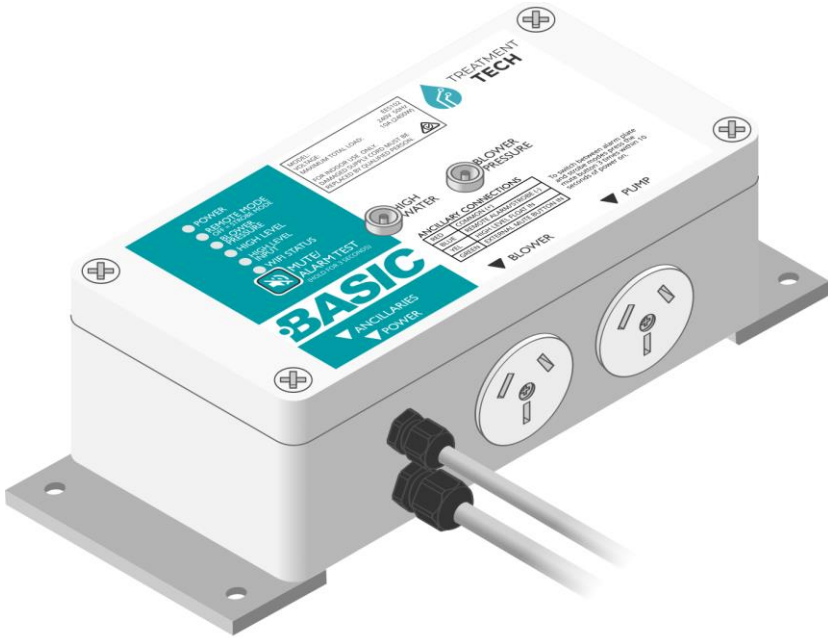


BASIC USER MANUAL

Treatment Tech BASIC
Waste Treatment System Controller
Model: EES102



TREATMENT
TECH



Revision 1

5/4/2024

www.treatmenttech.com.au

Phone: +61 (0)7 5354 6110

email: contact@treatmenttech.com.au

Treatment Tech has no affiliation with any of the waste treatment system brands mentioned in this document. All trademarks are property of their respective owners.

© Copyright 2024 Electronic & Electrical Solutions Pty Ltd

1 Contents

1	Contents.....	1
2	Introduction.....	2
3	Main Features/Applications.....	3
4	Installation.....	4
5	Front Panel.....	9
6	Operation.....	10
7	Remote Alarm Plate.....	11
8	WiFi.....	13
9	White Labelling and Customisation.....	16
10	Troubleshooting.....	17
11	Specifications.....	18
12	Warranty.....	19

2 Introduction

Congratulations on your purchase of the Treatment Tech BASIC controller for your domestic waste treatment system.

To ensure that you have the best possible experience with your Treatment Tech BASIC controller, please ensure that you read through this manual and understand the operation before use.



This symbol is used to note instructions that must be followed to prevent damage to the device.

2.1 Regulatory Compliance

The Treatment Tech BASIC has been designed and tested to comply with Australian regulations regarding electrical safety, Electromagnetic Compatibility and radio transmissions and as such complies with the following Australian/New Zealand standards:

AS/NZS 3105:2014

AS/NZS 4268:2017

AS/NZS CISPR32:2015

The RCM mark is a confirmation that the equipment meets Australian regulatory requirements. Always look for this mark when purchasing new electrical equipment:



3 Main Features/Applications

The Treatment Tech BASIC controller is designed to be an easy to use and cost-effective alternative for treatment system owners, servicepeople and manufacturers. It is suitable for use in systems where the blower and effluent pump are both powered 24/7. It will monitor the blower function and high level and can provide indication of a fault using either a local strobe light and inbuilt buzzer, or a remotely mounted alarm indicator panel.

3.1 Applications

The following is a list of applications for the BASIC controller that we believe are compatible at the time of publishing. Note however that there are variations of these systems over time, so responsibility rests with the purchaser to ensure that it will be suited to their specific application.

Note that if a remote alarm indicator is fitted in the house this will need to be replaced with a Treatment Tech REMOTE.

- Bio Treat
- Biocycle
- Envirocycle
- Fuji Clean
- Alpha Treat (DP10)
- BioSeptic
- Econocycle
- Garden Master

4 Installation

4.1 Location



The Treatment Tech BASIC controller must not be exposed to the weather. Installation in a motor box or other housing is the only acceptable option.

