

Features:

- Universal AC input with active PFC
- Compatible with Lead Acid, Li-ion, Gel and AGM batteries
- Support optional remote controller (CR-1)
- Voltage / temperature compensation with battery temp. sensor (Optional)
- 2-stage fan speed control
- Dry contact for alarm
- High efficiency and high reliability
- **Built-in battery rescue function**
- **Built-in Engine Start Battery (ESB) output function**
- Protection: Short Circuit / Over Voltage / Over Temperature / Brown-out
- Withstand 2G vibration test
- **RS-232** communication interface
- Output power OK signal



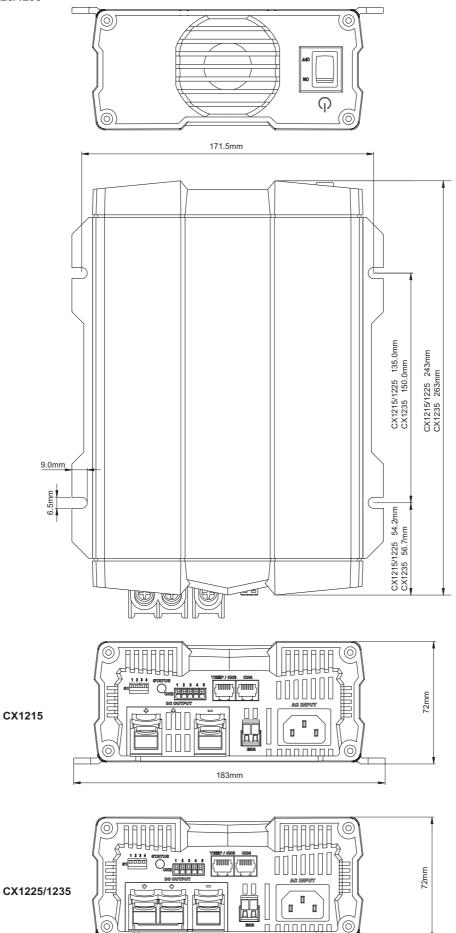
MODEL		CX1215	CX1225	CX1235	CX1250	CX1280		
Battery Type		Lead Acid / Li-ion / Gel / AGM						
	Standard Boost Charge Voltage	14.4V / 14.7V (Select by S1-1)						
	Standard Float Charge Voltage	13.8V / 13.5V (Select by S1-2)						
	Main Rated Current	15A	25A	35A	50A	80A		
Outmut	Current Range	0 ~ 15A	0 ~ 25A	0 ~ 35A	0 ~ 50A	0 ~ 80A		
Output	Main Output	1	2	2	3	3		
	ESB Output	1	1	1	_	_		
	ESB Output Voltage / Current	13.8V / 2A	13.8V / 2A	13.8V / 2A	_	_		
	Battery Charging Mode	3 - stage charging capability (IUOU)						
	Single Output Current Limit	15A	25A	35A	40A	40A		
	Voltage Range	90 ~ 264VAC (refer to de-rating curve)						
	Power Factor (Typ.)	PF > 0.92 at full load						
	Frequency Range	47 ~ 63Hz						
Input	Efficiency (Typ.) at 230VAC	87%	87%	87%	87%	87%		
	AC Current (Typ.)	2.5 A / 100VAC 1.07A / 240VAC	4.1 A / 100VAC 1.8A / 240VAC	6.2 A / 100VAC 2.8A / 240VAC	8.24 A / 100VAC 3.6A / 240VAC	13.3 A / 100VAC 5.4A / 240VAC		
	Leakage Current	For earth < 1mA / 240VAC						
	Short Circuit	Current is reduced to < 1A continued 30sec. , fan will operate 30 seconds then turn off						
	Over Voltage	17.5V ±1%, Protection type: Shut down output (recovery after resetting AC power on)						
Protection	Protection Over Temperature		Charger Over Temperature 100 ±5°C detected by heat sink Battery Over Temperature 52 ±5°C (Optional device - COTEK temperature sensor), connect on CN3 Protection type: Auto recovery after heat sink temperature goes down to 50°C					
	Alarm Signal	NC. / NO. Relay contact output (Please refer to page 5 Alarms Signal & Fan Control)						
	Power Mode	Supply 13.2V Current li	mit output voltage					
Function	Temperature Compensation	-10mV / 0.5°C with COTEK temperature sensor						
	Charging Sleep Mode Note.4	By Remote Controller and S1-4 DIP switch (Please refer to page 4~5)						
	Remote Controller Note.5	e.5 Support COTEK Remote Controller CR-1 setting Function (CN3 or CN4)						
	Working Temp.	-20 ~ 50°C (refer to de-rating curve) 20 ~ 90% RH non-condensing						
	Working Humidity							
Environment	Storage Temp., Humidity	-40 ~ +85°C, 20 ~ 90% RH						
	Temp. Coefficient	±0.03% (0 ~ 50°C)						
	Vibration	10 ~ 500Hz, 2G 10min. / 1cycle period for 60min. each along X, Y, Z axes						
	Safety Standards	Sty Standards Certified EN 60335-1, EN 60335-2-29						
	Withstand Voltage	I/P-O/P: 4242VDC, I/P-FG: 1768VDC, O/P-FG: 700VDC						
Safety & EMC	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC						
Note.2	EMC Standards	Certified EN 55022; EN 61204-3; EN 55014-1 Certified EN 61000-3-2, -3-3; EN 61204-3; EN 61000-6-3 Certified EN 55024; IEC 61000-4-2, 3, 4, 5, 6, 8, 11; ENV 50204; EN 61000-6-1; EN 55014-2						
Others	Dimension (WxHxD)	183x72x243mm	183x72x243mm	183x72x263mm	213x77x272mm	213x77x312mm		
Others	Packing	1.6kg	1.7kg	1.9kg	3.1kg	4.0kg		
Note	1. All parameters not specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. The charger is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 3. Before charging, make sure the battery charger and battery specifications are compatible. 4. When using sleep mode, please refer to charging current vs. Ambient temperature de-rating curve. 5. Optional Remote Controller (CR-1).							

