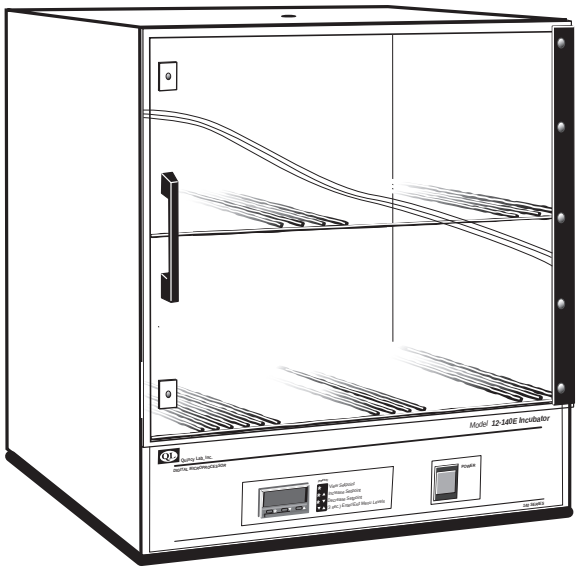
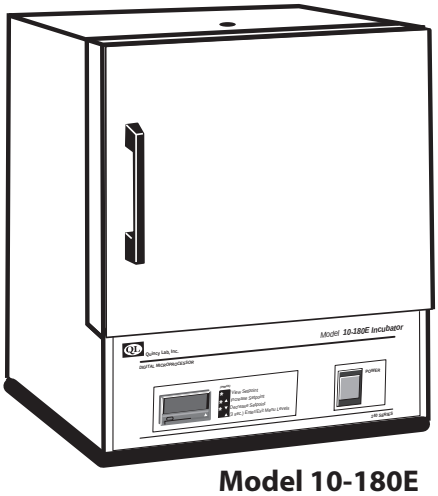
Quincy Lab, Inc.

Model Series 140E & 180E
General Purpose Incubators
OPERATING MANUAL



Model 12-140E



Model 10-180E

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SPECIFICATIONS

	MODEL 10-140E	MODEL 12-140E	MODEL 10-180E	MODEL 12-180E
Interior Dimensions				
INCHES W x H x D	12x10x10	18x16x12	12x10x10	18x16x12
(CM) W x H x D	31x25x25	46x41x30	31x25x25	46x41x30
Exterior Dimensions				
INCHES W x H x D	13x15x11	19x21x13	13x15x11	19x21x11
(CM) W x H x D	33x38x28	48x53x33	33x38x28	48x53x33
Weight (lbs)	19 lbs	33 lbs	19 lbs	33 lbs
Cubic Foot Capacity	.7 ft^3	2.0 ft^3	.7 ft^3	2.0 ft^3
Standard Electrical				
VOLTS / WATTS	115 / 120*	115 / 235*	115 / 270*	115 / 385*

* Standard models voltage only, optional 230 voltage available. Check label on back of unit.

Temperature Range	Ambient + 2°C to 62°C	Ambient + 3°C to 94°C

Common Unit Specifications

Operating Environment: Indoor use, altitude to 6,500 ft. (2,000m) Installation Category II, Pollution Degree 2, ambient temperature 10°C/50°F to 35°C/95°F, 80% RH maximum.
Storage Temperature: -10°C/14°F to 70°C/158°F, 70% RH maximum.
Approvals: Underwriter's Laboratory Listed, Laboratory Equipment, C/UL United States/Canadian. E212550 (115VAC models only)
Compliance: UL Standard 61010-1, IEC 61010-1, 2nd Edition.

Common Unit Construction

Exterior: Powder-Coated Steel
Insulation: Fiberglass
Thermo-control: PID Microprocessor
Interior: Aluminum
Door: 140E: Acrylic, 180E: Steel Insulated
Heater: Resistive-Tubular Incoloy

Safety Precautions ⚠ Read Operating Instructions Thoroughly Prior to Operation

Read Operating Instructions thoroughly prior to operation. Use only a grounded outlet that is rated for your model's electrical requirement. Do not modify the oven or factory control settings to operate the oven above the stated maximum operating temperature. Exterior surfaces on the 180E models may become hot to the touch when operating at higher set temperatures. Conduct periodic maintenance as required.