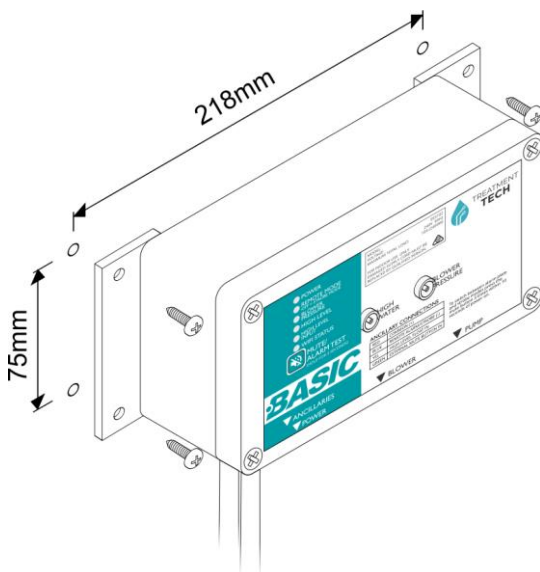
While it is designed and constructed to be water resistant, the BASIC controller is not waterproof and as such must be installed in a motor box or other weather protected location. Do not install in a location where it will be regularly exposed to direct sunlight.



Ensure that the motor box is adequately sealed from the tank. Any gases generated by chlorine disinfection systems can cause significant damage to the BASIC and other equipment inside the motor box.

4.2 Mounting

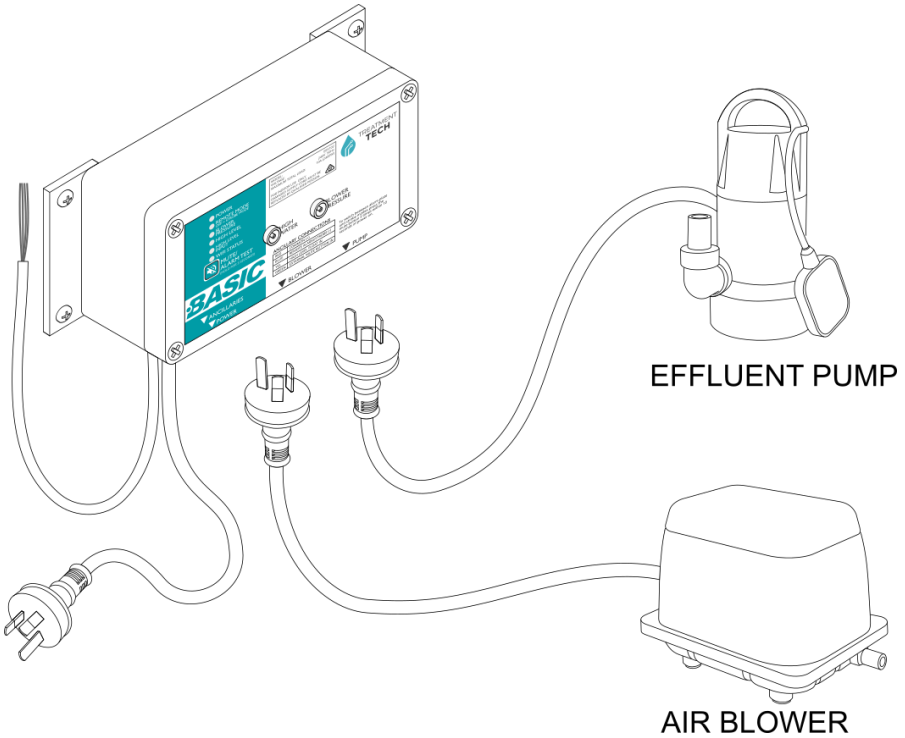
The BASIC controller is mounted in position using the 2 or 4 holes in the mounting tables on each side of the unit. These holes are 6mm, allowing for the use of a #10 or #12 self-tapping screw or an M6 bolt.



4.3 Blower/Pump Connections

The 240V blower and pump connect via standard socket-outlets on the lower side of the control unit. Both outputs are permanently powered.

The maximum combined load for the pump and blower outlets is 10A at 240V.



4.4 Alarm Indication

The BASIC controller has two options for alarm indication in order to best suit the requirements of the particular site.

