Sentinel Dual is the best solution for powering mission critical applications and electro-medical devices requiring maximum power reliability. Flexibility of installation and use (digital display, user-replaceable battery set), as well as the many communication options available, makes Sentinel Dual suitable for many different applications from IT to security. Sentinel Dual can be installed on the floor or in rack cabinets for networking applications. The Sentinel Dual range is available in 3.3-4-5-6-8-10 kVA models with on-line double conversion technology (VFI): the load is powered continuously by the inverter which supplies a sinusoidal voltage, filtered and stabilised in terms of voltage, form and frequency. In addition, the input and output filters significantly increase the load’s immunity to mains disturbances and lightning strikes. Technology and performance: selectable Economy Mode and Smart Active Mode functions. Diagnostics: Standard digital display, RS232 and USB interfaces with PowerShield software included, communications slot for connectivity accessories.
1. RELEASE THE DISPLAY PANEL BY APPLYING PRESSURE TO THE CATCHES
2. ROTATE THE DISPLAY PANEL COUNTERCLOCKWISE AND THEN SECURE IT BACK IN PLACE
3. ROTATE THE UPS BY 90°
4. ATTACH THE RACK SUPPORTS

Simplified installation
• Can be installed on the floor (tower version) or in rack mount cabinets (rack version). The display panel can be rotated (using the key supplied)
• Low noise (<40 dBA): can be installed in any environment thanks to its high frequency switching inverter and PWM load-dependent digitally controlled fan.
• External bypass option for maintenance with interruption-free switching (5-6-8-10 kVA SDL)
• Operation guaranteed up to 40°C (the components are designed for high temperatures and are thus subject to less stress at normal temperatures)
• Two built-in IEC output sockets with thermal protection (5-6-8-10 kVA SDL)
• On the 5-6-8-10 kVA models, it is also possible to program two 10 A output sockets when the mains power supply fails (PowerShare function).

Operating mode selection
Functions can be programmed via software or manually via the front display panel.
- On line
- Economy Mode: to increase efficiency (up to to 98%), allows for the selection of Line Interactive technology (VI) to power low priority loads from the mains supply
- Smart Active: the UPS automatically decides upon the operating mode (VI or VFI) based on the quality of the mains power supply
- Emergency: the UPS can be selected to function only when the mains power supply fails (emergency only mode).
- Frequency converter operation (50 or 60 Hz).

High quality output voltage
• Even with non-linear loads (IT loads with a crest factor of up to 3:1)
• High short circuit current on bypass
• High overload capacity: 150% by inverter (even with mains failure)
• Filtered, stabilised and reliable voltage (double conversion on-line technology (VFI compliant with EN62040-3)), with filters for the suppression of atmospheric disturbances.
• Power factor correction: UPS input power factor close to 1 and sinusoidal current uptake.

High battery reliability
• Automatic and manual battery test
• Reduced ripple component (detrimental to the batteries) using a low ripple current discharge (LCRD) system
• Batteries are user replaceable without switching off equipment and without interruption to the load (Hot Swap)
• Unlimited extendible runtime using matching Battery Boxes
• The batteries do not cut in during mains failures of <40 ms (high hold up time) or when the input supply is between 84 V to 276 V.

Emergency function
This configuration ensures the operation of those emergency systems that require continuous, reliable and long-lasting power supply in the event of a mains power failure, such as emergency lighting, fire detection/extinguishing systems and alarms. When the mains power supply fails, the inverter begins powering the loads with a progressive startup (Soft Start) in order to prevent overload.

Battery optimisation
The wide input voltage range and a high hold-up time minimise battery usage and increase efficiency and battery life; for smaller power breaks, energy is drawn from a group of appropriately-sized capacitors.

EnergyShare (5-10 kVA versions)
Two 10 A configurable IEC output sockets allow for runtime optimisation by programming the switching off of low priority loads on mains failure; alternatively, emergency loads that are normally not powered when mains is present can be activated.

