Product datasheet

Version: 14/02/2026

ZIVAN - SG3 - 96V 25A sealed charger

Reference : ZIV-SG3-96V-25A

Brand : ZIVAN

Options :

No variants

3D Model : Available

EAN-13 : 3762552426833

Manufacturer Part Number (MPN) : G3MLQ9-02000X | **Brand :** ZIVAN

General description

Designation: SG3 sealed single-phase battery charger – 96 V 25 A – programmable multi-chemistry charge profiles (lead / lithium) – isolated CAN bus – onboard integration.

The SG3 is a sealed single-phase battery charger designed for onboard integration on industrial electric platforms. The 96 V / 25 A configuration targets 96 V traction packs, with a rugged architecture (die-cast aluminium housing, vibration resistance) and system integration through galvanically isolated CAN bus.

The charger accepts universal mains input 95–265 V~ / 50–60 Hz with active PFC (PF 0.98) and up to 93% stated efficiency, enabling charging from standard outlets while limiting grid impact. Charging algorithms are configurable through CU1/CU2/CU3 curves and BA1/BA2/BA3 battery types to match the intended chemistry (flooded lead-acid, gel, lithium). In CU3 (generator / power supply) mode, the unit can be used as a controllable source for lithium CC/CV (CCCV) strategies typically supervised by the vehicle/controller and BMS. Built-in data logging records charge cycles for battery analysis over time.

Key advantages

- Universal mains input 95–265 V~ with active PFC, suitable for multi-site and onboard charging constraints.
- Isolated CAN bus interface for vehicle integration (BMS / controller / supervision link).
- Multi-chemistry management via selectable battery types (lead-acid, gel, lithium) and CU1/CU2/CU3 charge curves.
- CU3 “generator / power supply” mode usable for lithium CC/CV (CCCV) strategies supervised by the system.
- IP65 sealed die-cast aluminium enclosure, vibration-proof design for industrial and mobile environments.

- Output short-circuit protection and reverse polarity protection by fuse, aligned with field maintenance constraints.
- Charge voltage temperature compensation via external probe (PT100 / NPT100), supporting battery lifetime optimization.
- Up to 1000 cycles logging for diagnostics, traceability and battery usage monitoring.
- External control / slave operation via CAN ecosystem (CanConsolle connection) and HW/SW Start/Stop logic depending on configuration.

Technical specifications

Technology	Single-phase HF charger, active PFC
Product type	Onboard / integrated charger, sealed enclosure
Nominal battery voltage	96 V
Nominal charge current	25 A (96 V configuration)
Max output power	3000 W
AC input	95–265 V~, 50–60 Hz
Power factor	0.98
Efficiency	Up to 93%
Communication interface	Isolated CAN bus (CAN 2.0)
Logging / diagnostics	Data logging, real-time clock/calendar, storage up to 1000 cycles
Charge curves (display version)	CU1: IUIa + equalization + maintenance; CU2: IU1U2ob; CU3: generator / power supply
Selectable battery types / chemistries	BA1: lead-acid; BA2: lead-gel; BA3: Li-ion (selection associated with CU3 mode)
Lithium charging	Li-ion (BA3) in CU3 (generator / power supply) usable for CC/CV (CCCV) profile supervised by the system
External control / slave operation	Control/configuration via CANBUS, CanConsolle connection, HW/SW Start/Stop logic depending on configuration
Charging functions	Programmable curves, power supply mode in CU3, equalization/maintenance depending on curve
Temperature compensation	Programmable dU/dT (per cell, default -5 mV/(°C·cell) per documentation) with optional probe
Auxiliary contacts	Programmable AUX1/AUX2, switching capability 4 A
Main protections	Output short-circuit, reverse polarity (fuse), 1250 VAC isolation (mains/battery/earth), leakage current < 7 mA
Ingress protection	IP65 (external fan IP55)
Dimensions (L×W×H)	324 × 204 × 142 mm
Mass	8 kg
Wiring (mains / battery)	Input: 3×2.5 mm²; Output up to 25 A: 6 mm² recommended
Compliance	Stated compliant with Low Voltage and EMC requirements

Typical applications

- Industrial electric vehicles and 96 V mobile platforms: tuggers, industrial tractors, site utility vehicles.
- Electric retrofit of machines/vehicles with 96 V pack (onboard charger architecture).
- Aerial work platforms and material handling equipment operating on 96 V systems.
- Industrial cleaning machines (scrubbers/sweepers) and service equipment.
- Marine or constrained stationary applications requiring sealed design, diagnostics and traceability.

Recommended integration

- **Battery / charge strategy validation:** define chemistry and charge strategy (flooded/gel lead, lithium with BMS) and lock end-of-charge parameters, per-cell voltages, equalization/maintenance phases and current/time limits. Curve and battery type selection follows CU1/CU2/CU3 then BA1/BA2/BA3 and is managed through the intended control/parameter interface.
- **CAN architecture and supervision:** integrate the charger as a CAN node with a diagnostics policy (CAN loss, alarms, charge state). Provide maintenance access to key values (voltage, current, Ah, remaining time) and leverage data logging for battery aging analysis.
- **Slave / controlled mode (CU3 / "generator"):** use CU3 as a controllable source for lithium architectures, consistent with BMS windows (voltage/current), charge authorizations and safety cut-offs. CC/CV (CCCV) is defined at system level (setpoints, limits, safety chain) and implemented through supervision.
- **Mechanical and thermal installation:** sealed enclosure; installation in any orientation; keep about 50 mm clearance around fan/heatsink area and ensure airflow at full power.
- **Cable sizing and voltage drop:** for 25 A, apply an appropriate output cable cross-section (6 mm² reference) and limit length; documentation provides cable voltage-drop compensation setting (0.0 to 1.5 V step) for operation at maximum current.
- **Electrical protections and safety chain:** integrate appropriate upstream protection (accessible disconnect, earth bonding), coordinate downstream protections with battery/BMS, and consider reverse polarity protection by fuse (service implications).
- **EMC good practices:** minimize power loop areas, separate power and communication harnesses, ensure correct chassis bonding, and maintain shield continuity for shielded CAN if used. Final EMC compliance is achieved at system level (charger + harness + installation).
- **Aux I/O:** use AUX1/AUX2 (4 A contacts) for "mains present", "charge in progress" signaling or peripheral control; plan service access for remote LED/temperature probe where battery temperature regulation is required.

Operating conditions

- Designed for harsh environments with IP65 sealed enclosure and robust onboard integration.
- Charge duration, profiles and phases (equalization/maintenance) depend on the selected curve (CU1/CU2/CU3), the battery type (BA1/BA2/BA3) and configured parameters (voltages, current/time limits).
- For lithium, charging behavior depends on the BMS and its authorizations (voltage/current windows, balancing, safety cut-off); CU3 can be used as a CC/CV (CCCV) source supervised by the control system.
- Electrical and EMC compliance of the final equipment depends on full integration (wiring, protections, installation, earthing) and must be validated on the complete system.

The information above is provided for technical guidance based on available documentation. Actual performance, safety and compliance (including EMC and application requirements) depend on the integration context, curve/battery type settings and operating environment.

Final system validation (electrical design review, functional and thermal tests, protection/insulation checks) is required before commissioning, under the integrator's responsibility.