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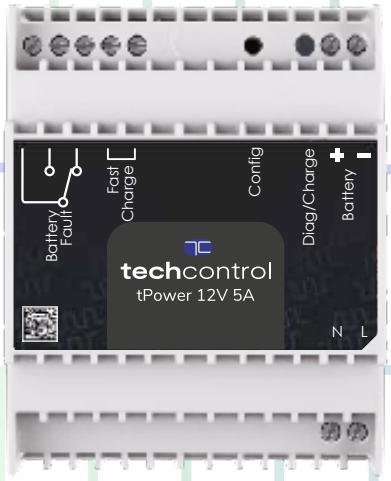

tPower 12V 5A (TP1205)

BATTERY CHARGER | POWER SUPPLY

The **tPower 12V 5A (TP1205)** is an automatic battery charger designed to ensure a reliable and continuous power supply in industrial, energy, and control applications.
Its microprocessor electronics implement a five-stage **IUoU charging curve (Recovery, Rapid Charge, Absorption, Float, and Refresh),** guaranteeing a complete and stable charge and extending battery life. It can also operate in power supply mode, providing stable power even without a connected battery. Its continuous diagnostic system identifies connection faults and abnormal conditions using LED indicators and potential-free signal contacts.
A compact, efficient, and durable solution for systems where power continuity is critical.

CHARACTERISTICS

- Nominal output voltage: 12 V DC
- Maximum output current: 5 A
- Rated power: 60 W
- IUoU load curve: 5 automatic stages
  - Recovery - Bulk - Absorption - Float - Refresh
- Modes of operation:
  - Battery charger
  - Independent power supply
- Compatible battery types: Open lead-acid, AGM, Gel, Ni-Cd
- Self-diagnosis:
  - Reverse polarity
  - Battery disconnection
  - Short circuit
  - Incorrect battery voltage
- LED indicators with flashing code for charging status and faults.
- Built-in protections:
  - Short circuit and overload
  - Output overvoltage (35 V DC typ.)
  - Overtemperature
  - Reverse connection
- Signal output (potential-free contacts):
  - Battery failure
- External control input: enabling fast charging.
- Montagem: trilho DIN de 35 mm ou montagem na parede.
- Resfriamento: convecção natural.
- Classe de proteção: IP20.

HIGHLIGHTS

- 12V/5A Automatic Battery Charger with Dual Charging and Power Supply Functions.
- Switching technology with intelligent multi-stage charge management.
- Compatible with flooded, AGM, Gel, and Ni-Cd batteries.
- Automatic battery fault diagnosis (reverse polarity, disconnection, short circuit).
- Protection against overvoltage, overload, overtemperature, and short circuit.
- DIN rail or wall mounting; robust polycarbonate housing.
- Maintenance-free; natural convection cooling (no fans).

TYPICAL APPLICATIONS

- Industrial control and automation systems.
- Automatic start generators.
- Solar and hybrid power systems.
- Backup switchboards and DC UPS systems.
- Communication and remote control equipment.

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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)
Vibration	IEC 60068-2-6 (15 – 150 Hz, 1 g, XYZ)
Shock	IEC 60068-2-27 (10 g, 6 ms)
Refrigeration	Natural convection

INPUT/OUTPUT

Input	**Nominal voltage:** 100 – 240 – 277 V AC (single-phase) **Permissible range:** 90 – 305 V AC **Input current:** 1.3 A @ 100 V / 0.65 A @ 240 V **Frequency:** 47 – 63 Hz **Inrush current:** ≤ 50 A **Internal fuse:** 2.5 A **Recommended external fuse:** 10 A (MCB C curve)
Output	**Nominal voltage:** 12 V DC **Maximum current:** 5 A ± 5% **Nominal power:** 60 W **Typical efficiency (50% load):** 84% **Ripple:** < 80 mVpp **Charging curve:** IUoU (DIN 41773) **Stages:** Recovery, Bulk, Absorption, Float, Refresh **Boost charging voltage:** 14.1 – 14.5 V **Float charging voltage:** 13.4 – 14.0 V (depending on battery type) **Recovery:** 2 – 10.5 V **Derating:** –1.6%/°C for T > 40 °C **Maximum output contact current:** 1 A – 30 VDC / 60 VAC

MECHANICAL DATA

Material of the body	Self-extinguishing polycarbonate
Mounting	riel DIN 35 mm / mural
Weight	0.30 kg
Dimensions (H x W x D)	90 × 72 × 55 mm
Protection	IP20

CERTIFICATIONS AND STANDARDS

IEC/EN 62368-1 (Electrical safety)
IEC/EN 61000-6-3 (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

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