

# OPERATION MANUAL

## Liquid Level Alarm

### Auto Pump Connection - FPC-12654



## Introduction

MATElec Australia's Liquid Level Alarm is designed to provide warning indication and alarm when a water storage tank is full. Housed in a robust polycarbonate enclosure, the alarm features audible and visual alarms and a keypad interface with status indicator lights and alarm mute button. The Auto Pump Connection version includes a 9006 Float Switch with quick plug connection and a GPO for power supply to an automatic pump.

## Safety

This Liquid Level Alarm panel has been designed and built for applications that are Commercial and/or Industrial in nature, operation, function and location. If the control panel is to be used in Domestic/Residential applications, further consideration is required by the installer to ensure its suitability. It is the responsibility of the installing electrician to ensure compliance with relevant standards.

- Prior to installation, ensure power supply is isolated.
- Electrical connection to the panel must be carried out in accordance with the following pages.
- Additions or modifications to the control panel are not permitted and will void warranty.
- The controller is not intended for use by children or infirm persons without supervision.
- Repairs to the controller must only be carried out by a suitably qualified electrician.

This operation manual makes use of the following symbols to indicate warnings that must be paid specific attention to:



Damage to equipment or personal harm may occur if this instruction is not followed



Electrical risk (electrocution hazard) may occur if this instruction is not followed

# Functions & Fault Protection

## Level Alarm

The level alarm is activated when the input receives a closed contact. The alarm indicator light and strobe will illuminate, the buzzer with sound, and the volt free relay output will change state. The buzzer can be muted by pressing the mute button on the keypad. The level alarm automatically resets when the input receives an open contact.

## Auto Silencing Alarm

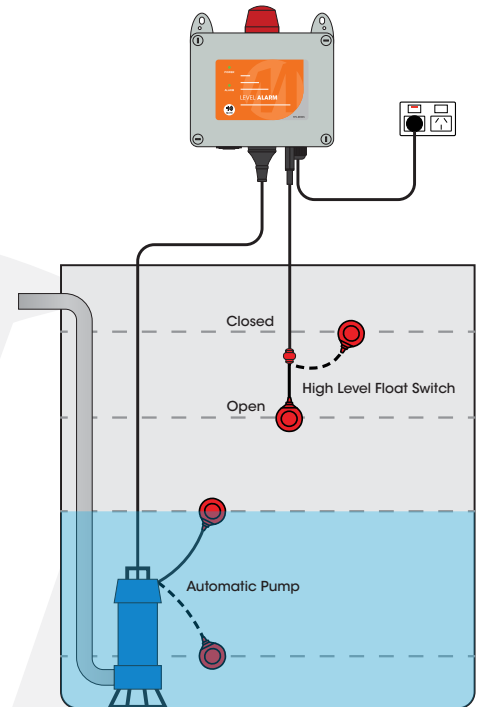
If not muted, the buzzer will automatically silence after 5 minutes and enter 'chirp' mode, sounding for 2 seconds every 5 minutes. This 'chirp' can be muted by pressing the mute button on the keypad. This feature can be disabled if a continuous alarm is required, by switching the jumper on the module to the 'continuous' position.

## Alarm Test

Holding down the mute button on the keypad for 2 seconds will trigger the alarm test. The alarm indicator light and strobe will illuminate, the buzzer will sound and the volt free relay output will change state. The alarm test will remain active until the mute button is released.

## Automatic Pump Output

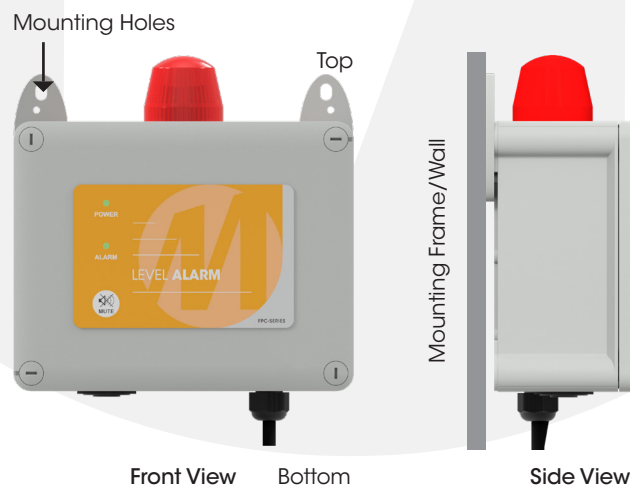
The 10 Amp GPO provides constant power supply for an automatic pump, which is controlled by its own float switch or other means of control.



