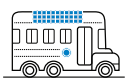


## Overview

XTRA(10A~40A) series is advanced maximum power point tracking (MPPT) charge controllers for off-grid photovoltaic systems, with optional display units (XDB1/XDS1/XDS2). It is designed according to the international standard with higher quality, reliability, and safety. The limitation function of the charging power, charging current, and automatic power reduction function fully ensure stability when working with oversize PV modules(max. 1.5 times of rated power) and operating under a high-temperature environment.

## Features

- MPPT tracking efficiency above 99.5%
- Maximum charge conversion efficiency as high as 97.4%
- Support lead-acid and lithium-ion batteries
- Multiple load work modes
- Charging power and current limitation function
- High-temperature charging power derating function
- Standard Modbus communication protocol with isolated RS485 interface
- Real-time energy statistics function
- Optional LCD display units (XDB1/XDS1/XDS2) and accessories
- IP33 ingress protection design
- CE(LVD IEC62109,EMC EN3/1-6-61000)and ROHS,ETL(UL-1741:2010 and Canadian CSA C22.2-No.107.1.01),FCC Class B Part 15 Compliant,IEC62509:2010



Solar Car



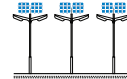
Solar Home



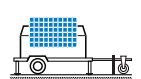
Solar Backpack



Solar Boat



Solar Street Light



Solar Power Generator

# Technical Specifications

Model	XTRA 1206N	XTRA 2206N	XTRA 1210N	XTRA 2210N	XTRA 3210N	XTRA 4210N	XTRA 3215N	XTRA 4215N	XTRA 3415N	XTRA 4415N
Nominal system voltage	12/24VDC/ Auto	12/24VDC/ Auto	12/24VDC/ Auto	12/24VDC/ Auto	12/24VDC/ Auto	12/24VDC/ Auto	12/24VDC/ Auto	12/24VDC/ Auto	12/24/36/48 VDC/ Auto	12/24/36/48 VDC/ Auto
Battery type	Lead-acid (Sealed/Gel/Flooded)/Lithium (LiFePO <sub>4</sub> /Li(NiCoMn)O <sub>2</sub> )/User									
Battery input voltage range	8~32V	8~32V	8~32V	8~32V	8~32V	8~32V	8~32V	8~32V	8~68V	8~68V
Rated charge current	10A	20A	10A	20A	30A	40A	30A	40A	30A	40A
Rated discharge current	10A	20A	10A	20A	30A	40A	30A	40A	30A	40A
Rated charge power	130W/12V 260W/24V	260W/12V 520W/24V	130W/12V 260W/24V	260W/12V 520W/24V	390W/12V 780W/24V	520W/12V 1040W/24V	390W/12V 780W/24V	520W/12V 1040W/24V	390W/12V 780W/24V 1170W/36V 1560W/48V	520W/12V 1040W/24V 1560W/36V 2080W/48V
Max. conversion efficiency	97.90%	98.30%	98.20%	98.30%	98.60%	98.60%	97.60%	97.90%	98.10%	98.50%
Tracking efficiency	≥99.5%									
Max. PV open circuit voltage	60V (At minimum operating environment temperature) 46V (At 25°C environment temperature)		100V (At minimum operating environment temperature) 92V (At 25°C environment temperature)				150V (At minimum operating environment temperature) 138V (At 25°C environment temperature)			
MPP voltage range	(Battery voltage+2V) ~36V	(Battery voltage+2V) ~36V	(Battery voltage +2V) ~72V	(Battery voltage+2V) ~72V	(Battery voltage+2V) ~72V	(Battery voltage+2V) ~72V	(Battery voltage+2V) ~108V	(Battery voltage+2V) ~108V	(Battery voltage+2V) ~108V	(Battery voltage+2V) ~108V
Equalization voltage	Sealed:14.6V,Flooded:14.8V,User-defined:9-17V									
Boost voltage	Gel:14.2V,Sealed:14.4V,Flooded:14.6V,User-defined:9-17V									
Float voltage	Gel/Sealed/Flooded:13.8V,User-defined:9-17V									
Low voltage reconnect voltage	Gel/Sealed/Flooded:12.6V,User-defined:9-17V									
Low voltage disconnect voltage	Gel/Sealed/Flooded:11.1V,User-defined:9-17V									
Self-consumption	≤14mA(12V) ≤15mA(24V)	≤14mA(12V) ≤15mA(24V)	≤30mA(12V) ≤16mA(24V)	≤30mA(12V) ≤16mA(24V)	≤30mA(12V) ≤16mA(24V)	≤30mA(12V) ≤16mA(24V)	≤30mA(12V) ≤16mA(24V)	≤30mA(12V) ≤16mA(24V)	≤30mA(12V) ≤16mA(24V) ≤13mA(36V)	≤30mA(12V) ≤16mA(24V) ≤13mA(36V)
Temperature compensation (for lead-acid battery)	-3mV/°C/2V (Default)									
Relative humidity	≤95%, N.C									
Enclosure	IP33									
Communication interface	RS485(RJ45)									
Grounding	Common negative									
Operating temperature range	-25°C ~ +50°C(LCD); -30°C ~ +50°C(No LCD)						-25°C ~ +45°C(LCD); -30°C ~ +45°C(No LCD)			
Dimensions(LxWxH)(mm)	175×143 x48	217×158 x56.5	175×143 x48	217×158 x56.5	230×165 x63	255×185 x67.8	255×185 x67.8	255×187 x75.7	255×187 x75.7	255×189 x83.2
Net weight	0.57kg	0.96kg	0.57kg	0.96kg	1.31kg	1.70kg	1.70kg	2.07kg	2.07kg	2.47kg

1. The controller can't automatically identify system voltage if lithium batteries were connected.

2. The voltage point is for 12V system, please \*2 in 24V system, \*3 in 36V system, \*4 in 48V system.