

Type	CIS-MPPT 85/20	CIS-MPPT 50/10
System voltage	12/24 V (Auto detection)	
Max. charge current/load current	20 A	10 A
Max. PV input power	250 W at 12 V, 500 W at 24 V	150 W at 12 V, 300 W at 24 V
Float charge	13.8/27.6 V (77 °F/25 °C)	
Main charge	14.4/28.8 V (77 °F/25 °C), 30 min. (daily)	
Boost charge	14.4/28.8 V (77 °F/25 °C), 2 h Activation: battery voltage < 12.3/24.6 V	
Equalization	14.8/29.6 V (77 °F/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	10.5/21.0 V	
Max. PV voltage	85 V	50 V
Min. PV voltage	17/34 V	
Temperature compensation (Charge voltage)	–4.2 mV/K per 2 V cell	–4.2 mV/K per 2 V cell
Idle self consumption	15 mA at 12 V 8 mA at 24 V	< 10 mA
Grounding	Negative grounding	Positive grounding
Ambient temperature	–40 to 140 °F / –40 to +60 °C	
Max. elevation	13,000 ft / 4,000 m above sea level	
Battery type	Lead acid (GEL, AGM, flooded), adjustable	
Load Adjustment range:		
Evening and Morning hours	0-15h (Evening), 0-14h (Morning)	
Night detection	2.5 – 10 V / 5.0 – 20.0 V (adjust step 0.5/1.0 V)	
Day detection	Night detection + 1.5 V/3.0 V	
Data logger	2 years	
Connection wire length	20 cm	
Dimensions (W x H x D)	5.1 x 5.9 x 1.8 in/130 x 150 x 45 mm	3.5 x 4.4 x 1.6 in/88.5 x 112 x 41.4 mm
Weight	2 lbs 5 oz/1,050 g	1 lbs 6 oz/625 g
Wire cross section	14 AWG/2.5 mm <sup>2</sup>	
Type of protection	IP68 (1.5 m water depth, 72 h)	
<b>Technical data dimming output</b>	<b>CIS-MPPT 85/20</b>	<b>CIS-MPPT 50/10</b>
Dimming value	0 – 100% output power (adjust step 10%)	
Dimming output voltage	0 – 10 V relative to battery minus	
Impedance	1,000 Ohm	

### Available Accessories



**CIS-CU**  
Infrared programming remote for CIS series controllers



**MIXI-IR**  
Infrared to USB programming accessory for CIS series controllers Interface to CISCOM software



**CIS-CU-LCD**  
Infrared programming remote for CIS series controllers



**CIS-DR**  
12/24 V Buck/Boost LED Driver 350-2800 mA versions Max LED Vf: 54 V