BM1 (PTE0211) User Manual

Version 1v0

Published: 03/04/2019

1 Description

The BM1 (PTE0211) is a basic electric fence monitor. It provides an alarm when your electric fence is cut or shorted, or the energiser has been turned off. When connected to the end of the fence (return wire) the BM1 can monitor one complete circuit (zone) of electric fence.

This monitor can be powered from a 12V power supply, or a 12V battery. If you need the monitor to operate during a power failure, consider using a 12V lead acid battery that is being kept charged from a battery charger or solar panel.

The BM1 is intended to be used with pulsed type electric fence energisers with output voltages of 10kV or less. The energiser should conform to IEC60335.2.76 or similar.

The BM1 includes two switched 12V outputs:

- Siren
- Strobe

It also has an internal Beeper, which can be muted with a shunt (supplied).

This product has three different ways to perform a reset:

- Built-in switch
- [Optional] Magnetic reed switch
- External push button switch

For more complex electric fence monitors, and energisers with inbuilt monitors, visit www.jva-fence.com.au or www.jvasecurity.co.za

For help and support, including the latest version of this manual visit www.jva-fence.com/support

Version February 2019. Uncontrolled if printed

2 Quick Start Guide

Danger! Read the electric fence energiser manual before proceeding.

This section gives the minimal information required to get the BM1 connected and running.

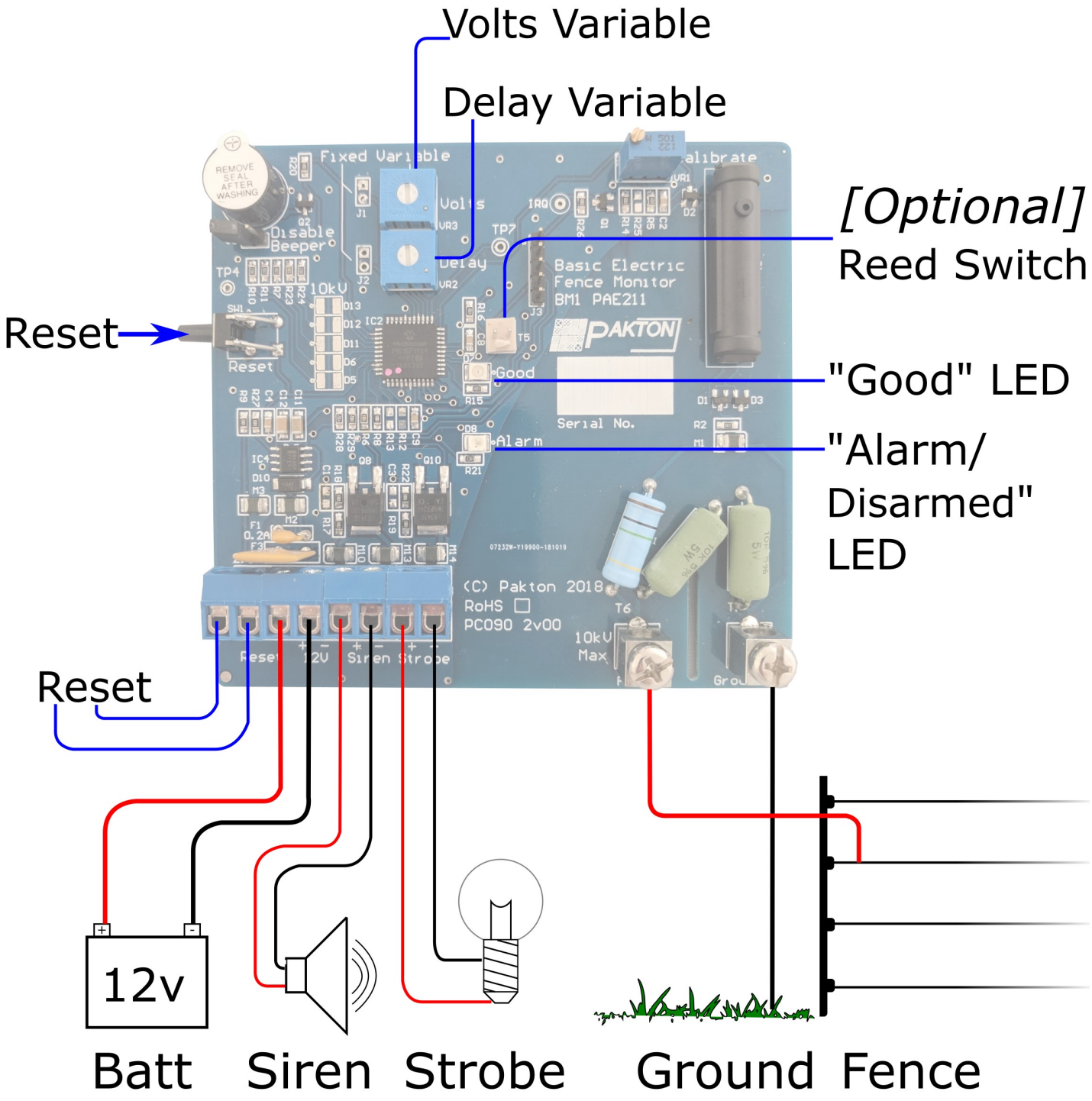
1. Turn the electric fence energiser **off**
2. Remove the cover from the BM1
3. Wire the 12V and Gnd to a 12V power supply or battery, but leave the **power off**
4. Attach the optional external equipment now
    a. Siren
    b. Strobe
    c. External reset switch
5. Connect wires from the fence to the BM1
    a. Fence binding post
    b. Ground binding post
6. Keep these fence wires at least 25mm away from all the other “low voltage” wires

