

Gutor PxW AC UPS

Designed for North American Market

PEW 5 – 200 kVA single phase
PDW 10 – 220 kVA three phase
Higher ratings upon request

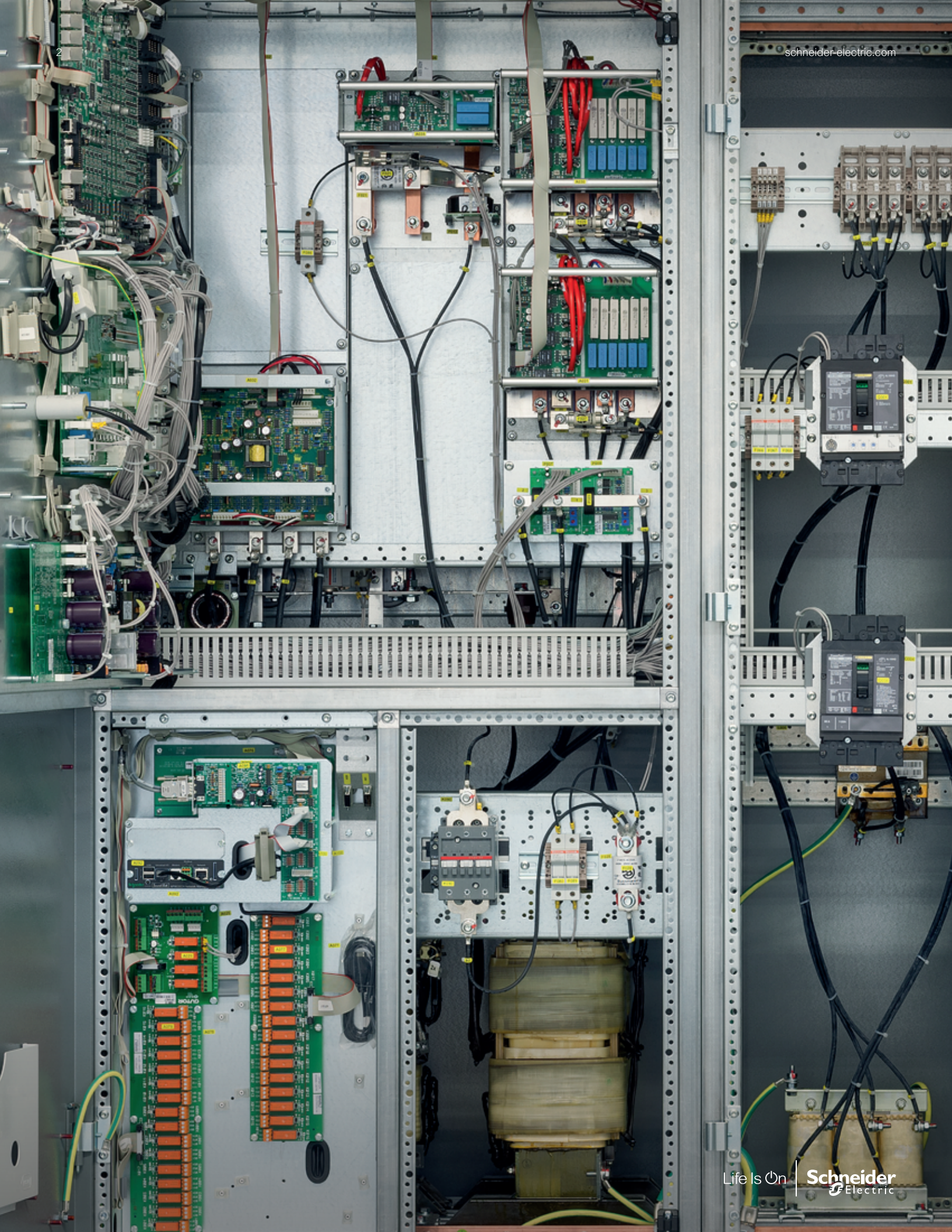


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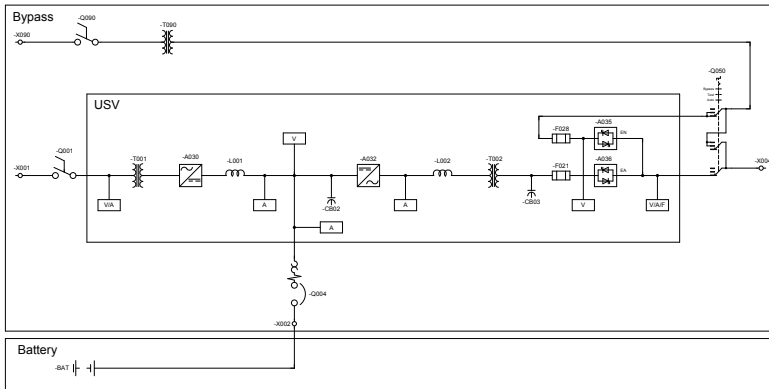