Unit: mm[inch]



Mechanical Drawings:

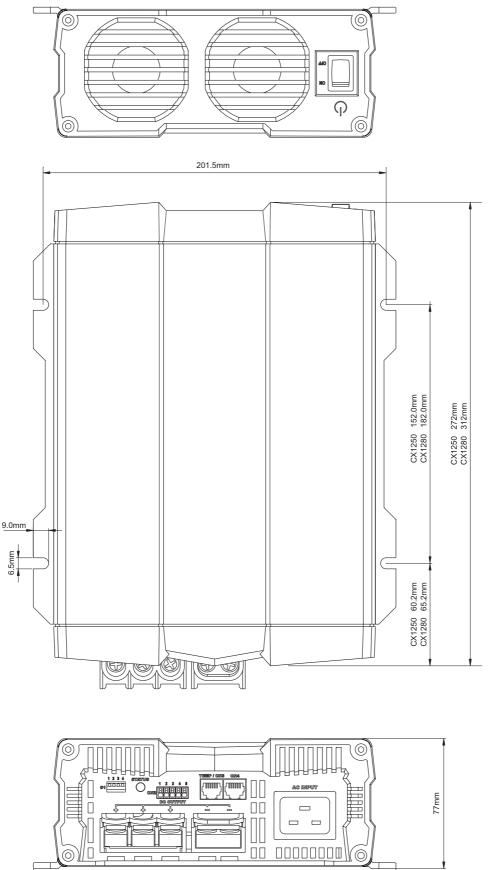
MODEL: CX1215/1225/1235





Unit: mm[inch]

MODEL: CX1250/1280



213mm



Charging Mode Setting (S1):

Status	1	2	3	4	12V/24V CC/CV	12V / 24V Float
CC turn to CV voltage	ON	Х	OFF	Х	14.4V / 28.8V	
CO turn to CV Voltage	OFF	Х	OFF	Х	14.7V / 29.4V	
Float voltage	Х	ON	OFF	Х		13.5V / 27.0V
1 loat voltage	Х	OFF	OFF	Х		13.8V / 27.6V
	OFF	OFF	ON	Х	13.2V / 26.4V	
Power Mode (Current limit output voltage)	OFF	ON	ON	Х	13.8V / 27.6V	
	ON	OFF	ON	Х	14.4V / 28.8V	
REMOTE	ON	ON	ON	Х		
Fan force ON / OFF	Х	Х	Х	ON		
Fair force ON / OFF	Х	Х	Х	OFF		

X: Not applicable

Charging Status and Indicator:

Charging status	LED Status		Alternation in the charging Status		Default setting	
Bulk-1	Orange fast		Charging voltage >10.2V and < float voltage			
Bulk-2 Ora	Orange slow		1.Charging voltage > Float voltage and charging current >= Rating current		6 hours	
	Orange slow		2.Charging voltage = CV voltage and charging current < Rating current	2 minutes	onours	
Absorption-1	Orange solid		Charging current > 6% of rated current (±1%)	6 hours		
Absorption-2	Green solid		Charging current < 6% of rated current (±1%)	81	nours	
Floor	Green flash		1.Charging voltage >12.8V	336 hours	Unlimited	
Float	LED colour change by the status change		The voltage goes up to CV voltage to charge the battery once every 336 hours	85 circle minutes		
Float to Bulk-1			Charging voltage < 12.8V	30 sec.		

