

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	
Output	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
	Current Range	0 ~ 15A	0 ~ 25A	0 ~ 35A	0 ~ 50A	0 ~ 80A
	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	
Input	Voltage Range 90 ~ 264VAC (refer to de-rating curve)					
	Power Factor (Typ.) PF > 0.92 at full load					
	Frequency Range 47 ~ 63Hz					
	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					
Protection	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)					
	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					
Function	Alarm Signal NC. / NO. Relay contact output (Please refer to page 5 Alarms Signal & Fan Control)					
	Power Mode Supply 13.2V Current limit output voltage					
	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} Support COTEK Remote Controller CR-1 setting Function (CN3 or CN4)					
Environment	Working Temp. -20 ~ 50°C (refer to de-rating curve)					
	Working Humidity 20 ~ 90% RH non-condensing					
	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 & EMC	Safety Standards Certified EN 60335-1, EN 60335-2-29					
	Withstand Voltage I/P-O/P: 4242VDC, I/P-FG: 1768VDC, O/P-FG: 700VDC					
	Isolation Resistance I/P-O/P: 100M Ohms / 500VDC					
	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					
	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).					

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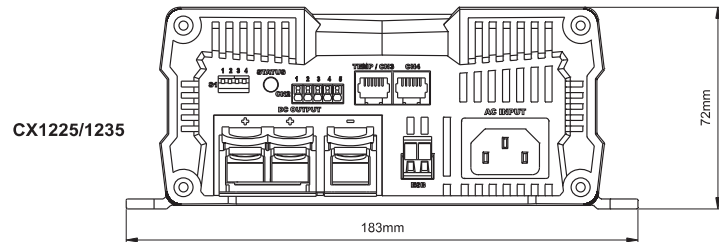
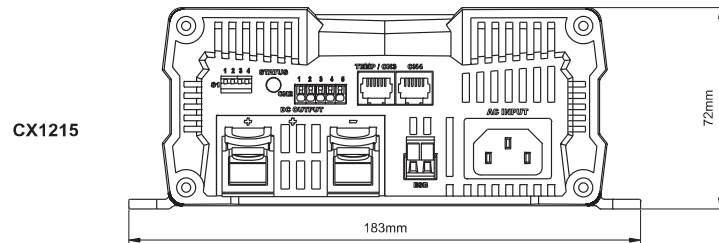
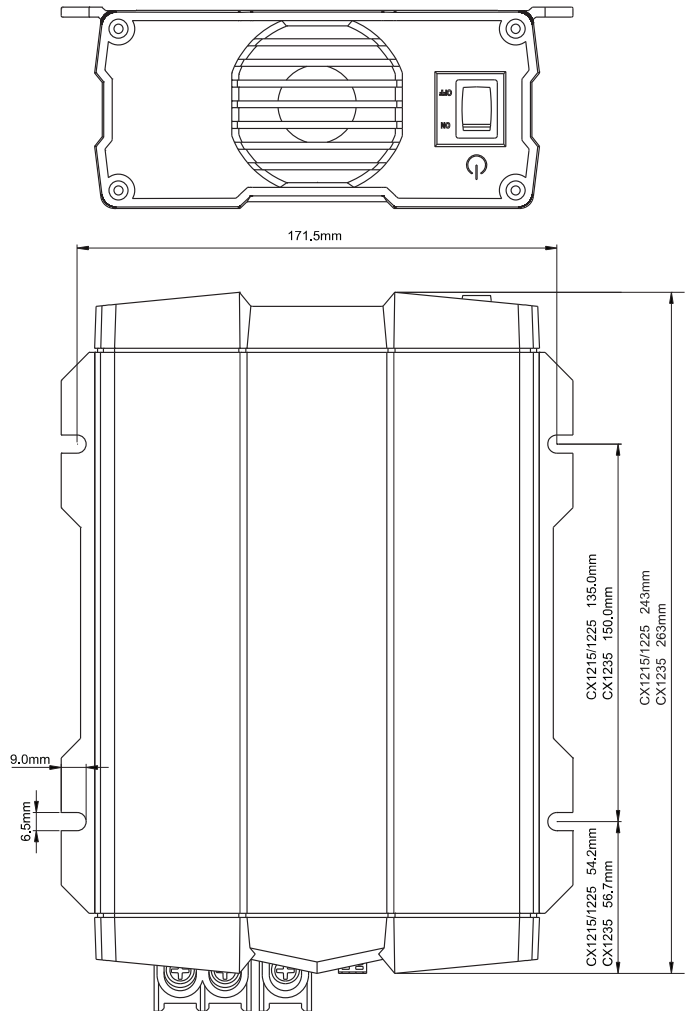
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Mechanical Drawings:

