



SAP 10/220 power supply system is designed for supply of 230V AC loads. Its features include safe operation, scalability, modularity and power output range 2.5 to 10kVA.

GENERAL DESCRIPTION

The SAP 10/220 is designed to supply AC loads with rated 230VDC voltage up to 10kVA. In conjunction with the battery it provides uninterrupted power to critical 230VDC loads during designed autonomy.

Parallel operation of the inverter units is monitored by the T2S controller. The system is controlled by Pi1 unit which monitors and controls the operation of individual modules.

Energy is processed by high efficient FUP 220/230-2,5kVA inverters.

The Inverter uses the innovative Enhanced Power Conversion EPC, where the power from the AC mains is buffered and then converted to high quality AC output. The voltage supplied to the receiver is pure sine wave despite all the typical disturbances (harmonics, overvoltages, interferences) brought by the mains. The EPC also provides sinusoidal current consumption from the mains even when AC is nonlinear. This advanced technology will help to reduce costs and will provide AC power for better performance, higher availability, and greater flexibility.

KEY FEATURES

- ✓ Compact design : 5U, 19"
- ✓ High power density (10kVA @5U / 19")
- ✓ Uninterruptible supply of the 230VAC critical loads in cooperation with the battery
- ✓ Intuitive control interface with OLED display, control panel and USB port
- ✓ Programmable alarm outputs - dry contacts
- ✓ Modular design - parallel operation of inverters for easy system expansion
- ✓ Modern inverters generating interference-free sinusoidal voltage
- ✓ Manual by-pass - for service or emergency, disconnecting loads from the inverter output and disconnecting the inverters input from the AC mains
- ✓ Zero transfer time - internal switching between AC and DC sources without any external switching unit
- ✓ Fast on-line expansion of rectifiers or inverters (hot-swap)
- ✓ Simple installation and intuitive operation
- ✓ Modern high-efficiency inverters (96,5% @EPC, 92,5% @on-line)
- ✓ Wide acceptable range of the load's power factor
- ✓ Sinusoidal current draw from the AC mains in the EPC mode even when the AC loads are non linear
- ✓ Flexible Pi1 controller - continuous and efficient control of the system operation and prompt notification of alarm states

APPLICATION

- Power supply systems for energy sector



TECHNICAL SPECIFICATIONS

AC input

| | | |
|--------------------------|-----|---------|
| Rated voltage | VAC | 230 |
| Input voltage range | VAC | 150÷265 |
| Frequency | Hz | 50/60Hz |
| AC network configuration | - | L+N+PE |
| Rated current | AAC | 38 |
| Power coefficient | - | >0,99 |

DC input

| | | |
|-----------------------|-----|---------|
| Rated voltage | VDC | 220 |
| Input voltage range | VDC | 170÷270 |
| Rated current | ADC | 40 |
| Maximum current (15s) | ADC | 60 |

AC output

| | | |
|-----------------------|-----|--|
| Rated voltage | VAC | 230 |
| Voltage range | VAC | 200÷240 |
| Voltage stabilization | % | ±2 |
| Frequency | Hz | 50/60Hz |
| Frequency accuracy | % | 0,03 |
| Rated output current | AAC | 44 (cos fi = 0,8) 35 (cos fi = 1,0) |
| Short circuit current | A | 436A 10×I _n (20ms from AC mains) 145A 3,3×I _n (after 20ms) 91,5 2,1×I _n (after 120ms) 65A 1,5×I _n (after 15s) |
| Rated output power | kVA | 10 |
| | kW | 8 |
| THD (resistive load) | % | <1,5 |
| Overload capacity | % | 110% (continuous) 150% (15s) |
| Switching time | ms | 0 |
| Power factor range | - | 0 ind. - 1 - 0 cap. |
| Peak factor | - | 3,1 |

Control and monitoring

| | |
|----------------------------|---|
| Controller | Pi1, local inverter controller |
| Operation status signaling | LED |
| Local control | control buttons & OLED display or by PC |
| Remote control | Infra manager (option) 4DC manager (option) webserver |
| Alarming, | LED |
| Operation signaling | dry contacts |
| Alarm output | 3x dry contacts |

Mechanical specifications

| | | |
|--------------------------|----|-----------------------|
| Dimensions (H × W × D) | mm | 221(5U) × 482,6 × 520 |
| Weight without inverters | kg | 22 |
| ingress protection | | IP20 |

Inverter

| | | |
|--------------------|----|------------------------------|
| Efficiency | % | 96,5 (EPC) 92,5 (on-line) |
| Dimensions (H×W×D) | mm | 88(2U)×103×435 |
| Weight | kg | 5 |
| Cooling | - | forced |

Standard equipment

| | |
|---------------------|------|
| Inverter | 1+4 |
| DC input protection | 4szt |

Optional equipment

| | |
|--------------------------------|------------------------------|
| Additional by-pass switch | |
| Fire clamps to block inverters | |
| Remote monitoring | Infra Manager 4DC manager |

Environmental specifications

| | | |
|-----------------------|----|----------------------------|
| Operating temperature | °C | -20÷50 |
| Relative humidity | % | <95 (without condensation) |

Design standards

| | |
|-------------------|-----------------------------|
| Electrical safety | PN-EN 60950 PN-EN62040-1 |
| EMC | PN-EN55022 class B |
| Environmental | RoHS, WEE, LVD |