Based on Statron’s leading A.T.I.S.® (Advanced Technology Industrial System) platform, the S3000 range is a true-industrial UPS system using the latest Power Factor Corrected (PFC) IGBT rectifier technology.

With this technology, harmonic distortion at the input to the UPS is minimized, while UPS efficiency is greatly increased, saving energy and cost. It is specifically designed and developed for the harshest environmental conditions – meeting the most stringent requirements in high-end industrial applications.

The S3000 design complies to the most stringent industrial classification (VFI-SS-111 in accordance with IEC/EN 62040-3).

Industrial PFC UPS System
S3100/S3300 5–200 kVA

Key benefits and features
- Reliability
- Design
- A.T.I.S.® Technology
- Performance
- Efficiency
- Battery Management
- Communication
- Environment

fully monitored online double conversion UPS
rugged, reliable, compact industrial design
latest µP controlled IGBT technology
market leading overall UPS performance
greatly increased efficiency even at partial load
intelligent system with mains back-feed discharge
top class communication platform
reduced energy and material impact

www.statron.com
Industrial UPS
S3000 – Applications

Applications
The S3000 UPS range meets the most stringent requirements and specifications in high-end industrial applications:

- Oil and Gas (Petrochemicals, Offshore, FPSO, Onshore, Pipelines etc.).
- Energy and Electricity (Power Generation, Transmission, Distribution).
- Water (Desalination, Treatment, Pipeline).
- Instrumentation and Process Control (Chemical, Mining, Steel, Pulp and Paper).
- All high end industrial applications.

Configurations
Depending on the load supply concept, different configurations are supported:

- Single configuration.
- Parallel redundant configuration (up to 8 units, progressive start-up).
- Parallel redundant configuration with monitored coupling switch.
- Dual configuration also with external synchronization source.
- Common or individual batteries.

Reliability
UPS solutions engineered by Statron have been protecting industrial installations for more than three decades:

- Well proven system platform.
- Higher MTBF and low MTTR.
- High quality rugged components.
- 30 year design life.
- Complying to all relevant ISO and IEC/EN standards.

Picture: Typical Oil and Gas configuration – Dual with individual batteries and monitored coupling switch.
Design
High end industrial applications require high level protection and flexible customized design. The S3000 range offers:
- Market leading fault clearing and short circuit performance.
- Excellent dynamic behaviour.
- Unlimited load power factor (0.0 lag to 0.0 lead).
- Robust mechanical compact design and construction.
- Segregated Incomer/Bypass panel housing all switching devices and electrical connection points.
- Electrically and physically integrated galvanic isolation.
- Designed to withstand harsh environmental conditions (up to IP54).
- Complying to the most stringent industrial classification (VFI-SS-111 in accordance with IEC/EN 62040-3).
- Redundant internal power supply.
- Intelligent cooling management by means of redundant and individually monitored speed controlled fans.
- External synchronization possibility / designed for (diesel-) generator operation.

A.T.I.S.® Technology
The exceptional characteristic of the S3000 UPS range is the result of state-of-the-art technology of the A.T.I.S.® platform:
- PFC rectifier dramatically reduces input harmonics (<5% THDi), minimizing distortion to upstream equipment (no oversizing of upstream generator required).
- Up to 95% efficiency using state-of-the-art semiconductor technology (IGBT, Trench technology).
- Fully digital control (two 16 bit micro controllers).
  - CAN-bus internal communication.

Environment
Statron is committed to environmental sustainability. Our dedication drives the development and success of our products. The outstanding features include:
- Energy recovery by battery discharge into the mains.
- Optimised efficiency even at partial load.
- Class leading battery management system to extend battery life.
- Minimal distortion to upstream equipment, no oversizing required.
- ISO 14001 certified.

Operation and Control
The front panel of the S3000 includes a comprehensive, customizable human-machine interface. It enables the complete control and monitoring of the UPS with multi-method visualization:
- Easy and intuitive operation and control.
- Programmable alarms and indications.
- 4-line, 80 digit LCD display.
- Programmable color-coded LED’s.
- Event recorder for 1050 events.
- Optional TFT touch screen panel.
Industrial UPS
S3000 – Features and Benefits

Interface and Communication
State-of-the-art communication software and facilities support the monitoring and control of the S3000 UPS:

- RS232/RS485 serial interface with MODBUS protocol.
- PROFIBUS interface.
- IEC 61850 gateway.
- Network interface (TCP/IP).
- Remote display.
- Programmable relay cards.
- Digital inputs (for EPO, generator operation, etc.).
- Programmable analogue inputs (battery temperature, etc.).
- Programmable analogue outputs (0/4–20 mA).

