KINETIX MPPT™

KX4025LC
KX3025HC
KX4525HC
KX6025HC

MPPT Solar Charge Controller

The KX Series Solar Charge Controller is a photovoltaic (PV) charge controller that tracks the maximum electrical power point of a PV array to deliver the maximum available current for charging the batteries. While charging, the KX Series Solar Charge Controller regulates battery voltage and output current based on The amount of energy available from the PV array and state-of-charge of the battery.

The KX Series Solar Charge Controller is especially targeted towards a wide range of consumer applications. It is designed for negative grounded systems. The KX Series has a higher operating input voltage than conventional charge controllers, which enables the application to use thinner wires from the PV array to the charge controller, which in-turn saves wiring costs. It comes in standard wall mount housing. KX Series is also enabled with a communication port, so that live data and daily reports can be extracted both locally and remotely via EX3000C telemetry system. The communication port can also be used to synchronize multiple charge controllers together.

The KX Series Charge Controller incorporates a dynamic Maximum Power Point Tracking (MPPT) algorithm called KINETIX^{MPPT} designed to maximize energy harvest from the PV array. The KINETIX^{MPPT} constantly adjusts the operating power points of the array to ensure it stays on the maximum power point. It does not stop energy harvest to sweep the array like some other competing products. This feature is beneficial in all sunlight conditions, especially in areas with fast moving cloud cover and quickly changing solar conditions

The KX Series is the only one of its kind in the market with the unique Hybrid Switching function built into the Solar Charge Controller. It intelligently switches off the utility mains input of the existing UPS to optimize its usage and reduce billing costs. With a complete LCD and LED interface the KX Series is ideal for home users that have an already installed UPS backup system.

Product features

- Maximum Power Point Tracking (MPPT) delivers maximum available power from PV array to battery bank
- Built-in Hybrid Switching function
- Reverse Battery Protection
- Reverse PV protection
- Full output current up to 100°C without thermal de-rating
- Selectable two or three stage charging algorithms with manual equalization to maximize system performance and improve battery life
- 16x2 LCD and 4 buttons for configuration and system monitoring
- Input over-voltage and under-voltage protection, output over-current protection, and back-feed protection
- Reverse current protection (warning and fault messages appear on LCD when unit shuts down as a protective measure)
- Over-temperature protection and power de-rating when output power and/or ambient temperature are high
- 31-Day Daily History Records
- Total Life Time and Daily KWh record
- DxBus™-enabled network communications protocol (developed by Designx Solutions)
- Up to 32 units can be synchronized together to perform as one high Power unit
- One-year warranty

Designx Solutions

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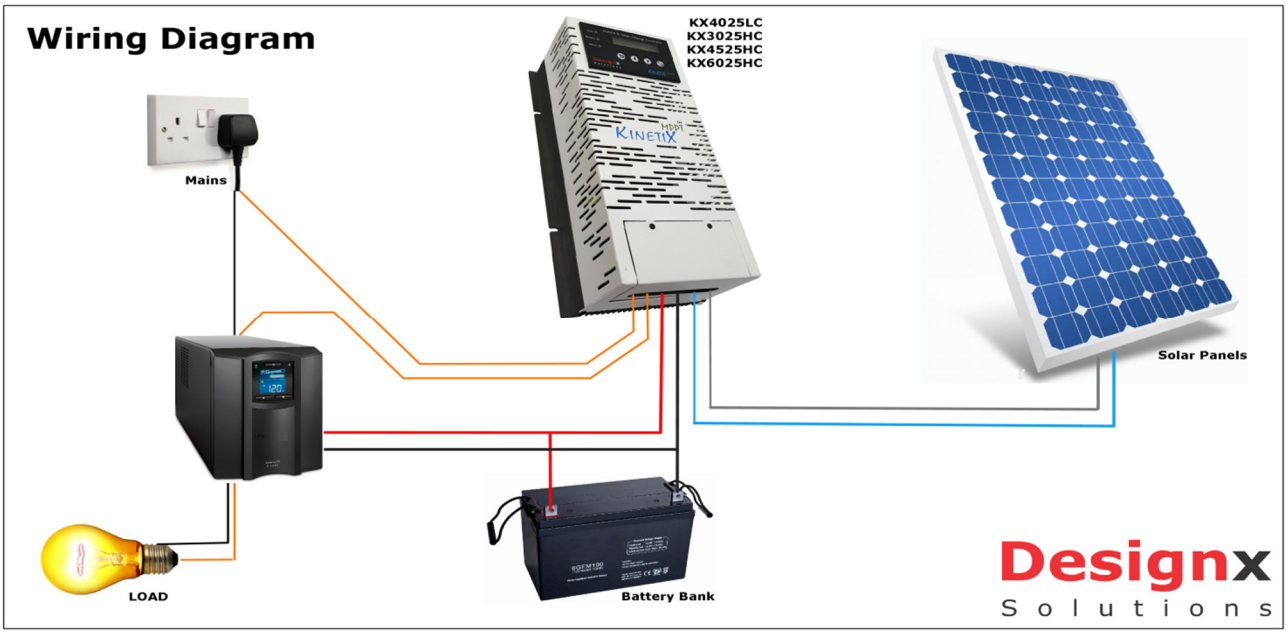
Electrical Specifications	
Nominal battery voltage	12/24/48 VDC (Auto Detection)
Maximum PV array voltage (operating)	250VDC
Array short-circuit current	30/40/45/60 ADC max
Maximum wire size	10mm^2
Total power consumption while operating	25Watts max (At Full Power)
Charger regulation method	Three-stage (bulk, absorption, float)
	Two-stage (bulk, absorption)

Special Features	
Display	16x2 LCD
Navigation	4 Button
Hybrid Function Built-in Relay Rating	10Amps
Communication Interface	RS485 (2xRJ12)
Communication Protocol	DxBus™ open protocol

Mechanical Specifications	
Dimensions (H × W × D)	340 × 160 × 115 mm
Weight (shipping)	<5 kg
Shipping dimensions (H × W × D)	390 × 210 × 165 mm
Mounting	Wall mount

Environmental Specifications	
Operating temperature range (full power)	-20 to +99 °C (up to 150 °C de-rated)
Storage temperature	-40 to +150 °C

Available Models

Model	Max. Output Current	Max PV Voltage	Battery Systems
KX4025LC	40Amps	250V	12/24VDC (Auto)
KX3025HC	30Amps	250V	12/24/48VDC (Auto)
KX4525HC	45Amps	250V	12/24/48VDC (Auto)
KX6025HC	60Amps	250V	12/24/48VDC (Auto)

*Specifications subject to change without notice.