

Gutor PXP AC UPS System

PXP 1000 5 – 160 kVA single phase

PXP 3000 5 – 160 kVA three phase

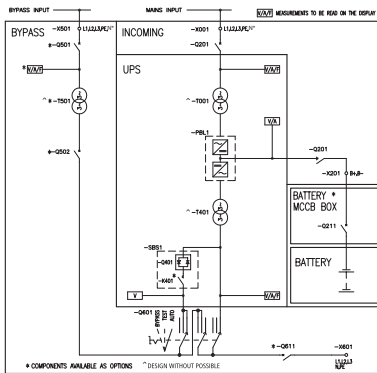


Gutor PXP Technical data

| UPS Input | |
|---|--|
| Rectifier input voltage | 3 x 380/400/415 V |
| Rectifier input voltage tolerance | -10/+15% |
| Rectifier input frequency | 41 – 70 Hz (auto detection) |
| Rectifier current total harmonic distortion | <5% @ 100% load |
| Rectifier input power factor | typical 0.96 – 0.98 |
| Inrush current | i8 – 10IN |
| Bypass input voltage Gutor PXP 1000 Gutor PXP 3000 | 1 x 220/230/240 V +/-10% 3 x 380/400/415 V +/-10% |
| Bypass input frequency | 50/60 Hz +/-8% |
| Battery circuit | |
| Battery voltage | 400 VDC |
| Battery operating range | 335 – 540 VDC |
| Float voltage at -10% line power | programmable within battery operating range |
| Boost voltage at nominal line power | programmable within battery operating range |
| Boost charge time | 1– 24 h programmable |
| Charging current limitation | programmable |
| UPS output | |
| Nominal UPS ratings at 0.8 lagging PF | 5, 10, 15, 20, 30, 40, 50, 60, 80, 100, 120, 140, 160 kVA |
| Output voltage Gutor PXP 1000 Gutor PXP 3000 | 1 x 220/230/240 V (other voltages optional) 3 x 380/400/415 V (other voltages optional) |
| Voltage tolerance: static within 0 – 100% load dynamic for 0 – 100% or 100 – 0% regulation time to +/- 1% regulation time to +/- 3% | +/- 1% +/- 5% <60 ms <20 ms |
| Overload Inverter Bypass | 230%/60 ms, 150%/1 min., 125%/10 min. 1,000%/100 ms, 150%/1 min., 125%/10 min. |
| Frequency | 50/60 Hz |
| Frequency stability, free running | <0.01% |
| Synchronization range | 0.5/1/2/4/6/8% programmable |
| Slew rate single phase systems | 0.25/0.5/1 Hz/s programmable |
| Slew rate three phase systems | 0.25/0.5/1/2/4/6 Hz/s programmable |
| Wave form | sinusoidal |
| Admissible output crest factor | 3 |
| Distortion factor: Linear load Non-linear load according to IEC 62040-3 | <2% <5% |
| Allowable power factor | 0.8 lag – 0.8 lead |
| General data | |
| Ambient temperature range for storage | from -30 to +80 °C |
| Ambient temperature range for operation | from -10 to +40 °C (100% nominal load) |
| Altitude above sea level | <1,000 m without load de-rating |
| Allowable air humidity | <95 % (non condensing) |
| Noise level standard n+1 fan system | 55 – 65 dBA depending on type |
| Degree of protection | IP20 according to IEC® 60529 |
| Paint | pearl light gray, RAL 9022 structure |
| Standards: Safety EMC Performance | IEC/EN 62040-1 IEC/EN 62040-2 IEC/EN 62040-3 |
| UPS classification | VFI-SS-111 acc. to IEC 62040-3 |
| Conformity | CE-Label |
| Efficiency | up to 94% depending on type |
| Cooling | forced ventilation (two speed) with n+1 redundant monitored fans |

Gutor PXP Specifications

Typical single-line drawing



Standard configuration

- Static bypass switch EN
- Rectifier input switch
- Fixed charging voltage IU characteristic
- PFC rectifier (supplies 100% AC load @ 0.8 PF and charges battery with 20% of nominal power)
- Rectifier line power backfeed protection
- Battery-capacity test (full discharge with current load)
- Human-machine interface with additional LEDs for direct alarm display
- Ground terminal
- Bottom cable entry
- N+1 monitored two-speed fans
- Digital input
 - Emergency power OFF (EPO)
 - Two configurable inputs
- Digital (NO/NC relay)
 - Common alarm
 - Battery operation
 - Static bypass switch On

Optional features – UPS input

- Other input voltages:
- 3 x 190, 208, 220, 230, 440, 460, 480, 500, 525, 600, 660, 690 V
- Rectifier input MCCB
- Without isolation transformer on rectifier line power ^T001
- Without isolation transformer on bypass line power ^T501
- Bypass stabilizer with isolation transformer
- Bypass mains backfeed protection

Optional features – Battery circuit

- Battery fuse in UPS
- Battery fuse box
- Battery MCCB in UPS
- Battery MCCB box (for non-hazardous areas or hazardous areas zone 1/2 Ex de IIC)
- Battery temperature alarm
- Battery monitor (programmable battery data)
- Battery asymmetry supervision
- Diode for reverse polarity protection
- Up to three sensors for temperature dependent battery charging voltage — recommended for valve regulated lead acid (VRLA) battery