Gutor™ PxW technical data: PEW single phase/PDW three phase

UPS input		
Rectifier input voltage	3 x 208/480/600 V (other voltage upon request)	
Voltage tolerance		
DC in tolerance	+/- 10%	
For function	-15/+10%	
Bypass input voltage		
Single phase	1 x 120/208/240/480/600 V (other voltage upon request)	
Three phase	3 x 208/480/600 V (other voltage upon request)	
Frequency	60 Hz +/- 8% (50 Hz available upon request)	
Inrush current	<10x IN (input current)	
Intermediate DC circuit		
Voltage	110/125/220/400 VDC	
Rectifier voltage tolerance	+/- 1% I-V characteristic	
DC ripple voltage	with battery capacity of 3x nominal current: ≤ 1% rms without battery: ≤ 2% rms, optional without battery: ≤ 1% rms	
Float voltage at -10% line power	100 – 115% programmable	
Boost voltage range at nominal line power	100 – 125% programmable	
Boost charge time	1 – 24 hour programmable	
Charging current limitation	programmable	
Inverter input range (output tolerance +/- 1%)	+20/-15%	
Inverter maximum input range (output tolerance +/- 10%)	+/- 25%	
UPS output		
Nominal UPS Inverter rating	kVA at PF 1.0	
Voltage		
Single phase	1 x 120/240 V (other voltage upon request)	
Three phase	3 x 208/480 V	
Voltage tolerance		
Static within 0 – 100% load	+/- 1%	
Dynamic at 100% load surge	+/- 4%	
Regulation time	<25 ms	
Overload		
Inverter 1 min	105% continuous	
Inverter 10 min	150%	
Bypass 100 ms	125%	
Short-circuit inverter 100 ms	200%	
Frequency	60 Hz +/- 8% (50 Hz available upon request)	
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	≤ 3%	
Nonlinear load	≤ 5%	
Allowable power factor	0.4 lag – 0.9 lead	
Fault clearing capability	200% for 100 ms via inverter, 1,000% for 100 ms via bypass	
General data		
Ambient temperature range for storage	from -20 to +70 °C	from -4 to +158 °F
Ambient temperature range for operation	from -10 to +55 °C	from 14 to +131 °F
Altitude above sea level	1,000 m without load de-rating	3,280 ft without load de-rating
Allowable air humidity	<95% (non-condensing)	
Noise level standard n+1 fan system	60 – 75 dBA depending on type	
Degree of protection	NEMA 1 (IP20)	
Paint	pearl light gray, RAL 9022 cabinet	
Efficiency	up to 91% depending on type	
Cooling	forced ventilation (two speed) with n+1 redundant, monitored fans	
Standards		
Safety	UL 1778 / CSA 22.2-107.3	
EMC	FCC Part 15 Subpart B, Class A	
Performance	NEMA PE-1	
Conformity	CE-Label	
Seismic	up to 1.0 g	

Gutor PxW specifications: PEW single phase/PDW three phase

Typical single-line drawing



Single-phase drawing

Battery voltage and UPS ratings

■ Single phase ■ Three phase

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	–	50	–	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

Standard configuration

- Single UPS
- UPS output voltage
 - Single phase: 1 x 120 V
 - Three phase: 3 x 480 V
- Rectifier input voltage: 3 x 480 V +10/-10%
- Bypass input voltage
 - Single phase: 1 x 120 V +10/-10%
 - Three phase: 3 x 480 V +10/-10%
- Frequency: 60 Hz +/- 8%
- 6-pulse rectifier with isolation transformer
- Rectifier sized for output PF = 0.8
- Rectifier input breaker
- Fixed charging voltage IU characteristic
- Static switch EN (line power side)
- Static switch EA (inverter side)
- 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 +14 to +104 °F
- NEMA 1 (IP20)
- Painting pearl light gray, RAL 9022 structure
- Battery MCCB in UPS
- Three position manual bypass switch
- Bypass backfeed protection



Options

System

- Redundant/Parallel Load Sharing Configuration
- Redundant/Parallel Dual Configuration
- AC distribution
- AC and DC earth-fault monitoring
- Input harmonic filter

Rectifier

- Rectifier input MCCB
- 12-pulse rectifier with isolation transformer
- Oversized rectifier
- Rectifier fuse
- Diode for reverse polarity protection
- Rectifier output isolator/circuit breaker