Failure Indicator:

Failure status	LED Status		Description	Activate	Recovery	
			Current is reduced to <1A, Continued 30 sec., FAN turn on 30 sec then turn off.	Output <1V	AC Reset, Output>9V	
Input or Output	Red solid		AC I/P unstable	<85V,>270V	>90V,<264V	
			Output FUSE blown	Voltage difference >0.5V,>0.1 sec.	AC Reset	
Temperature Red fas		Red fast	Battery over heat (the indicator available when COTEK temperature sensor connected only)	>52°C	<45℃	
	Red fast		Battery in cold condition(the indicator is available when COTEK temp. sensor is connected)	<-18℃	>-10℃	
				Charger over heat (Heat Sink)	>100°C	<50℃
Rattery Voltage	Battery Voltage Red slow	Dod clays	Battery over voltage	>17.5V	AC Reset , <15.7V	
battery voltage		Red Slow	Vollage Iteu slow — — —		Battery under voltage or output under voltage in CC mode.	<10.2V
Fan Abnormality	Red light flash twice		Fan abnormality			
ESB Failure	Red light slow ones		ESB no output / output short	<1V & 30 sec.	AC Reset	

^{---:} Not applicable



TEMP/CN3

1	R_VCC
2	GND
3	TEMP
4	BAT-
5	DATA I/O
6	NC.

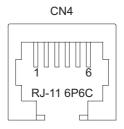
CN4:

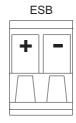
1	R_VCC
2	BAT-
3	NC.
4	BAT-
5	DATA I/O
6	NC.

ESB Connectors:

+	VCC
-	GND

TEMP/CN3 RJ-11 6P6C

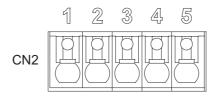




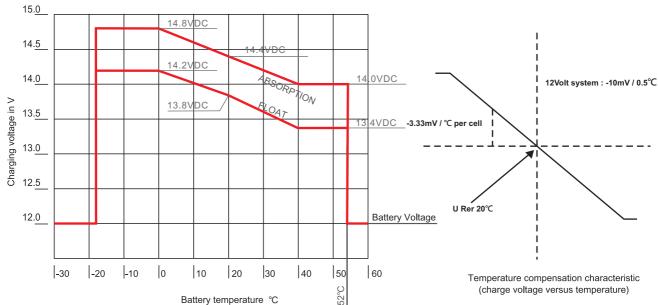
Alarms Signal and Fan Control Connectors Pin Definition(CN2):

1	Normally Closed
2	Normally Open
3	COM
4	Sleep Mode Control
5	GND

	Sleep Mode ON
4-5 OPEN	Sleep Mode OFF

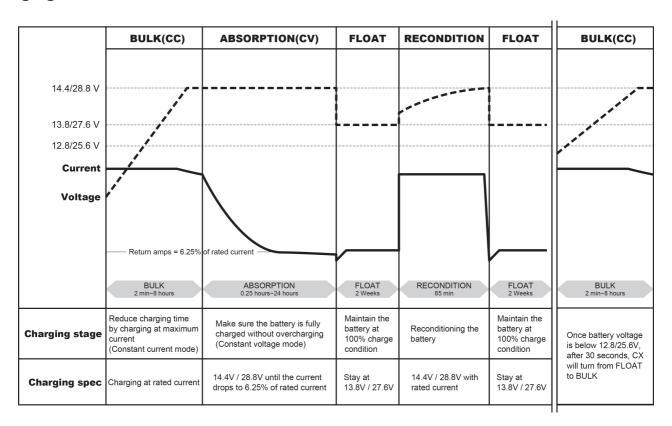


Charging Curve at Temperature Compensation:

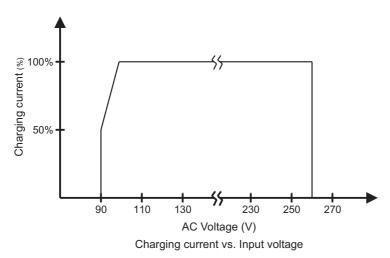




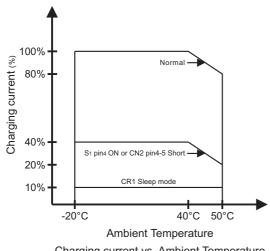
Charging Curve:



Charging Current vs. Input Voltage Temperature De-rating Curve:



Charging Current vs. Ambient Temperature De-rating Curve:





Rescue Battery Curve:

