WA
SCIENTIFIC
INSTRUMENTS

Drying Ovens
Incubators

Operating Manual

A WEST AUSTRALIAN MANUFACTURING COMPANY

INDEX

Introduction

Thank you for purchasing a WA Scientific Instruments product.
This instrument is designed to be used in a laboratory environment.

The Operating Manual

1. It is essential that this operating manual is read carefully prior to using the instrument. These instructions belong with, and should always be kept in close proximity to the instrument. It is the responsibility of the owner to ensure that users of the instrument are made aware of the location of the manual and have access to it.
2. The manual should be stored in a safe place where it will not be damaged by heat or moisture.
3. The manual must accompany the instrument if it is moved or transferred.
4. The manual describes the transportation, assembly, functionality and operation of the instrument and is intended for use by trained personnel only.
5. Users should only perform tasks described in this manual and should contact their manager, or WA Scientific Instruments or its agent if they have any questions or are unclear about any of the instructions therein.

Warning / Caution Labels

1. This operating manual uses the following warning and caution labels which are displayed on the instrument for safe operation.
2. Users must take note of these signs when operating the instrument.
3. If the warning labels become damaged or unreadable, they can be replaced by contacting WA Scientific Instruments or its agent.

Use heat and steam-resistant gloves

Beware of dust

Wear a face mask

Beware of poisonous or explosive vapors

Possible hazard

Disconnect the mains plug before removing any covers

Caution for Safe Operation and Unauthorized Modification

1. To protect the instrument and the system, the instrument should be used in accordance with the instructions.
2. WA Scientific Instruments will not be responsible for any incidental or abnormal operation or for any breach, expressed or implied, of warranty on this instrument or any part there of.
3. Re-organization of the interior of the instrument or installation of any add-ons is forbidden under warranty.
4. Replacement component and consumable parts are to be supplied exclusively by WA Scientific Instruments or its agent.
5. Avoid any strong impact or shock to the instrument as it will be considered as damage as the result of misuse.

Pre-Installation


1. To avoid injury to hands or feet, protective gloves and safety boots must be worn when transporting and unpacking the instrument. Appropriate lifting tools must be used during transportation and installation.
2. To avoid possible damage, the instrument should not be unpacked until it reaches the installation site.
3. Before installation, the instrument should be inspected for any damage that may have been incurred during transportation.

Check the Condition of the Instrument Before and During Unpacking

1. Check the delivery note to ensure that the delivery is complete.
2. Check all sides of the unit under packed conditions.
3. Carefully remove the protective material.
4. If the unit is damaged in any way, contact the carrier and the manufacturer immediately.
5. Keep the item as it was delivered and await further instructions.
6. Do not discard the carton or packing material for the unit.

Liability for Damage During Transportation

1. Any damage incurred during transportation is the responsibility of the carrier.
2. In the event that damage has occurred during transportation, WA Scientific Instruments or its agent will arrange for service at the customer’s site or the return of the instrument to the factory at the customer’s/carrier’s cost.

Disclaimer

WA Scientific Instruments will not be liable for any incidental or consequential damages or any breach of the implied warranty relating to this product.

Contents

Once the instrument has been unpacked, the components delivered should be checked against the delivery schedule. If any of the components are missing, contact WA Scientific Instruments or its agent.

Installation

Environment

The instrument should be installed in a safe and stable environment taking the following into account:

For optimal operating conditions:

1. The room temperature should be between 15°C and 30°C and humidity below 70% rh non-condensing.
2. The environment should be suitable for the safe operation of electrical equipment. The compliance label should be checked to ensure that all electrical requirements are met.
3. Altitude should be maximum 2,000m above sea level
4. There should be no direct sunlight.
5. The floor should be flat and level.
6. The instrument should be kept at least 1.5m from radiators and 20 cm from walls.

Power Connection

1. For safe operation, the compliance plate on the back of the instrument should be checked and the electrical requirements verified.
2. The power should not be connected before the appropriate electrical requirements are in place.