Set-up & Installation

Position unit in its ultimate operating location. Keep a minimum of 3" of airspace around the unit and a minimum of 6" above the unit. The port hole at the top of the unit will expel a small amount of warm air through natural convection. This port can also be used as an access way for external temperature measurement of a solution for example.

Install adjustable shelf by placing the ends of the wire shelf bracket into the corresponding holes located on the inner sides of the oven at the desired height. Push the ends of the bracket into the holes until the first bends in the bracket are against the wall, then rotate the bracket down. Place the shelf on the brackets. **(FIG 1)**

Plug the unit into a grounded outlet for your unit's rated voltage.

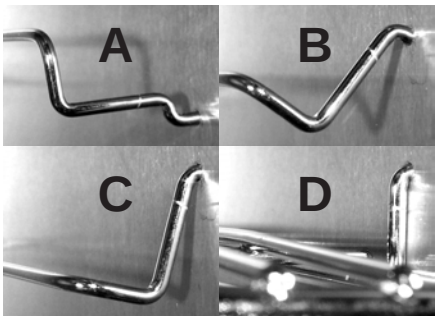


FIG. 1

General Operation

The unit is ready for your immediate use. All control parameters, calibration and tuning has been done at the factory, no adjustments are necessary.

Push the illuminated power button. All LED's on the temperature control will light up for 5 seconds until the current or actual chamber temperature is displayed.

To view the set temperature press the star " ✱ " key. To change the set temperature, hold the star key together with the up (raise temp) or down (lower temp) arrow key until the desired temperature is indicated on the LED display. **(FIG 2)** The temperature control is set at the factory to read in 1/10 degree C (centigrade) units. To change temperature units or display resolution see: Menu Level Functions (page 3).

Once the unit reaches the set temperature, allow the unit to cycle for 20 minutes at set point before temperature becomes fully stable.

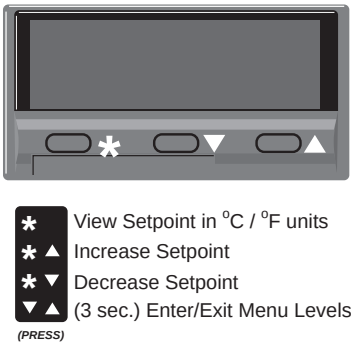


FIG. 2

NOTE: Upon each initial powering-up, the control may typically overshoot the set temp by 2 to 4 degrees, especially if the temperature set point is close to the operating ambient temperature. After equilibrium is achieved the control will hold set temperature within 1 unit degree.

Chamber Loading

Article processing times and temperature uniformity are largely dependent on load density and positioning. Load the incubator so that the air circulation within the incubator is not impaired. Here are some general guidelines:

Leave a space between articles on a shelf. Stagger articles from those on lower shelves.

Avoid placing articles or media against or within an inch of the walls, especially on the lower shelf. Heated air from the lower plenum openings, designed to travel up the side walls, can have a slightly elevated temperature from set point and the rest of the chamber.

Use of large solid trays or foil on shelves limits heat to any articles placed on shelves above.

Avoid extremely large (in quantity or size), or high-density loads. This will show by non-uniform processing and long or impossible "heat-through" times. To help determine a load's suitability, use the set-point recovery time (the time it takes for the temperature to recover to the original set temperature once the load is placed), as a guide. To reduce recovery time, reduce load proportionally. When possible, measure large loads or solution temperatures directly with an ancillary thermometer or probe. Probes can be inserted at the top port.

For best processing performance for a single item, adjust one shelf so that the article is centered in the incubator chamber.

Control Menu Functions

Access the menu levels for the following functions: (user applicable functions and their menu locations are high-lighted in white in the Functions Menu Guide below).

