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|---|---------------------------------------|---------------------------|
|  | PRODUCT SPECIFICATIONS | REF. No. : B-WR1-235-217A |
| | PRODUCT SERIES : Santak Castle Series | Page No. |
| | MODEL : 3C20KS-LCD | 1 OF 4 |

INPUT

| | |
|---------------------------------|---|
| Nominal Voltage | : 380VAC/220VAC |
| Phase | : Three phase and Neutral with ground (4W + G) or Single phase with ground (2W + G) |
| Power Factor | : ≥ 0.99 |
| Voltage Range | : 208 ~ 476VAC/120~275VAC |
| Volt. Low Detection / Comeback | : 208/242VAC 120/140VAC, at load $\leq 50\%$; 260/286VAC 150/165VAC, at $50\% < \text{load} \leq 70\%$; 286/312VAC 165/180VAC, at $70\% < \text{load} \leq 90\%$; 304/329VAC 176/190VAC, at load $> 90\%$; |
| Volt. High Detection / Comeback | : 476/459VAC 275/265VAC |
| Nominal Frequency | : 50/60Hz |
| Frequency Range | : 40 ~ 70Hz |
| Freq. Low Detection / Comeback | : 40Hz / 40.5Hz |
| Freq. High Detection / Comeback | : 70Hz / 69.5Hz |
| THDi | : $< 3\%$ (With R full load at Line normal) |
| Nominal RMS Current | : 31A |
| Protection | : 63Amp Breaker |
| Connection | : Terminal Block |


BYPASS

| | |
|----------------------------|--|
| Output before UPS power-on | : Default "YES", can be configured to "NO" through Winpower software |
| Voltage Range | : 187 ~ 264VAC |
| Bypass Low Detection | : Default 187VAC, can be set to 176 ~ 209VAC through Winpower software |
| Bypass Low comeback | : Bypass Low voltage detected plus 10VAC |
| Bypass High detection | : Default 264VAC, can be set to 231 ~ 264VAC through Winpower software |
| Bypass High comeback | : Bypass High voltage detected minus 10VAC |
| Bypass Frequency Range | : Default 50/60Hz $\pm 8\%$, can be set 50/60Hz $\pm (1\% \sim 10\%)$ |
| Protection | : 100Amp Breaker |

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OUTPUT

| | |
|----------------------------------|---|
| Power Capacity | : 20kVA / 18kW |
| Power Factor | : 0.9 |
| Voltage | : 220VAC, can be set 230/240VAC |
| Voltage Regulation | : $\pm 1\%$ |
| Waveform | : Sine wave |
| Voltage Distortion | : $\leq 2\%$ (Full linear load) $\leq 4\%$ (Full RCD load) |
| Frequency | : Battery mode: 50/60Hz ± 0.05 Hz Line mode: Synchronized to 50/60Hz ± 4 Hz |
| Slew Rate | : < 1.0 Hz/sec |
| Phase Lock Error to Line | : $< 2^\circ$ |
| Transient Recovery | : 60ms (R load from 0% to 100% and vice versa) |
| Current Crest Ratio | : 3:1 |
| Efficiency | : Up to 93.5% at battery mode Up to 94% at line mode Up to 98% at ECO mode |
| Overload Capability | : 105% $<$ Load \leq 125%, transfer to bypass mode after 10 min (0°C ~ $< 30^\circ\text{C}$) or 1 min (30°C ~ 40°C) Bypass over load $>$ 30 minutes then turn off output; 125% $<$ Load \leq 150%, transfer to bypass mode after 30s Bypass over load $>$ 1 minutes then turn off output; Over 150%, transfer to bypass after 0.5s Bypass over load $>$ 30 seconds then turn off output; |
| Nominal Output Current | : 90A |
| Short Circuit Protection | : Cut off output within 100ms in Line mode & Battery mode; Input Breaker in Bypass mode |
| Bypass Output without turning on | : Yes |
| Maintenance Bypass Switch | : Option |
| Connection | : Terminal Block |


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BATTERY AND CHARGER

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|---------------------------|--|
| Type | : Valve Regulated Lead Acid (VRLA), Maintenance Free |
| Rating | : Option |
| Quantity | : 20 pieces per string (N), (adjustable: 16/18) |
| Nominal DC Voltage | : 240VDC (adjustable: 192/216VDC) |
| Backup Time | : Depends on the external battery capacity |
| Auto Shutdown Voltage | : 11VDC*N ±2VDC when load < 1kW 9.5VDC*N ± 2VDC when load > 1kW |
| Protection | : Fast-acting Fuse |
| Floating Charging Voltage | : 13.5VDC*N |
| Initial Charging Current | : 4A |
| Recharge Time | : Depends on the external battery capacity |
| Over Voltage Protection | : 14.7VDC*N ± 1% |
| Leakage Current | : < 3.5mA |
| Connection | : Terminal Block |

INTERFACE

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|----------------------------|---|
| Control Panel | : Power On/Off, Self-test/Alarm silence |
| Indicators | : Graphical LED & LCD display: Line, Battery, Bypass, Inverter, Load level/Battery level, Fault |
| Diagnostics | : Full system self test on power up |
| Auto Restart Function | : Auto restart while AC source restored after discharge shutdown |
| DC Power-on Function | : On-battery power on |
| Audible Alarm | : Battery mode: Beeps every four seconds Battery low: Beeps every second Overload: Beeps twice every second Bypass: Beeps every two minutes Fault: Beeps continuously |
| Communications | |
| - DB-9 Port | : RS232 interface |
| - Intelligent Slot (SNMP) | : Available (Options : NMC, AS400 or CMC Card) |
| - Parallel Port | : Option |
| - Emergency Power Off(EPO) | : Option |
| Cooling | : Force air cooling |

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PARALLEL FUNCTION

Parallel card : Option
Number of UPS in Parallel : Up to 3 units

TRANSFER TIME

Utility Power Failure : 0 ms
Bypass to Inverter and vice versa : 0 ms

ECO to Inverter and vice versa : < 4 ms

Auto Transfer : Automatically re-transfer to Inverter mode after overload is cleared

ENVIRONMENTAL

Operating Temperature : 0 ~ 40°C
Storage Temperature : -25°C ~ 55°C
Humidity : 20% ~ 90%, Non-condensing
Altitude : < 1000 m

STANDARD & SAFETY

Audible Noise : ≤ 50dB, at 1-meter distance in front of the front panel (Exclusive of Buzzer)
EMC : IEC/EN61000
IEC/EN62040-2
Safety : IECEN62040-1

MECHANICAL FEATURES

Unit
Dimensions: W x D x H (mm) : 248 x 500 x 616 mm
Weight (Kg) : 30.5 Kg
Packaging
Dimensions: W x D x H (mm) : 380 x 680 x 705 mm
Weight (Kg) : 35.5 Kg

Specifications are subject to change without notice.