Safety Alerts and Cautions

1. Do not install this instrument near flammable materials, direct sunlight or humidity/moisture.
2. This instrument is connected to the electricity supply and caution should be used.

Safety Instructions

Dangerous

(May cause serius loss or injury)

1. The product must be grounded correctly.
2. Only use a power supply that has correct voltage in compliance with the product requirements.
3. Do not unplug the machine without turning off the power correctly.
4. Do not modify, extend or cut the machine’s power cable.
5. Do not place flammable, explosive, evaporative and corrosive articles in the machine.

Warning

(Unauthorized repair may cause loss or injury. We do not take responsibility for any unauthorized repairs)

1. Make sure to read and thoroughly understand the product's operating instructions before operating the machine.
2. Do not to pull the power cable directly out of the wall.
3. In the following instances, ensure power is switched off:
   - To change the fuse
   - To check and repair in the instance of a breakdown;
   - The product has not been used for an extended period;
   - To move the product;

Attention

(Not adhering to the following, may influence the lifespan and normal operation of the product)

1. The product should be located on a solid surface and be kept in a horizontal position.
2. The product must be used in the above manner

Description

It is recommended that users familiarise themselves with the name of each component and function before operating the instrument:

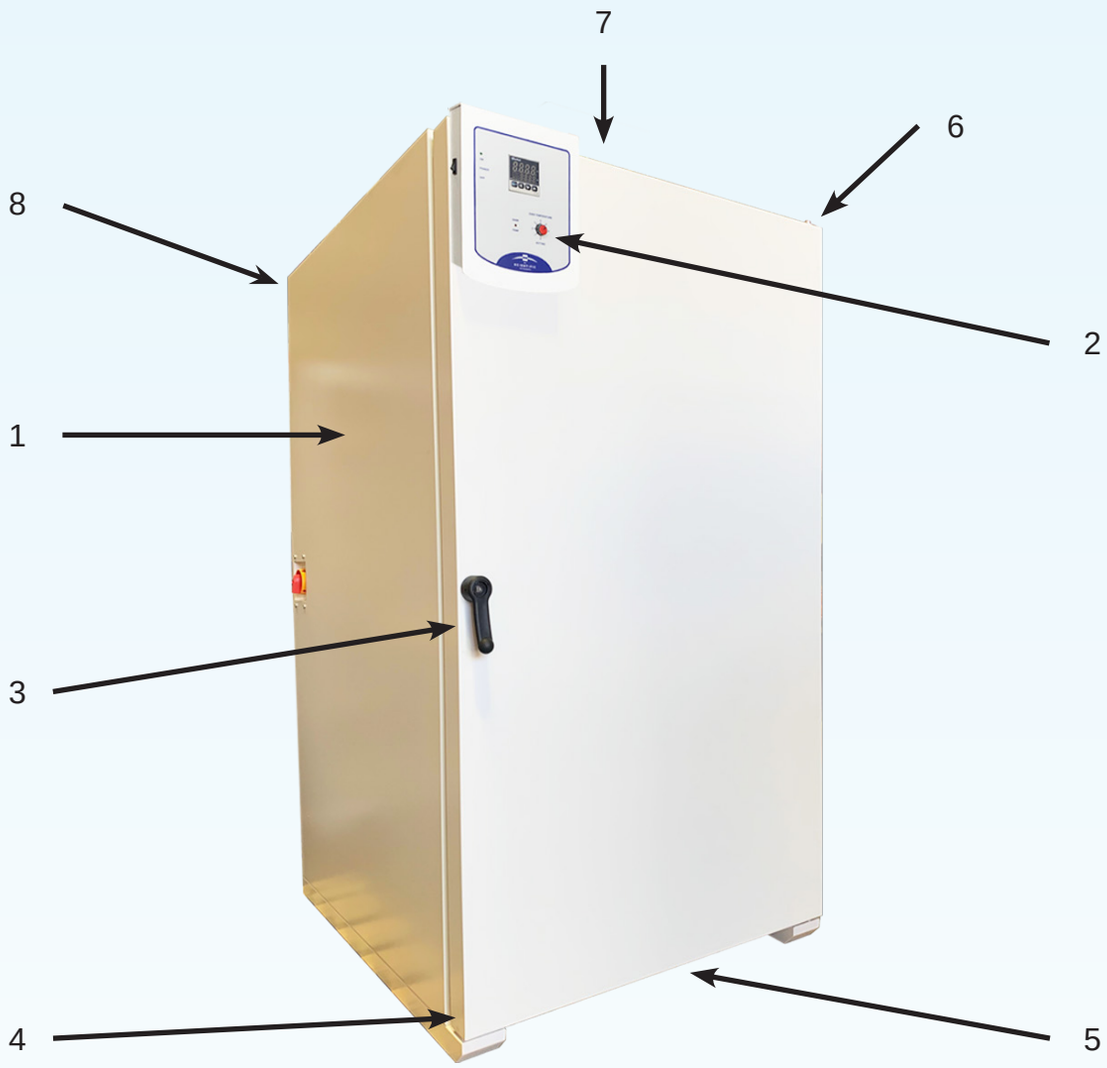


Figure 1

1. Carbon steel external body.
2. Control panel.
3. Catch at 2-point door closure
4. 2-point door closure adjustable.
5. Cooling system, natural air cycle door.
6. Adjustable hinge.
7. Access for inserting external measuring.
8. Back panel with fume exhaust.