Other features
• Selectable output voltage (220-230-240 V)
• Auto-restart when mains power is restored (programmable via software)
• Bypass on: when the machine is switched off, it automatically goes into bypass and battery charge mode
• Minimum load switch-off
• Low battery warning
• Start-up delay
• Total microprocessor control
• Automatic bypass without interruption
• Use of IMS modules (Insulated Metallic Substrates)
• Status, measurements and alarms available on standard backlit display
• UPS digital updating (flash upgradeable)
• Input protection via resettable thermal switch
• Back-feed protection standard: to prevent energy from being fed back to the network
• Manual switching to bypass.

Advanced communications
• Advanced multi-platform communications for all operating systems and network environments: PowerShield® monitoring and shutdown software for Windows operating systems 8, 7, 2008, Vista, 2003, XP, Linux, Mac OS X, Sun Solaris, Linux, VMware ESX and other Unix operating systems
• Plug and play function
• USB port
• RS232 serial port
• Slot for installation of communications boards.

2-YEAR WARRANTY
# BATTERY BOX

## MODELS

|-------------------------|-------------------------------|-------------------------------|--------------|

## Dimensions (mm)

*SDL 5000 - SDL 6000 - SDL 8000 - SDL 10000 - SDL 6500 TM - SDL 8000 TM - SDL 10000 TM*

## DETAILS

- **SDL 3300**
- **SDL 4000**
- **SDL 5000**
- **SDL 6000**
- **SDL 8000**
- **SDL 10000**
- **SDL 6500 TM**
- **SDL 8000 TM**
- **SDL 10000 TM**

## OPTIONS

### SOFTWARE
- PowerShield®
- PowerNetGuard

### ACCESSORIES
- NETMAN 101 PLUS
- NETMAN 102 PLUS
- NETMAN 202 PLUS
- MULTICOM 301
- MULTICOM 302
- MULTICOM 351
- MULTICOM 352
- MULTICOM 372
- MULTICOM 382
- MULTICOM 401
- MULTI I/O Interface kit AS400
- MULTIPANEL RTG 100
- Manual Bypass 16 A
- Manual bypass 16 A Rack
- Automatic bypass 16 A
- Automatic bypass 16 A Rack

### PRODUCT ACCESSORIES
- Universal rails for installation in rack cabinets

*Note: 3300-4000 VA*
<table>
<thead>
<tr>
<th>MODELS</th>
<th>SDL 3300</th>
<th>SDL 4000</th>
<th>SDL 5000</th>
<th>SDL 6000</th>
<th>SDL 8000</th>
<th>SDL 10000</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>3300 VA/2300 W</td>
<td>4000 VA/2400 W</td>
<td>5000 VA/3500 W</td>
<td>6000 VA/4200 W</td>
<td>8000 VA/7200 W</td>
<td>10000 VA/9000 W</td>
</tr>
</tbody>
</table>

**INPUT**
- Nominal voltage: 220-230-240 Vac
- Minimum voltage: 164 Vac @ 100% load / 84 Vac @ 50% load
- Nominal frequency: 50/60 Hz ±5Hz
- Power factor: > 0.98
- Current distortion: ≤ 7%

**BYPASS**
- Voltage tolerance: 180 - 264 Vac (selectable in Economy Mode or Smart Active Mode)
- Frequency tolerance: Selected frequency ±5% (selectable by user)

**OUTPUT**
- Nominal voltage: 220-230-240 Vac selectible
- Voltage distortion: < 3% with linear load / < 6% with non-linear load
- Frequency: 50/60 Hz selectable
- Static variation: 1.5%
- Dynamic variation: ± 5% in 20 ms
- Waveform: Sinusoidal
- Crest factor: 3 : 1

**BATTERIES**
- Type: VRLA AGM maintenance-free lead based
- Recharge time: 4-6 hours

**OVERLOAD TIMES**
- 100% < Load < 110%: 1 minute
- 110% < Load < 150%: 4 seconds
- Load > 150%: 0.5 seconds

**OTHER FEATURES**
- Net weight (kg): 38
- Gross weight (kg): 42.5
- Dimensions (WxDxH) (mm): 175 x 520 x 455 tower 19” x 520 x 4U rack
- Packaged dimensions (WxDxH) (mm): 540 x 620 x 280
- Efficiency: 98%
- Line-interactive/Smart Active
- Overcurrent - short-circuit - overvoltage - undervoltage - temperature - excessive low battery
- Input plugs: 1 IEC 320 C20
- Output sockets: 2 IEC 320 C13 + 1 IEC 320 C20
- Operating temperature: 0 °C / +40 °C
- Relative humidity: < 95% non-condensing
- Colour: Dark grey RAL 7016
- Noise level at 1 m: < 40 dBA

