

Victron Battery Monitor Interface



Introduction

The 218VBM provides a digital interface linking E-Plex to the precision BMV-60xS and BMV-70x ranges of battery monitors from Victron Energy.



BMV-600 / 700 key features

- High resolution: 10 mA (0.01 A) with 500 A shunt.
- Low current consumption: 1 mA.
- Highly accurate battery monitoring.
- State of charge tracking.
- Predicts the time until the battery reaches the specified discharge level.



218VBM key features

- Integrate with industry leading battery monitor from Victron Energy.
- Easy to wire.

Description

The 218VBM connects to the Victron Energy BMV using its VE.Direct serial interface connector. Because the BMV is always powered, it accurately tracks battery status even when E-Plex is powered off. The E-Plex interface reads live data from the BMV. The E-Plex system is able to read the following information:

Name	Units	Type	Example
Voltage	Volts	3 digits to 1 dp	24.1 Volts
Current	Amps	4 digits to 1 dp	230.4 Amps
Consumed Energy	Ah	4 digits to 0 dp	1056 Ah
State of Charge	Percent	4 digits to 1 dp	87.2 %
Time to go	Minutes	5 digits	13542 minutes
Synchronised	True/false	1 bit	True

Notes:

- *The interface only reads data from the BMV - it cannot control the relay or change settings.*
- *Battery parameter configuration is carried out on the BMV display.*
- *The voltage of the second battery input cannot be read from the BMV-602 or BMV-702.*
- *Synchronised means that the BMV has seen a fully charged state on the battery, and is now tracking the state of charge accurately. It does not have anything to do with E-Plex functionality. Refer to BMV manual for more information.*
- *Time to go predicts the time until the battery reaches the specified discharge level. Refer to BMV manual for more information.*

Isolation

The 218VBM incorporates galvanic isolation enabling the battery monitor to take measurements from a different battery bank to the one powering E-Plex. This also means that several 218VBM and BMV units may be connected to E-Plex to monitor several separate battery banks.

Compatibility list

The 218VBM will operate with the following list of Victron Energy battery monitors:

BMV-600 series

- BMV-600S
- BMV-602
- BMV-602S
- BMV-600HS

BMV-700 series

- BMV-700
- BMV-702

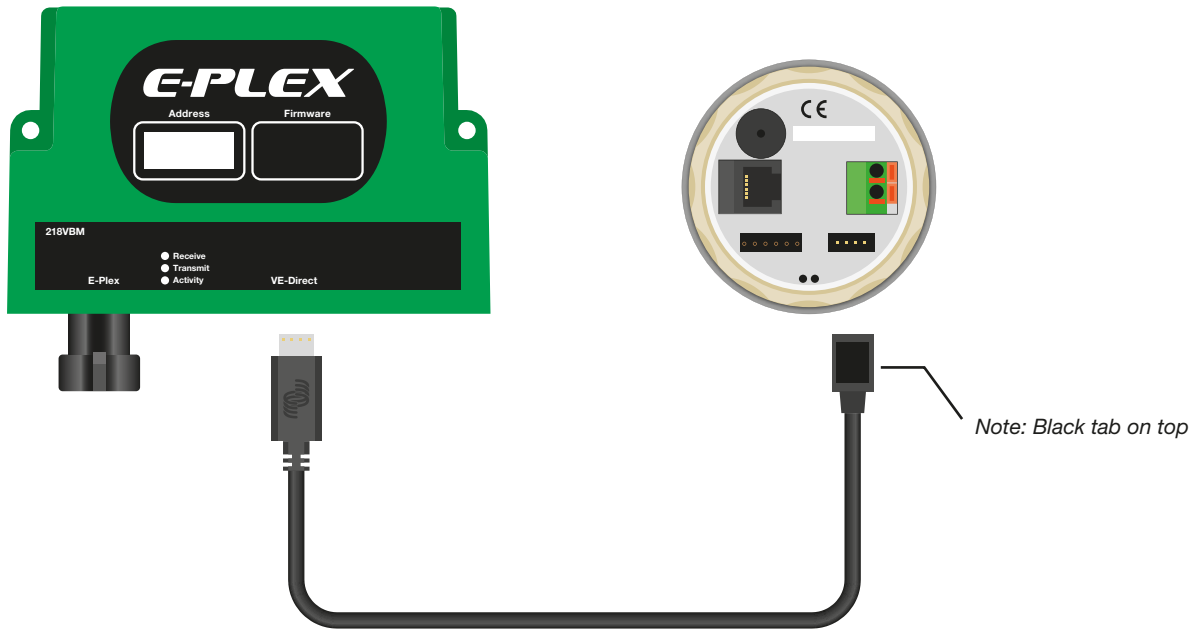
LED indicators

- **Activity** - Blinks whenever there is communication on the E-Plex system. When communication is fast it may appear that the LED is always illuminated.
- **Transmit** - Blinks whenever E-Plex transmits to the BMV. This LED will not usually illuminate.
- **Receive** - Blinks whenever data is received from the BMV. This LED should blink approximately once per second when the BMV and E-Plex system are powered.

