

GUTOR WEW / WDW INVERTER SYSTEM

Customizable single-phase and three-phase inverters
with galvanic isolation



Gutor WEW / WDW is an industrial IGBT-PWM technology-based inverter system designed to secure critical applications in harsh environment.

Designed for Harsh Environments

- Transformer base provides full galvanic isolation to prevent electric shock and suppress harmful electrical noise.
- Robust industrial enclosure up to IP42/NEMA 2*.
- Seismic design for peak spectral acceleration up to 1.0g*.
- Operation temperature up to 55°C.
- Printed circuit boards have conformal coating to protect against moisture, dust, chemicals, and temperature extremes.
- Tinned copper bars for harsh environment are available as an option.

*Higher options available upon request

Adaptable and Qualified Design

- Extensive range of input and output voltage.

Highest Reliability

- High Mean Time Between Failures (MTBF).
- Long product lifetime with minimal servicing required.
- Parallel or redundant configuration to increase availability.
- Its controller firmware and hardware are compliant with IEC 60880 for NPP (Nuclear Power Plant) applications.
- Independent System Surveillance (ISS) provides a health supervision of all the critical components to prevent the system from freezing and shutdown.

Smart Communication

- Display with 7 languages.
- Relay board, 16 fail-safe NO/NC contacts.
- A wide communication protocol allows Gutor WEW to be seamlessly integrated into your monitoring system.
 - Freely programmable alarms and meters.
 - Communication via modbus, TCP/IP, IEC 61850, RS485.
 - Web interface for remote monitoring.
- Gutor WEW/WDW supports EcoStruxure.
- Cybersecurity according to IEC 62443 to meet requirements from GDPR and California law SB-327.

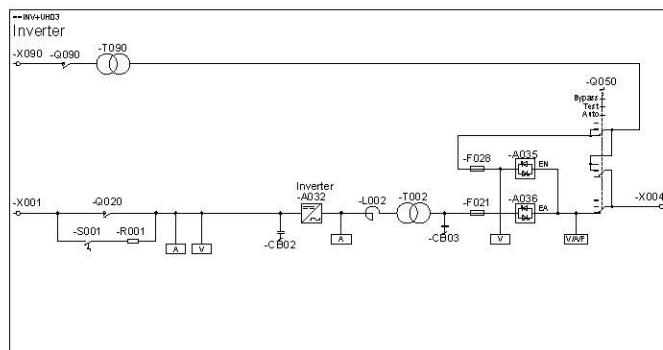
Gutor WDW Technical Data

Inverter input		
DC	110 / 125 / 220 VDC	
Inverter input range (output tolerance +/- 1%)	+20/-15%	
Inverter maximum input range (output tolerance +/- 10%)	Typical +/- 25%	
Bypass input voltage Three-phase	380 / 400 / 415 / 480 / 600 / 690 (and others)	
Frequency	50/60 Hz +/- 8%	
Inverter output		
Nominal inverter rating	kVA at PF 1.0	
Voltage Single-phase	208 / 380 / 400 / 415 (and others)	
Voltage regulation Static within 0 – 100% load	+/- 1%	
Dynamic at 100% load surge	+/- 4%	
Regulation time	< 25 ms	
Overload	105% continuous	
Inverter 1 min	150%	
Inverter 10 min	125%	
Bypass 100 ms	1,000%	
Short-circuit inverter 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 unit	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 according to IEC 62040-3	≤ 5%	
Allowable power factor	0.4 lag – 0.9 lead	
Fault clearing capability	30% of UPS nom. current rated gG fuse (IEC60269) within 10 ms and bypass available	
General data		
IEC		UL
Ambient temperature range for storage	From -20 to +70 °C	
Ambient temperature range for operation	From -10 to +55 °C	
Altitude above sea level	1,000 m without load de-rating from	
Allowable air humidity	<95% (non-condensing)	
Noise level standard n+1 fan system	60 – 75 dBA depending on type	
Degree of protection	IP20 according to IEC 60529	
Paint	Pearl light gray, RAL 9022 structure	
Efficiency	Up to 91% depending on type	
Cooling	Forced ventilation (two speed) with n+1 redundant, monitored fans	
Standards		
Safety	IEC/EN 62040-1	UL1778/CSA 22.2-107.3
EMC	IEC/EN 62040-2	FCC Part 15 Subpart B, Class A
Performance	IEC/EN 62040-3	NEMA PE-1
Conformity	CE-Label	
Seismic	Up to 1.0 g	



Highly Customizable Design with Flexible Configurations

Typical Single-Line Drawing



Basic Configuration

- Single UPS
- Output transformers
- Bypass static switch EN
- Inverter static switch EA
- Human-machine interface with additional LEDs for direct alarm display
- Bottom cable entry with ground terminal
- Alarm relays for battery operation, common alarm and others
- N+1 monitored two-speed fans
- Ambient temperature ranges from -10 to +40 °C
- Protection IP20
- Pearl light gray, RAL7035 structure
- 3-position manual bypass switch

