

## CIS-MPPT (20 A)

Industrial Solar Charge Controller



- Outstanding system efficiency (max. 98%) thanks to integrated Maximum Power Point Tracker technology (MPPT)
- Maximizes power output & reduces system costs
- Encapsulated case provides full protection (IP68 protection class) increased lifespan
- Intelligent timer and dimming functions for flexible lighting control
- Auto-protect function: two voltage disconnects extend system operation time and increase reliability
- Can be operated via CIS-CU IR remote control unit
- Smallest size in its power class – fits everywhere

### CIS series:

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

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

This is the first series of fully encapsulated, 4-stage PWM-charge controllers that can withstand extreme temperatures, dust, and water. CIS series charge controllers are extremely robust, with no moving parts, switches, or buttons. All connections to other devices are realized using lead wires rather than wire terminals, eliminating risk of damage from external influences. Settings, such as battery type, deep discharge thresholds, timers, and other configurable features, can be made quickly and easily via infrared remote control. The high quality, 4-stage PWM-charging process is combined with a low voltage disconnect, flexible load timer functions, and a multi-LED system status display. The small size of the devices delivers extra flexibility – a perfect fit for every application.

### CIS-MPPT 75/20:

With innovative maximum power tracking technology, this Phocos MPP tracker ensures maximum performance and yield from all types of solar systems – year-round, in any weather, and in any environment.

The use of MPPT technology can contribute to a considerable boost in energy output from PV modules (up to 30% more). At the same time, the temperature-compensated, three-stage I-U curve charge control algorithm significantly extends battery lifespan.

The integrated data logger provides an insight into system operation, displaying important information such as system status, voltage, current, etc.

Thanks to the maximum power point technology, lower cost modules, intended for grid connected applications (up to 75 V open circuit voltage), can now be used resulting in attractive system cost savings.

# CIS-MPPT 75/20

Maximum Power Point Tracker

| Type   | CIS-MPPT 75/20   |
|--|--|
| System voltage                               | 12/24 V auto recognition   |
| Max. charge current/load current             | 20 A   |
| Max. PV input power                          | 250 W@12 V, 500 W@24 V   |
| 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<br>Activation: battery voltage < 12.3/24.6 V                          |
| Equalization                                 | 14.8/29.6 V (25 °C), 2 h<br>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. panel voltage                           | 75 V   |
| Temperature compensation<br>(Charge voltage) | –4 mV/cell * K   |
| Idle self consumption                        | 15 mA at 12 V<br>8 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), adjustable  |
| Adjustment range:                            |  |
| Evening/morning hours                        | 0 – 15 h / 0 – 14 h  |
| 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  |
| Connection Wire length                       | 20 cm  |
| Dimensions (W x H x D)                       | 115 x 45 x 135 mm  |
| Weight                                       | 1050 g   |
| Wire cross section                           | 2.5 mm <sup>2</sup>  |
| Type of protection                           | IP68 (1.5 m, 72 h)   |

| Technical data dimming output | CIS-MPPT 75/20                          |
|-------------------------------|---|
| Dimming value                 | 0 – 100% output power (adjust step 10%) |
| Dimming output voltage        | 0 – 10 V relative to battery minus      |
| Impedance                     | 1,000 Ohm                               |