# GUTOR MODULAR CHARGER

**Compact, flexible, redundant, and scalable industrial grade DC power protection.**

**Fully compliant with UL and CSA standards.**

Bottom entry | Top and Bottom entry

Gutor Modular charger systems are designed for long lifetime, even in harsh environments, with highly flexible configurations.

## Designed for Harsh Environments

- Protects against electrical outage with surge protection and galvanic isolation.
- The strong input short circuit capability allows it to be installed near to substation equipments.
- Industrial enclosure with unique framework increases robustness and protection.
- NEMA 1 with ingress protection up to NEMA 2.
- Has 20 year design lifespan.

## Enhance System Availability

- N+1 or N+x design increases the internal redundancy of the system.
- All power modules with “live swap” concept allows it to be maintained and repaired without interrupting the load.

## Flexible and Scalable Design

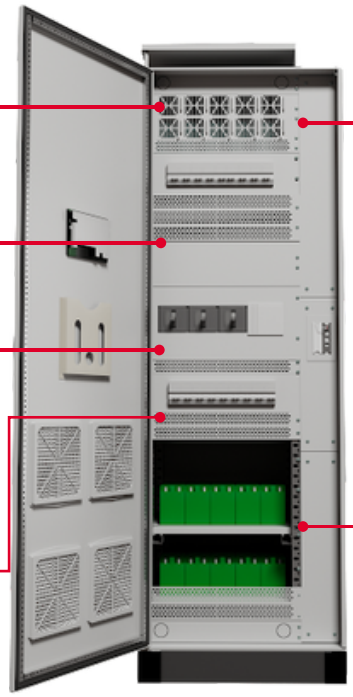
Power modules 1ph+N or 2ph input

Input, output and battery breakers (up to 65kA)

Advanced asset management

- Ready to connect to most communication protocols
- Cybersecure certified

Integrated output feeders



Power factor correction

Cable entry

- Bottom cable entry with smaller footprint
- Top and bottom with wider enclosure

Battery

- Ready for lead acid (VRLA and VLA), NiCd and Li-Ion.
- VRLA battery can be integrated into one cabinet to achieve footprint optimization.

GUTOR

## Technical Data

| Typical configuration | | GUMADC 24 | | GUMADC 48, GUMADC 110, GUMADC 125, GUMADC 220 | |
|---|---|---|---|---|---|
| Nominal input voltage | | 120V (1ph) | 240V or 277V (1ph)<br>208V (3ph or 2ph)<br>480V (3ph+N) | 120V (1ph) | 240V or 277V (1ph)<br>208V (3ph or 2ph)<br>480V (3ph+N) |
| Output (kW) | 1 rack | up to 4.5kW | up to 9kW | up to 7.5kW | up to 15kW |
| | 2 racks | up to 9kW | up to 18kW | up to 15kW | up to 30kW |
| | 3 racks | up to 13.5kW | up to 27kW | up to 22.5kW | up to 45kW |

| Model | GUMADC 24 | GUMADC 48 | GUMADC 125 | GUMADC 220 |
|---|---|---|---|---|
| **Rectifier input** | | | | |
| Input voltage range (VAC) | 1ph 120 – 277 V +-10% (other voltage upon request) | | | |
| Frequency | 50 / 60 Hz +-10% (same typing as Frequency) | | | |
| THDi harmonic | ≤ 5% | | | |
| Power factor | Up to 0.99 | | | |
| Withstand short circuit (kA) | up to 65 kA upon request | | | |
| **DC output** | | | | |
| Voltage range (VDC) | 19.0 - 33.6 V | 36.0 - 67.5 V | 88.0 - 153.9 V | 170.0 - 297.0 V |
| Dynamic Load Regulation | ± 5% (transient time < 10 ms, load (90-10-90) %, di/dt < 200 A/ms) | | | |
| Charging Characteristic | IPU / IU (Constant current - constant voltage) | | | |
| DC Ripple Acc. EN 300132- | < 20 mV & 1% | < 60 mV & 1% | < 60 mV & 1% | |
| 2 DC overcurrent capability | 130% for < 4s | | | |
| Blocking Diode feature | included in each module | | | |
| Efficiency | up to 95% | | | |
| **General arrangement** | | | | |
| Configuration | N+0, N+1, N+x. Dual input feeder capable (2N configuration) | | | |
| Input neutral earthing type | TN or IT or High Resistive Ground | | | |
| Display | 10” touch display with up to 39 virtual LEDs for warning or alarms | | | |
| Communication | Minimum 2 output dry contacts<br>Modbus TCP / Modbus RS485 / SNMP, IEC 61850 in option<br>Other communication protocol upon request | | | |
| EPO | Emergency power off input terminal with an internal 24 V DC power supply | | | |
| Serviceability | MTBF > 300 000 h. A low MTTR with the live swap concept - replacing the power module without switching off the system | | | |
| Battery protection | Built-in battery breaker possible | | | |
| Output earthing system | Floating DC with optional ground fault detection | | | |
| Battery | Built-in VRLA battery or standalone battery such as flooded lead-acid, Ni-Cd and Li-ion | | | |
| Output feeders | Up to 9 built-in output breakers with signal contact | | | |
| | | | | |
| Dimensions (width x depth x height) | Top entry - NEMA 1 : 31.5 x 23.7 x 82.7 inches (800 x 600 x 2100 mm)<br>Bottom entry - NEMA 1 : 23.7 x 23.7 x 82.7 inches ( 600 x 600 x 2100 mm)<br>For NEMA 2 (Top entry / Bottom entry), the height is 86.2 inches (2191 mm) | | | |
| Cable entry | Bottom entry / Top and bottom entry option with additional 7.8 inch (200 mm) width | | | |
| Ambient temperature range for operation | 14°F to 113°F (-10°C to 45°C) Higher ambient condition upon request | | | |
| Noise level | 55....68 dBA | | | |
| Air flow | from front to top. | | | |
| Allowable air humidity | up to 95% non-condensing | | | |
| Altitude above sea level | nominal up to 6,600 feet (2,000 m), max 10,000 feet (3,000 m) with deratingh | | | |
| Paint | RAL 7035, similar as ANSI-61 | | | |
| Standards | UL 1012 and CAN/CSAC22.2 No.107.2 | | | |
| **Options** | | | | |
| Built-in configuration | additional dry contacts, analogic metering, input voltage adaptation, voltage dropper, DC/DC converter, inverter, multiple battery string protection ... | | | |

Contact your local sales representatives for a secure power solution customized for your site requirement.