Components and Functions

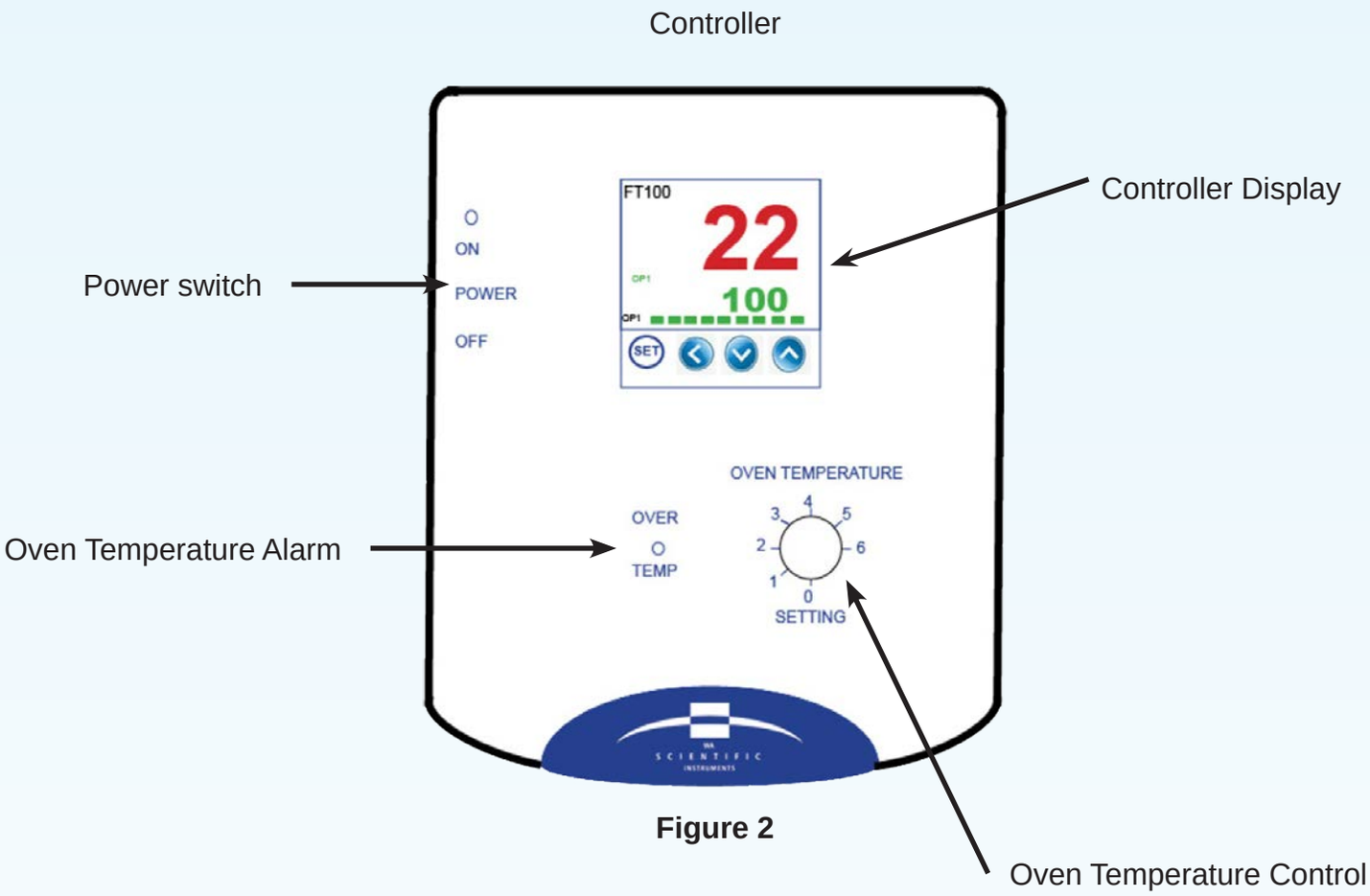


Figure 2

Shelf Installation

Before this instrument is put into operation, it should not be left unattended until it has reached, and is maintaining, a steady state.

Install the Shelves

1. Install the shelves at the appropriate height for the application.
2. The chamber should not be over-loaded. Sufficient space should be left around the load to ensure effective air circulation in the working chamber.
3. The load should not be placed on the bottom of the chamber, touching the side walls or directly below the ceiling of the working chamber (refer to Figure 3 for optimal loading).
4. If the interior is improperly loaded, the set temperature may take longer than normal to reach and the operating requirements may not be achieved.

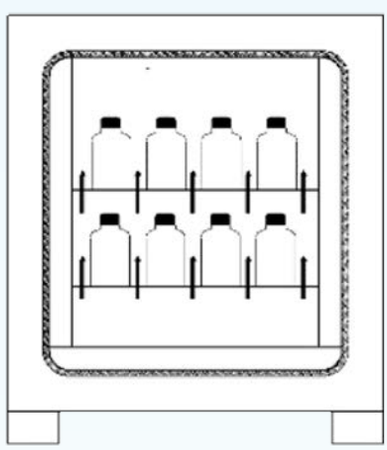


Figure 3

Switch on the Instrument

Figure 4

1. Switch on the instrument by pressing the mains switch indicated by on Figure 2. A green light indicates that unit is operational.
2. Set the over Temperature Control to maximum while setting the Set Value (SV) to the required operating temperature.
3. Press arrow across key and arrow up or down to achieve the required temperature.
4. Press SET to enter the SV.
5. After a few seconds, the display will automatically revert to display the current temperature. The programming is complete and the instrument will now go to the designated temperature.
6. Set the ALARM to a value of 10°/20° above the operating temperature. (see setting temperature chart below).

Table for Safety Thermostat

Position	Incubator	Oven
0	0ºC	0ºC
1	20ºC	50ºC
2	40ºC	100ºC
3	60ºC	150ºC
4	80ºC	200ºC
5	100ºC	250ºC
6	120ºC	300ºC

Controller Functions and Settings

Simplified instructions for routine use

The controller displays two values the Present Value (PV) that is the current temperature in the device. The Set Value (SV) which displays the desired temperature for the device. The controller has four keys arrow up, arrow down, arrow across and set. The controller parameters are factory set and do not require changing for normal operation. The only parameters that may require changing in routine use is the temperature Set Value (SV). To change the SV, press the arrow across key the green numerals will be activated and flash. Continue to arrow across activating the numerals in turn that you wish to change. By using the arrow up or arrow down keys to achieve the desired value press the Set Key to enter the new value into memory.