Optional features – UPS output

- Other output voltages:
 - 1 x 110, 115, 120, 254, 265, 277 V
 - 3 x 190, 200, 208, 220, 230, 440, 460, 480, 500, 525, 600, 660, 690 V
- Without isolation transformer on inverter output ^T002
- Analog meters 72 x 72 mm or 96 x 96 mm (directly beside of HMI):
 - Rectifier mains (voltage, current, frequency)
 - Bypass mains (voltage, current, frequency)
 - Battery (voltage, current)
 - Inverter output (voltage, current, frequency, PF, kVA, kW)
 - Others on request built in distribution
- Digital outputs (NO/NC relay output):
 - Operational indications
 - Battery not connected
 - Normal operation
 - Static bypass operation
 - Manual bypass operation
 - Boost charge
 - Float charge
 - Inverter asynchronous
- Fail-safe alarms:
 - Rectifier line power fault
 - Bypass line power fault
 - Battery discharged
 - Fan failure
 - Rectifier fault
 - Inverter fault
 - Static bypass switch fault
 - Over temperature
 - Battery ground fault
 - More individual operation status indications or fail-safe alarms on request (maximum 19 relays in total)

Optional features – Communication

- Network management card (NMC) for Web browser based monitoring
- Modbus RS-485, IEC 61850
- Other interfaces are available on request

Optional features – Other alarms

- DC ground fault alarm
- AC ground fault alarm

Optional features – General

- Ambient temperature maximum +55°C
- Allowable altitude up to 4,000 m above sea level
- Air filters at air inlet
- Other colors
- Space heaters
- Panel lighting
- Top cable entry
- Protection up to IP52
- Cabinet height 2,300 mm (standard 1,900 mm)

Additional options are available on request

Human-machine interface (front panel)

The front panel includes a comprehensive and flexible human-machine interface. It is divided into three sections:

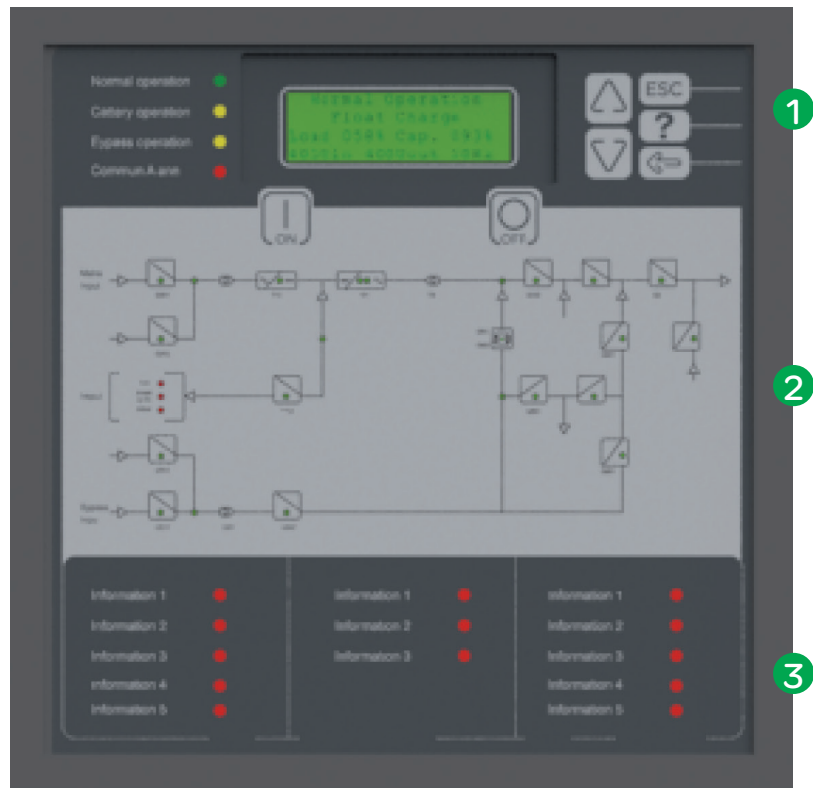
- 1** Control and display consists of a liquid-crystal display screen, indication LEDs for operating modes, and pushbuttons to navigate through the display menus and control the UPS. The user can access measurement data and system information via display menus, including the event and alarm logs.
- 2** Mimic diagram with multi-color LED indicates the current operational status of the system and its components. It clearly indicates the power path currently supplying the load and the availability of the other supplies.
- 3** System alarms and external signals can be flexibly assigned to LEDs for visualization.

Settings accessible via display menu

- Auto start
- Auto boost charge
- Set date/time
- Charge mode
- Bypass operation
- Battery capacity test
- Battery monitor test (optional)
- Display settings
- Menu language

Measurements accessible via display menu

- AC rectifier line power input voltage, current, and frequency
- AC bypass line power input voltage, current, and frequency (optional)
- AC output voltage, current, and frequency
- Load in kVA, kW and percentage of nominal rating
- Battery voltage and current
- Battery capacity percentage and expected runtime
- Total system status in parallel/redundant operation
- Three temperature measurements (with optional sensors)
- Runtime and switchover statistics
- Maximum and minimum voltages and currents
- Time-stamped event log (operation mode changes and alarms)



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