

# Gutor PxW AC UPS System

PEW 5 – 200 kVA single phase; PDW 10 – 220 kVA three phase

Higher ratings on request

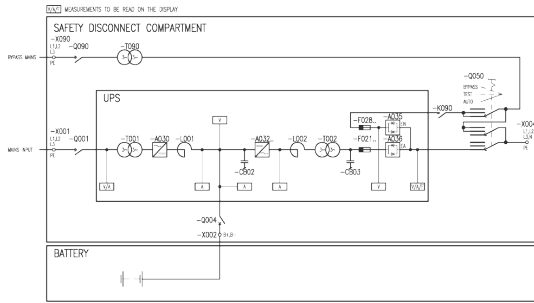


## Gutor PxW Technical Data: PEW single phase/PDW three phase

UPS Input	
Rectifier input voltage	3x380/400/415 V
Voltage tolerance DC in tolerance for function	+/- 10% -10/+15%
Bypass input voltage single phase three phase	1x220/230/240 V +/- 10% 3x380/400/415 V +/- 10%
Frequency	50/60 Hz +/- 6%
Inrush current	<10x IN (input current)
Intermediate DC circuit	
Voltage	110/125/220/400 VDC
Rectifier voltage tolerance	+/- 1% I-V characteristic
Float voltage at -10% line power	100 – 115% programmable
Boost voltage range at nominal line power	100 – 125% programmable
Boost charge time	1 – 24h programmable
Charging current limitation	depending on battery, programmable
Inverter input range (Output tolerance +/- 1%)	+20/-15%
Inverter maximum input range (Output tolerance +/- 10%)	typical +/- 25%
UPS output	
Nominal UPS rating	kVA at 0.8 lagging PF
Voltage single phase three phase	1x 220/230/240 V 3x380/400/415 V
Voltage tolerance: static within 0 – 100% load dynamic at 100% load surge regulation time	+/- 1% +/- 4% <25 ms
Overload Inverter 1 min Inverter 10 min Bypass 100 ms	150% 125% 1,000%
Short-circuit inverter 50 –100 ms	200%
Frequency	50 (60) Hz
Frequency stability, free running	<0.01%
Synchronization range	0.5/1/2/4/6/8%
Slew rate single units	0.25/0.5/1/2/4 Hz/s programmable
Slew rate redundant system	4.0 Hz/s
Wave form	sinusoidal
Admissible output crest factor	unlimited
Distortion factor: Linear load Non-linear load according to IEC 62040-3	≤ 3% ≤ 5%
Allowable power factor	0.8 lag – 0.8 lead
Fault clearing capability	30% of UPS nom. current rated gG fuse (IEC 60269) within 10 ms and bypass available
General data	
Ambient temperature range for storage	from -20 to +70 °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	60 – 70 dBA depending on type
Noise level 100% redundant fans	65 – 75 dBA depending on type
Degree of protection	IP20 according to IEC 60529
Paint	pebble gray, RAL 7032 structured
Efficiency	up to 93% depending on type
Cooling	forced ventilation (two speed) with n+1 redundant monitored fans
Standards: Safety EMC	IEC / EN 62040-1 IEC 62040-2, EN 50091-2
Performance	IEC/EN 62040-3
UPS classification	VFI-SS-111 acc. to IEC 62040-3
Conformity	CE-Label

# Gutor™ PxW Specifications: PEW single phase/PDW three phase

## Typical single-line drawing



Single phase drawing

## Battery voltage and UPS ratings

Voltage (VDC)	110		125		220		400	
UPS ratings (kVA)	5	-	5	-	5	-	-	-
	10	10	10	10	10	10	-	-
	15	15	15	15	15	15	-	-
	20	20	20	20	20	20	-	-
	40	40	40	40	40	40	-	-
	-	-	-	-	50	-	-	-
	-	60	-	60	60	60	-	-
	-	80	-	80	80	80	-	-
	-	-	-	-	100	100	-	-
	-	-	-	-	-	120	120	120
	-	-	-	-	-	-	150	-
	-	-	-	-	-	160	-	160
-	-	-	-	-	-	200	-	
-	-	-	-	-	-	-	220	

Higher ratings and other voltages on request  
single phase three phase

## Standard configuration

- Single UPS
- UPS output voltage
  - single phase: 1x230 V
  - three phase: 3x400/230 V
- Rectifier input voltage: 3x400 V +10/-10%
- Bypass input voltage
  - single phase: 1x230 V +10/-10%
  - three phase: 3x400/230 V +10/-10%
- Frequency: 50 Hz +/- 6%
- Six-pulse Rectifier with isolation transformer
- Rectifier sized for output PF = 0.8
- Rectifier input switch
- Fixed charging voltage IU characteristic
- Static switch EN Bypass (line power side) with additional backfeed protection
- LC display unit with additional alarm LEDs
- Alarm relays for battery operation and common alarm
- Bottom cable entry
- Ground terminal
- N+1 monitored two-speed fans
- Ambient temperature range from -10 to +40°C
- Protection IP20
- Painting pebble gray, RAL 7032 structured
- Battery MCCB optional in UPS
- Manual Bypass Switch three position in UPS