Setting the Over Temperature Control

Set the SV to the required temperature and turn the Over Temperature Control fully clockwise. When the device has reached the set temperature and stabilised turn the Over Temperature Control counter clockwise until it is activated. The control should be advanced by a few degrees to deactivate the over temperature control. Depending on the degree of advancement you will have a safety margin of 5 to 8ºC.

Setting the Timer

Press the Set Key once you will entre Level 1 of the parameter settings. Press the Set Key until you see t1 you can then enter the desired time from 0-9999 minutes by pressing the arrow across and the arrow up and down keys. Press the Set Key again to enter the value the display will revert to the operation screen.

Controller Functions and Settings

MaxWell FT100 Controller/Timer

The MaxWell FT100 Controller/Timer is used to control your device and it is very important to avoid damage that parameters are not changed without careful consideration. The controller will come with the display locked only the temperature Set Value (SV) will be adjustable. This level of access is sufficient for most operations.

The controller has 3 levels of parameter settings which are accessable through a software lock in parameter level 2. To gain access to all settings or change the level of the software lock please follow the procedure making sure that settings are not accidently changed.

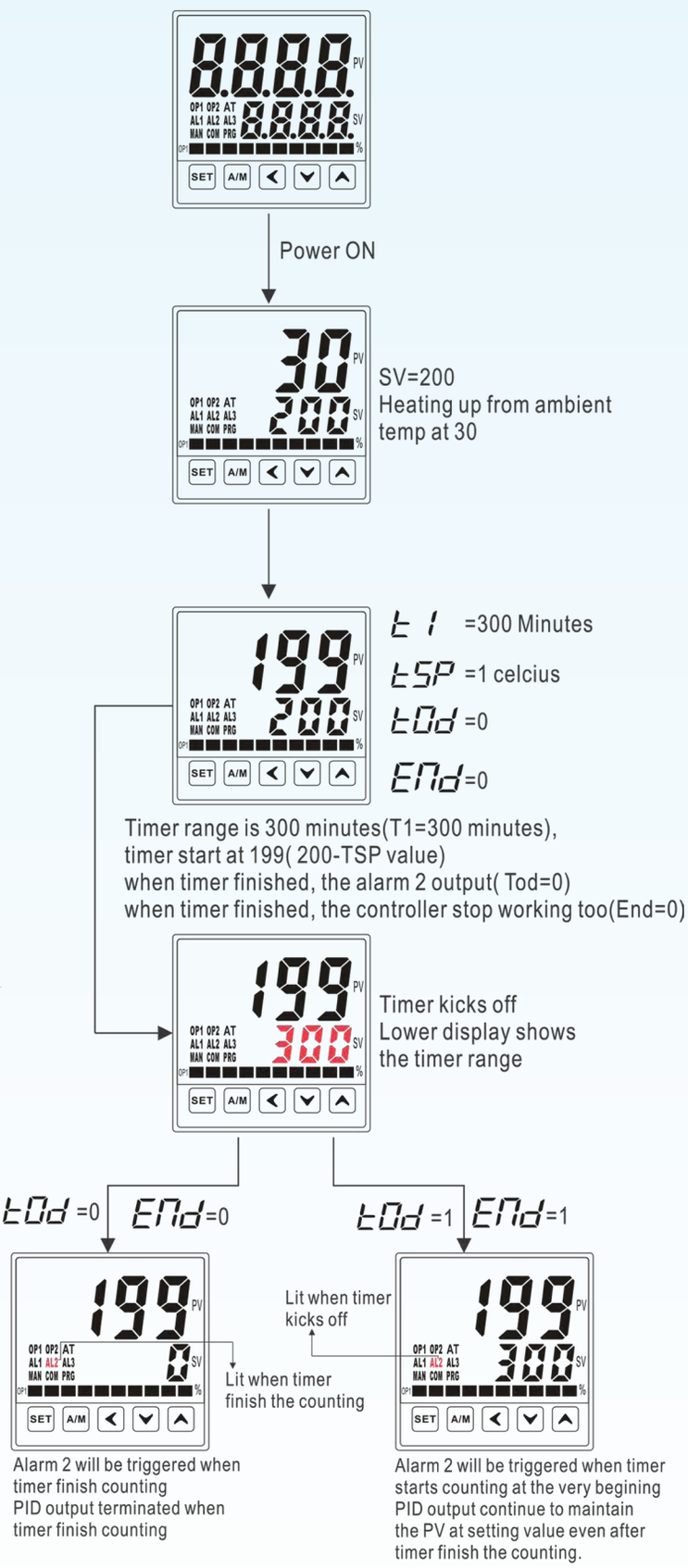
Hold the **Set Key** for 3 seconds
The display will show **P1**
Scroll through parameter settings using the **Set Key**
(by using the **Set Key** the settings will not be altered)
Parameter **LCK** is the lock function to be modified
Code LCK value 0000 all setting can be modified
LCK value 0001 only SV can be modified
LCK value 0010 settings in level 1 and SV can be modified
LCK value 0011 all settings locked
LCK value 0101 all settings can be modified and access to level 3

