



EIE INSTRUMENTS PVT. LTD.

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Organization's ISO 9001:2015 Certificate

QUALITY MANAGEMENT SYSTEM

Certificate of Registration



This is to Certify That The Quality Management System of

EIE INSTRUMENTS PVT. LTD.

13th FLOOR, 1301/A, BVR EK, OPP INDER RESIDENCY HOTEL, NR. WESTEND HOTEL, ELLISBRIDGE, AHMEDABAD - 380006, GUJARAT, INDIA.

has been assessed and found to conform to the requirements of

ISO 9001:2015

for the following scope :

MANUFACTURER & SUPPLIER OF LABORATORY TESTING INSTRUMENTS.

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| Certificate No | 23DQLL85 | |
| Initial Registration Date | : 14/10/2023 | Issuance Date : 14/10/2023 |
| Date of Expiry* | : 13/10/2026 | |
| 1st Surve. Due | : 14/09/2024 | 2nd Surve. Due : 14/09/2025 |


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| | | |
|---|---|--------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 2 of 13 |

Forward

Dear valued customer,

We are thankful of you for your keen interest in our company products. We hope you enjoy using them and find them to be helpful and reliable. We greatly appreciate your business and the opportunity you have provided us to assist you. You have joined a selected group of customers who have switched to the technologically superior and quality enhanced laboratory testing products.

Time has changed, so does the technology. Your purchase lists you on the cutting edge of the 21st century technology. To help you get the most out of your EIE Instruments Pvt. Ltd. products, we have created this instruction manual that is an excellent way of expressing and maintaining your trust in EIE's - superior quality testing products. Our continued efforts and commitment are to provide you with the best and efficient services after sales, prompt attention and the highest level of customer satisfaction. If for any reasons, you have questions or comments, we are delighted to hear from you. We welcome your feedback for further improvement in our product(s). We would be happy to help you in any way we can. You can contact us on +91-9909903582 or send us an email at service@eieinstruments.com/kunal@eieinstruments.com. You can expect us to respond to your call or email within 24-48 working hours.

Once again, we would like to thank you for your trust and kind patronage. We look forward to serve you better in the future.

Yours sincerely,

EIE Instruments Private Limited

| | | |
|--|---|---------------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 3 of 13 |

Table of Contents

| | |
|---|----|
| Organization's ISO 9001:2015 Certificate | 2 |
| Forward | 3 |
| Table of Contents | 4 |
| List of Figures | 4 |
| 1 Introduction to EIE – Universal Oven | 5 |
| 2 Delivery and Installation of the Apparatus | 5 |
| 2.1 How to Make the Instrument Ready for the Use? | 6 |
| 2.2 Safety Instructions | 6 |
| 2.3 Safety Symbols & Significance | 6 |
| 2.4 Maintenance & Services | 7 |
| 2.5 Direction to Clean | 8 |
| 3 Introduction to the Control Panel | 8 |
| 3.1 Introduction to the Digital Temperature Controller | 9 |
| 3.2 Guidelines for Operating the Temperature Controller | 11 |
| Warranty Certificate | 12 |

List of Figures

| | |
|---|----|
| Figure 1: Control panel | 8 |
| Figure 2: Digital temperature controller | 9 |
| Figure 3: Operation parts of the digital temperature controller | 11 |

| | | |
|--|---|---------------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 4 of 13 |

1 Introduction to EIE – Universal Oven

EIE – Universal Oven are also used in research laboratories, Industrial quality control laboratories, Hospitals, Medical colleges & aggregate testing and other similar places where the testing and experimental research works are required to be carried out at constant and higher temperature. Universal ovens are electrical devices generally used in laboratory sterilization, drying and baking processes, ageing, softening, moisture determination, sterilization and other temperature specific requirements up to 300°C. (Higher temperature models are also available). Temperature is controlled inside the oven chamber uniformly using different control accessories that are incorporated within the unit as per the specifications.