Battery voltage and UPS ratings for WEW

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

Higher ratings and other voltages on request – single-phase

Mechanical Structure

- Flexible configuration
- Up to IP 42 (higher on request)
- Customized cabinet colours
- Seismic design robust cabinet up to 1.0 g (reinforcement upon request)

Optional Features

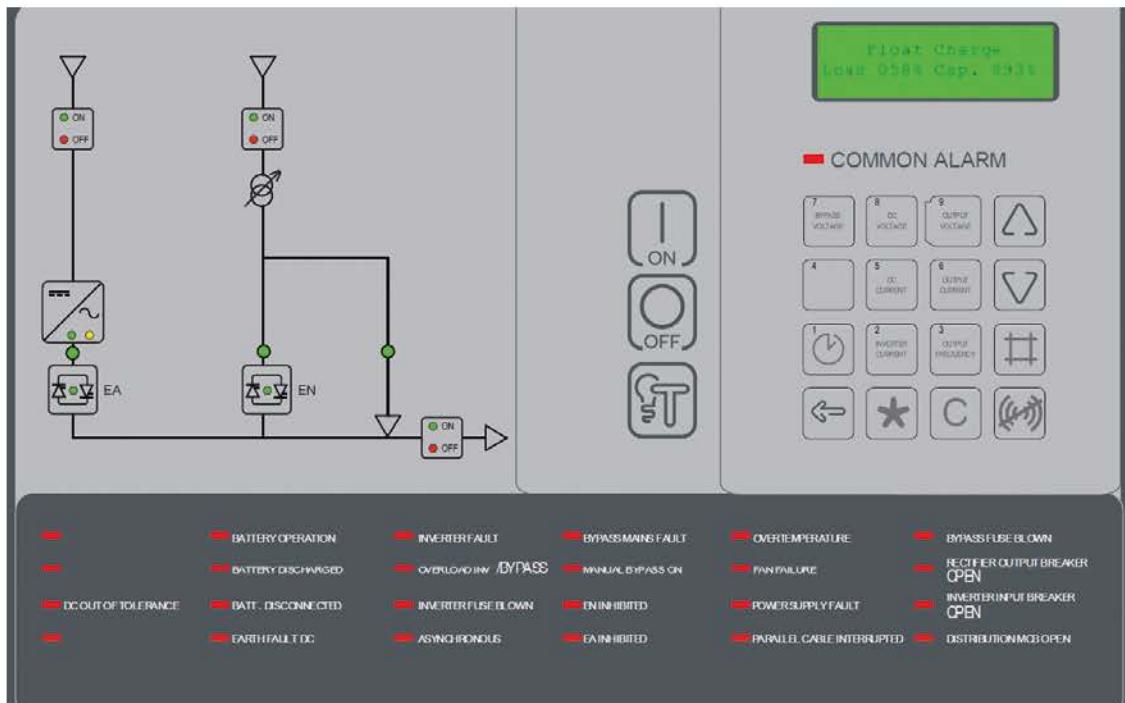
- Parallel or redundant load sharing configuration
- Parallel or redundant dual configuration
- Voltage adaptation for bypass or output
- Higher system ratings
- Bypass transformer or stabilizer
- Analog and digital meters (72 x 72mm or 96 x 96mm)
- Digital outputs (NO/NC relay output)
- Communication (NMC, RS-485 Modbus or TCP, IEC 61850)
- Inverter static switch EA
- Independent static bypass switch (ISBS) control
- Voltage limiting unit (to withstand Forsmark event)
- DC & AC ground fault alarm
- Customized footprint
- Air filters, color, space heaters, panel lighting
- Downstream distribution
- Converters (AC/DC, DC/DC)

Battery voltage and UPS ratings for WDW

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

Higher ratings and other voltages on request – three-phase

Human-Machine Interface



Operational Parameters

- Selectable second display language
- Bypass operation
- Set date/time

System Measurements

- Load in percentage of nominal kVA rating
- AC bypass input voltage
- AC Inverter current
- AC output voltage, current, and frequency
- AC output peak current
- Event log with date and time
(operating mode changes and alarms)

System Alarms

- Input power failure
- DC earth fault
- Inverter fuse blown
- DC out of tolerance
- Bypass input power failure
- Fan failure
- Internal PSU fault
- System overtemperature
- EA inhibited (UPS output static switch)
- Inverter ON
- EA inhibited (bypass static switch)
- Manual bypass ON
- Asynchronous
- External horn
- Inverter failure
- Overload inverter/bypass