❖ **Thanks for selecting the BMS protocol converter. Please read this manual carefully before using the product.**

❖ **Please keep this manual for future reference.**

# BMS Protocol Converter

***BMS-LINK***

## 1 Overview

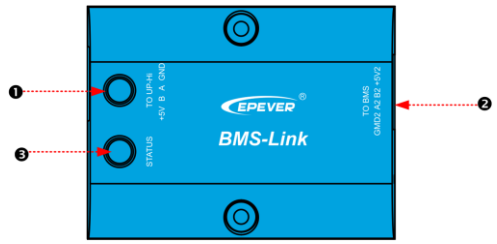
BMS-LINK is an external BMS protocol converter with an independent MCU. Setting the "PRO" parameter through the remote meter or PC software after connecting the BMS-LINK to UP-Hi and lithium battery. Different manufacturers' protocols can be converted into our standard protocol, which improves the actual application's flexibility. Compared with the traditional built-in BMS protocol conversion module, this converter has stronger application flexibility and expansibility. It is more suitable for our all-in-one products and other products to communicate with the lithium battery BMS.

**Features:**

- Independent MCU
- Dual RS485 com. port★
- Support mul++ti BMS protocols conversion
- Freely setting the protocol number
- Reliable protocol conversion and communication
- Optional remote meter or PC software to set the protocol number
- Simple installation and friendly operation

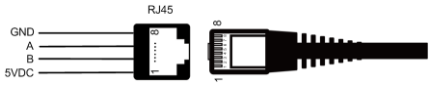
**★ The port connected to the lithium battery is an isolated RS485 communication port, and the port connected to the all-in-one products is a non-isolated RS485 communication port.**

## 2 Characteristics




| No. | Port | Instruction | Note |
|---|---|---|---|
| ❶ | TO UP-Hi | Connect to the BMS interface of the UP-Hi device (Non-isolated RJ45 port★) | Cable(Included): CC-RS485-RS485-350mm |
| ❷ | TO BMS | Connect to the BMS interface of the lithium battery(Isolated RJ45 port★) | Cable(Optional): Adjust the connection cable according to the lithium battery's BMS line sequence. |
| ❸ | Status | Communication status indicator | Green: Normal Red: Abnormal communication |

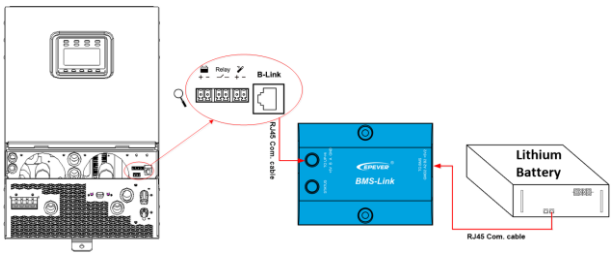
**★RJ45 Pin Definition：**




| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | 5VDC | 5 | RS-485-A |
| 2 | 5VDC | 6 | RS-485-A |
| 3 | RS-485-B | 7 | GND |
| 4 | RS-485-B | 8 | GND |

## 3 Connection diagram

**Step1：** Connect the BMS-LINK converter to the RS485 port of the all-in-one product and the lithium battery through an RJ45 communication cable.




**Step2:** Modify the lithium battery's default ID into the fixed ID through the DIP switch.

Lithium battery's DIP switch

**Please see the "BMS Lithium Battery Protocols & Fixed ID Table" or contact our technical support department for different manufacturer's fixed ID.**

The DIP switch's state of different fixed ID is shown below the table.

| DIP switch Sequence / Fixed ID | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 0 | OFF | OFF | OFF | OFF | OFF | OFF |
| 1 | **ON** | OFF | OFF | OFF | OFF | OFF |
| 2 | OFF | **ON** | OFF | OFF | OFF | OFF |
| 3 | **ON** | **ON** | OFF | OFF | OFF | OFF |
| 4 | OFF | OFF | **ON** | OFF | OFF | OFF |

**Step3:** Modify the "PRO" parameter into the BMS protocol number through the remote meter or PC software(Take the remote meter as an example):

① In the real-time interface, press the UP+DOWN button and hold on for 2s to enter the engineer's operation interface.
② Press the UP/DOWN button to select the "PRO" parameter(item 40).
③ Press the SET/ENTER button and hold on 2s to enter the parameter modifying interface.
④ Press the UP/DOWN button to modify the "PRO" parameter.
⑤ Press the SET/ENTER button to confirm the modification.
⑥ Press the ESC button to exit.
⑦ Restart the all-in-one product to make sure the BMS protocol number is modified successfully.

**1) Please refer to the "BMS Lithium Battery Protocols & Fixed ID Table" or contact our technical support department for the supported BMS manufacturers and protocols.**
**2) Please make sure the lithium battery's default ID has been modified into the fixed ID before setting.**

## 4 Specifications

| Parameters | BMS Protocol Converter |
|---|---|
| Input voltage | 5VDC (Powered by the UP-Hi connection port) |
| Serial port baud rate | 9600 |
| Communication method | RS485 |
| Connection port | RJ45 |
| Working environment temperature | -20～ 55 ℃ |
| Storage temperature | -35-70 ℃ |
| Altitude | ＜5000m |
| Enclosure | IP30 |
| Humidity range | ＜ 95%(N.C.) |
| Dimension (Length x Width x Height) | 67* 51* 24.5mm |
| Mounting dimension | 67×41.2mm |
| Mounting Holes | Φ3.2mm |
| Net Weight | 37.9g |

## 5 Disclaimers

The warranty does not apply to the following conditions:

- Damage caused by improper use or inappropriate environment.
- Damage caused by working temperature exceeds the rated range.
- Unauthorized dismantling or attempted repair.
- Damage caused by force majeure.
- Damage occurred during transportation or handling.

**Any changes without prior notice! Version number: V1.0**