Laboratory ovens are manufactured in numerous different configurations including clean room ovens, forced convection ovens, horizontal airflow ovens, inert atmosphere ovens, natural convection ovens, vacuum ovens and pass through ovens. The Universal oven removes moisture from the chamber as quickly as possible in order to dry the test samples. The more air that moves over the test samples, the more air is evacuated from the chamber, the faster the test samples will dry. It is also used to determine the effect of ageing on various physical properties of any type of materials, such as Fabrics, Yarns, Plastics, Paper, etc. The material is usually kept inside the universal oven so that the effects of long-term ageing are reproduced within a much shorter duration of time.

2 Delivery and Installation of the Apparatus

1. Inspect equipment and shipping crate immediately upon receipt. If any damage is apparent, immediately discuss it with the delivery person and contact the transportation company immediately. Make notes of any damages on the bill of landing.
2. Retain all shipping material for later inspection.
3. Check packing slip carefully and ensure all materials have been received as indicated in packing slip.
4. Remove packing strip from surroundings of the instrument and all its accessories. Please inspect and note whether any part of the instrument is damaged or any accessory is missing according to packing slip? If it is so, then immediately make note of it and report to the manufacturer.
5. Due to the vibration incurred during shipping and handling, it is possible that mechanical connection could become loose. Inspect all connection to ensure that they are secure.
6. After visual inspection, if everything is found to be okay, transit the instrument to suitable safe place where it is intended to install. **Caution: Handle with care.**
7. Recycle the packing material. Do not throw it away for environment protection.

| | | |
|--|---|---------------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 5 of 13 |

2.1 How to Make the Instrument Ready for the Use?

- 1) Keep the equipment in well ventilated place.
- 2) Place the equipment on a plane, even and sturdy surface leaving approximately 2-3 feet space away from the wall.
- 3) The instrument must be installed at a location that must be free from vibration.
- 4) Do not use the equipment in a corrosive environment. A corrosive environment may lead to poor performance and deterioration of unit.
- 5) Keep the instrument away from draft, sunlight, water or near a place of equipment, which emits heat as well as electromagnetic conduction emission.
- 6) Keep the standard operating manual while operating the apparatus.

2.2 Safety Instructions

- Anyone working with, on or around this equipment should read this operating manual. Failure to read, understand and follow the instructions given in this documentation may result in the damage to the unit, injury to operating personnel, and/or poor equipment performance.
- Any internal adjustment, modification or maintenance to this equipment must be undertaken by qualified service personnel.
- The use of any hazardous materials in this equipment must be monitored by an industrial hygienist, safety officer or some other suitably qualified individual. Before the individual process, the operator must thoroughly understand the installation procedures and take note of the environmental and electrical requirements of the equipment.
- In this operating manual, important safety related points will be marked with the symbol. If the equipment is used in a manner not specified by this operating manual, the protection provided by this equipment may be impaired.
- All EIE equipment are designed to be operated with the highest level of safety. This standard operating & maintenance manual issues note, caution and warning symbols throughout to draw your attention to provide you the important operational and safety information.

2.3 Safety Symbols & Significance

- Read and understand all instructions and safety precautions listed in this manual before installing or operating your unit. If you have any questions regarding operation of the unit or instructions in this manual, contact our service department.

| | | |
|--|---|---------------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 6 of 13 |

- Thoroughly understand the safety features and operation of the equipment. This manual will provide operators with safety concerns and general procedures. Be familiar with correct operating principals and use good judgement.
- Obey all national and local electric code requirements.
- Dangerous high voltages present. Do not attempt to open the enclosure or gain to areas where you are not instructed to do so. Refer servicing to qualified service personnel only.