## Step 1 - Installation



- Use the supplied mounting brackets to install the Liquid Level Alarm.
- Liquid Level Alarm enclosure must be mounted in a vertical position.
- Ensure mounting method does not compromise enclosure weatherproof rating.
- Ensure cables/conduits entering the panel have mechanical protection and that the penetrations are sealed and do not compromise the weatherproof rating of the enclosure.



## Step 2 - Float Switch Installation



- Install the high level float switch in the tank/pit using a suitable method.
- The included float switch with quick plug connector is wired to close on rise, so the level alarm will activate when the float switch rises. Ensure the float is at the correct height for the high level alarm.
- Adjust the switching differential, if required, by moving the cable weight position relative to the float switch.



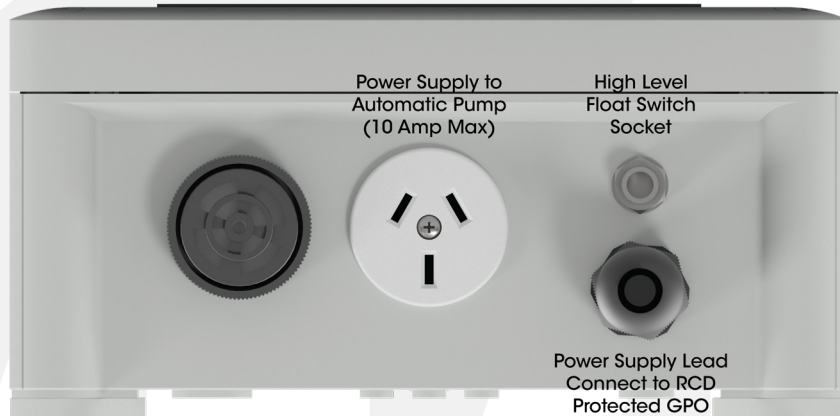
## Step 2 - Connections



**Warning: All electrical connections must be carried out by a suitably qualified and registered electrician**

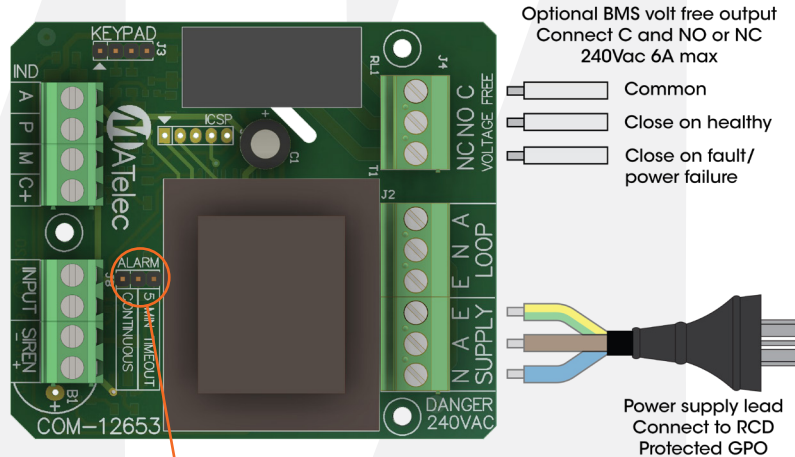
### 2.1 - Quick Plug Connections

- Connect the float switch to the quick plug socket on the underside of the panel.
- Connect the automatic pump (10 Amp max) to the GPO on the underside of the panel.



### 2.2 - Control Module Connections

- Connect to volt free output if required. If connected to 'C' and 'NO' terminals, the output will close when the alarm is inactive and open when active or on power failure. If connected to 'C' and 'NC' terminals, the output will close when the alarm is active or on power failure.



