

BPCOM Range

All-In-One Intelligent Battery Charger

The **BPCOM range** integrates a power supply, DC-UPS, battery charger and status-monitoring system into a single DIN-rail enclosure.

The BPCOM chargers support the following Lead-acid battery types: Flooded, Gel, AGM. The configuration is made via selectable 2 or 3-stage charging profiles and parameters configuration.

The chargers are configurable by PC software BPCOM suite (downloadable from CRE web site). The chargers offer an RS485 Modbus RTU communication interface.

2 models are available: 10A/24VDC and 20A/24VDC.

Advantages:

- Compacity
- 90–305 VAC input with 277 VAC capability
- Temperature compensation
- Fault relay outputs and multi-state LED indicators for AC, DC, charger and battery status
- -30 °C to +70 °C operating range
- DIN rail TS-35/7.5 or TS-35/15 mounting
- 2 stages (Constant current & Constant voltage) or 3 stages (Constant current & Constant voltage & Floating voltage) mode
- RS485 Modbus RTU communication
- PC software for visualization and configuration
- 3-year warranty

KEY FEATURES

➔ Intelligent Charging

Load-dependent high-speed charging with selectable 2-stage or 3-stage profile.

Charge current adjustable from 20 % to 100 %

➔ Fast UPS Switch-Over

Battery takes over the load within 10 ms of AC failure. Battery-start function allows the system to power up directly from battery without AC mains.

➔ Configurable Diagnostics

Four independent Form-C relay outputs (AC fail, DC OK, Battery low/abnormal/disconnected, Charger fail), plus multi-state LED indicators. Configurable via Modbus RTU.

➔ Battery Temperature Compensation

NTC sensor is supplied with the charger -3 or -4 or -5 mV/°C/cell is adjustable.



PART NUMBERS DESCRIPTION

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BP1024 COM	10A / 24 V — Suitable for 50–100 Ah batteries
BP2024 COM	20A / 24 V — Suitable for 100–200 Ah batteries

➔ Robust Protections

Short-circuit, overload, over-voltage, over-temperature (auto-derating), battery reverse polarity (no damage) and battery cut-off, automatic recovery where applicable.

➔ Wide Environmental Range

Operates from -30 °C to +70 °C with free-air convection cooling. Operating altitude up to 2000 m. IP20 enclosure for DIN rail TS-35/7.5 or TS-35/15.

➔ Modbus RTU communication

Read the product measurements and write its parameters over Modbus RTU from an external device.

➔ Advanced software configuration

The product can be configured either basically via DIP switches, or in an advanced way through its dedicated PC configuration software.





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SPECIFICATIONS

Detailed engineering data, derating curves, EMC test levels, Form-C state tables, charging-curve parameters, Modbus RTU registers, terminal pinouts are provided in the BPCOM Technical Manual.

PARAMETER	BP1024 COM	BP2024 COM
LOAD OUTPUT		
Rated output voltage	24 VDC	24 VDC
Total output power	240 W (275 W peak, 5 s)	480 W (550 W peak, 5 s)
Load current range	0 – 10 A	0 – 20 A
Voltage Tolerance	±1.0%	± 1.0 %
Ripple & noise (max.)	240 mV p-p	240 mV p-p
BATTERY OUTPUT		
Charging current (CC, max.)	8 A	16 A
Charge current adjustment	20 – 100 % (VR)	20 – 100 % (VR)
Recommended battery capacity	50 – 100 Ah	100 – 200 Ah
Charging stages	2 / 3-stage selectable (DIP)	2 / 3-stage selectable (DIP)
Battery cut-off voltage	20.9 ± 0.5 V	20.9 ± 0.5 V
INPUT		
AC input range	90 – 305 VAC (277 VAC)	90 – 305 VAC (277 VAC)
DC input range	127 – 431 VDC	127 – 431 VDC
Frequency	47 – 63 Hz	47 – 63 Hz
Power factor (typ.)	> 0.95 / 230 VAC	> 0.95 / 230 VAC
Efficiency (typ.)	92 %	92.5 %
AC current (typ.)	2.8 A / 115 V · 1.4 A / 230 V	5.4 A / 115 V · 2.7 A / 230 V
DC-UPS & COMMUNICATION		
UPS switch-over time	≤ 10 ms	≤ 10 ms
Battery-start	Yes (force-start button)	Yes (force-start button)
Communication	RS485 Modbus RTU	RS485 Modbus RTU
ENVIRONMENT, MECHANICAL & RELIABILITY		
Operating temperature	-30 °C to +70 °C (derating)	-30 °C to +70 °C (derating)
Storage temperature	-40 °C to +85 °C	-40 °C to +85 °C
Humidity (operating)	20 – 90 % RH	20 – 90 % RH
Cooling	Free-air convection	Free-air convection
Dimensions (W × H × D)	85.5 × 125.2 × 129.2 mm	110 × 125.2 × 150.7 mm
Weight	1.19 kg	1.65 kg
Mounting	DIN rail TS-35/7.5 or TS-35/15	DIN rail TS-35/7.5 or TS-35/15
MTBF (Telcordia SR-332, 25 °C)	564.7 × 10 ³ h	556.6 × 10 ³ h
Warranty	3 years	3 years

