

Engineering Specification for C400R Rack/Tower Online 1-3kVA

C400R-010-B

C400R-010-C

C400R-020-B

C400R-020-C

C400R-030-B

C400R-030-C

INPUT

Cold Start	yes, default frequency=50Hz	yes, default frequency=50Hz	yes, default frequency=50Hz
Acceptable Input Voltage	120VAC-276VAC	120VAC-276VAC	120VAC-276VAC
Adjustable Bypass Voltage	120VAC-276VAC	120VAC-276VAC	120VAC-276VAC
Phase	Single phase with ground	Single phase with ground	Single phase with ground
Transfer Voltage Range	Based on load percentage 100%/75%/50%	Based on load percentage 100%/75%/50%	Based on load percentage 100%/75%/50%
-Line low transfer	176VAC/148VAC/120VAC (±3%)	176VAC/148VAC/120VAC (±3%)	176VAC/148VAC/120VAC (±3%)
-Line low comeback	186VAC/158VAC/130VAC (±3%)	186VAC/158VAC/130VAC (±3%)	186VAC/158VAC/130VAC (±3%)
-Line high transfer	276VAC (±3%)	276VAC (±3%)	276VAC (±3%)
-Line high comeback	266VAC (±3%)	266VAC (±3%)	266VAC (±3%)
THDi	<5% with full load	<5% with full load	<5% with full load
Input Power Factor	≥0.99(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
Generator Set	1.3 x UPS Rating Power	1.3 x UPS Rating Power	1.3 x UPS Rating Power

OUTPUT

Power			
-Power(kVA) max	1.0	2.0	3.0
-Power(kW) max	0.9	1.8	2.7
-Power Factor	0.9 (Default) 0.6 - 1 (Flexible)	0.9 (Default) 0.6 - 1 (Flexible)	0.9 (Default) 0.6 - 1 (Flexible)
-Load Power Factor Range	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
-Nominal voltage	208VAC/220VAC/230VAC/240VAC	208VAC/220VAC/230VAC/240VAC	208VAC/220VAC/230VAC/240VAC
-Voltage regulation	± 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)
-Transient response(0%-100%-0%, R)	± 9 %	± 9 %	± 9 %
-Transient response(20%-100%-20%, R)	± 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
Output Frequency			
-Synchronization range	45-55Hz / 54-66Hz (Adjustable)	45-55Hz / 54-66Hz (Adjustable)	45-55Hz / 54-66Hz (Adjustable)
-Slew rate	1 Hz/s	1 Hz/s	1 Hz/s
-Battery mode	(50/60±0.2) Hz	(50/60±0.2) Hz	(50/60±0.2) Hz
Transfer Time			
-Line Mode to Battery Mode	0ms	0ms	0ms
-Inverter Mode to, ECO Mode	0ms	0ms	0ms
-ECO to Inverter Mode	<10ms	<10ms	<10ms
Full Load Efficiency			
-Line mode with battery full charged	>87%	>89%	>90%
-Battery mode @ 12Vdc/Battery	>83%	>83%	>86%
-ECO mode	>95%	>95%	>95%
Overload Capability (Line Mode)	102%~130% : 12 s 130%~150% : 1.5 s >150% : 100 ms	102%~130% : 12 s 130%~150% : 1.5 s >150% : 100 ms	102%~130% : 12 s 130%~150% : 1.5 s >150% : 100 ms
Overload Capability (Battery Mode)	102%~130% : 12 s 130%~150% : 1.5 s >150% : 100 ms	102%~130% : 12 s 130%~150% : 1.5 s >150% : 100 ms	102%~130% : 12 s 130%~150% : 1.5 s >150% : 100 ms
Crest Ratio	3:1	3:1	3:1
Parallel	N/A	N/A	N/A

BATTERY						
Rating/Type	12VDC/7Ah	Depend on the capacity of external batteries	12VDC/9Ah	Depend on the capacity of external batteries	12VDC/9Ah	Depend on the capacity of external batteries
Quantity	3		4		6	
Back-up Time (full load)	>5minutes		>5minutes		>5minutes	
Max EBM Number	4		4		4	
DC Voltage	36VDC		48VDC		72VDC	
Battery-Low Voltage						
- 0 ~ 30% Load	34.2VDC, 11.4V/pcs		45.6VDC, 11.4V/pcs		68.4VDC, 11.4V/pcs	
Battery Shutdown Voltage	If {188*6-[74*Load_percent * Rated_watt /(8000*Batt_pcs*EBM_pcs)]}/100<9.6, SD.V=9.6V; Else SD.V={188*6-[74*Load_percent * Rated_watt /(8000*Batt_pcs*EBM_pcs)]}/100					
Charger						
-Rapid Charging voltage	43.2VDC, 14.4/pcs		57.6VDC, 14.4/pcs		86.4DC, 14.4/pcs	
-Floating Charging voltage	41.0VDC, 13.65/pcs		54.6VDC, 13.65/pcs		81.9VDC, 13.65/pcs	
-Charging current (max)	1.5A	6.0A	1.5A	6.0A	1.5A	6.0A
-Charging time	<3h charge to 90%	Depend on the capacity of external batteries	<3h charge to 90%	Depend on the capacity of external batteries	<3h charge to 90%	Depend on the capacity of external batteries
Leakage current	<100uA	<500uA	<100uA	<500uA	<100uA	<500uA
Temperature Compensation	18mv/pc/°C		18mv/pc/°C		18mv/pc/°C	
Features						
ECO Mode	YES		YES		YES	
Daul Communcation	YES		YES		YES	
EPO Function	YES		YES		YES	
Outlet Segment	YES		YES		YES	
Fan Speed Control	YES		YES		YES	
Frequency Converter Mode (CVCF)	YES*		YES*		YES*	
INDICATOR & ALARM						
Display	LCD Display		LCD Display		LCD Display	
Battery mode	Beeps every four second		Beeps every four second		Beeps every four second	
Battery low	Sounding every second		Sounding every second		Sounding every second	
Overload	Sounding twice every second		Sounding twice every second		Sounding twice every second	
Fault	Continuous beeping		Continuous beeping		Continuous beeping	
INTERFACE						
RS232	Standard, supports WinPower Software		Optional, supports WinPower Software		Optional, supports WinPower Software	
USB	Standard, supports WinPower Software		Standard, supports WinPower Software		Standard, supports WinPower Software	
Intelligent Slot	SNMP / RS485 / AS400 Card		SNMP / RS485 / AS400 Card		SNMP / RS485 / AS400 Card	
AC Outlets	TBD		TBD		TBD	
MECHANICAL						
WxHxL (mm)	438*86.5*435		438*86.5*435		438*86.5*604	
Net Weight	15	TBD	19.3	TBD	28.8	TBD
Operating Temperature Range	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)	
Audible Noise	<45dB @ 1meter		<50dB @ 1meter		<50dB @ 1meter	
REGULATIONS						
-ESD	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	
-EFT	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	
-Conduction	IEC 62040-2 Category C1		IEC 62040-2 Category C1		IEC 62040-2 Category C1	
-Radiation	IEC 62040-2 Category C1		IEC 62040-2 Category C1		IEC 62040-2 Category C1	
-Safety	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	
-Protection	IP20 (static)		IP20 (static)		IP20 (static)	

*Derate to 70% during Frequency Converter Mode.