[Optional]: Make any adjustments to the Volts and Delay settings (see below)

7. Turn the electric fence energiser **on**
8. Turn the 12V power supply **on**/plug in the battery
9. The “GOOD” LED should flash at once and then pulse with the fence
10. Wait 30 seconds
11. If your fence voltage is good the BM1 should **not** go into alarm
    a. Green “Good” LED is **PULSING**
    b. Red “Alarm” LED is **OFF**
    c. Beeper, Siren and Strobe are **OFF**
12. Turn the electric fence energiser **off**
13. Wait a few seconds (30 seconds if [VR2] “Delay” is clockwise)
14. The BM1 will go into alarm
    a. Green “Good” LED is **OFF**
    b. Red “Alarm” LED is **ON**
    c. Beeper, Siren and Strobe are **ON**
15. Press the Reset button on the BM1 once, the Siren and Buzzer will shut off, the Strobe output and Alarm LED will remain on.
16. Fit the cover back onto the BM1
17. Turn the electric fence energiser on again
18. Press the Reset button again. The Strobe and Alarm LED will shut off.
19. “Good” LED will pulse with the fence.

Version February 2019. Uncontrolled if printed

3 Reference Diagram



4 Adjusting Set Points (optional)

4.1 Set the Alarm Voltage

If your fence voltage falls below the alarm voltage setting for longer than the alarm delay, the BM1 will go into alarm.

The alarm voltage trimpot comes pre-set at 12 o'clock, which is 3kV.

To change this alarm voltage setting, adjust the trimpot VR3.

Note: "Trimpot" is an abbreviation for "trimming potentiometer".

4.1.1 Using the voltage trimpot

Using a small flat blade screwdriver, turn the "Variable Volts" [**VR3**] trimpot to suit the requirements:

- Anti-clockwise for a smaller voltage *(fence voltage has to fall lower for an alarm)*
- Clockwise for a larger voltage – fully clockwise is 5kV

[tip] If you do this with the energiser running you can use the "Good" and "Alarm" LED's to set the voltage set point where you want it to be.

[tip] Check that the setting is correct by placing a short on your fence at various points and making sure the BM1 goes into alarm. Make sure you also check that a break in the live connection at any point also make the BM1 go into alarm.

