**ANETS**
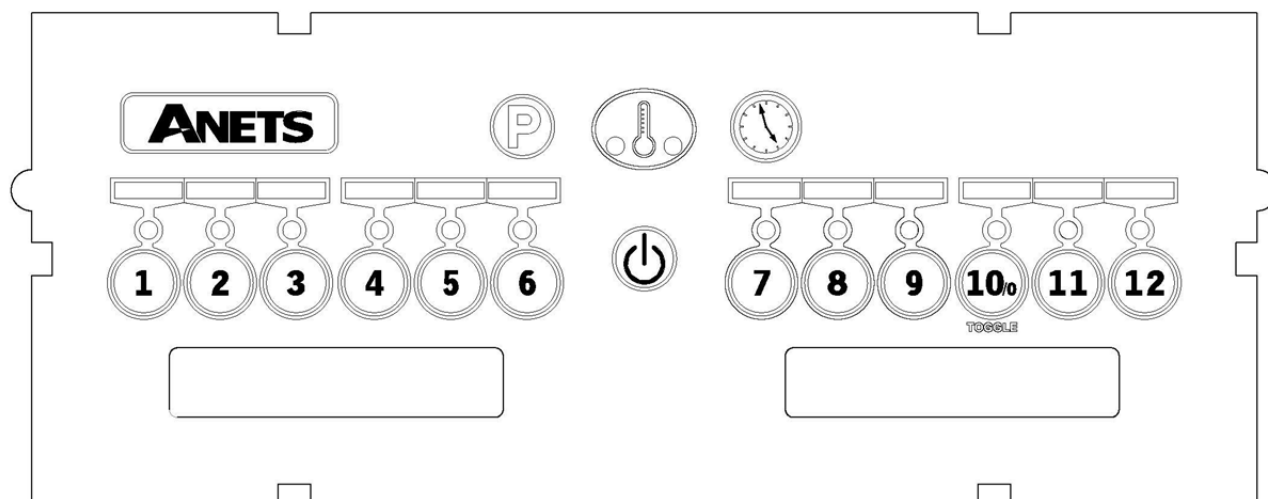
# *Service Manual*
### for ANETS P/N 60149509 Single Vat
# I12 Cooking Computer



This control was developed specifically for ANETS fryer products. It utilizes the latest in microprocessor technology and is completely solid state. This control offers the latest cooking technology, including temperature and time compensation that requires no user adjustments for consistently cooked product. Other features include, drain valve interlock, faulty probe detection, selectable melt cycles, beeper volume, and cook temperature. Each product key may be programmed with cook, shake and hold times to keep pace with changing menus over time.

This manual details the operation and adjustment of the ANETS I12 Cooking Computer control. The target audience for this text is the Service Technician. This manual reveals all adjustments that are possible by keyboard entry, including passwords.
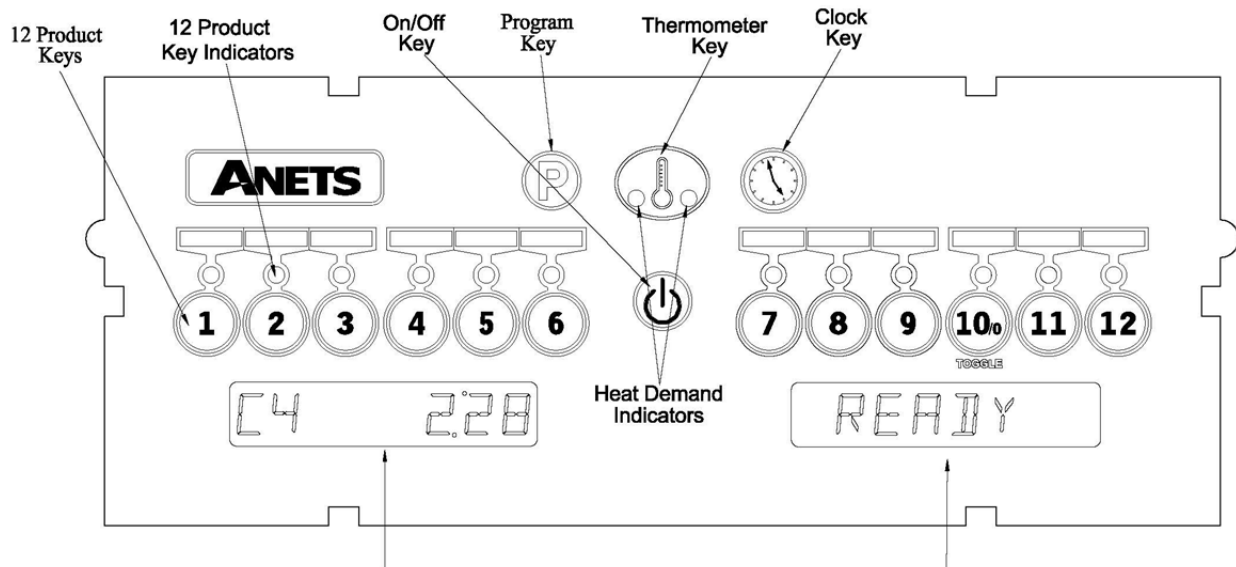
Table of Contents:

## 1 Key Locations and Functions:



Displays show current operation. Throughout this text, a left only display will be printed as [C4 2:28]. When both left and right displays should be interpreted together, this text will show them as [C4 2:28] [READY ].

### 1.1 To turn the appliance ON:

If power is applied to the appliance, the displays will show $\boxed{OFF}$. Press the $\boxed{\text{I}}$ key.

Displays will show one of the following:

$\boxed{MELT}$ ; $\boxed{HEATING}$ , or $\boxed{READY}$ . Some messages may show in both left and right displays. Wait for the appliance to heat up to the [READY] condition before cooking.

### 1.2 To turn the appliance OFF:

Press the $\boxed{\text{I}}$ key. Display will momentarily show the software version number $\boxed{0149509-}$ , and then $\boxed{OFF}$ .

### 1.3 To start a cook:

When the display is showing $\boxed{READY}$ the appliance has reached set temperature and is ready to cook. Press the desired product key, and place product into the vat. The indicator above the product key will flash to indicate the cook timer is running. In the example above, product 4 is cooking with 2 minutes and 28 seconds remaining. The right side display of the dual vat control shown above, has no running cook timers, and shows $\boxed{READY}$ .

Multiple cooks may run together. While cooks are running, the displays will always show the cook with the least time remaining. Longer running cooks will flash their indicators at a slower rate. Cook time remaining on these keys may be checked by pressing the $\boxed{\text{clock}}$ key then pressing a product key.

### 1.4 To cancel a cook:

Press and hold the product key to cancel a running cook.  If no other cooks are pending, controller displays will return to $\boxed{READY}$ .

### 1.5 To check Actual and Set temperatures:

To view the actual vat temperature, press the $\boxed{\text{🌡}}$ key.  The display will show $\boxed{ACT\ 347F}$ or $\boxed{ACT\ 175C}$, where "F' is Fahrenheit, and "C" is Celsius.  After a few moments, the display will return to $\boxed{MELT}$ ; $\boxed{HEATING}$ , or $\boxed{READY}$ ,if no cooks are running.  [CKn mm:ss] will display for any cooks still running.

To view the set temperature, press the $\boxed{\text{🌡}}$ key *twice*. The display will show $\boxed{SET\ 350F}$ or $\boxed{SET\ 177C}$, where "F' is Fahrenheit, and "C" is Celsius.  After a few moments, the display will return to $\boxed{MELT}$ ; $\boxed{HEATING}$ , or $\boxed{READY}$ ,or,  [CKn mm:ss] for any cook still running.

### 1.6 To View Current Settings for Cook, Shake, Hold, and Hold Pre-Alarm:

To view the current settings for any product key, press the $\boxed{\text{🕐}}$ key, followed by the desired product key.  The display will show [CKn mm:ss], followed by [SHn mm:ss], then [HDn mm:ss], ending with [PA4 mm:ss].   Where "n" is the key number, and "mm:ss" is the time setting.