- ~ Change control to read in C or F temperature units.(unit in level 2)
- ~ Change to whole degree or 1/10th degree display resolution.(d.SP in level 2)
- ~ Run or Read temperature tracking.(tHEU or rEAd in level 3)
- ~ Lock Temperature setting against inadvertent adjustment.(SPLU in level 1)
- ~ Calibrate control temperature to an external standard.(2Ero in level 3)

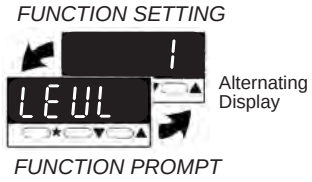


FIG. 3

To access the control's function menu:

Press and hold both arrow keys for 3 seconds then release when the "tune" function prompt is displayed from within LEVEL 1 (see "menu entry point" at the bottom of the Menu Guide below). When in the function menu the LED display will alternate the function prompt with the function setting when keys are released. **(FIG 3)**

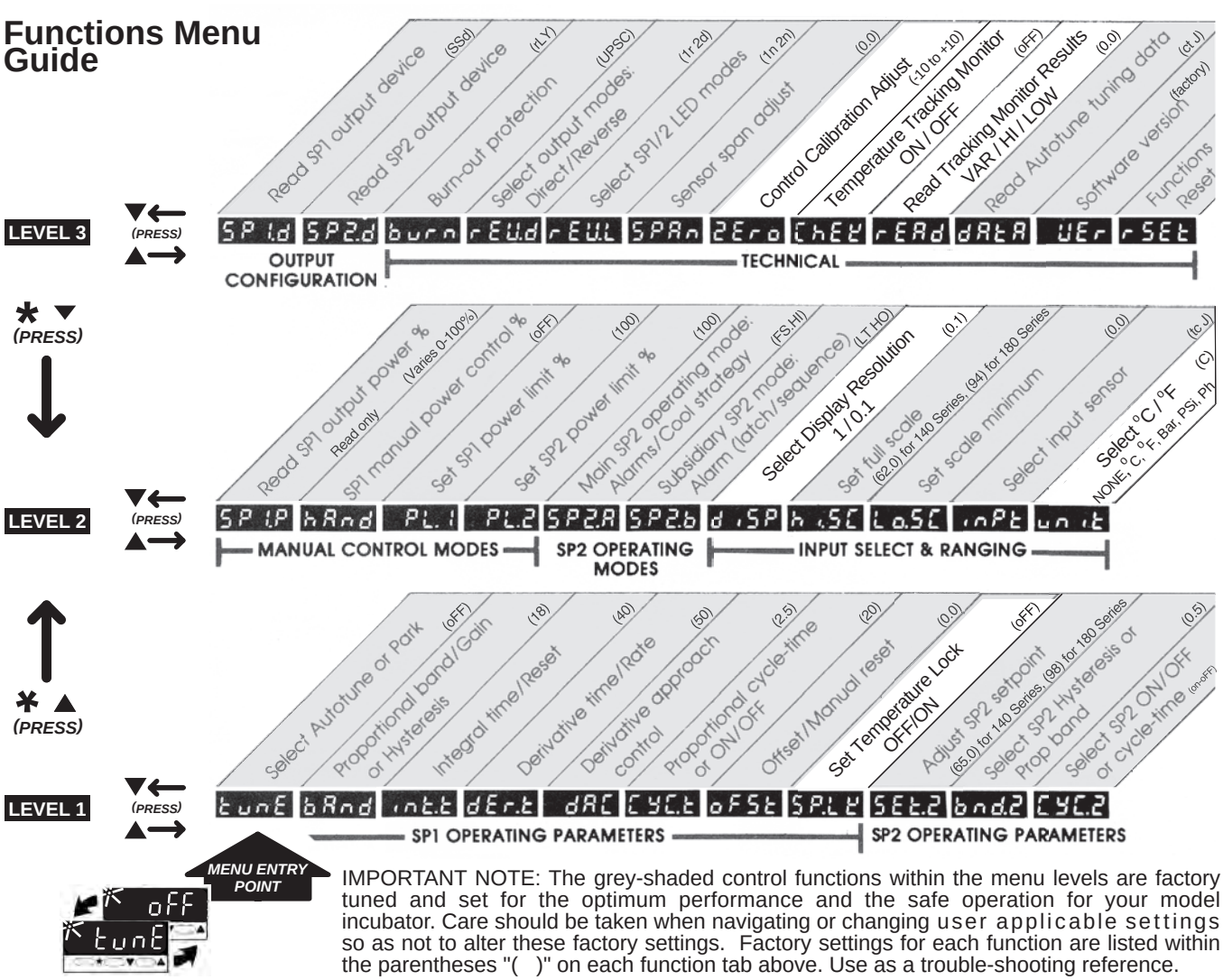
To navigate within the functions menu:

Use up and down arrow keys individually to move "right" or "left" within a level. Press and hold the star key and then the up or down arrow keys to move "up" or "down" respectively through levels 1, 2 and 3 (Note: you must be at LEUL prompt to move up or down levels).

To change a function setting:

Once at the desired level function prompt, press and hold the star key and press the up or down key to select or change the function setting. Release star key to set the function. Press the up and down keys together to return to temperature display or the control will auto-return in 60 seconds.

Functions Menu Guide



IMPORTANT NOTE: The grey-shaded control functions within the menu levels are factory tuned and set for the optimum performance and the safe operation for your model incubator. Care should be taken when navigating or changing user applicable settings so as not to alter these factory settings. Factory settings for each function are listed within the parentheses "( )" on each function tab above. Use as a trouble-shooting reference.

Temperature Tracking Feature

This feature monitors the stability of the control during for any given length process. It will record and display: 1. The total variation or spread between high and low, 2. The absolute or maximum high and 3. The absolute or minimum low.

To start the tracking feature navigate to "CheK" prompt in menu level 3. Hold star key then up arrow key to select ON. Return to temp display or control will auto-return in 60 seconds. The control will track the temperature variation until "CheK" is turned off. Recorded readings are retained until next "CheK" ON.

You can view readings at any time during or after tracking feature has been turned off. But de-powering the unit will reset "CheK" to OFF and "rEAd" to zero. To view readings navigate to "rEAd" prompt in menu level 3. Then:

Release ▼ or ▲

Press/Hold ✱
Displays **variance**
(0.6°)

Press/Hold ✱
Press ▲ once
Displays **maximum**

Press/Hold ✱
Press ▲ once more
Displays **minimum**

TIP: To avoid erroneous tracking data from run-up temperatures or door openings, start the Tracking feature after articles have been placed and temperature steadies at set point.

Control Self Diagnostics

Control prompts will only display when a fault or alarm condition exists.

Thermocouple burnout
Check sensor/wiring

Non-volatile memory error
De-power briefly
Replace unit if it persists

Example for 140 Series

(Press ▼▲ together to clear alarm condition)

Alarm condition: Temp exceeded maximum operating temp (62°C). ***Heater shutdown until manually reset. Typically indicates relay or temperature control failure. Replace relay or temp control if persists.***

Maintenance / Control Calibration

To clean interior and exterior surfaces, use a damp cloth with or without an all-purpose cleaner. The acrylic door should only be cleaned using a lint-free cloth, with or without water. Paper towels can mar the surface of the acrylic door. Use of any commercial cleansers on the acrylic door will cause crazing and cracking of the surface of the acrylic over time. Periodically, check the accuracy of the control's temperature display against a known accurate or calibrated device. This should be done with an empty chamber after the set temperature becomes steady (typically after 45 to 60 minutes). Calibrate the control in the control's functions menu, level 3 (see page 3).

Tech Support

If you have any questions or need technical assistance, please contact Quincy Lab customer support at

Email: information@quincylab.com
Voice: 800-482-HEAT (4328)
Fax: 773-622-2282

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Limited Warranty

Quincy Lab, Inc. warrants to the original purchaser that this product will be free from defects in material and workmanship under normal use throughout the warranty period. The standard warranty period for this instrument is 18 months from date of shipment. The instrument warranty is supplemented with a 3-year warranty on the heating element. Please refer to your invoice or shipping documents to determine the effective warranty period. This warranty covers parts and labor (labor at factory only), and shipping costs for replacement parts.