Australian Standards Requirements

AS/NZS 1546.3:2017 clause 2.3.1.2 requires the following of an alarm system on an Aerated Wastewater Treatment System:

- (a) Provide audio and visual signal failure of all electrical equipment, including, but not limited to, aeration equipment, electrolysis equipment, UV light disinfection equipment, solenoids, ozone generators, and internal and irrigation pumps;
- (b) Provide high water level, and where applicable, low water level, and audio and visual signal failure;
- (c) Have a temporary muting facility that automatically resets to audible after a maximum time period of 24 h;
- (d) Be located in a readily visible position from within the premises or as required by the regulation authority;

Option 1: Strobe and Siren

Whenever there is an alarm condition the strobe output will turn on and the controller's inbuilt siren will begin to sound.

The siren can be muted by pressing the *Mute* button on the front panel. Alternatively, if an external mute button is wired in this can also be used to mute the siren.

As per the Australian Standards requirements, the mute will only take effect for 24 hours, after which the siren will begin to sound again.

Option 2: Remote Alarm Indicator

This has been the most common approach for treatment plant alarm indication over the past 20 years. Instead of a siren and strobe at the treatment plant a wire connection is run into the dwelling where an indicator unit is mounted.

The Treatment Tech BASIC is compatible with the Treatment Tech REMOTE alarm indicator, which can alert the residents of the failure type or a power fail. It has an audible alarm with mute (also with 24 hour reset).

The REMOTE is connected using just a single pair of wires that send both power and data together. The connection is not polarity dependant, making connection simple. It is however important that all connections are secure, the cable is undamaged and there is no water in the conduit or intermittent operation/nuisance alarms may result.

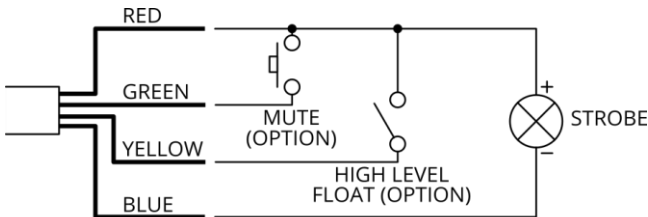
4.5 Switching Between Alarm Modes

BASIC controllers are supplied from the factory configured for remote alarm mode. To change the mode, the mute button on the front panel must be pressed 3 times in quick succession, within 10 seconds of turning on power to the unit.

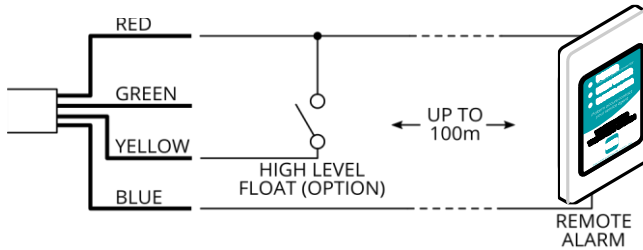
The status of the alarm mode is indicated on the front panel: if the *remote mode* indicator LED is on then the system is in remote alarm mode. If the LED is off then the system is in strobe mode.

4.6 Ancillary Connections

The BASIC controller is configured as follows, with two options based on whether remote alarm or local alarm (strobe and siren) are used:



LOCAL ALARM CONFIGURATION



REMOTE ALARM CONFIGURATION

Remote Alarm

When set to remote alarm mode a Treatment Tech REMOTE alarm indicator can be connected with a two-wire connection up to 100m away from the treatment plant. This connects to the red and blue wires.

Strobe Light

In strobe mode the red and blue wires are instead connected to a strobe light. Note that the red wire is positive, blue is negative. In strobe mode the internal siren will also activate when there is an alarm.

High Level

The High Level functionality can be triggered either by using an air tube type high level pressure sensor OR a float switch connected to the red and yellow wires of the 4 core ancillaries cable. If the float switch input is not being used please ensure that the corresponding wires cannot short out (which would trigger a false alarm).

External Mute

An external mute button can be connected between the red and green wires. This can be used to silence the siren when the system is configured for strobe mode. Note that the external mute button cannot trigger an alarm test like the front panel mute button (as described in section 6.5). The external mute input has no effect when the system is configured in remote mode.