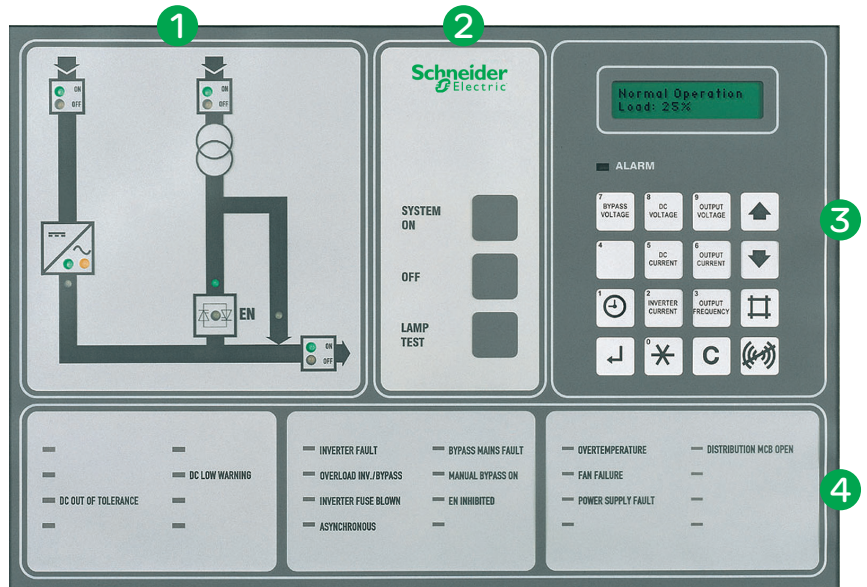
## Options

- Parallel redundant configuration
  - Other input voltages
    - three phase: 190 – 690 V
  - Other output voltages
    - single phase: 110 – 288 V
    - three phase: 190 – 690 V
  - Frequency 60 Hz +/- 6%
  - 12-pulse Rectifier with isolation transformer
  - Oversized rectifier
  - Rectifier fuse
  - Bypass input switch or MCCB
  - Rectifier input MCCB
  - Sensor for temperature dependent battery charging voltage, recommended for sealed batteries and wide temperature range
  - Battery temperature alarm
  - Diode for reverse polarity protection
  - Rectifier output isolator/circuit breaker
  - Battery fuse in UPS
  - Battery fuse box
  - Battery MCCB box
  - Inverter input isolator/circuit breaker
  - Oversized inverter
  - Static Switch EA (Inverter side)
  - Battery Monitor (programmable battery data)
  - Battery asymmetry supervision
  - AC and DC ground fault alarm
  - RS-232/485 interface (event log download)
  - RJ-45 Ethernet port for Web browser based monitoring
  - RS-485 Modbus Protocol (slave)
  - External time synchronization
  - Top and/or bottom cable entry
  - Space heaters
  - Ventilation 100% redundant
  - Panel lighting
  - Ambient temperature maximum +55 °C
  - Allowable altitude up to 4,000 m above sea level
  - Protection up to IP52
  - Other colors
  - Bypass isolation transformer
  - Bypass stabilizer with isolation transformer
  - Black start facility
  - Key switch on front panel
  - Additional analog meters 96x96, cl. 1.5
    - Set with VM DC, AM Bat and output FM, VM, and AM
    - Set with Input VM and AM with select switch
    - kW of output
    - Power factor
  - Relay board A077, 16 fail-safe NO/NC contacts:
    - Rectifier line power fault – Ground fault – DC Inverter fuse blown
    - DC out of tolerance – 5x options – Bypass line power fault
    - Rectifier fuse blown – Fan failure – Power supply unit fault
    - Battery discharged – Overtemperature
  - Relay board A078, 16 fail-safe NO/NC contacts:
    - EA inhibited – Battery disconnected – Inverter ON
    - EN inhibited – Battery – Boost charge operation
    - Manual Bypass ON – Rectifier failure – Rectifier ON
    - Asynchronous – EA ON – External horn
    - Inverter fault – EN ON – Overload Inverter/Bypass
- 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 four sections:

- 1 The system panel shows the system's current state of operation (i.e., which part of the system is currently supplying the load and which is in stand-by mode). LEDs also indicate possible faults.
- 2 Use the operations panel to turn the system on and off. The lamp-test button indicates whether all LED indication lights are functioning properly. To shut down the system, you have to press the ON and OFF buttons at the same time.
- 3 Flexibly assign LEDs to indicate system alarms and external signals.
- 4 On the alarm-indication panel, the respective LEDs light up to indicate a possible fault, or that an alarm has occurred.



## Operational parameters

- Selectable second display language
- Bypass operation
- Boost charge
- Auto boost (charge)
- Battery-capacity test
- Battery-monitor test (optional)
- Set date/time

## Measurements

- Load in percentage of nominal kVA rating
- AC rectifier line power 1 voltage and current
- AC bypass line power 2 voltage
- DC total current, battery voltage and current
- Battery temperature (with optional sensor)
- AC Inverter current
- AC output voltage, current and frequency
- AC output peak current
- Time left in battery operation with current load (optional with programmed battery data)
- Event log with date and time (operating mode changes and alarms)

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