MECHANICAL OVERVIEW

DIMENSION	BP1024 COM	BP2024 COM
Width	85.5 mm	110 mm
Height	125.2 mm	125.2 mm
Depth	129.2 mm	150.7 mm
DIN rail	TS-35/7.5 or TS-35/15	TS-35/7.5 or TS-35/15

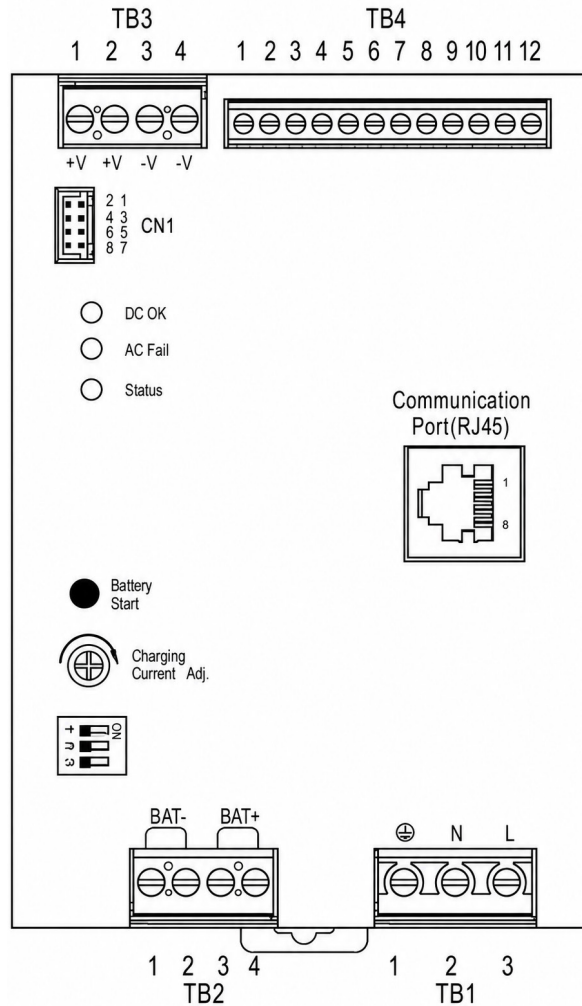




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CONNECTIONS AT A GLANCE



The charger provides four screw-terminal blocks plus a RJ45 communication port:

- Terminal Block 1 (TB1): AC input: Ground, L, N
- Terminal Block 2 (TB2): Battery DC output: BAT-, BAT+
- Terminal Block 3 (TB3): Load DC output: +V, -V
- Terminal Block 4 (TB4): Relay outputs: AC fail, DC OK, Battery low/abnormal/disconnected, Charger fail
- RJ45: Modbus RTU RS-485 & PC connection
- Connector pin 3 & 4: NTC temperature sensor for temperature compensation
- Connector pin 7 & 8: Force-Start button

STANDARDS & COMPLIANCE

Safety: BS EN/EN 62368-1, IEC 62368-1

Application: EN 54-4 (fire detection & alarm)

EMC: EN 55032 Class B emission · EN 55035, EN 61204-3, EN 61000-6-2 immunity

