

Engineering Specification for C500R

C500R-060-B

C500R-060-C

C500R-100-B

C500R-100-C

INPUT

Acceptable Input Voltage	120VAC-276VAC	120VAC-276VAC	120VAC-276VAC	120VAC-276VAC
Adjustable Bypass Voltage	120VAC-276VAC	120VAC-276VAC	120VAC-276VAC	120VAC-276VAC
Phase	Single phase with ground	Single phase with ground	Single phase with ground	Single phase with ground
Transfer Voltage Range	Based on load percentage 100%/50%	Based on load percentage 100%/50%	Based on load percentage 100%/50%	Based on load percentage 100%/50%
-Line low loss	176VAC/120VAC (±3%)	176VAC/120VAC (±3%)	176VAC/120VAC (±3%)	176VAC/120VAC (±3%)
-Line low comeback	186VAC/130VAC (±3%)	186VAC/130VAC (±3%)	186VAC/130VAC (±3%)	186VAC/130VAC (±3%)
-Line high loss	276VAC (±3%)	276VAC (±3%)	276VAC (±3%)	276VAC (±3%)
-Line high comeback	266VAC (±3%)	266VAC (±3%)	266VAC (±3%)	266VAC (±3%)
THDi	<5% with full load	<5% with full load	<5% with full load	<5% with full load
Input Power Factor	≥0.99(I/P:220V,FULL LOAD)	≥0.99(I/P:220V,FULL LOAD)	≥0.99(FULL LOAD)	≥0.99(FULL LOAD)
Input Frequency Range	45-55Hz / 54-66Hz	45-55Hz / 54-66Hz	45-55Hz / 54-66Hz	45-55Hz / 54-66Hz
Generator Set	1.3 x UPS Rating Power	1.3 x UPS Rating Power	1.3 x UPS Rating Power	1.3 x UPS Rating Power

OUTPUT

Power				
-Power(kVA) max	6.0	6.0	10.0	10.0
-Power(kW) max	5.4	5.4	9.0	9.0
-Load Power Factor Range	0.5 lagging to 1.0	0.5 lagging to 1.0	0.5 lagging to 1.0	0.5 lagging to 1.0
Output Voltage				
-Waveform	Pure sine wave	Pure sine wave	Pure sine wave	Pure sine wave
-Nominal voltage	208VAC/220VAC/230VAC/240VAC	208VAC/220VAC/230VAC/240VAC	208VAC/220VAC/230VAC/240VAC	208VAC/220VAC/230VAC/240VAC
-Voltage regulation	± 1 %	± 1 %	± 1 %	± 1 %
-Transient recovery	100ms (IEC 62040-3 Non-linear load)	100ms (IEC 62040-3 Non-linear load)	100ms (IEC 62040-3 Non-linear load)	100ms (IEC 62040-3 Non-linear load)
-Transient response(0%-100%-0%, R load)	± 9 %	± 9 %	± 9 %	± 9 %
-Transient response(20%-100%-20%, R load)	± 6 %	± 6 %	± 6 %	± 6 %
-Voltage distortion	< 2% THD, linear load < 5% THD, non-linear load	< 2% THD, linear load < 5% THD, non-linear load	< 2% THD, linear load < 5% THD, non-linear load	< 2% THD, linear load < 5% THD, non-linear load
Output Frequency				
-Synchronization range	45-55Hz / 54-66Hz	45-55Hz / 54-66Hz	45-55Hz / 54-66Hz	45-55Hz / 54-66Hz
-Slew rate	1 Hz/s	1 Hz/s	1 Hz/s	1 Hz/s
-Battery mode	(50/60±0.1) Hz	(50/60±0.1) Hz	(50/60±0.1) Hz	(50/60±0.1) Hz
Transfer Time				
-Line mode to Battery Mode.	0ms	0ms	0ms	0ms
-Line mode to Bypass Mode.	0ms	0ms	0ms	0ms
-Transfer to bypass with Mains2 out of tolerance or without phase lock	10ms	10ms	10ms	10ms
-ECO to Inverter mode	<10ms	<10ms	<10ms	<10ms
Full Load Efficiency				
-Line mode with battery full charged	>92%	>92%	>93%	>93%
-Battery mode @ 12Vdc/Battery	>89%	>89%	>90%	>90%
-ECO mode	>96%	>96%	>97%	>97%
Overload Capability (Line Mode)	102%~130% : 2 min 130%~150% : 30 s >150% : 100ms	102%~130% : 2 min 130%~150% : 30 s >150% : 100ms	102%~130% : 2 min 130%~150% : 30 s >150% : 100ms	102%~130% : 2 min 130%~150% : 30 s >150% : 100ms
Overload Capability (Battery Mode)	102%~130% : 10 s >130% : 100ms	102%~130% : 10 s >130% : 100ms	102%~130% : 10 s >130% : 100ms	102%~130% : 10 s >130% : 100ms
Crest Ratio	3:1	3:1	3:1	3:1