Battery Management
Battery monitoring and management is a key factor for a reliable and durable power back-up of your system. The Statron S3000 UPS has class leading built-in features:

- Integrated constant current battery discharge test facility (by means of sinusoidal mains backfeed).
- Built-in battery monitoring facility / programmed discharge curve.
- Constantly updated battery capacity and battery back-up time.
- Compatible with all battery types / wide DC range.
- Three individual programmable battery charge voltages.
- Two individual battery charge current limitation levels.

Service, Maintenance and Trouble Shooting
Statron products are renowned for their serviceability:

- Built-in DSO function.
- Integrated fault diagnostic features with printer port.
- Front access to key components (fans, capacitors, etc.).
- Hot swappable fan.
- No load bank required for battery testing (the integrated constant current battery discharge test facility enables a battery test by means of sinusoidal mains backfeed).

The reliability of your installed power solution is supported by a Global Service Team renowned for its short response time and trouble shooting efficiency.
# Industrial UPS

**S3000 - Technical Specification**

### Power Rating (p.f. = 0.8 ind.)

<table>
<thead>
<tr>
<th>UPS Input</th>
<th>05/10 kVA</th>
<th>15/20 kVA</th>
<th>30/40 kVA</th>
<th>50/60 kVA</th>
<th>80 kVA</th>
<th>100 kVA</th>
<th>120 kVA</th>
<th>160 kVA</th>
<th>200 kVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectifier AC input voltage</td>
<td>4x380 V ±15% (3x380 V, 3x415 V, others on request)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rectifier input power factor</td>
<td>&gt;0.99 (&gt;0.97 at 25% load)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rectifier input frequency</td>
<td>50 Hz / 60 Hz ±5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bypass AC input voltage</td>
<td>1x230 V ±10% (220 V, 240 V) / 3x400 V ±10% (3x380 V, 3x415 V, others on request)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bypass input frequency</td>
<td>50 Hz / 60 Hz ±5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DC / Battery Circuit

<table>
<thead>
<tr>
<th>Rectifier type</th>
<th>IGBT (PFC) Power Factor Corrected (Thyristor Rectifier optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal DC voltage</td>
<td>110 V / 125 V / 220 V / 400 V</td>
</tr>
<tr>
<td>DC voltage range</td>
<td>110/125 V: 89-140 V, 220 V: 185-280 V, 400 V: 317-445 V</td>
</tr>
<tr>
<td>Ripple voltage</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Charging characteristic to DIN 41773</td>
<td>/</td>
</tr>
<tr>
<td>Float/Boost/battery charge current limitation</td>
<td>individually programmable</td>
</tr>
</tbody>
</table>

### UPS Output

<table>
<thead>
<tr>
<th>Nominal AC output voltage</th>
<th>230 V (220 V, 240 V, other on request)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage tolerance (static 0 - 100% load)</td>
<td>±1%</td>
</tr>
<tr>
<td>Voltage tolerance (dynamic 0 - 100% - 0 load)</td>
<td>&lt;5% (without battery)</td>
</tr>
<tr>
<td>Regulation time (±1%)</td>
<td>&lt;10 ms</td>
</tr>
<tr>
<td>Inverter overload 1 min</td>
<td>150%</td>
</tr>
<tr>
<td>Inverter overload 10 min</td>
<td>125%</td>
</tr>
<tr>
<td>Inverter overload, continuous</td>
<td>105%</td>
</tr>
<tr>
<td>Inverter short circuit current (max 3s)</td>
<td>300%</td>
</tr>
<tr>
<td>Bypass overload 30 min</td>
<td>150%</td>
</tr>
<tr>
<td>Bypass overload 100 ms</td>
<td>1000%</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 Hz / 60 Hz</td>
</tr>
<tr>
<td>Frequency tolerance free running</td>
<td>±0.01%</td>
</tr>
<tr>
<td>Frequency synchronization range</td>
<td>±5% adjustable</td>
</tr>
<tr>
<td>Allowable load power factor</td>
<td>0.0 lag - 0.0 lead</td>
</tr>
<tr>
<td>Voltage wave form</td>
<td>sinusoidal</td>
</tr>
<tr>
<td>Distortion factor linear load</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Distortion factor non linear load (acc. IEC/EN 62040-3)</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Allowable crest factor</td>
<td>≤ 3</td>
</tr>
</tbody>
</table>