Unit : mm[inch]

MODEL: CX1215/1225/1235



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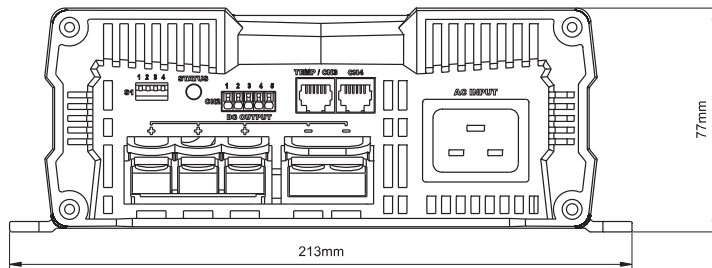
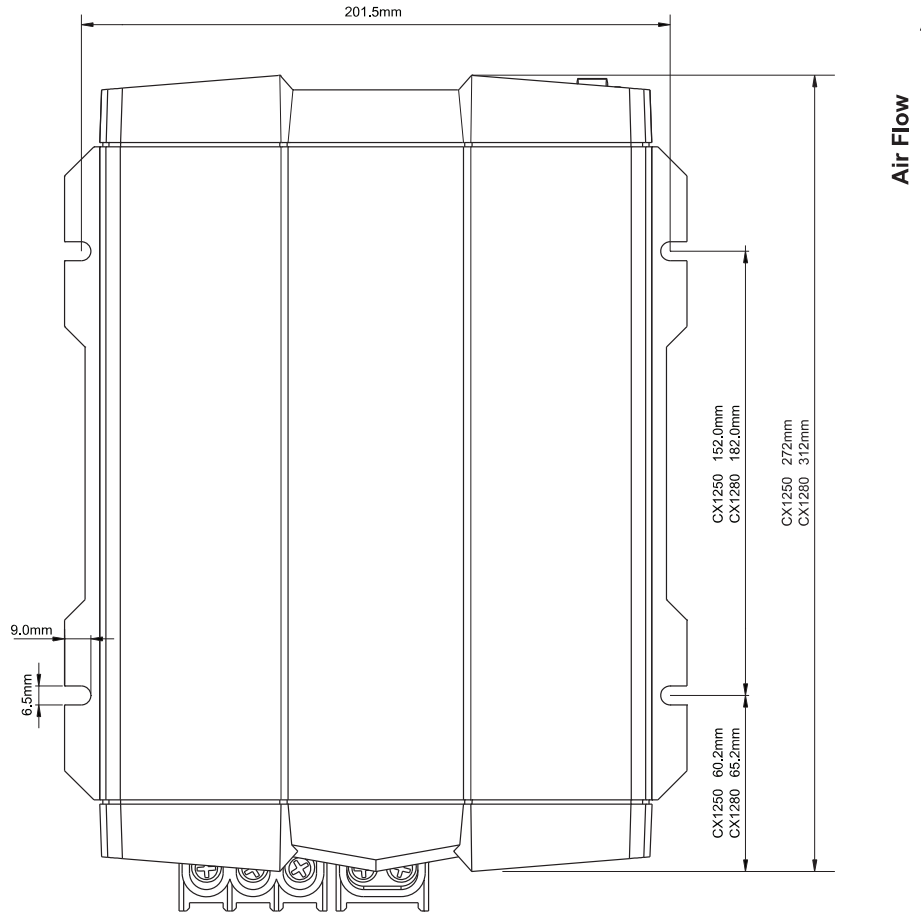
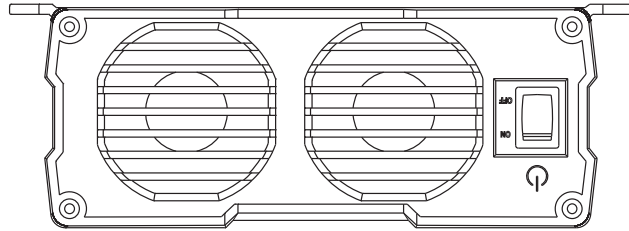
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Unit : mm[inch]

MODEL: CX1250/1280



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Charging Mode Setting (S1):






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

X: Not applicable
---: 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	Orange slow 	1.Charging voltage > Float voltage and charging current >= Rating current	-- 6 hours
		2.Charging voltage = CV voltage and charging current < Rating current	2 minutes
Absorption-1	Orange solid 	Charging current > 6% of rated current (±1%)	6 hours
Absorption-2	Green solid 	Charging current < 6% of rated current (±1%)	8 hours
Float	Green flash 	1.Charging voltage >12.8V	336 hours Unlimited circle
	LED colour change by the status change		2. The voltage goes up to CV voltage to charge the battery once every 336 hours
Float to Bulk-1	--	Charging voltage < 12.8V	85 minutes 30 sec.