4.7 Pressure Sensors

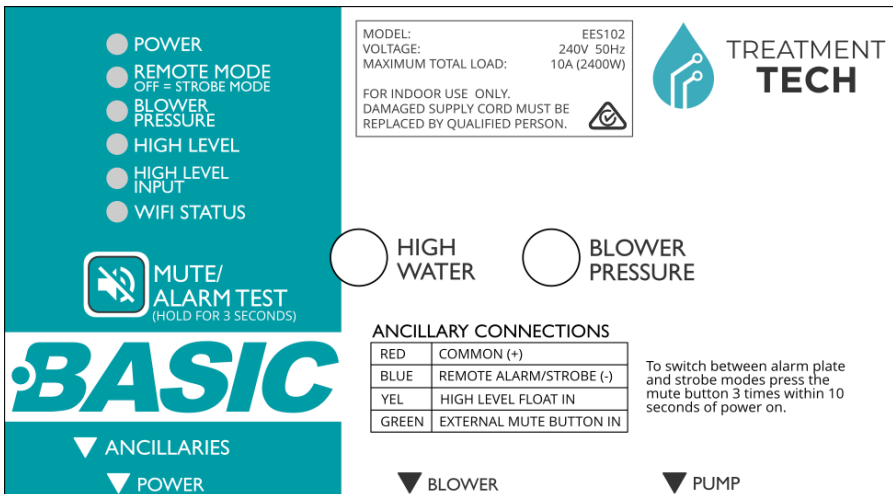
Traditionally treatment system controllers have used simple pressure switches for detecting blower operation and/or high level detection. The switches can fail over time, leading to intermittent or false alarms which can be frustrating for the residents.

The Treatment Tech BASIC introduces the latest technology: instead of pressure switches MEMS sensor devices have now been used. These sensors should exhibit trouble-free operation and a long lifespan.

The BASIC controller has two pressure sensor inputs designed to accept PVC or polyurethan tubing with a 4mm inner diameter and a maximum external diameter of 7mm.

5 Front Panel

The front panel provides the pressure sensor connections, plus a mute/alarm test button and six indicator LEDs.



6 Operation

The operation is quite simple in that the controller is simply providing alarm condition monitoring. Both socket-outlets are constantly powered.

6.1 Blower Fault

If the blower pressure sensor is not triggered then the blower fault indicator LED on the controller will begin to flash. After 30 seconds the LED will remain on solid and the alarm will activate.

6.2 High Level

There are two options for the high level alarm: a pressure sensor or float switch. To use the pressure sensor, simply connect the high water air hose to the pressure sensor marked "High Water". To use a float switch, simply connect the float normally open contacts to the float switch wires of the 4-core cable.

If the high level pressure sensor and/or float switch input are activated the corresponding high water indicator LED on the controller will begin to flash. After 30 seconds the LED will remain on solid and the alarm will activate.

6.3 Remote Alarm Indicator Mode (Default)

In this mode, the system is connected to a REMOTE alarm indicator mounted inside the residence. The REMOTE receives both power and signal over a two wire connection that can be up to 100m long. In the event of a power fail the REMOTE's backup battery can keep the alarm plate powered for a period in order to alert the residents.

6.4 Strobe Mode

In strobe mode, any faults are indicated using an externally mounted strobe light and the internal buzzer.

There is a mute button on the front panel of the controller and an additional mute button can be wired to the appropriate wires of the 4-core cable. Alarm muting will silence the buzzer for 24 hours (but the strobe will continue to flash).

Note that as per the Australian Standards, the mute facility only lasts for 24 hours from the last time the mute button was pressed, after which the siren will begin to sound again.

6.5 Alarm Test

An alarm test can be performed at any time by pressing and holding the front panel mute button for more than 3 seconds. This will activate the strobe and buzzer (if in strobe mode). Once the button is released the alarm test will cease.

Note that the alarm test feature is not available on the external mute button.

6.6 Ancillary Output Overload Protection

The ancillary outputs are protected against short circuits and overloads. The maximum current available the strobe light or REMOTE alarm indicator is 200mA.

In the event of an overload condition the system will temporarily turn off the output and the power LED will flash. The system will attempt to retry the output every 60 seconds until the overload condition is removed.

7 Remote Alarm Plate

The Treatment Tech BASIC is designed to be used with the Treatment Tech REMOTE alarm indicator. This can be mounted inside the residence to provide a simple, convenient indication of the system state.

