Monita M1 Operational Guide

About the Monita M1

The Monita M1 is powered by a 3.6V “AA” battery and does not rely on the phone line for power.

The Monita M1 does not require a separate phone line and can be connected as an additional device to an existing telephone service in parallel with other telephony devices.

The Monita M1 is designed to work on a standard 2 wire analogue Public Switched Telephone Network (PSTN) line as specified by Australian Communication Authority (ACA). It is not guaranteed to work on a private analogue PABX. It should not be connected to a digital PABX system, as damage to the unit can result.

The Monita M1 alarm input circuitry can be configured to generate alarm calls from devices which are normally open circuit, going to closed circuit during alarm conditions (the closed circuit state can be fleeting or permanent).

Alternatively, the Monita M1 can be configured to accept a sensor input which is normally closed circuit in the non alarm state, going to open circuit during alarms (the alarm state can be fleeting or permanent).

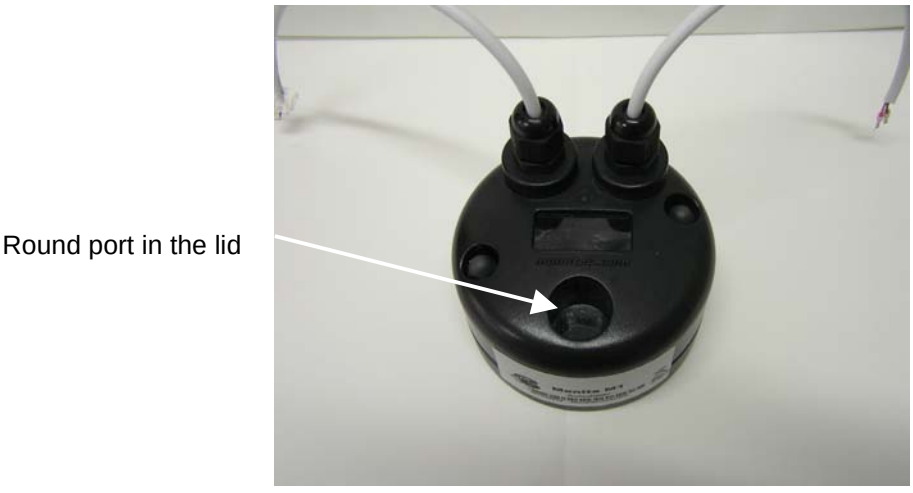
WARNING: The Monita M1 must never be connected to contact sets switching other circuits or that are ground referenced. All contact sets must be free of any voltage.

Connecting Monita M1

- Plug M1 into phone line via Telco cable and connect input leads to appropriate device via the customer cable.

Creating Calls from Monita M1

- To cause an alarm call from the Monita M1, create an alarm situation from the connected device. **Note**: to initiate a call, the contact will need to be closed or opened for longer than the Delay Before Event Call (DBEC)
- Upon contact, the Monita M1 will flash the Red and Green LED's sequentially, pause for approximately 3 seconds then the Green LED will flash once at the start of the dialing sequence (LED's can be viewed through the round port in the lid)
- The phone number will be dialed, then the DTMF data string will be transmitted [**Note**: the DTMF data string will be transmitted following a programmable delay period after the end of the dialed phone number (ie. 12 second pause)]



Acknowledging a call from Monita M1

- A call cannot be acknowledged until *entire* DTMF data string has been transmitted.
- To acknowledge call, press 5 on receiving phone or system. A 10 second window is available to send acknowledgement back to the Monita M1.
- The Monita M1 will flash the Green LED once to signal the call has been successfully acknowledged and that it has hung up (disconnected that call).
- Acknowledgment is confirmed by the Monita M1 flashing the Green LED once as DTMF "5" is detected.
- This feature is programmable to on or off.

Failed call detection

- If the Monita M1 call fails for any reason, the Red LED will flash once.
- Scenario's of failed call:
- No call acknowledgement: DTMF "5" has not been pressed/transmitted back to Monita M1 within acknowledgement window. This will start retry sequence (see below for details).
- Receiving phone off-hook engaged: Monita M1 will transmit DTMF the data string, but due to no acknowledgement, will start retry sequence.

Parallel phone off-hook

- Before attempting to dial, the Monita M1 will test to see if the phone line is already occupied. In these circumstances the Green LED will flash once, followed by 5 flashes of the Red LED, then the retry sequence will commence.

Retry sequence

- 1 retry sequence (for one number) =
  - First number dialed, fail call (parallel phone or no acknowledgement), 1 minute break
  - First number dialed, fail call (parallel phone or no acknowledgement), 1 minute break
  - First number dialed, fail call (parallel phone or no acknowledgement), 1 minute break

  Therefore: (1 number + 1 minute) x 3

- 1 retry sequence (for more than one number) =

  (1st number + 1 minute, 2nd number + 1 minute +….. + 5th number + 1 minute) x 3
- Note: the duration of retries is dependant on how many phone numbers are programmed into the Monita M1.

Number of retries

- The number of times the Monita M1 will repeat the retry sequence is programmable.

  Retry sequence x (*programmed number)* = number of retries

Diagnostic Tools

The Monita M1 is fitted with two reed switches which have the following diagnostic features:
(Locations can be seen in the picture below)

Left Reed Switch: Line Test

- The line test reed switch is wired directly to an interrupt input on the Monita M1 microprocessor and when this is activated, it will force an immediate alarm call irrespective of any DBEC delay setting.
- Pass the magnetic swipe provided over the position of the reed switch (brush against the casing). This will cause a call to be made to the phone number programmed into the Monita M1. The Monita M1 will then follow the sequence described in ***Creating Calls from Monita M1*** instructions. Acknowledgment must occur or otherwise retry sequence will commence.
- This function aids in trouble shooting at installation or later. The test function, if used and successful, will confirm the phone line is working and the Monita M1 has been programmed with the correct target phone number.

- The diagnosis of faults can then be focused to the Monitored equipment and or its cabling and connection to the Monita M1. It should be noted however, this test bypasses the small amount of Monita M1 input circuitry between its input connection and its microprocessor. With this small exception, it is a useful test process allowing trouble shooting to focus up or down stream of the connection point between the Monita M1 and the equipment it is monitoring.

Right Reed Switch: Contact Test

Please note that this function can only be used on site if the DBEC is set to 0 or with a programming device where the DBEC can be set to 0 for the test and then returned to its appropriate delay period after the test.

- The contact input test reed switch is wired in parallel with the Monita M1 input circuitry, and can be used to confirm satisfactory Monita M1 function. It can be used following installation or later, particularly when it is difficult to cause a contact closure to occur within the product or system being remotely monitored.
- Pass the magnetic swipe provided over the position of the reed switch (brush against the casing). This will cause an immediate contact to be made (from the Monita M1 itself) but ONLY if the DBEC is 0 (immediate call). The Monita M1 will follow the sequence described in ***Creating Calls from Monita M1*** instructions). Acknowledgment must occur otherwise retry sequence will commence.
- Using the contact input test function will quickly confirm if the alarm system is working or not. If the call occurs, but no alarm is being sent from the monitored equipment, the fault will be in the cabling to the monitored equipment or the equipment setup itself.
- The contact input test is therefore a diagnostic aid helping break down the equipment at the monitored sight into two parts to help focus trouble shooting
- Part 1 – the phone system, the dialer and its programming
- Part 2 – the equipment being monitored, its alarm programming (if any) and the cabling and connections to the Monita M1.
- As indicated earlier, the DBEC function is set then the contact input test will not work and the procedure in the above line test description should be followed to conduct diagnosis of faults.