

TECHNICAL DATA SHEET

AC UPS System PEW 1000 5 - 200 kVA Single Phase

GUTOR

UPS Input

Rectifier input voltage	3x380/400/415V
Tolerance	
- DC in tolerance	+/-10%
- for function	+10/-15%
Bypass input voltage	1x220/230/240V +/-10%
Frequency	50/60 Hz +/-6%

Intermediate DC Circuit

Voltage	110/125/220/~400VDC
Rectifier voltage tolerance	+/-1% IU characteristic
Float voltage range at -10% mains	100 - 115% programmable
Boost voltage range at nominal mains	100 ~ 125% programmable
Boost charge time	1-24h programmable
Charging current limitation	depending on battery programmable
Inverter input range	+20/-15%
- output tolerance	+/-1%
Inverter maximum input range	typical +/-25%
- output tolerance	+/-10%

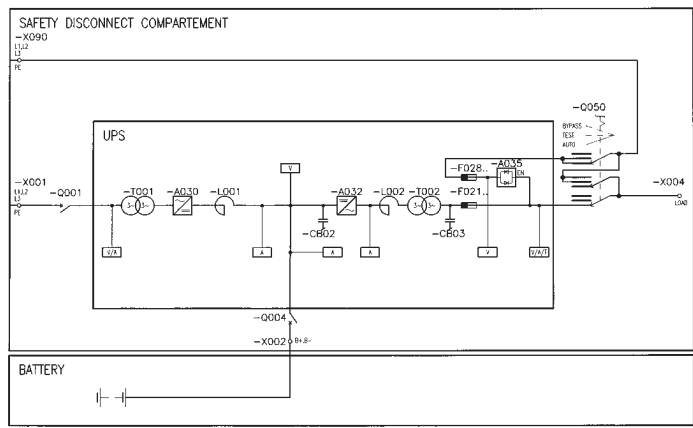
UPS Output

Nominal UPS rating	kVA at PF 0.8 lag
Voltage	1x220/230/240V
Voltage tolerance:	
- static within 0-100% load	+/-1%
- dynamic at 100% load surge	+/-4%
- regulation time	< 25 ms
Overload Inverter 1 min.	150%
- Inverter 10 min	125%
- Bypass 1s	1000%
Short-circuit Inverter 50 - 100ms	200%
Frequency	50/60 Hz
Frequency stability, free running	< 0.1%
Synchronization range	0.5/1/2/4/6/8% programmable
Slewwrate single unit	0.25/0.5/1/2/4 Hz/s programmable
Slewwrate redundant system	1.0 Hz/s
Wave form	sinusoidal
Output crest factor admissible	unlimited
Distortion factor with linear load	= <4%
Non linear load according to EN50091-1	= < 5%
Allowable power factor	0.4lag - 0.9 lead

General Data

Ambient temperature range for storage	from -20 to +70°C
Ambient temperature range for operating	from -10 to +40°C (100% nominal load)
Altitude above sea level	1000m without load derating
Allowable air humidity	< 95% (noncondensing)
Noise level standard n+1 fan system	60~65 dBA depending on type
Noise level 100% redundant fans	62~70 dBA depending on type
Degree of protection	IP20 according to IEC 60529
Painting	pebble grey, RAL 7032 structured
Performance test	IEC 60146, IEC 62040-3
Safety	EN 50091 - 1, CE - Label
EMC	EN 50091 - 2, CE - Label
Efficiency	80-93% depending on type range
Cooling	forced ventilation with redundant n+1 supervised fans

Typical Single-Line Drawing



Battery Voltage & UPS Ratings

Voltage (VDC)	110	125	220	400
UPS Rating (kVA)	5	5	5	-
	10	10	10	-
	15	15	15	-
	20	20	20	-
	30	30	30	-
	40	40	40	-
	-	-	60	-
	-	-	80	-
	-	-	100	-
	-	-	-	120
	-	-	-	150
	-	-	-	200

Higher ratings and other voltages on request

Standard

- Single UPS
- UPS output voltage 1x230V
- Rectifier input voltage 3x400V +10/-10%
- Bypass input voltage 1x230V +10/-10%
- Frequency 50Hz +/-6%
- 6 - pulse Rectifier with Isolation Transformer
- Rectifier standard size, for UPS AC load
- PF 0.8 and up to ~ 1h Battery autonomy
- Rectifier input switch
- Fixed charging voltage IU characteristic
- Power - Module for nominal rating
- Static switch EN (mains side)
- System front panel with additional LED's for direct alarm display
- LCD display unit with keyboard
- Alarm relays
 - Battery operation
 - Common alarm
- Battery capacity test (full discharge with actual load)
- Bottom cable entry
- Earth terminal
- Ventilation n+1
- Ambient temperature range from -10 to +40°C
- Protection IP20
- Painting pebble grey, RAL 7032 structured

Options

- Parallel redundant configuration
- Other input voltages
- Frequency 60Hz +/- 6%
- 12-pulse Rectifier with Isolation Transformer