Battery

- Battery circuit protection box (MCCB/fuse)
- Battery circuit protection in rectifier (MCCB/fuse)
- Low-voltage disconnect
- Battery management system (single cell type)
- Temperature sensor for temperature compensated battery charging
- Battery monitor (programmable battery data)
- Battery asymmetry supervision

Inverter

- Inverter input isolator/circuit breaker
- Black start facility
- Oversized inverter



Bypass

- Bypass switch blocking coil
- Remote manual bypass switch
- Bypass input isolator/circuit breaker
- Bypass isolation transformer
- Bypass voltage regulating transformer
- Independent static bypass switch

Indication and alarms

- Input power failure
- DC earth fault
- Inverter fuse blown
- DC out of tolerance
- 5x customizable options
- Bypass input power failure
- Rectifier fuse blown
- Fan failure
- Internal PSU fault
- Battery discharged
- System overtemperature
- EA inhibited (UPS output static switch)
- Battery disconnected
- Inverter ON
- EN inhibited (Bypass static switch)
- Battery operation
- Boost (Equalize) charge ON
- Manual bypass ON
- Rectifier failure
- Rectifier ON
- Asynchronous
- EA ON (UPS output static switch)
- External horn
- Inverter failure
- EN ON (Bypass static switch)
- Overload inverter/bypass

Communication interfaces

- Front-panel analog meter
- Power meter
- Transducer
- Relay board, 16 fail-safe NO/NC contacts
- RS-232/485 interface (downloadable event log)
- RJ-45 Ethernet port for Web browser-based monitoring
- Modbus protocol on RS-485 or TCP/IP
- IEC 61850 protocol on RJ-45 and/or fiber optic connector
- Profibus[®] on RS-485
- External time synchronization

Mechanical

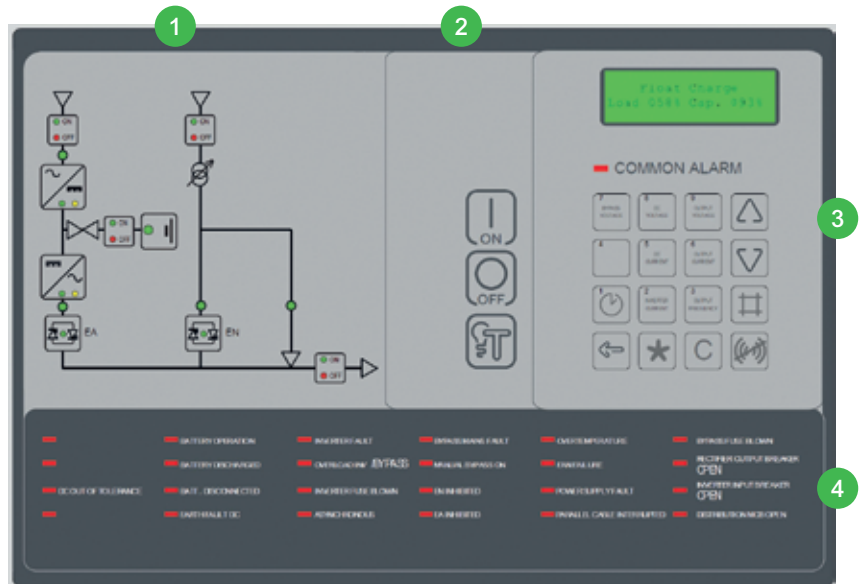
- Top/bottom cable entry
- NEMA 12 per NEMA 250-1991 (IP52)
- Air filters at air inlet
- 100% redundant ventilation
- Seismic design
- Space heaters
- Panel lighting
- Cabinet color as required
- Ambient temperature maximum +131 °F
- Allowable altitude up to 13,123 ft (4,000 m) above sea level

Additional options are available upon request.

Human-machine interface

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

- 1 The system panel shows the current state of operation and how power is being routed through the system to the load.
- 2 The operations panel is used to turn the system on and off. The Lamp Test button indicates whether all LED indication lights on the front panel are functioning properly.
- 3 The keypad is used to view system measurements and interact with the system.
- 4 The alarm & indication panel displays possible faults and alarms.



Operational parameters

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

Measurements

- Load in percentage of nominal kVA rating
- AC rectifier input voltage and current
- AC bypass input voltage
- Total DC current, battery voltage, and battery current
- Battery temperature (with optional sensor)
- AC Inverter current
- AC output voltage, current, and frequency
- AC output peak current
- Battery backup time remaining (optional with string type battery monitor)
- Event log with date and time (operating mode changes and alarms)



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