### 2.3 - Alarm Jumper Position



If this jumper is left on the '5 Min Timeout' position, the buzzer will automatically silence after 5 minutes if not muted, then chirp briefly every 5 seconds.



If a continuously sounding alarm is required, switch this jumper to the 'Continuous' position.

## Step 3 - Powerup



Close and secure enclosure door, connect the power lead into RCD protected GPO and switch on mains power.

# Keypad Operation

## Indicator Lights



Solid - Power on

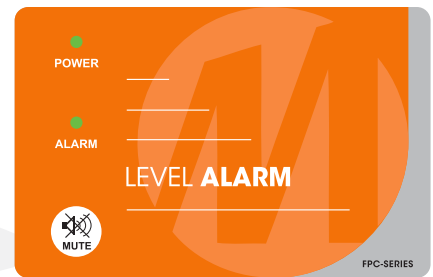


Solid - Alarm active

## Push Buttons



Press for 1 sec - Mutes the buzzer  
Press for 2 sec - Tests alarm indicator light, strobe & buzzer



## Fault Diagnosis



**Warning - Any remedy that requires access inside the enclosure must be carried out by a suitably qualified and registered electrician.**

| Fault                                     | Cause  | Remedy   |
|---|--|--|
| Level alarm (alarm indicator light solid) | Water in the tank/pit is at the alarm level.     | Inspect the level in the tank/pit. If at the alarm level, mute the alarm until the level rises/falls and the alarm condition subsides.   |
|   | Float switch installed incorrectly.              | Ensure the float switch is installed at the correct height in the tank/pit, for a high level alarm. Adjust if required.  |
|   | Float switch damaged or faulty.                  | Disconnect the float switch from the input. If the alarm clears, the float switch may be faulty. With the float in the open position, test for leakage/shorts across the across the wires. Replace the float switch if required.   |
|   | Moisture ingress into quick plug socket.         | If disconnecting the float switch did not clear the alarm, disconnect the quick plug socket input wires from the module. If the alarm clears, the quick plug socket may be damaged or may have moisture ingress. Isolate power, carefully dry the socket then reconnect the input wires to retest. Consideration must be given to the installation method to prevent moisture ingress into the socket. |
|   | Liquid level alarm keypad damaged.               | If disconnecting the quick plug socket from the input did not clear the alarm, disconnect the keypad ribbon from the module. If the alarm clears, the keypad is damaged and should be replaced.  |
|   | Liquid level alarm module damaged.               | If disconnecting the input and keypad from the module did not clear the alarm, the module is damaged and should be replaced.   |
| Level alarm not activating                | Water in the tank/pit is not at the alarm level. | Inspect the level in the tank/pit. If not at the alarm level, the unit is operating correctly.   |
|   | Float switch installed incorrectly.              | Ensure the float switch is installed at the correct height in the tank/pit, for a high level alarm. Adjust if required.  |
|   | Corrosion on quick plug connector or socket .    | Check for and clean off any corrosion from the quick plug connector. Twist the connector in the socket to try and rub off any corrosion on the socket contacts, the retest.  |
|   | Liquid level alarm module damaged.               | If no other remedies were successful, bridge the input. If the alarm still does not activate, the module is damaged and should be replaced.  |
| Alarm test not working                    | Liquid level alarm keypad damaged.               | If the indicator light, strobe and buzzer fail to activate when the mute button is held down for 2 seconds, the keypad is damaged and should be replaced.  |
| No power on indication                    | Liquid Level Alarm does not have power.          | Connect and switch on the power supply to the panel. The power on indicator light will be illuminated when power is on.  |
|   | Keypad ribbon not connected.                     | Ensure the keypad ribbon is connected to the control module 'keypad' pins. If connected and still not working, the ribbon may be in the wrong orientation. Rotate the ribbon 180° on the module pins.  |
|   | Liquid level alarm keypad or module damaged.     | Press the mute button on the keypad for 2 seconds (test this with the keypad ribbon connected to the module pins in both orientations). If the alarm activates, but the power on indicator does not, the keypad is damaged and needs replacing. If the alarm does not activate, the control module is damaged and needs replacing.   |