

Primary Switched Battery Charging and Power Supply Unit GL0524 24V - 28V, 5A

Power factor correction

Hat-rail mounting

Convection heating



- Mains voltage 176 – 264V 47-63Hz
248 – 370V DC, Option 88 – 132V AC
- Soft start
- Long product lifetime
- Long-term short-circuit resistance (fold back)
- Overheating protection
- Safety cutoff
- Interference class acc. to curve B
- Low output ripple

Application:

The battery charging and power supply unit GL0524 is used for charging high-quality lead or nickel-cadmium batteries and/or for supplying 24V DC circuits. The charging unit is especially suitable for use with diesel generators, where operating safety and long-term stability are necessary.

The primary clocked switching power supply with 100kHz technology is intended for use on the top-hat rail due to its high efficiency, low weight and low heat development. It is designed such that heat transport is vertical, meaning that other electronic units can be mounted on the hat rail about 5-15cm away from the power supply unit (depends on amount of heat), thus saving space.

The output of the GL0524 is connected to the battery or DC supply via protective equipment. The output voltage / final charging voltage is also kept stable during large mains fluctuations (176 - 264VAC) and high temperature variations.

When the unit is operated for longer periods at high currents and in heated environments, the charging current set is reduced automatically in order to reduce the thermal load on the components.

Charging:

Normal Charging:

The empty battery is first charged at the constant current set. Before the preset final charging voltage is reached, the current gradually decreases. The gassing of the battery is limited and the continually reduced current causes the voltage to rise slowly until it reaches the final charging voltage. This characteristic I / U curve ensures the gradual charging of the battery.

Settings etc.:

The GL0524 charging unit is set to a battery voltage of 26.6V in no-load operation before leaving the factory. The final charging voltage is adjusted in no-load operation using the adjuster on the bottom of the unit.

In mounting you should make sure that the PE connection (earthing clip) is connected so that the unit meets the interference requirements according to VDE and EN (see below).

The LED display on the front panel indicates that the charging and power supply unit is ready for operation (output voltage present). We recommend an additional battery undervoltage monitor for precise monitoring of the battery voltage when the GL0524 is used as a battery charging unit.

We recommend to choose the unit power output by + 30% to guarantee utmost availability. For example: Power of your application 80W, Unit Output Power 1.3 x 80W = 104W.

Series / Parallel Connection:

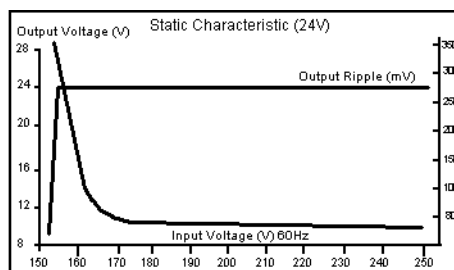
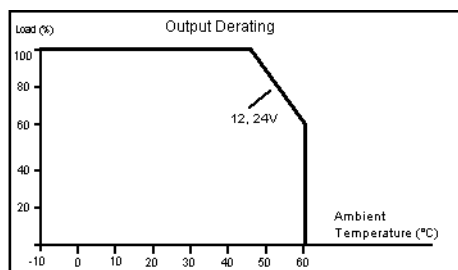
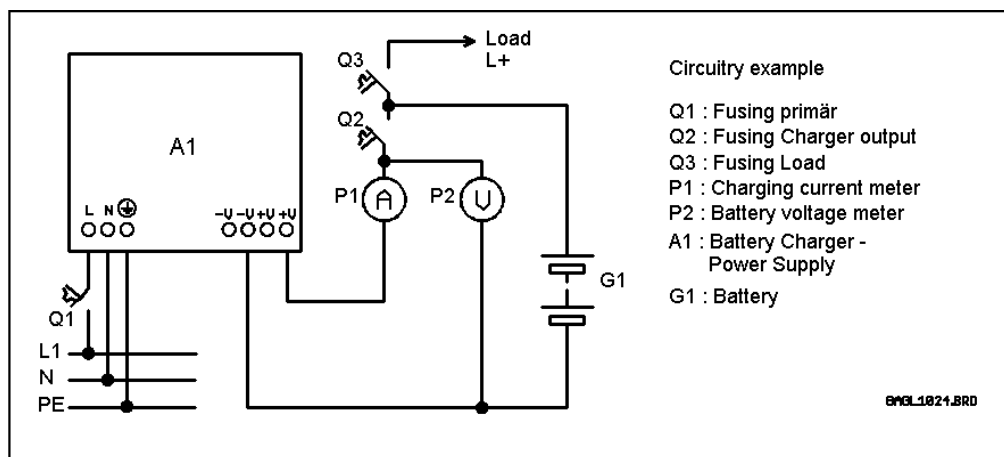
The output current can be increased by connecting GL0524 units in parallel (no battery charging and no maximal load). Parallel connecting of different types of units are not allowed. In order to ensure correct parallel operation, the open load voltage must be set to same values. Series connecting of units are only allowed with additional current limitation up to rated current (no maximal load).