- Larger Rectifier +1 step* /+2 steps*
- Rectifier fuse
- Bypass input MCCB
- Rectifier input MCCB
- Sensor for temperature dependent battery charging voltage, recommended for sealed VRLA batteries and wide temperature range
- Serial diode (for parallel Rectifiers)
- Diode for polarity revers protection
- Rectifier output isolator
- Rectifier output circuit breaker
- Ba ttery fuse in UPS
- Battery fuse box
- Battery MCCB in UPS
- Battery MCCB box
- Inverter input isolator
- Inverter input circuit breaker
- Larger Power Module + 1 step* / + 2 steps*
- Static Switch EA (Inverter side)
- Manual Bypass 3 pos in UPS
- Battery Monitor (programmable battery data)
- Battery asymmetry supervision
- DC earth fault alarm +/- only with Rectifier Isolation Transformer
- AC earth fault alarm
- Multi-Com RS232 V.24 (20mA)
- Remote display unit
- SNMP - Adapter for LAN / WAN Networks with software
- MODBUS Protocol (only in combination with optional Multi-Com RS232)
- Top cable entry
- Top & bottom cable entry
- Space heaters
- Ventilation 100% redundant
- Panel lighting
- Ambient temperature maximum +55°C
- Allowable altitude <4000m above sea level
- Protection up to IP52
- Air filters in air inlet
- Other colours
- Bypass transformer
- Bypass stabilizer
- * within type range**

Additional analogue meters 96x96,cl. 1.5

- Set with VM DC,AM BAT & output FM,VM & AM
- Set with Input VM & AM with select switch
- kW
- Power factor

Relay board A077:

- Rectifier mains fault
- DC out of tolerance
- Rectifier fuse blown
- Battery discharged
- Earth fault DC
- Inverter fuse blown
- Bypass mains fault
- Overtemperature
- Fan failure
- Power supply unit fault

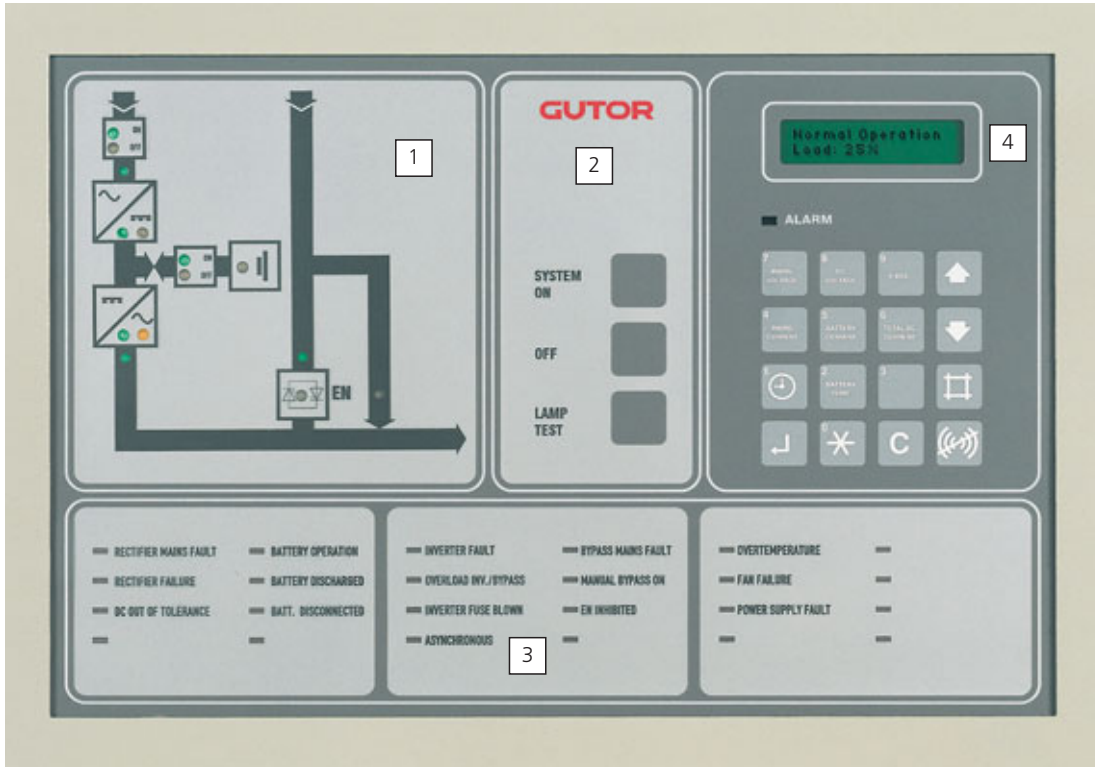
Relay board A078:

- EA inhibited
- EN inhibited
- Manual Bypass ON
- Asynchronous
- Overload Inverter / Bypass
- Inverter fault
- Battery disconnected
- Battery operation
- Rectifier failure
- EN ON
- EA ON
- Inverter ON
- Boost charge
- Rectifier ON
- External horn

Additional options are available on request

MAN-MACHINE INTERFACE (FRONT PANEL)

The front panel is used for both AC and DC systems and facilitates a comprehensive and flexible man-machine interface. It is divided into four sections:



1.) The **system panel** shows the system's current operation status, meaning which system part is supplying the load at the moment and which is in stand-by mode. LED's also indicate possible faults.

2.) **Operations** for turning on and off the system and a lamp test button for checking if all LED indications function properly.

3.) On the **alarm indication panel** the respective LED lights up, after an alarm has occurred.

4.) The **display unit** consist of a LC display, an alarm LED, an acoustic alarm and a key-pad. With this the user can set following operational parameters, obtain a list of measurement data, and get access to the event and alarm log.

Operational parameters

- Choice of optional language
- Auto Start programming
- Bypass operation
- Boost charge
- Auto boost (charge)
- M3 Start-up
- Battery capacity test
- Battery monitor test (optional)

Measurements

- Load in % of nominal kVA rating
- AC rectifier mains 1 voltage and current
- AC bypass mains 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 actual load (optional with programmed battery data)
- Alarm log with date and time

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