Setting the timer

To set the timer for delayed start press the Set Key “once” the display will show **At** using the Set Key scroll through the setting to **t1** enter the required time from 0 to 9999 minutes. The device will start after the alloted time.

Controller Functions and Settings

Typical Flow Chart



Warranty and Service

1. The instrument is covered by the standard warranty as specified by WA Scientific Instruments.
2. Exceptions from these standards cannot be covered by warranty.

Warranty

The warranty is valid for a period of 24 Months from date of delivery to the customer.

WA Scientific Instruments commits to replace any faulty instrument, product, component or part due to faults or defects during the manufacturing process. The warranty does not cover defects due to transportation or misuse. When WA Scientific Instruments is informed of a fault, it may require the instrument to be returned for verification.

Once the problem has been verified and confirmed, the customer will be notified. The faulty item will be replaced or repaired and the instrument returned to the customer.

Should the instrument have been tampered with or misused, or should unauthorized repairs have been undertaken, the instrument will not be covered under warranty. All costs for the repair and transportation will be the responsibility of the customer.

If the instrument is no longer under warranty and requires to be sent back to WA Scientific Instruments, it will be at the customer’s cost. A report describing the exact nature of the fault should accompany the instrument.

Exceptions from Warranty

Exceptions from warranty:

1. If the fault occurs by an act of God.
2. If the equipment breaks down due to misuse or connection to incorrect power supply.
3. If damage occurs by dropping a product, or another form of impact.
4. If damage occurs as a result of using organic solvents.
5. If damage occurs without following instructions in the manual.
6. If damage occurs as the result of repairs to the instrument by any person who is not employed by WA Scientific Instruments or its agent.
7. If damage occurs as a result of operator error.

Service Request / Return Process

Contact WA Scientific Instruments or its agent with a claim form detailing the below:

1. Date of purchase.
2. Name/Address/Contact no./E-mail.
3. Serial Number.
4. Symptoms.
5. Cause for return.
6. Forwarding information.

Decommissioning

At the end of its working life, the instrument should be decommissioned by qualified and responsible personnel. The operator should dispose of the product, or its parts, in an environmentally responsible manner.

All component parts may be separated into the following categories:

- METAL: iron, stainless steel, aluminum, copper, screw nuts and similar.
- PLASTIC – RUBBER: knob, silent block, gasket and cables.

Product Labelling

Service Contacts

Notes

Our products are being used in many countries:

WA
SCIENTIFIC
INSTRUMENTS

www.wascientific.com.au

WA SCIENTIFIC INSTRUMENTS
Unit 3 / 114 Mulgul Road
Malaga WA 6090

PH: +61 (08) 9248 4499

Email: info@wascientific.com.au

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