**Standard equipment provided**
- 2 10 A cables; 1 IEC-16 A plug; software; serial cable; keys for releasing display panel; handles kit
- 2 cable guides; cable tips; software; serial cable; keys for releasing display panel; handles kit
<table>
<thead>
<tr>
<th>MODELS</th>
<th>SDL 6500 TM</th>
<th>SDL 8000 TM</th>
<th>SDL 10000 TM</th>
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<tr>
<td><strong>POWER</strong></td>
<td>6500 VA/5850 W</td>
<td>8000 VA/7200 W</td>
<td>10000 VA/9000 W</td>
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<tr>
<td>Nominal voltage</td>
<td>400 Vac three-phase + N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum voltage (F + N)</td>
<td>164 Vac @ 100% load / 84 Vac @ 50% load</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal frequency</td>
<td>50/60 Hz ±5 Hz</td>
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<td></td>
</tr>
<tr>
<td>Power factor</td>
<td>&gt; 0.95</td>
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<tr>
<td><strong>INPUT</strong></td>
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<td></td>
<td></td>
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<td>Nominal voltage</td>
<td>220-230-240 Vac selectable</td>
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<tr>
<td>Voltage distortion</td>
<td>&lt; 3% with linear load / &lt; 6% with non-linear load</td>
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</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz selectable</td>
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<tr>
<td>Static variation</td>
<td>1,5%</td>
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<td>Dynamic variation</td>
<td>≤ 5% in 20 ms</td>
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<tr>
<td>Waveform</td>
<td>Sinusoidal</td>
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<td>Crest factor</td>
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<tr>
<td><strong>BATTERIES</strong></td>
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</tr>
<tr>
<td>Type</td>
<td>VRLA AGM maintenance-free lead based</td>
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<tr>
<td>Recharge time</td>
<td>4-6 hours</td>
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<tr>
<td><strong>OVERLOAD TIMES</strong></td>
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</tr>
<tr>
<td>100% &lt; Load &lt; 110%</td>
<td>1 minute</td>
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<tr>
<td>110% &lt; Load &lt; 150%</td>
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<td>Load &gt; 150%</td>
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<tr>
<td><strong>OTHER FEATURES</strong></td>
<td></td>
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</tr>
<tr>
<td>Net weight (kg)</td>
<td>91</td>
<td>94</td>
<td>95</td>
</tr>
<tr>
<td>Gross weight (kg)</td>
<td>99</td>
<td>102</td>
<td>103</td>
</tr>
<tr>
<td>Dimensions (WxDxH) (mm)</td>
<td>2 x (175 x 660 x 455) tower / 2 x (19” x 660 x 4U) rack</td>
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</tr>
<tr>
<td>Packaged dimensions (WxDxH) (mm)</td>
<td>780 x 555 x (270+15)</td>
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<tr>
<td>Smart Active efficiency</td>
<td>up to 98%</td>
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<tr>
<td>Protections</td>
<td>Overcurrent - short-circuit - overvoltage - undervoltage - temperature - excessive low battery</td>
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<td></td>
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<tr>
<td>Communications</td>
<td>USB / RS232 + slot for communications interface</td>
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<tr>
<td>Input plugs</td>
<td>Terminal board</td>
<td></td>
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</tr>
<tr>
<td>Output sockets</td>
<td>Terminal board + 2 IEC 320 C13</td>
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<tr>
<td>Standards</td>
<td>EN 62040-1 EMC EN 62040-2 Directives 73/23 - 93/68 - 2004/108 EC EN 62040-3</td>
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<tr>
<td>Operating temperature</td>
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