The following information is just an overview; please consult the Treatment Tech REMOTE manual for full, up to date details of the installation and use.

7.1 Installation



Connections between the treatment plant and the house **MUST** comply with AS/NZS 3000 requirements regarding insulation.



Poor electrical connections and/or connections exposed to moisture can result in intermittent operation of the remote alarm plate and/or nuisance power alarms.

The remote alarm plate is designed for ease of installation and as such power and a signal are sent over the same pair of wires. These connections are **NOT** polarity conscious so it does not matter which way around they are connected.

The remote alarm plate can be located up to 100m from the BASIC controller. In order to avoid excessive voltage drop it is recommended that a minimum of 1mm² cable is used. Even though the REMOTE operates as a safe, extra-low voltage a minimum cable insulation rating of 300VAC is recommended.

Because a data signal is sent to the remote alarm plate, it's important that good connections are maintained. Ensure that screw terminals are free of corrosion and tightened appropriately and that there is no opportunity for moisture to enter the conduit or junction boxes. Both of these can cause intermittent problems with the alarm plate operation.

Before fixing to the wall, ensure that the *power* jumper on the back of the alarm plate is moved to the ON position.

7.2 Operation

The remote alarm is powered up whenever the BASIC controller is on. During normal conditions the green power LED will be lit and blink approximately twice per second.

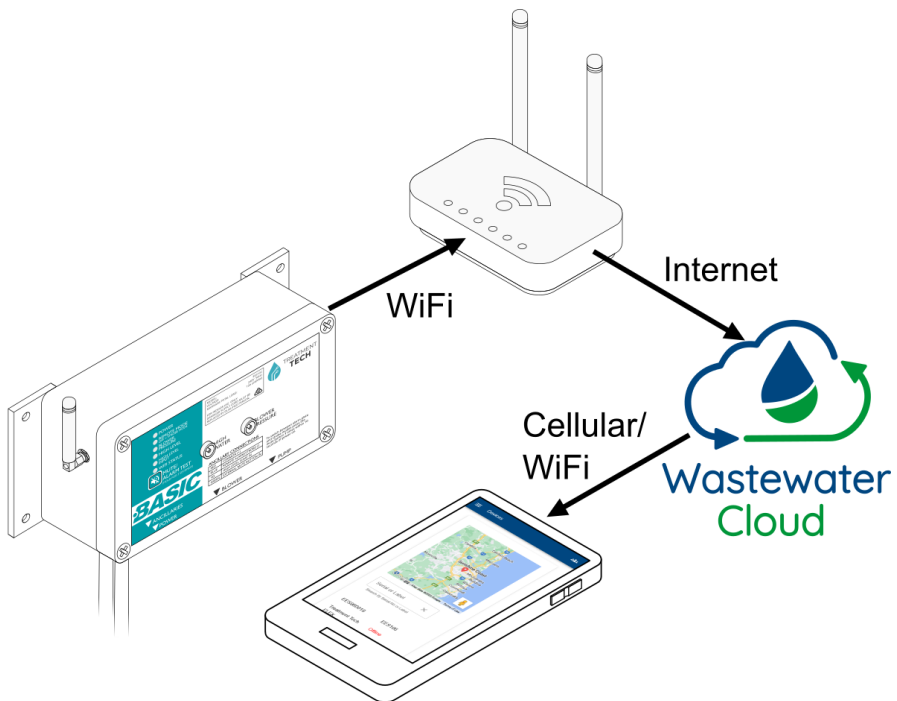
If any of the alarms is activated then the corresponding LED on the remote alarm plate will also be lit and the inbuilt buzzer will begin to sound.

The buzzer can be muted at any time by pressing the mute button. In order to comply with Australian Standards the mute is self resetting and after 12 hours if the alarm is still present the alarm will begin to sound again. Pressing the mute button again repeats the process.

If the system loses power then an onboard backup battery will allow the alarm plate to continue functioning for up to 24 hours. All LEDs (including the power LED) are switched off to conserve power, but the power LED will flash once every few seconds and the buzzer will sound to indicate a power failure.