Technical Data :

| Type | Final charging Voltage Range | Current Max. | AC Current on mains (max) | Fusing Prim. (Q1) acc. to EN60 898 | Fusing Sek. (Q2) | Weight | Dimensions (mm , W x H x D) |
|--------|------------------------------|--------------|---------------------------|------------------------------------|------------------|--------|-----------------------------|
| GL0524 | 24 - 28V | 5 A | 2,0A (230V) | 4A B (230V) | 16A B | 0,8kg | 65,5x125,2x100 |

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|-------------------------------|---|
| Mounting | : 35mm Hat rail TS-35/7,5 or 15mm |
| Supply | : 176 – 264V 47 – 63Hz, 248 – 370V DC, Option 88 – 132V AC |
| Inrush consumption max. | : 60A/230VAC |
| Lost current | : <3,5mA / 240V |
| Efficiency | : 80% |
| Output voltage | : Range 24 – 28V, Hum and Noise <80mVpp |
| Output current | : 0 – 5 A (rated) |
| Final charging voltage | : Tolerance 0,01% / °C |
| Charging characteristics | : IU – Char. inspired by DIN 41773 and DIN 57510 with reduced Current (Wa) in the area of final charging voltage (appr. 3,5% of setting) |
| Soft start | : Appr. 600ms up to maximum output power |
| Overload | : 105 – 150% of rated output current (10A) according mains voltage, Output voltage, Overtemperature- and Current limiting, Short circuit proofed, with Fold-back function independent switch on after short circuit or overload |
| Over voltage | : 29 -33V, automatic swich off and switch on again |
| Ambient temperature | : -10°C up to +60°C , see derating-diagramm |
| Storing temperatures, hum. | : -20°C up to +85°C, 10 – 96%RH |
| Relative air humidity | : 20 – 90% RH not condensed |
| Vibration | : 10 – 500Hz, 2G 10min./1 period, 60min. in each axis X, Y, Z |
| Type of protect., Connections | : IP00, Input connections each 4 qmm, Output connections each 2 x 4 qmm |
| Terminal torque / Wire | : 0.7 N.m / copper only, mimimum 80°C wire |
| Maintenance | : No |
| Service live | : > MTBF 136.800 hours , MIL HDBK-217F (25°C) |
| Safety standard | : EN60950 |
| Voltage protection | : Mains / Output 3kVAC, Mains / Screen 1,6kVAC, Output / Screen 0,5kVAC |
| Isolation resistance | : Mains / Output , Mains / Screen und Output / Screen 100MOhm/ 500VDC |
| Radio Interference | : EN55011, EN55022 (CISPR22) Kl. B |
| Harmonic Currents | : EN 61000-3-2, -3 |
| Interference Immunity | : EN61000-4-2,3,4,5,6,8,11, ENV50204, EN55024, EN61000-6-2 (EN50082-2) Very heavy industrial environment, criterion A |

Connecting example / Derating diagsms



Note for wiring power supplies and chargers of the GL-Series