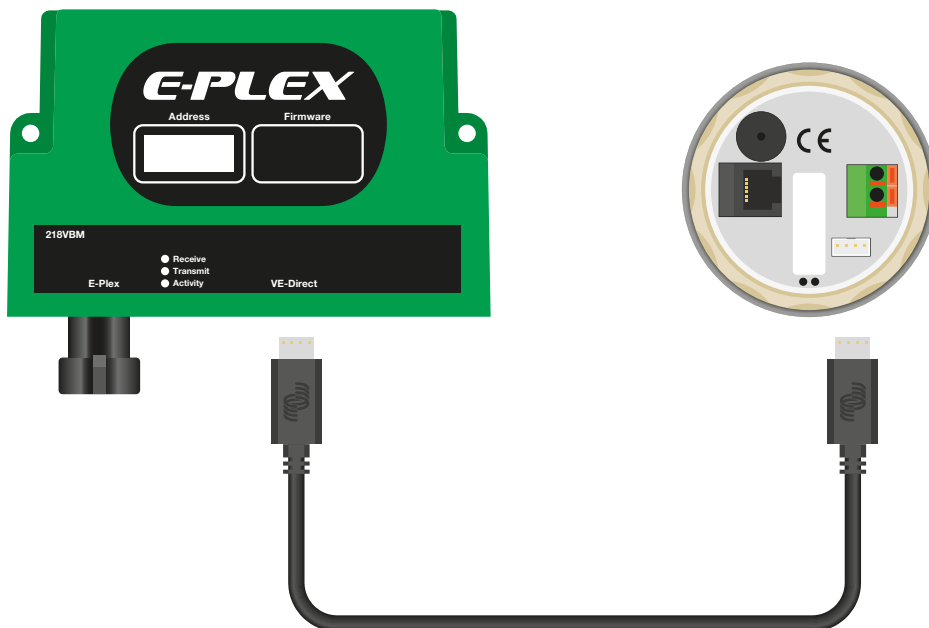
Wiring diagrams

BMV-600

It is important to note that the VE.Direct connector on the BMV-60x is not keyed which means the connector may be inserted either way around. If inserted with the incorrect polarity the BMV may be permanently damaged.



BMV-700

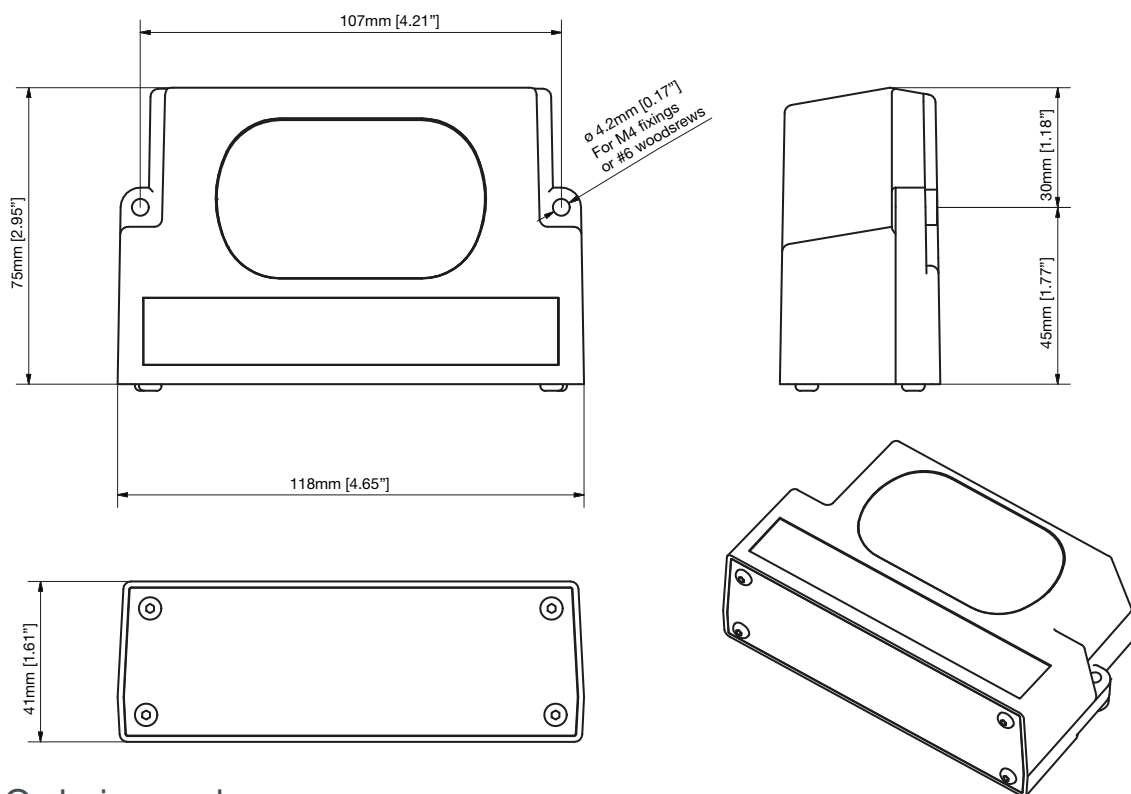


Electrical specifications

Description	Nominal
E-Plex LEN	3
Voltage	Powered from E-Plex bus
Electrical isolation	2500 VRMS

Mechanical specifications

Description	Specifications
Operating Temperature	-20 °C to 60 °C
Storage Temperature	-40 °C to 85 °C
Operating Humidity	5 % to 95 % (non-condensing)
IP Rating	IP20



Ordering codes

Ordering Code	Description
EP3-INTER-BMV60X-218VBM-F1	E-Plex interface to 600 series battery monitors, includes interface cable
EP3-INTER-BMV70X-218VBM-F1	E-Plex interface to 700 series battery monitors, includes interface cable
SP-CA-VED-BMV60X-0.9	218VBM to BMV-60x interconnection cable
SP-CA-VED-BMV70X-0.9	218VBM to BMV-70x interconnection cable

Note: The two versions of the module are the same. However they are supplied with a different BMV interconnection cable to match the respective VE.Direct socket on the BMV.



Revision #3

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