

Gutor SDC Rectifier/Battery Charger

24 – 220 V; 25 – 1,200 A

Higher ratings on request



Gutor SDC Technical data

Rectifier Input

Voltage	3 x 380/400/415 V 3
Input voltage tolerance: DC in tolerance for function (below -15% the battery might begin to discharge)	+/- 10% +15%/-25%
Frequency	50/60 Hz
Frequency tolerance	+/- 8%
Power factor: at nominal line power and float voltage at -10% line power and float voltage at +10% line power and float voltage	- 0.83 - 0.90 - 0.75

DC output

Voltage	24/48/110/125/220 VDC
Setting range: Float voltage at -10/+10% line power voltage Float voltage at 0/+10% line power voltage Boost voltage at nominal line power voltage Battery operating range	100 – 120% 100 – 130% 100 – 130% 150%
DC voltage tolerance	+/- 1%
Dynamic behavior: 10 –100% and 100 –10% load step regulation time	maximum +/- 10% Vrms < 100 ms +/- 2%
DC ripple voltage	
Standard with parallel battery capacity of 3x nominal current: Optional without battery Optional without battery Optional without battery (24/48 V)	≤ 2% rms ≤ 1% rms ≤ 2 mV (at 800 Hz, psophometric)
DC current	according to type range
Setting range: Total output current limitation Battery current limitation	50 – 100% 0 – 100%
DC current tolerance	+/- 2%
Characteristic	I-U according to DIN 41773
DC overcurrent capability	150% for 2s

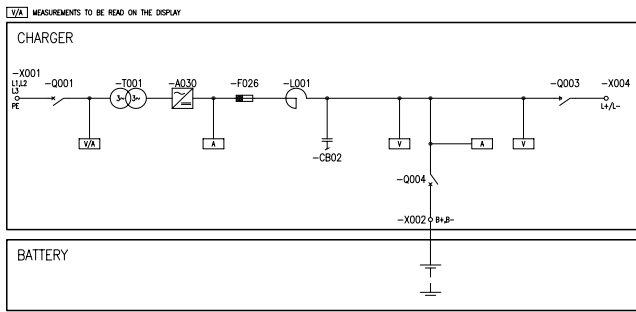
General data

Ambient temperature range for storage	from -20 to +70 °C
Ambient temperature range for operation	from -10 to +40 °C
Altitude above sea level	1,000 m
Allowable air humidity	<95% (non condensing)
Noise level standard n+1 fan system	55 – 65 dBA
Degree of protection	IP20 according to IEC® 60529
Paint	pearl light gray, RAL 9022 structure
Standards: Safety EMC Performance	IEC/EN 62040-1-2 IEC 62040-2, EN 50091-2 IEC/EN 62040-3, IEC 60146-1-1
Conformity	CE-Label
Efficiency	up to 94% depending on type
Cooling	Natural convection up to 100 A/220 V and top forced-air ventilation with redundant n+1 monitored fans

*Data subject to change

Gutor SDC Specifications

Typical single-line drawing



Battery voltage and UPS ratings

Output voltage (VDC)	24	48	110	125	220
DC Output current (A)	-	-	-	-	25
	-	-	50	50	50
	-	100	100	100	100
	-	125	125	125	125
	-	160	160	160	160
	200	200	200	200	200
	250	250	250	250	250
	315	315	315	315	315
	400	400	400	400	400
	500	500	500	500	500
	630	630	630	630	630
	800	800	800	800	800
	1,000	1,000	1,000	1,000	1,000
	1,200	1,200	1,200	1,200	1,200

Standard configuration

- Single system
- Rectifier input voltage — 3 x 400 V + 10/-10
- Rectifier input frequency — 50 Hz +/- 8%
- Ripple filter — ≤2% rms with parallel battery
- Six-pulse rectifier with isolation transformer
- Rectifier input switch
- Fixed charging voltage IU characteristic
- System front panel w. mimic and add. LEDs for direct alarm display
- LCD display unit with keyboard
- External connection board:
 - Common alarm 2 x NO/NC
 - Charger failure NO/NC
 - Remote ON/OFF
 - Emergency stop (internal or external power supply)
 - Input to activate boost charge
 - Input to activate initial charge
 - Input to inhibit boost and initial charge
 - Connection for battery temperature sensor
 - Input for signaling battery fuse/MCCB
 - Connection for remote display
- RS-232 Interface (event log download)
- Battery capacity test (full discharge with current load)
- DC ground fault alarm

Standard configuration (continued)

- Bottom cable entry
- Ground terminal
- N+1 monitored two-speed fans (above 100 A)
- Ambient temperature range from -10 to +40 °C

Options

System

- Parallel redundant configuration with load sharing
- DC Distribution
- Earth-fault monitoring

Rectifier

- Other input voltages (190 – 690 V)
- Rectifier input frequency 60 Hz +/-8%
- Rectifier input/output protection (MCCB / isolator)
- 12-pulse rectifier with isolation transformer
- Ripple filter
- Dropping diode

Battery

- Battery circuit protection box (MCCB/Fuse)
- Battery circuit protection in rectifier (MCCB/Fuse)
- Low-voltage disconnect contactor
- Battery management system
- Battery temperature sensor

Indication and alarms

- Charger ON · 4 x programmable
- Boost charge ON · Fan fault
- Line power failure · DC current overload
- DC out of tolerance · Internal PSU fault
- Battery discharged · DC ground fault
- Battery disconnected · Overtemperature
- DC fuse blown

Communication Interfaces

- Front-panel analog meter
- Transducer
- Relay board, 16 failsafe NO/NC contacts
- RJ-45 Ethernet port for Web browser based monitoring
- RS-485 modbus protocol (slave)
- External time synchronization
- IEC 61850

Mechanical

- Top/bottom cable entry
- Protection up to IP52 (NEMA 12)
- Air filters at air inlet
- Ventilation 100% redundant
- Seismic design
- Space heaters
- Panel lighting
- Frame color as required

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** The display unit consists of a liquid crystal display, an alarm LED, an acoustic alarm, and a keypad. From here, the user can set operational parameters, obtain current measurement data, and access the event and alarm logs.
- 4** On the alarm indication panel, the respective LEDs light up to indicate a possible fault or after an alarm has occurred.



Operational parameters

- Selectable second display language
- Auto start
- Charge mode (float/boost/initial)
- Auto boost (charge)
- Battery capacity test
- Advanced battery monitor test (optional)
- Set date/time

Indication and measurements

- Operating mode (float/boost/initial)
- DC total current
- Battery voltage and current
- AC rectifier line power voltage and current
- Battery temperature (with optional sensor)
- Time left in battery operation with current load (option only with advanced battery monitoring)
- Event log with date/time (operating mode changes and alarms)

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