TECHNICAL DATA SHEET

AC Inverter System WDW 3000 10 - 220 kVA Three Phase

GUTOR

Inverter Input	
DC Voltage	110/125/220/~400VDC
Inverter input range	+20/-15%
- output tolerance	+/-1%
Inverter maximum input range	typical +/-25%
- output tolerance	+/-10%
Bypass input voltage	3x380/400/415V +/-10%
Frequency	50/60 Hz +/-6%

Inverter Output	
Nominal Inverter rating	kVA at PF 0.8 lag
Voltage	3x380/400/415V
Voltage tolerance:	
- static within 0-100% symmetric load	+/-1%
- static within 0-100% asymmetric load	+/-3%
- 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
Slewrate single unit	0.25/0.5/1/2/4 Hz/s programmable
Slewrate 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% (not condensing)
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

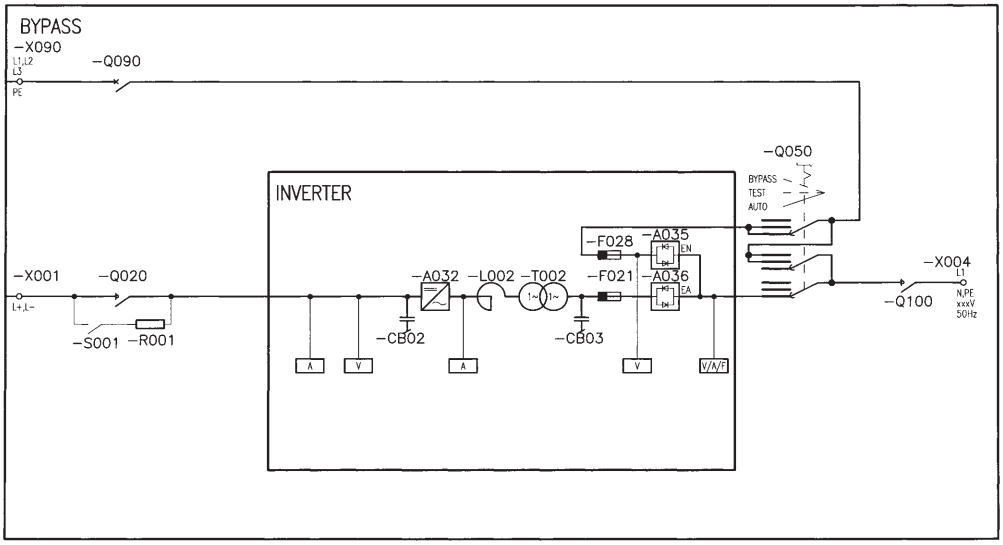
Battery Voltage & UPS Ratings

Voltage (VDC)	110	125	220	400
UPS Rating (kVA)	10	10	10	-
	15	15	15	-
	20	20	20	-
	30	30	30	-
	40	40	40	-
	60	60	60	-
	80	80	80	-
	-	-	100	-
	-	-	120	120
	-	-	160	160
	-	-	-	220

Data subject to change

Higher ratings and other voltages on request

Typical Single-Line Drawing



Standard

Single Inverter
Inverter output voltage 3x400 / 230V
Bypass input voltage 3x400V +10/-10%
Frequency 50Hz +/-6%
Inverter input switch
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
- 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%
Bypass input MCCB
Diode for polarity revers protection
Inverter input isolator
Inverter input circuit breaker
Larger Power Module + 1 step* / + 2 steps*
Static Switch EA (Inverter side)
Manual Bypass 3 pos in Inverter
Battery Monitor (programmable battery data)
Battery asymmetry supervision
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 & output FM,VM & AM with select switch
- Set with Input VM & AM with select switch bypass
- kW of output
- Power factor of output

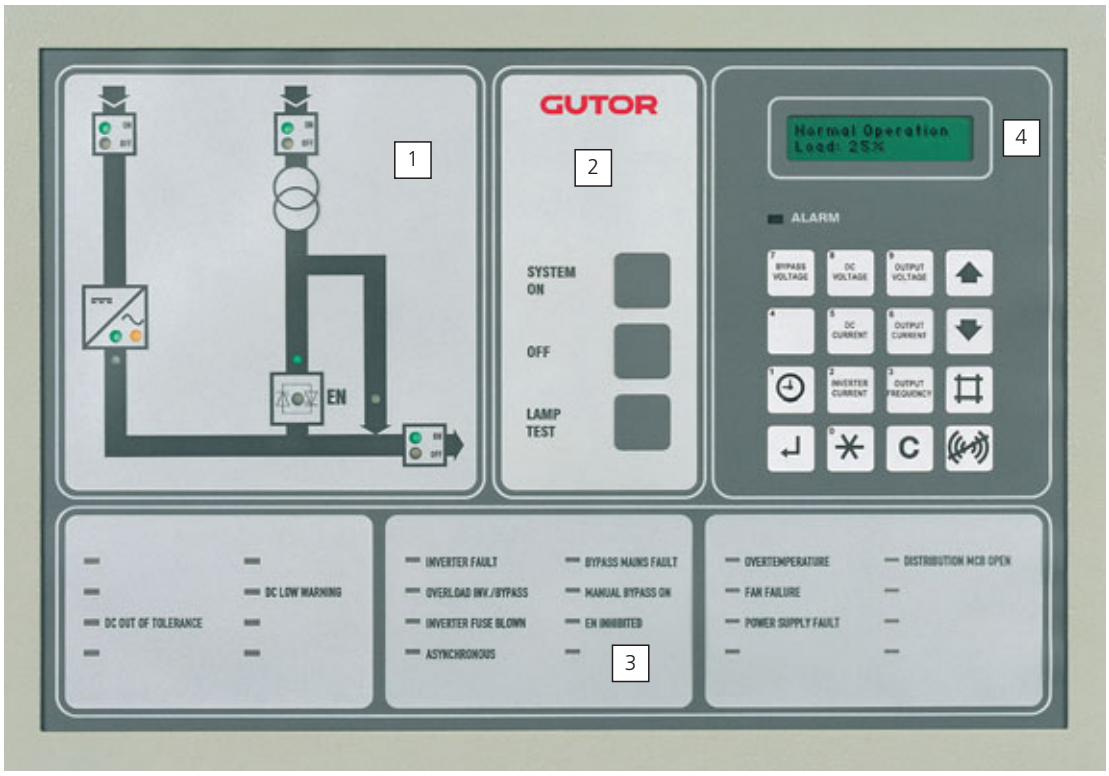
Relay board A077:
- DC out of tolerance
- Battery discharged
- Earth fault DC
- Inverter fuse blown
- Bypass mains fault
- Overtemperature
- Fan failure
- Power supply unit fault

Relay board A078:
- EA inhibited
- EN inhibited
- Manual Bypass ON
- Asynchronous
- Overload Inverter / Bypass
- Inverter fault
- Battery disconnected
- EN ON
- EA ON
- Inverter 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 occured.

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
- M3 Start-up
- Battery capacity test
- Battery monitor test (optional)

Measurements

- Load in % of nominal kVA rating
- 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 (option with programme battery data)
- Alarm log with date and time

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