

Offgridtec MPPT PRO-X Solar Charge Controller

Characteristics

- ❖ **High Efficiency:** Advanced MPPT and ultra-fast tracking speed guarantee the tracking efficiency of up to 99.5%
- ❖ **Flexibility:** Compatible with lead-acid and lithium-ion batteries, with adjustable voltage parameters for BCV, FCV, LVD, and LVR.
- ❖ **Reliable Performance:** 100% charging and discharging in the working environment temperature range for stable performance.
- ❖ **Comprehensive Protection:** IP33 protection standard and isolated RS485 design enhance reliability and safety.
- ❖ **Enhanced Safety:** Multiple load mode, extensive electronic and overheating protection features to safeguard the solar controller and connected devices.
- ❖ **Easy Monitoring:** Convenient remote monitoring and control of the system through mobile apps and PC software.



Applications

- ❖ Residential Systems
- ❖ Field Monitoring
- ❖ RVs, Boats
- ❖ UPS, backup power
- ❖ Telecommunication
- ❖ Lighting

Mechanical Parameters

| | PRO-X 10A | PRO-X 20A | PRO-X 30A | PRO-X 40A |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Dimension (L x W x H) | 175×143×48mm | 217×158×56.5mm | 255×187×75.7mm | 255×189×83.2mm |
| Mounting size (L x W) | 120×134mm | 160×149mm | 200×178mm | 200×180mm |
| Mounting hole size | Φ5mm | | | |
| Terminal | 12AWG(4mm ²) | 6AWG(16mm ²) | 6AWG(16mm ²) | 6AWG(16mm ²) |
| Recommended cable | 12AWG(4mm ²) | 10AWG(6mm ²) | 8AWG(10mm ²) | 6AWG(16mm ²) |
| Weight | 0.57kg | 0.96kg | 2.07kg | 2.47kg |

Certification

| | |
|-------------------------|--|
| Safety | EN/IEC62109-1, UL1741, CSA C22.2#107.1 |
| EMC (Emission immunity) | EN61000-6-3/EN61000-6-1 |
| FCC | 47 CFR, Part 15, Subpart B |
| Performance &function | IEC62509 |
| ROHS | IEC62321-3-1 |



About us
Offgridtec GmbH
Im Gewerbepark 11
84307 Eggenfelden

Contact
☎ +49 8721 91994-00
✉ info@offgridtec.com
🌐 www.offgridtec.com



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Electrical Parameters

| | PRO-X 10A | PRO-X 20A | PRO-X 30A | PRO-X 40A |
|---|--|----------------------|--|---|
| Article number | 1-01-017370 | 1-01-017375 | 1-01-017380 | 1-01-017385 |
| EAN | 4262397635579 | 4262397635586 | 4262397635593 | 4262397635609 |
| Manufacturer part number | 017370 | 017375 | 017380 | 017385 |
| System nominal voltage | 12/24VDC ^① Auto | | 12/24/36/48VDC ^① Auto | |
| Rated charge current | 10A | 20A | 30A | 40A |
| Rated discharge current | 10A | 20A | 30A | 40A |
| Battery voltage range | 8 ~ 32V | | 8 ~ 68V | |
| max. PV open circuit voltage | 100V ^② / 92V ^③ | | 150V ^② / 138V ^③ | |
| MPP voltage range | (Battery voltage +2V) ~ 72V | | (Battery voltage +2V) ~ 108V | |
| Rated charge power | 130W/12V 260W/24V | 260W/12V 520W/24V | 390W/12V 780W/24V 1170W/36V 1560W/48V | 520W/12V 1040W/24V 1560W/36V 2080W/48V |
| max. conversion efficiency | 98.2% | 98.3% | 98.1% | 98.5% |
| Full load efficiency | 96.2% | 96.4% | 96.9% | 97.2% |
| Self-consumption | ≤30mA(12V) ≤16mA(24V) | | ≤30mA(12V) ≤16mA(24V) ≤13mA(36V) ≤13mA(48V) | |
| Discharge circuit voltage drop | ≤0.23V | | | |
| Temperature compensate coefficient ^④ | -3mV/°C/2V (default) | | | |
| Grounding | negative | | | |
| RS485 interface | 5VDC/200mA (RJ45) | | | |
| LED backlight time | default: 60S, Range: 0~999S (0S: the backlight is ON all the time) | | | |

Environmental Parameters

| | PRO-X 10A | PRO-X 20A | PRO-X 30A | PRO-X 40A |
|--|-------------------|-----------|------------------|-----------|
| Environment temperature (100% input and output) ^⑤ | -25°C~+50°C(LCD) | | -25°C~+45°C(LCD) | |
| Storage temperature range | -20°C~+70°C | | | |
| Relative humidity | ≤95%, N.C. | | | |
| Enclosure | IP33 ^⑥ | | | |
| Pollution degree | PD2 | | | |

① When a lithium battery is used, the system voltage can't be identified automatically.

② at minimum operating environment temperature

③ at 25°C environment temperature

④ When a lithium battery is used, the temperature compensation coefficient must be 0 and can't be changed.

⑤ The controller can fully load working in the environment temperature. When the internal temperature reaches 81°C, the reducing charging power mode is turned on. Refer to chapter 5.1 Protection.

⑥ 3-protection against solid objects: protected against solids objects over 2.5mm.
3-protected against sprays to 60° from the vertical.



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Offgridtec GmbH
Im Gewerbepark 11
84307 Eggenfelden

Contact
+49 8721 91994-00
info@offgridtec.com
www.offgridtec.com