2.4 Maintenance & Services

1. Always disconnect from power supply prior to the maintenance & servicing.
2. To avoid electrical shock, this equipment must always use a properly grounded electrical outlet with the correct voltage and current handling.
3. Disassembly of the unit is strictly limited to the qualified personnel and licensed engineers only.
4. Maintain a safe distance of at least 2 – 3 feet away from the wall while installing the oven.
5. Please do not overload the working chamber with excessive test samples. This will prevent free air circulation as a result of which uniformity of temperature throughout the chamber cannot be attained. Please open or close the door gently and smoothly.
6. Never place any test samples near the sensor element as it will affect and damage its accuracy.
7. Keep the instrument tidy, clean and dry with mint cream. Before initiating the fresh day, use preferably clean soft cloth. Brush up the unit body as to maintain its colour and finishing.
8. Switch on the mains switch to turn the instrument in the operating mode.
9. Never try to alter the predefined safety temperature limit of the oven. The digital controller is factory set and password protected.
10. Leave instrument working only in balanced and secured condition.
11. Please remember to operate controller buttons with gentle touch. Do not operate the controller rigidly. Clean the sensor near the heating element leaving sensor activate precisely.
12. Never try to open the door of the oven during the working operation.
13. Never leave the instrument connected to mains after completion of the heating application.
14. In case of any difficulty, please do not try to repair without consulting the manufacturer, especially when the instrument is under the warranty period.

| | | |
|---|---|---------------------------------|
|  <p>EIE INSTRUMENTS PVT. LTD.</p> | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 7 of 13 |

2.5 Direction to Clean

1. Disconnect from the power supply prior to the cleaning operation.
2. Use preferably a moist cleaning cloth to clean the exterior case and the interior of the chamber.
3. Dry the equipment thoroughly after the cleaning operation.
4. Do not immerse the equipment thoroughly in water.
5. Always wear personal protective equipment during the cleaning operation.
6. Remove the shelves and clean with wet cloth. Dry shelves thoroughly and then place into chamber again.
7. Never use benzene or paint thinner for the cleaning operation.

3 Introduction to the Control Panel

The control panel consists of the accessories as shown in the figure 1.



Figure 1: Control panel

| | | |
|--|---|---------------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 8 of 13 |

Mains Switch: In this advanced model, mains switch serves the purpose of switching the entire apparatus. An operator can switch on / switch off the entire unit from mains switch mounted on front panel. It also supplies direct power to the unit. Also, the MCB auto trips automatically if any short circuit occurs to protect the entire apparatus accessories.

Mains Indicator: The mains indicator will be illuminated when the oven is in the working condition.

Heater Indicator: The heater indicator will be illuminated when the heater is in the working operation.

Digital Temperature Controller: The temperature controller is used to monitor and maintain the set-point temperature value inside the chamber.

Heater Switch: There are three heater switches on the control panel each one for the specific heater. When the instrument is powered ON, all the heater switches must be turned to the ON position.

Fan Switch: Toggle switch is provided on the control panel to control the working of fan inside the oven. A circulating fan helps in maintaining & distributing uniform temperature inside the oven chamber.

Fan Indicator: The fan indicator will be illuminated when the fan is in the working operation.

3.1 Introduction to the Digital Temperature Controller

The digital temperature controller is shown in the figure 2. The operating instructions of the digital temperature controller is shown in the figure 3.