### General Data

| Efficiency (AC-AC) | 90% - 94% depending on model and DC voltage |
| Noise level | 63 dB(A) - 70 dB(A) |
| Cooling | forced ventilation (redundant, speed controlled and monitored) |
| Operating temperature | -10 to +40 °C (55 °C optional) |
| Storage temperature | -30 to +80 °C |
| Maximum altitude without derating | 1000 m |
| Allowable relative humidity | <95% (non condensing) |
| Protection degree | IEC/EN 60529 IP20 (up to IP54) |
| Color | RAL 7035 (other color optional) |
| Safety | IEC/EN 62040-1 |
| EMC | IEC/EN 62040-2 (class C3, C2 optional) |
| Performance | IEC/EN 62040-3 (VFI-SS-111) |
| Conformity | CE |
| Dimensions (IP20, basic configuration) | | |
| Height (mm) | 2000 |
| Width (mm) (w/Bypass Transformer) | 1200 (1200) |
| Depth (mm) | 800 (1000) |

Further data available on request.

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# Industrial UPS

## S3000 - Technical Specification

<table>
<thead>
<tr>
<th>S3000 three phase</th>
<th>S3300-xx</th>
<th>S3300-xx</th>
<th>S3300-xx</th>
<th>S3300-xx</th>
<th>S3300-80</th>
<th>S3300-100</th>
<th>S3300-120</th>
<th>S3300-160</th>
<th>S3300-200</th>
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</thead>
<tbody>
<tr>
<td>Power Rating (p.f. = 0.8 ind.)</td>
<td>05/10 kVA</td>
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<td>100 kVA</td>
<td>120 kVA</td>
<td>160 kVA</td>
<td>200 kVA</td>
</tr>
</tbody>
</table>

### UPS Input
- Rectifier AC input voltage: 3x400 V ±15% (3x380 V, 3x415 V, others on request)
- Rectifier input power factor: >0.99 (>0.97 at 25% load)
- Rectifier input frequency: 50 Hz / 60 Hz ±5%
- Bypass AC input voltage: 3x400 V ±10% (3x380 V, 3x415 V, others on request)
- Bypass input frequency: 50 Hz / 60 Hz ±5%

### DC / Battery Circuit
- Rectifier type: IGBT (PFC) Power Factor Corrected (Thyristor Rectifier optional)
- Nominal DC voltage: 110 V / 125 V / 220 V / 400 V
- Ripple voltage: <1%
- Charging characteristic to DIN 41773: I/U
- Float/Boost/Initial charge voltage: individually programmable
- Float/Boost battery charge current limitation: individually programmable (up to 15)

### UPS Output
- Nominal AC output voltage: 3x400 V (3x208 V, 3x380 V, 3x415 V, others on request)
- Voltage tolerance (static 0 – 100% load): ±1%
- Voltage tolerance (dynamic 0 - 100% - 0 load): <5% (without battery)
- Regulation time (±1%): <10 ms
- Inverter overload 1 min: 150%
- Inverter overload 10 min: 125%
- Inverter overload, continuous: 105%
- Inverter short circuit current (max 3s): 300%
- Bypass overload 10 min: 150%
- Bypass overload 100 ms: 1000%
- Frequency: 50 Hz / 60 Hz
- Frequency tolerance free running: ±0.01%
- Frequency synchronization range: ±5% adjustable
- Allowable load power factor: 0.0 lag – 0.0 lead
- Voltage wave form: sinusoidal
- Distortion factor linear load: <1%
- Distortion factor non linear load (acc. IEC/EN 62040-3): <5%
- Allowable crest factor: ≤ 3

### General Data
- Efficiency (AC-AC): 90% - 94% depending on model and DC voltage
- Noise level: 63 dB(A) – 70 dB(A)
- Cooling: forced ventilation (redundant, speed controlled and monitored)
- Operating temperature: -10 to +40 °C (55 °C optional)
- Storage temperature: -30 to +80 °C
- Maximum altitude without derating: 1000 m
- Allowable relative humidity: <95% (non condensing)
- Protection degree: IEC/EN 60529 IP20 (up to IP54)
- Color: RAL 7035 (other color optional)
- Safety: IEC/EN 62040-1
- EMC: IEC/EN 62040-2 (class C3, C2 optional)
- Performance: IEC/EN 62040-3 (VFI-SS-111)
- Conformity: CE
- Dimensions (IP20, basic configuration): 2000
- Width (mm) (with Bypass Transformer): 1200 (1200) 1200 (1200) 1200 (1200) 2200 (2400) 2400 (2600) 2400 (2600) 3200 (3400) 2800 (3000) 2800 (3000)
- Depth (mm): 800 (1000)

Further data available on request

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