

Primary Switched Battery Charging and Power Supply Unit GL1024 24V 10A

Power factor correction

Hat-rail mounting

Convection heating



• Mains voltage 100 – 240V 50/60Hz, 120 – 370V DC

• 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

• Charging characteristics acc. to DIN 41773

Application:

The battery charging and power supply unit GL1024 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 1cm away from the power supply unit, thus saving space.

The output of the GL1024 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 (85 - 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 GL1024 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 (it is best to do this before mounting and wiring to the top-hat rail).

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 GL1024 is used as a battery charging unit.

Series / Parallel Connection:

The output current or output voltage can be increased by connecting any desired number of GL1024 charging units to the outputs in parallel or in series. In order to ensure that the units are subjected to the same load in

parallel operation, the final charging voltage in each case must be exactly set to the same value before the units are connected and the maximal output current must not be exceeded in series connections.

Technical Data :

Type	Final charging Voltage Range	Current Max.	AC Current am Netz (max)	Fusing		Weight	Dimensions (mm , W x H x D)
				Prim. (Q1)	Sek. (Q2) nach EN60 898		
GL1024	24 - 28V	10 – 8,5A	3,5A (115V) 1,8A (230V)	8A B (115V) 4A B (230V)	16A B	1,1kg	125,5x125,2x100

- Mounting : 35mm Hat rail TS-35/7,5 or 15mm
- Supply : 85 – 264V 47 – 63Hz, 120 – 370V DC
- Power Factor : >0,95/230VAC, >0,98/115VAC (full load)
- Inrush consumption max. : 30A/115VAC, 50A/230VAC
- Lost current : <3,5mA / 240V
- Efficiency : 84%
- Output voltage : Range 24 – 28V, Hum and Noise <80mVpp
- Max. output current : From 24V = 10A to 28V = 8,5A linear down
- Final charging voltage : Tolerance 0,01% / °C
- Charging characteristics : IU – Char. acc. to DIN 41773 (appr. +/- 1% Tolerance) and DIN 57510 mit reduced Current (Wa) in the area of final charging voltage (appr. 3,5% of setting)
- Soft start : Appr. 860ms up to maximal output power
- Overload : 105 – 150% of rated output current (10A) according mains voltage, Output voltage and Temperature
: Costant current limiting, Short circuit proofed, with Fold-back function
: independent switch on after short circuit or overload
- Over voltage : 30 -36V, automatic swich off and switch on again
- Ambient temperature : -10°C bis +70°C , see derating-diagramm
- Storing temperatures, hum. : -20°C bis +85°C, 10 – 96%RH
- Relative air humidity : 20 – 90% RH not condensed
- Vibration : 10 – 500Hz, 2G 10min./1 period, 60min. in each achsis X, Y, Z
- Type of protection : IP00
- Maintenance : Maintenancefree
- Service live : > MTBF 105.500 hours , MIL HDBK-217F (25°C)
- Safety standards : Meets UL508, UL60950, TÜV 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 : Meets EN55011, EN55022 (CISPR22) Kl. B
- Harmonic Currents : Meets EN 61000-3-2, -3
- Interference Immunity : Meets 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