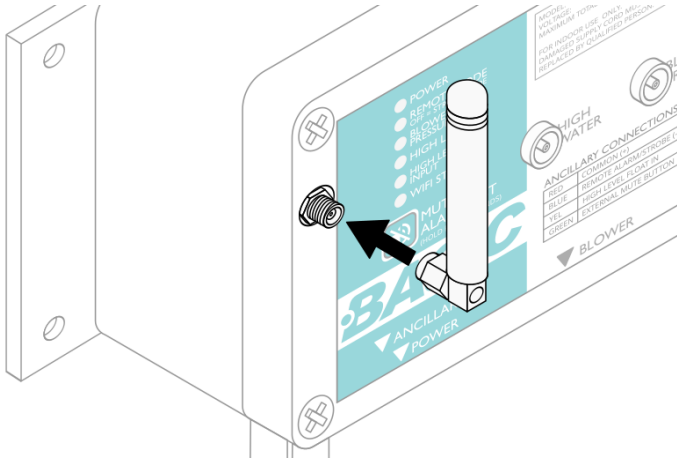
8 WiFi

If the BASIC controller has been purchased with the WiFi option then it will be able to connect to Wastewater Cloud using the residence's internet connection. The following diagram shows how this works:



8.1 Antenna Connection

The WiFi antenna is mounted on the front of the BASIC controller and for best signal strength should be swivelled into a vertical position when installed. Once in the correct position, tighten the hex of the antenna body SMA connector.



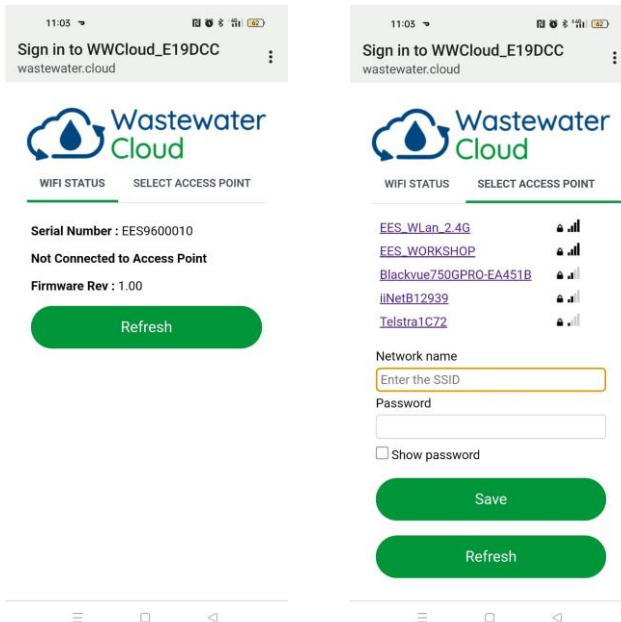
DO NOT overtighten the antenna connector: finger tight is sufficient. Take special care if a spanner is used.

If the residence WiFi signal strength is insufficient a larger antenna can be fitted. The antenna must be 2.4GHz and requires an SMA male connector (the BASIC has an SMA female connector).

8.2 Connecting to the WiFi Network

While standing next to the powered on BASIC controller, open the WiFi settings on your mobile device and select the network name that starts with **wwcloud**. The trailing characters in the name are the unique identifier of that device. Once connected, the configuration page should pop up.

If a network has already been configured then the *WiFi Status* tab will be shown by default. Otherwise the *Select Access Point* tab will be shown.



Select the correct WiFi network and enter the password. If there is an error you can see details on the status tab.

If the password is correct the app will connect and close. You can now disconnect from the Hotspot and start using Wastewater Cloud.

8.3 Wastewater Cloud

Once the BASIC has been connected to the internet it will immediately begin sending status reports to Wastewater Cloud. To view the status information, scan the QR code sticker on the outside of the BASIC. This will take you to a unique link on the Wastewater Cloud website specifically for that device/plant.

For more information on the use of Wastewater Cloud please consult the website www.wastewatercloud.com.au

9 White Labelling and Customisation

The Treatment Tech BASIC serves as a versatile replacement control unit for existing systems but Treatment Tech also offers the option for white-labelling, enabling domestic waste treatment system manufacturers to customize and brand it according to their specific requirements.

This is an ideal choice for those who are looking for a modern, cost-effective control solution that meets Australian Standards. Why spend thousands of dollars on engineering time (and the onerous process of Australian Standards testing) when a cost-effective option is available?