BATTERY

Rating/Type	12VDC/5Ah	Depend on the capacity of external batteries	12VDC/9Ah	Depend on the capacity of external batteries
Back-up Time (full load)	>2.5minutes		>3.5minutes	
Quantity	15		20	
DC Voltage	180VDC	180VDC	240VDC	240VDC
Battery-Low Voltage	171VDC	171VDC	228VDC	228VDC
Battery Shutdown Voltage				
-With External Battery	157.5VDC, 10.5V/pcs	157.5VDC, 10.5V/pcs	210VDC, 10.5V/pcs	210VDC, 10.5V/pcs
-With Internal Battery only				
- 0 ~ 30% Load	157.5VDC, 10.5V/pcs		210VDC, 10.5V/pcs	
- 30 ~ 70% Load	153VDC, 10.2V/pcs		204VDC, 10.2V/pcs	
- >70% Load	142.5VDC, 9.5V/pcs		190VDC, 9.5V/pcs	
Max. External Battery Capacity	No-Limited	No-Limited	No-Limited	No-Limited
Charger				
-Boost charging voltage	216.0VDC	N/A	288.0VDC	N/A
-Floating charging voltage	204.7VDC	204.7VDC	273.0VDC	273.0VDC
-Charging current (Normal)	1.0A	8.0A	1.7A	8.0A
-Charging time	<3h charge to 90%	Depend on the capacity of external batteries	<3h charge to 90%	Depend on the capacity of external batteries
Leakage current	<300uA	<300uA	<300uA	<300uA
Temperature Compensation by ventilation inlet temperature	20mv/pc/°C	20mv/pc/°C	20mv/pc/°C	20mv/pc/°C

Features

Dual Input to Bypass	YES	YES	YES	YES
Dual Communication	YES	YES	YES	YES
Rack/Tower 2 in 1	YES	YES	YES	YES
ECO Mode	YES	YES	YES	YES
EPO Function	YES	YES	YES	YES
Maintenance Bypass Switch	YES	NA	YES	NA
External Battery Connection	YES	YES	YES	YES
Temperature Compensation	YES	YES	YES	YES
Fan Speed Control	YES	YES	YES	YES
Frequency Converter Mode	YES**	YES**	YES**	YES**
Dry in /Dry out	YES	YES	YES	YES

INDICATOR & ALARM

Display	Smart LCD Display	Smart LCD Display	Smart LCD Display	Smart LCD Display
Battery mode	Beeps every four second	Beeps every four second	Beeps every four second	Beeps every four second
Battery low	Sounding every second	Sounding every second	Sounding every second	Sounding every second
Overload	Sounding twice every second	Sounding twice every second	Sounding twice every second	Sounding twice every second
Fault	Continuous beeping	Continuous beeping	Continuous beeping	Continuous beeping

INTERFACE

RS232	Standard, supports WinPower Software	Standard, supports WinPower Software	Standard, supports WinPower Software	Standard, supports WinPower Software
USB	Standard, supports WinPower Software	Standard, supports WinPower Software	Standard, supports WinPower Software	Standard, supports WinPower Software
Intelligent Slot	SNMP / AS400 Card	SNMP / AS400 Card	SNMP / AS400 Card	SNMP / AS400 Card
AC Outlets	IEC C13*2+ IEC C19*1+Terminal	IEC C13 x 2 +IEC C19 x 2 + Terminal	IEC C19 *4+Terminal	IEC C13 x 4 +IEC C19 x 2 + Terminal

MECHANICAL

WxHxL (mm) for cabinet	129 (3U)*438*698	129 (3U)*438*640	215.5 (5U)*438*704	215.5 (5U)*438*640
Net Weight	20Kg (w/o battery) 46Kg (w/ battery)	19Kg	32.5Kg (w/o battery) 82.5Kg (w/ battery)	26Kg
Operating Temperature Range	0°C ~ 40 °C	0°C ~ 40 °C	0°C ~ 40 °C	0°C ~ 40 °C
Relative Humidity	0 ~ 95% (No condensing)	0 ~ 95% (No condensing)	0 ~ 95% (No condensing)	0 ~ 95% (No condensing)
Audible Noise	<55dB Maximum	<55dB Maximum	<55dB Maximum	<55dB Maximum

REGULATIONS

-ESD	IEC 61000-4-2 Level 4	IEC 61000-4-2 Level 4	IEC 61000-4-2 Level 4	IEC 61000-4-2 Level 4
-RS	IEC 61000-4-3 Level 3	IEC 61000-4-3 Level 3	IEC 61000-4-3 Level 3	IEC 61000-4-3 Level 3
-EFT	IEC 61000-4-4 Level 4	IEC 61000-4-4 Level 4	IEC 61000-4-4 Level 4	IEC 61000-4-4 Level 4
-Surge	IEC 61000-4-5 Level 4	IEC 61000-4-5 Level 4	IEC 61000-4-5 Level 4	IEC 61000-4-5 Level 4
-Conduction	IEC 62040-2 Category C2	IEC 62040-2 Category C2	IEC 62040-2 Category C2	IEC 62040-2 Category C2
-Radiation	IEC 62040-2 Category C2	IEC 62040-2 Category C2	IEC 62040-2 Category C2	IEC 62040-2 Category C2
-Safety	IEC 60950-1 / IEC 62040-1-1	IEC 60950-1 / IEC 62040-1-1	IEC 60950-1 / IEC 62040-1-1	IEC 60950-1 / IEC 62040-1-1
-Transportation	ETS 300019-2-2 Class 2.3	ETS 300019-2-2 Class 2.3	ETS 300019-2-2 Class 2.3	ETS 300019-2-2 Class 2.3
-Protection	IP20 (static)	IP20 (static)	IP20 (static)	IP20 (static)

**Derate to 80% during Frequency Converter Mode .