4.2 Set the Alarm Delay

If your fence voltage falls below the alarm voltage setting for longer than the alarm delay, the BM1 will go into alarm.

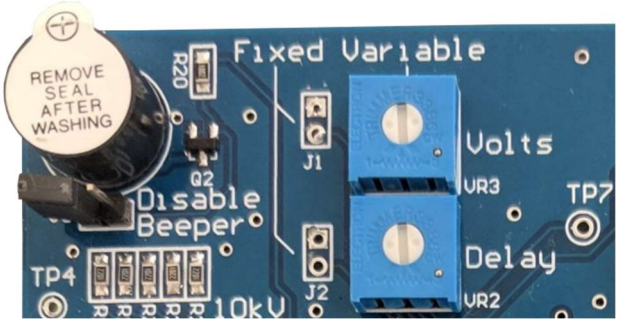
The alarm delay trimpot comes pre-set at 11 o'clock, which is 4 seconds.

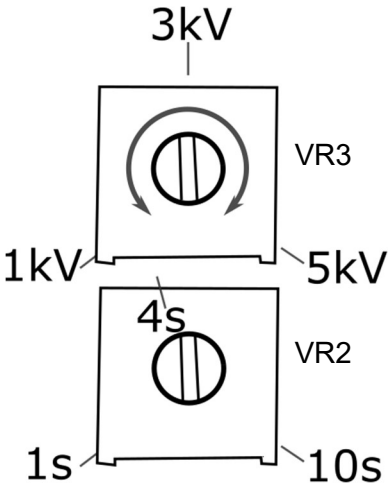
To change this delay time, adjust the trimpot VR2.

4.2.1 Using the delay trimpot

Using a small flat blade screwdriver, turn the "Variable Delay" [**VR2**] trimpot to suit the requirements:

- Anti-clockwise for a shorter delay *(more false alarms)*
- Clockwise for a longer delay – fully clockwise is 10 seconds





5 What happens on an alarm

5.1 When an alarm occurs

When the fence voltage connected to the BM1 falls below the set voltage for the set time period the BM1 will go into alarm.

The Siren will remain on for 5 minutes, after which time the BM1 is disarmed.

If you press the Reset button when the siren is on, it will mute the siren.

If you press the Reset button a second time the BM1 will rearm immediately.

After making sure it is safe to do so, check your fence for shorts or cuts.

5.2 Status / Event flow chart

ARMED

- Good LED On

[event] Fence cut, fence shorted, or energiser turned off →

ALARM

- Beeper, Siren and Strobe on
- RED alarm LED on

[event] Reset button pressed, or Siren times out→

ALARM MEMORY and DISARMED

- Strobe on
- RED alarm LED on

[event] Reset button pressed →

ARMED

- Good LED on

5.3 Disarm

If you want to disarm the BM1, for example to do some maintenance on the fence, simply press the Reset button until the Alarm/Disarmed LED is on.

When you want to re-arm, press the Reset button to turn the Alarm/Disarmed LED is off.

Version February 2019. Uncontrolled if printed

6 Specifications

Table 1 – Specification Table

Area	Specification
Supply Voltage	10-15V DC
Supply Current	10mA
Variable Voltage setting	0 – 10kV
Variable Delay setting	1 - 30 seconds
Auto-rearm period	N/A
Acceptable Pulse Period	0.9 to 3.0 seconds
Energiser Compatibility	IEC60335.2.76 over 0.2J
Isolation From Fence Circuit	25kV (by design)
Operating Temperature Range	-10°C to +50°C
Siren output	12V, 15W maximum
Strobe output	12V, 15W maximum

Specifications are subject to change without notice.

The BM1 is protected by self resetting fuses. There are no user serviceable parts. For service or repair please contact your JVA dealer or distributor.

Important! Mount this product indoors, it is not waterproof!

For the latest copy of this manual see www.jva-fence.com.au/downloads.php

Version February 2019. Uncontrolled if printed