Depending on the level of customisation required we can even completely rebrand to suit your application, as well as omitting unnecessary features to save on cost.

Please contact the Treatment Tech team if you'd like to discuss customisation options.

10 Troubleshooting



DO NOT open the FLEX controller; there are no user-serviceable parts inside. Hazardous voltages are present and by opening the device you may void the warranty.

Problem	Troubleshooting
No power	Check that GPO supplying the FLEX has power. Check treatment plant circuit breaker at switchboard.
The strobe light is always on	Ensure that you have selected the correct alarm mode (strobe only or siren and strobe).
The strobe won't work and the power LED is flashing	This means that the strobe output is short circuited or drawing too much power. Ensure that the strobe being used draws less than 200mA.

11 Specifications

Model Number:	EES102
Supply Voltage:	240V AC 50Hz
Controller power draw:	10W max
Maximum load current:	10A
Size:	240 x 140 x 85mm
Weight:	850g
Operating Temperature:	0°C to 50°C
Safety standards compliance:	AS/NZS 3105
Warranty:	24 Months

12 Warranty

A limited warranty for the EES96 FLEX controller is offered by Electronic & Electrical Solutions Pty Ltd ACN 107 373 231 trading as Treatment Tech (the "Manufacturer"). We can be contacted at:

3/9 Rawlins Circuit, Kunda Park, QLD 4556
+61 (0)7 5354 6110
contact@treatmenttech.com.au

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

1. Consumer Guarantees

The rights described in this warranty are in addition to any statutory guarantees or warranties that may apply under the Australian Consumer Law. Nothing in this Warranty limits or excludes any rights or remedies that the Customer may have under the Australian Consumer Law.

This warranty applies only to customers who are defined as a "Consumer" in Australian Consumer Law (Competition and Consumer Act).

2. Warranty Period

The Manufacturer warrants that the product will be free from defects in materials and workmanship for a period of 24 months (the "Warranty Period") from the date of purchase by the end user customer (the "Customer").

3. Resolution – Minor Failure

If the Customer makes a valid warranty claim for a Minor Failure in accordance with Clause 5 the Manufacturer will, at its option, either repair or replace the product or refund the purchase price of the product to the Customer.

4. Resolution – Major Failure

If the Customer makes a valid warranty claim for a Major Failure in accordance with Clause 5 the Manufacturer will either replace the product or refund the purchase price of the product to the Customer.

5. Warranty Claim Procedure

If the product was purchased directly from the Manufacturer the Customer may make a claim under this warranty by contacting the Manufacturer (on the above details) and providing proof of purchase of the product and a detailed description of the defect. The product will need to be returned to the Manufacturer for assessment.

If the product was purchased from a reseller then the Customer may make a claim under this warranty by contacting the reseller.

6. Exclusions and Limitations

This Warranty does not cover:

- (a) Damage or defects resulting from normal wear and tear, misuse, abuse, neglect, improper installation, unauthorized repairs or modifications, or use of the product in a manner for which they were not intended;
- (b) Damage or defects caused by accidents, fire, flood, or other natural disasters;
- (c) Consumable parts such as batteries, unless the defect is a result of manufacturing defects in the batteries themselves;
- (d) Damage or defects caused by third-party software or hardware;
- (e) Damage or defects caused by improper storage, exposure to extreme temperatures or humidity, or other environmental factors;
- (f) Damage due to lightning, power surges and other extreme electrical events;
- (g) Damage or defects caused by transportation or shipping;
- (h) Any indirect, incidental, or consequential damages arising from the use of the Product.

7. Repair Notice

Goods presented for repair may be replaced by refurbished goods of the same type rather than being repaired. Refurbished parts may be used to repair the goods.

8. Governing Law

This Warranty will be governed by and construed in accordance with the laws of Queensland, Australia. Any dispute arising out of or in connection with this Warranty will be subject to the jurisdiction of the courts of Queensland.

9. Severability

If any provision of this Warranty is found to be invalid or unenforceable, the remaining provisions will remain in full force and effect.

10. Entire Agreement

This Warranty represents the entire agreement between the Manufacturer and the Customer in relation to the Product, and supersedes all prior negotiations, agreements, and understandings between the parties.

By purchasing and using the Products, the Customer acknowledges that they have read, understood, and agreed to the terms of this Warranty.