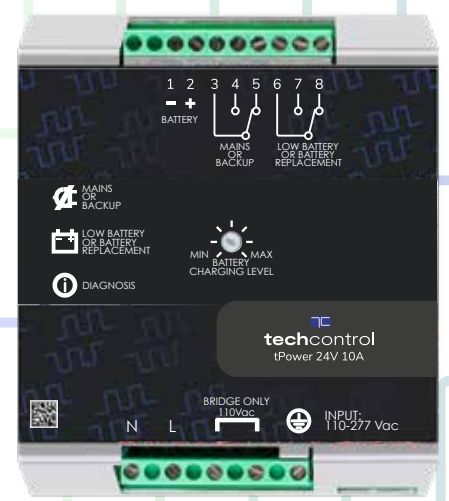


tPower 24V 10A (TP2410)

CHARGER | AUTOMATIC POWER SUPPLY



The **tPower 24V 10A (TP2410)** is a high-power industrial charger and power supply designed for applications requiring continuous operation, precision, and durability. Its control architecture implements an automatic three-stage **IUoU curve (Recovery, Boost, and Float)**, ensuring a complete and stable charge with continuous battery health monitoring.

The system identifies connection faults, short circuits, reverse polarity, or degraded batteries, reporting them via LEDs or configurable signal contacts.

The TP2410 combines robustness, efficiency, and low maintenance, making it ideal for critical systems where backup power is essential.

CHARACTERISTICS

- Nominal output voltage: 24 V DC
- Maximum output current: 10 A $\pm$ 5%
- Nominal power: 240 W
- IUoU load curve (DIN 41773): 3 automatic stages:
 - Recovery - Boost - Float
 - Modos de operación:
 - Battery charger
 - Independent power supply
- Compatible battery types: Open lead-acid, AGM, Gel, Ni-Cd.
- Self-diagnostics: detects reverse polarity, disconnected battery, or short circuit.
- LED indicators with flashing codes for charging stage and faults.
- Electronic protections:
 - Short circuit and overload protection
 - Overvoltage protection (32.5 V typ.)
 - Overtemperature protection
 - Reverse connection protection
- Signal outputs (potential-free contacts):
 - Battery failure
 - AC power failure
 - Low battery
- Adjustable current (Iadj): 20–100% of I_n.

- Mounting: 35 mm DIN rail or wall mount.
- Cooling: natural convection.
- Protection: IP20.

HIGHLIGHTS

- 24V/10A Automatic Battery Charger with dual charging and power supply functions.
- Switching technology with microprocessor control and multi-stage intelligent IUoU management.
- Compatible with flooded, AGM, Gel, Ni-Cd.
- Comprehensive protection against reverse polarity, overcharging, overvoltage, overtemperature, and short circuits.
- Real-time diagnostics via LEDs and potential-free signal contacts.
- Adjustable charging current (20–100%).
- Robust aluminum design, DIN rail mounting, and natural convection cooling.
- High efficiency ($\geq$ 88%) and proven reliability (MTBF > 300,000 h).

TYPICAL APPLICATIONS

- Industrial power and backup systems.
- Control panels and energy automation.
- Automatic generators and generator sets.
- Hybrid solar and telecommunications systems.
- Marine applications and critical infrastructure.

TECHNICAL DATA AND SPECIFICATIONS

ENVIRONMENTAL CONDITIONS	
Operating temperature	–25 °C a +70 °C
Storage temperature	–40 °C a +85 °C
Humidity	95 % @ 25 °C (no condensation)
Refrigeration	Natural convection

MECHANICAL DATA	
Material of the body	Aluminum with ventilation fins
Mounting	riel DIN 35 mm / mural
Weight	0.85 kg
Dimensions (H x W x D)	114 × 112 × 136 mm
Protection	IP20

INPUT/OUTPUT	
Input	Nominal voltage: 115–230–277 V AC Operating Range: 90–135 / 180–305 V AC Input Current: 3.3 A @115V / 1.2 A @230V Frequency: 47–63 Hz Inrush current: ≤16 A (5 ms) Internal fuse: 6.3 A Recommended external fuse: 10 A MCB curve B
Output	Nominal voltage: 24 V DC Maximum Current: 10 A ±5 % Rated Power: 240 W Typical efficiency: (50% load) 88 % Load curve IUoU: – 3 Automatic stages Boost Tension: 28.8–30.2 V Voltage fluctuation: 26.8–28 V Recovery: 2–18 V Derating: –2.5%/°C for T>50°C Adjustable current: 20–100 % / In Maximum Output Contact Current: 1A – 30 V DC / 60 V AC

CERTIFICATIONS AND STANDARDS	
IEC/EN 62368-1 (Electrical safety) IEC/EN 61000-6-4 (Emission) IEC/EN 61000-6-2 (Immunity) UL 1236 Recognized – BBGQ2 Battery Chargers (File E353241) Complies with Directives LVD 2014/35/UE y EMC 2014/30/UE	