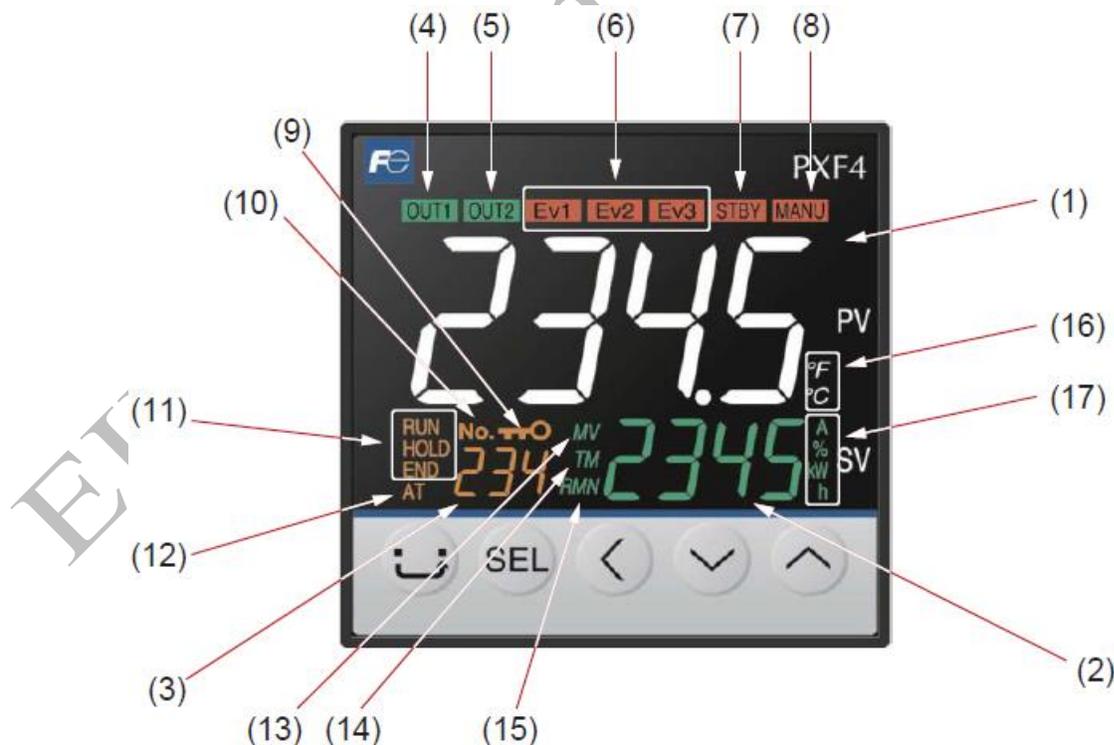


Figure 2: Digital temperature controller

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|---|---|---------------------------------|
|  <p>EIE INSTRUMENTS PVT. LTD.</p> | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 9 of 13 |

(1) Process value (PV)

Indicates process value. Shows parameter name when in parameter setting.

(2) Set point (SV)

Shows set point. Shows parameter set value when in parameter setting.

(3) Screen No.

Shows screen No. when in parameter setting.

(4) OUT 1 indicator

Lights during control output 1 is ON.

(5) OUT 2 indicator

Lights during control output 2 is ON.

(6) EV 1, EV 2, EV 3 indicators

Lights during digital output 1 to 3 are ON.

(7) STBY indicator

Lights during standby.

(8) MANU indicator

Lights during manual mode.

(9) Lock indicator

Lights during key lock.

(10) No. indicator

Lights during indicating screen No.

(11) RUN/HOLD/END indicators

Lights during ramp/soak operation.

(12) AT indicator

Lights during auto tuning.

(13) MV indicator

Lights during MV is indicated on SV display.

(14) TM indicator

Lights during the time is indicated on SV display.

(15) RMN indicator

Lights during remaining time is indicated on SV display.

(16) °C/°F indicator

Shows the temperature unit under use.

