

PRODUCT SPECIFICATIONS	REF. No.: R100101-1084003-07
PRODUCT SERIES : Castle Series	No OF PAGE(S):
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INPUT

Nominal Voltage	: 220VAC
Phase	: Single phase with ground
Allowed Voltage Range	: 115 ~ 300VAC
Line Low detection / Comeback	: 110VAC / 175VAC \pm 5VAC, at \leq 55% load; 130VAC / 175VAC \pm 5VAC, at 56% ~ 65% load; 150VAC / 175VAC \pm 5VAC, at 66% ~ 70% load; 160VAC / 175VAC \pm 5VAC, at 71% ~ 90% load; 185VAC / 195VAC \pm 5VAC, at >91% load
Line High detection / Comeback	: 300VAC / 285VAC \pm 5VAC
Nominal Frequency	: 50/60Hz
Frequency Range	: 50/60Hz \pm 2% ~ 16% configurable through WinPower software (Default \pm 8% for 50Hz, \pm 6% for 60Hz)
Frequency Low detection	: Default 46Hz or 56.4Hz
Frequency Low comeback	: Frequency Low detected plus 0.5Hz
Frequency High detection	: Default 54 or 63.6Hz
Frequency High comeback	: Frequency High detected minus 0.5Hz
Power Factor	: 0.98
Noise Suppression	: Full time EMI filtering
Nominal RMS Current	: 13.6A
Input Current THDi	: < 10%
Protection	: 16Amp resettable breaker
Connection	: IEC320-16A inlet (C20)
Generator Compatibility	: Yes

OUTPUT

Nominal Power Capacity	: 3000VA / 2400Watts
Nominal Voltage	: 220VAC
Voltage Regulation	: \pm 2%
Waveform	: Sine wave
Voltage Distortion	: < 4% (linear load); < 7% (non-linear RCD load)

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OUTPUT

Frequency	: Battery mode: 50 or 60Hz \pm 0.2Hz Line mode: Same as Input if input between 46Hz to 54Hz or 56.4Hz to 63.6Hz (Default); 50 or 60Hz \pm 0.2Hz if input is <46 / 56.4Hz or >54 / 63.6Hz
Slew Rate	: < 1 Hz/s
Load Transient Response	: < 9% (R load 100% taking on/off) < 6% (R load 20% - 100% - 20% variation)
Transient Recovery	: \leq 60ms recover to 90% of nominal voltage (R load)
Crest Ratio	: 3:1
DC Offset	: \pm 200mV (max)
Efficiency	: > 85% (Line mode) > 83% (Battery mode)
Overload Capability	: Line Mode: 108% ~ 150% \pm 5% for 47 sec. ~ 25 sec., 150% ~ 200% \pm 5% for 25 sec. ~ 300ms, or >200% \pm 5% for 300ms transfer to Bypass mode; Automatically retransfer to Inverter mode after overload is cleared. Battery Mode: 108% ~ 150% \pm 5% for 47 sec. ~ 25 sec., 150% ~ 200% \pm 5% for 25 sec. ~ 300ms, or >200% \pm 5% then Fault warning
Protection against short-circuiting	: Cut-off within 7 cycles then Fault warning
Connections	: 4 pieces of IEC320-10A outlet (C13) and a terminal block

BYPASS

Output before UPS power-on	: Default "NO", configurable to "YES" through WinPower software
Voltage Range	: 180 ~ 264VAC (Default); configurable to the range of -63% ~ +29% (approximately to 80 ~ 285VAC) of nominal voltage through WinPower software
Bypass Low Detection	: Default 180VAC
Bypass Low comeback	: Bypass Low voltage detected plus 10VAC
Bypass High detection	: Default 264VAC
Bypass High comeback	: Bypass High voltage detected minus 10VAC
Protection	: Resettable breaker

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BATTERY & CHARGER

Type	: Sealed Lead-Acid, Maintenance Free
Rating	: 12V7.2Ah (or equivalent)
Quantity	: 8 pieces
Nominal DC Voltage	: 96VDC
Backup Time (Full RCD load)	: 5 minutes
Shutdown Voltage	: 81.6VDC \pm 2.5VDC if load level \leq 23% of nominal load 76.8VDC \pm 2.5VDC if load level $>$ 23% of nominal load
Protection	: Fast-acting Fuse
Initial charging current	: 1.0A max
Recharge Time	: 5 Hours recharge to 90%
Over Voltage Protection	: 120VDC \pm 0.8VDC
Leakage Current (Power Off)	: $<$ 150uA

TRANSFER TIME

Utility Power Failure	: 0 ms
Battery Mode to Utility Power Mode	: 0 ms
Bypass to Inverter and vice versa	: $<$ 4 ms

INTERFACE

Control Panel	: Power On/Off, Test/Alarm silence
Indicators	: Graphical LED display: Line mode, Battery mode, Bypass mode, Inverter mode, Load level/Battery level, Fault
Diagnostics	: Full system self test on power up
DC power-on function	: Yes
Auto-restart	: Yes



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INTERFACE

Audible Alarm

- Battery mode : Beeps every 4 seconds
- Battery low or Charger fault : Beeps every second
- Overload : Beeps every 0.5 seconds
- Fault : Beeps continuously
- Bypass mode : Beeps every 2 minutes

Communications

- DB-9 Port : RS232 interface
- Intelligent Slot (mini) : Available
(Options: WebPower, AS400 Card, USB card or WinPower CMC)

Network surge protection : RJ45 I/O jacks available

Remote Emergency Power Off(EPO) : Available (Normally open; immediately off if closed)

Cooling : Force air cooling

ENVIRONMENTAL

Operating Temperature : 0 ~ 40 °C

Altitude : 0 ~ 1000m

Audible Noise : < 50dB at 1 meter distance in front of the UPS
(Buzzer not included)

Storage Temperature : -15°C ~ 45°C, subject to the battery specifications

Humidity : 20% ~ 90% non-condensing

STANDARDS & SAFETY

EMS : IEC 61000-4-2 (ESD) Level 4
IEC 61000-4-3 (RS) Level 3
IEC 61000-4-4 (EFT) Level 4
IEC 61000-4-5 (Surge) Level 4

EMI (Conducted & Radiated) : EN55022 / IEC62040-2 Class B

Safety : IEC62040-1



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MECHANICAL FEATURES

Unit

Dimensions: W x H x D (mm) : 190 x 318 x 433 mm

Weight (Kg) : 28 Kg

Packaging

Dimensions: W x H x D (mm) : 326 x 458 x 543 mm

Weight (Kg) : 30 Kg

Specifications are subject to change without notice.