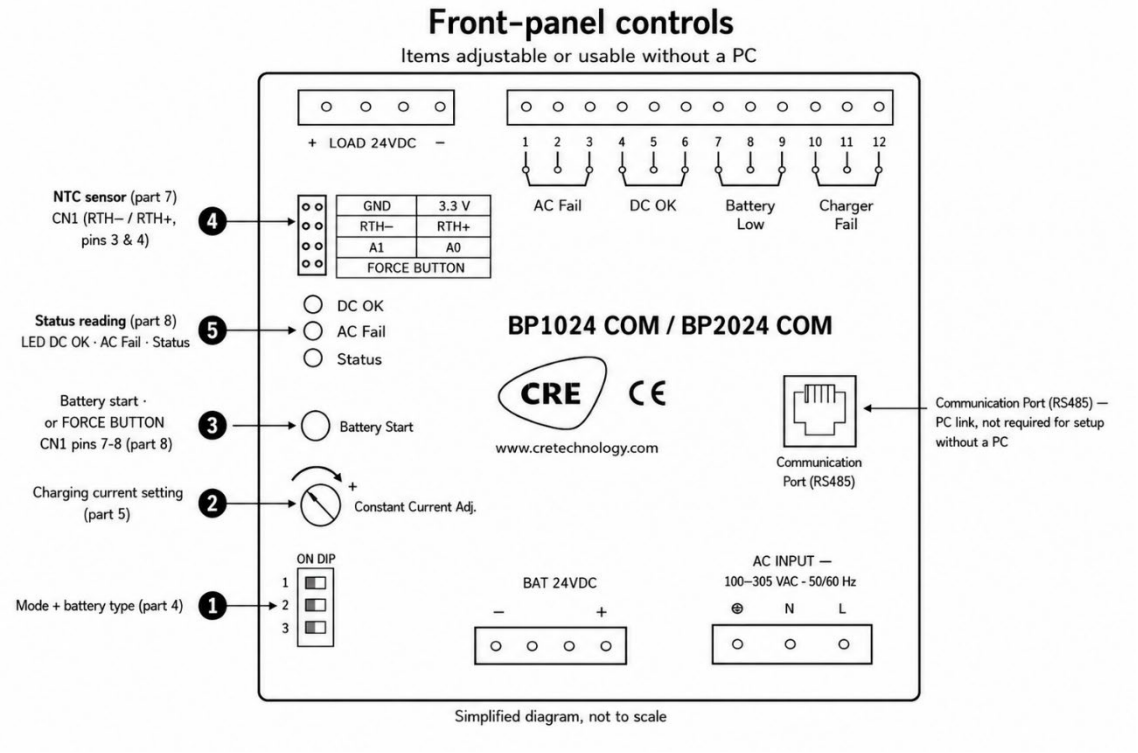
APPLICATION NOTE

How to set up the BP1024COM and BP2024COM chargers without a PC connection

1. Front-panel settings



- ① **The block of 3 DIP switches** (micro-switches): selects the charging mode and the battery type (see details below).
- ② **The "Charging Current Adj." potentiometer:** adjusts the battery's maximum charging current (see details below).
- ③ **The Battery-Start button:** powers the loads (DC load output) from the battery without mains (see details below). An external Battery-Start button can also be wired to the 8-pin connector (pins 7 & 8). (See details below.)
- ④ **The NTC temperature probe for compensation** is wired to the 8-pin connector (pins 3 & 4). (See details below.)
- ⑤ **The LED indicators (DC OK / AC Fail / Status)**: show the charger's faults and status (see details below).

The RJ45/RS485 communication port **offers a Modbus RTU** protocol:

- For connection to the PC and use of the BPCOM Suite software
- To read the charger and battery parameters over Modbus RTU.

2. Choosing the charging mode and battery type (DIP switches)

The setting relies on three micro-switches.

- **DIP 1** sets the charging mode:
  - **OFF = 3 stages** (constant current + constant voltage + floating voltage). This is the default setting.

- **ON = 2 stages** (constant current + constant voltage).

- **DIP 2 and DIP 3** select the presets below according to the battery type.

	DIP 1	DIP 2	DIP 3	Mode	Battery type	CC 1024	CC 2024	Vboost	Vfloat
1	OFF	OFF	OFF	3 stages	Default (programmable)	8 A	16 A	28,8 V	27,6 V
2	OFF	OFF	ON	3 stages	GEL	8 A	16 A	28,0 V	27,2 V
3	OFF	ON	OFF	3 stages	Flooded (liquid electrolyte)	8 A	16 A	28,4 V	26,8 V
4	OFF	ON	ON	3 stages	AGM	8 A	16 A	29,2 V	28,0 V
5	ON	OFF	OFF	2 stages	Default (programmable)	8 A	16 A	28,8 V	-
6	ON	OFF	ON	2 stages	GEL	8 A	16 A	28,0 V	-
7	ON	ON	OFF	2 stages	Flooded (liquid electrolyte)	8 A	16 A	28,4 V	-
8	ON	ON	ON	2 stages	AGM	8 A	16 A	29,2 V	-

Note:

1. The BPCOM chargers provide 2 DC voltage outputs:
   - 1 output for battery charging. The maximum current is 80% of the charger's rated current.
   - 1 output for powering the DC loads. The current corresponds to the % remaining to reach 100% of the charger's rated current.

     Examples for a BP1024 COM:
     - Battery current = 2A → max. charging current = 8A
     - Battery current = 5.5A → max. charging current = 4.5A
     - Battery current = 8A → max. charging current = 2A

2. For PC operation, DIP switches 2 and 3 musts be in the OFF position.

3. Setting the maximum charging current

The "**Constant Current Adjustment**" potentiometer sets the maximum constant charging current of the battery. It varies between **2A** (minimum) and **8A** (BP1024COM) or **16A** (BP2024COM).

4. Battery start (Battery-Start):

A front-panel button starts the system directly on the battery, without mains present. Useful for commissioning or a restart when the AC supply is not yet available.

5. Temperature compensation

Temperature compensation automatically adjusts the charging voltage according to the battery temperature: a cold battery requires a higher voltage, a hot battery a lower voltage.

If the probe is not connected, there is no compensation and the set voltage does not vary with temperature.

If the probe is connected (fix the supplied NTC sensor on the battery or nearby), the compensation is:

- +36mv / °C when the temperature is > 25°C
- -36mv / °C when the temperature is < 25°C

Note:
To change the +/-36mV per °C setting, it is necessary to connect the PC.

6. Leds and Relays

LED: three indicators provide status information:

- **DC OK**
- **AC Fail** (mains loss)
- **Status** (charging state, with flashing codes to signal faults). The detailed meaning of the codes is given in the manual.

Relays: four relays (AC mains fault, DC OK, battery state, charger fault) can be used by a PLC, a controller or an alarm system, without a PC.

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