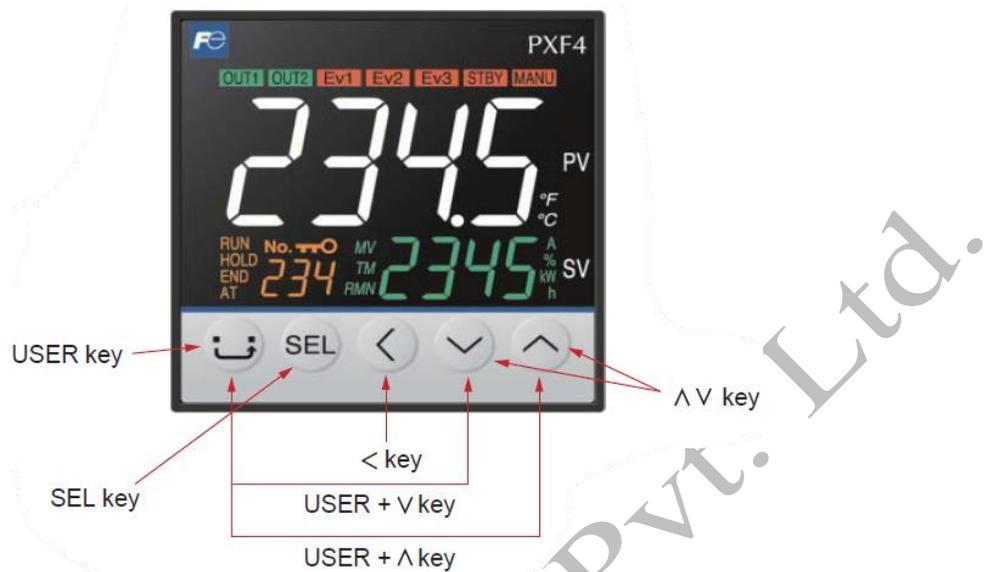
(17) %, kW/h indicator

Shows the unit being applied to values on SV screen during the operation mode.



| | | |
|--|---|---------------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 10 of 13 |

3.2 Guidelines for Operating the Temperature Controller



USER Key

Press this key once in PV/SV display to switch between SV display and MV display.

Press and hold this key in PV/SV display to start the assigned function.

(No function is allocated at the factory.)

Press this key once in operation control mode, channel-selection mode, or setup mode to return to PV/SV display.

SEL key

Press this key once in operation mode to move to operation control mode.

Press and hold this key in operation mode to move to channel selection mode.

Press this key once in channel selection mode to move to setup mode.

Press and hold this key in setup mode to move to channel selection mode.

Press this key once in parameter selection submode of setup mode to enter parameter editing submode.

Press this key once in parameter editing submode to save the change and return to parameter selection submode.

< key

Use this key to select the digit when changing values.

^Vkeys

Use this key to change SV value when in PV/SV screen.

Press this key in operation control mode, channel selection mode, or setup mode, to change parameters to be displayed.

Use this key to edit parameter when in parameter setting submode.

USER+^ key

Press and hold this key in PV/SV display to start the assigned function.

(The factory set function for this key is switching between RUN and standby.)

USER+V key

Press and hold this key in PV/SV display to start the assigned function.

(The factory set function for this key is switching between start/stop of auto-tuning.)

Figure 3: Operation parts of the digital temperature controller

| | | |
|--|---|---------------------------------|
|  <p>EIE INSTRUMENTS PVT. LTD.</p> | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 11 of 13 |

Warranty Certificate

Your EIE product is guaranteed to be free from defects in materials and workmanship for one (1) year under normal use from the date of purchase. This warranty does not apply to any product damaged by accident, misuse, mishandling, abuse, negligence, transit, improper line voltage, drop, fire, flood or if the products were altered or repaired by anyone other than the qualified service personnel. The liability of EIE Instruments is limited to repair or replacement and under no circumstances shall EIE be liable for any collateral consequential damages or loss. This guarantee specifically excludes the expendables and consumables. All warranty claims must be directed to your corresponding purchase organization that is responsible for the sale of this equipment. The users are responsible for shipping expense. The warranty cards which are not signed and stamped by the actual user will be treated as void. The warranty card should accompany the defective products sent for repair, without which no claims would be entertained. Please detach the below warranty card from following cut-line.

| Attributes | Details |
|--------------------------|---------|
| Name of the company | |
| Address | |
| Telephone number | |
| Mobile number | |
| Email address | |
| Date of purchase | |
| Product model | |
| Serial Number | |
| Bill or cash memo number | |

This card should be detached, filled in properly and posted within 15 days from the date of purchase otherwise the warranty becomes invalid.

| | | |
|---|---|---------------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 12 of 13 |

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Calibration Laboratory

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| | | |
|--|---|---------------------------------|
|  EIE INSTRUMENTS PVT. LTD. | Operation & Maintenance Instruction Manual | |
| | Equipment Name: Universal Oven | Equipment Serial Number: |
| | Document Number: EIE/OM/UNVO/01 | Page Number: 13 of 13 |