Failure Indicator:

Failure status	LED Status	Description	Activate	Recovery
Input or Output	Red solid 	Current is reduced to <1A ,Continued 30 sec., FAN turn on 30 sec then turn off.	Output <1V	AC Reset, Output>9V
		AC I/P unstable	<85V,>270V	>90V,<264V
		Output FUSE blown	Voltage difference >0.5V,>0.1 sec.	AC Reset
Temperature	Red fast 	Battery over heat (the indicator available when COTEK temperature sensor connected only)	>52°C	<45°C
		Battery in cold condition(the indicator is available when COTEK temp. sensor is connected)	<-18°C	>-10°C
		Charger over heat (Heat Sink)	>100°C	<50°C
Battery Voltage	Red slow 	Battery over voltage	>17.5V	AC Reset , <15.7V
		Battery under voltage or output under voltage in CC mode.	<10.2V	>10.5V
Fan Abnormality	Red light flash twice 	Fan abnormality	-----	-----
ESB Failure	Red light slow ones 	ESB no output / output short	<1V & 30 sec.	AC Reset

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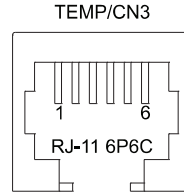
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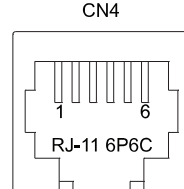
TEMP/CN3

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



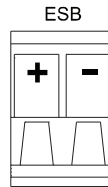
CN4:

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



ESB Connectors:

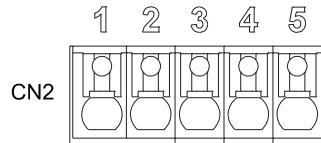
+	VCC
-	GND



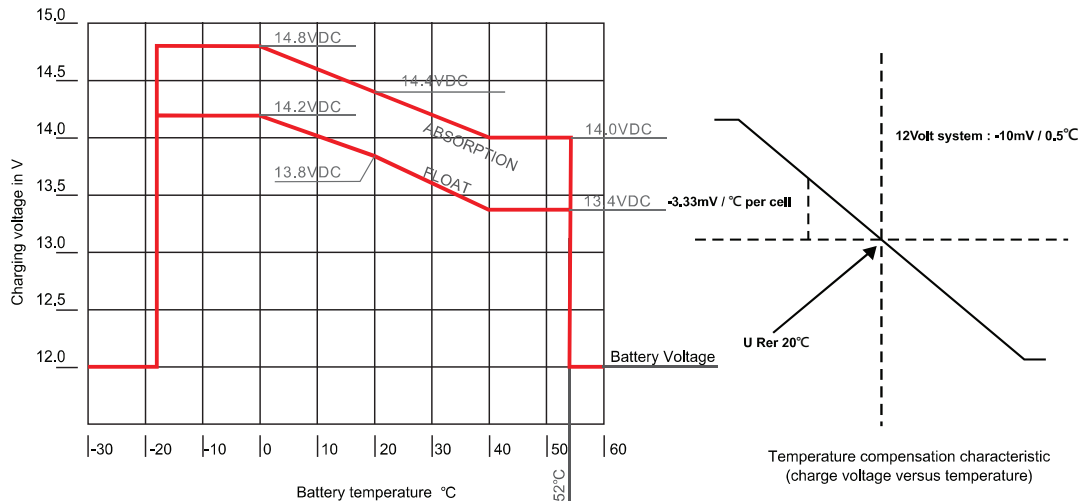
Alarms Signal and Fan Control Connectors Pin Definition(CN2):

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

4-5 SHORT	Sleep Mode ON
4-5 OPEN	Sleep Mode OFF



Charging Curve at Temperature Compensation:



※In the CV=14.4V and float =13.8V situation. Please follow this rule in other situation.

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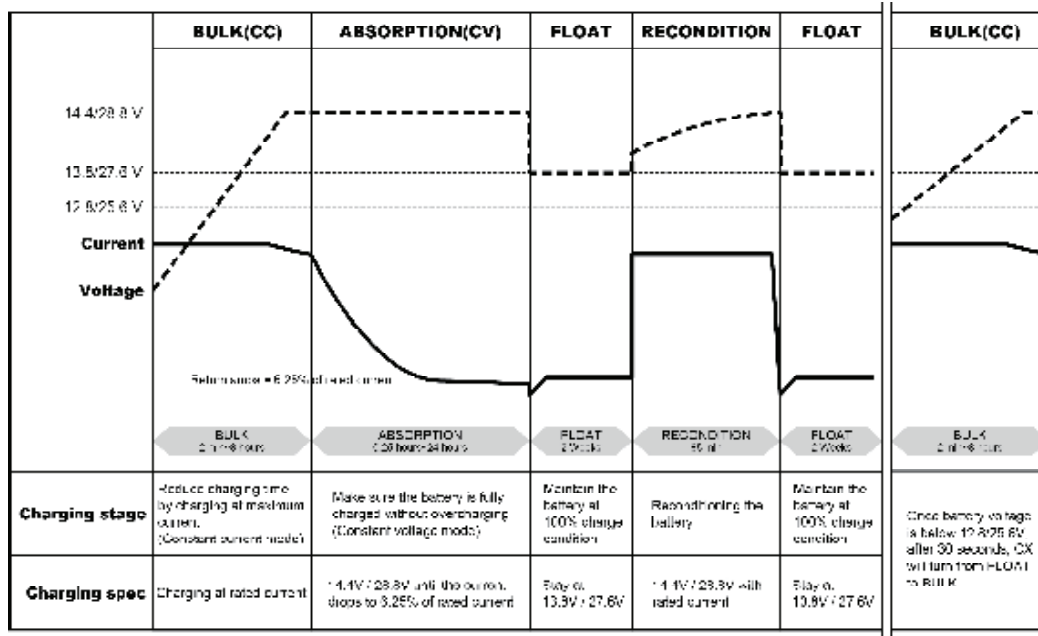
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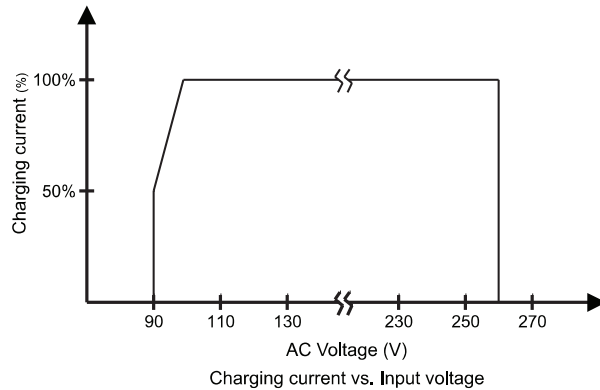
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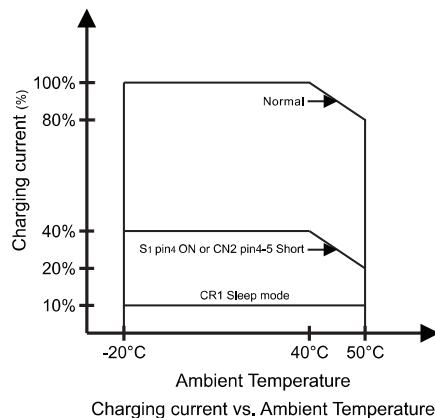
■ Charging Curve:



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



■ Charging Current vs. Ambient Temperature De-rating Curve:



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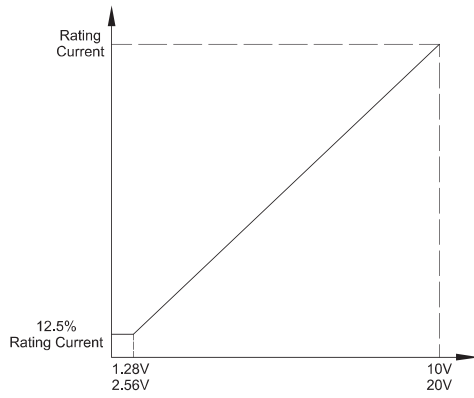
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■ Rescue Battery Curve:



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