After a few moments, the display will return to $\boxed{MELT}$ ; $\boxed{HEATING}$ , or $\boxed{READY}$ , or,  [CKn mm:ss] for any cook still running.

Typical displays using key 4 as an example:

Key 4 Cook Time [C1] is set for 3 minutes and 28 seconds.

Key 4 Shake Time [S1] is set for 2 minutes and :00 seconds <u>before the end of the Cook</u>.  *Default value is 00:00, or inactive.*

Key 4 Hold Time [H1] is set for 15:00 minutes.  This is the amount of time cooked product may sit in holding bins before a new batch is started.  *Default value is 00:00, or inactive.*

$\boxed{\text{🕐}} + \boxed{\text{🔲①}}$

$\boxed{C1\ \ \ \ 3.28}$
$\boxed{S1\ \ \ \ 2.00}$
$\boxed{H1\ \ \ 15.00}$
$\boxed{P1\ \ \ \ 0.00}$

Key 4 Hold Pre-Alarm [P1] is set for 00:00 and is inactive (*default setting*).  When activated his alarm warns the operators that the Hold Time is about to run out.

In a few moments, the display will return to $\boxed{READY}$

**1.7 <u>To perform a Boil Out operation:</u>**

Normal maintenance of a fryer requires regular tank cleaning. This process involves draining the vat of oil and filling with water. Cleaning solution is added, and the control is set to boil by one of the following methods:

**1.7.1  Automatic Boil Entry (Water Detection):**

Fill the appliance with water and turn the appliance on. Heat will be applied to the vat warming the water. This control will detect the presence of water by temperatures not rising above the boiling point of water; 212°F (100°C). After a time at this temperature, displays will show

$$\boxed{PRESS\ \ 0}\ \boxed{TO\ \ BOIL}$$

<u>Heat will be disabled until the operator responds to this prompt</u>. Pressing the [0] key is a **YES** response to the boil prompt. If pressed, display will show $\boxed{BOIL}$ . Heat will maintain vat temperature at 185°F (85°C) for cleaning as long as the control remains on. To exit boil mode control must be turned off.

*Warning: Pressing any other key at the* $\boxed{PRESS\ \ 0}\ \boxed{TO\ \ BOIL}$ *prompt is regarded by the control as a **NO** response. <u>With this response, the control will apply heat to the vat as if oil were present in the vat</u>. With water in the vat, a rolling boil will result. This will cause undesirable foam over conditions. And, a potential steam burn hazards to operators performing cleaning operations.*

**1.7.2  Manual Boil Entry:**

After filling an empty vat with water, turn the appliance on. Press the

$\boxed{\text{🌡}}$ key and enter key sequence [2], [1], [2]. *If control is set to display in the Celsius scale, press [1], [0], [0] keys to manually enter boil mode.* The display will show $\boxed{BOIL}$ to indicate entry into boil mode.

To exit boil mode, control must be turned off.

Manual Boil Out Entry
Enter 212
For Fahrenheit Displays

②①②

Enter 100
For Celcius Displays

①⑩⑩
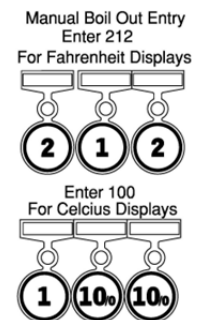
## 2   *To Enter Programming Level 1 (for the Store Manager):*

*Note: The factory default setting for this control does not require a  password to be entered.*
*However, the operator password requirement and value may be changed in section 3.2.*
*Entry of a password when NOT required will not interfere with the programming process.*

With no cook timers running, displays will show one of the following displays: MELT ;

HEATING , or READY . Press the **P** key.

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If display shows:

PASS---- PASSWORD, a password is required.

Level 1 & 2 Password

Enter password **6 6 8 4** using the product keys
as a numeric keypad for entry.  With correct password entry,
display will show PROGRAM .

From the PROGRAM display, continue with this section or
go to section 3, or 4.

If display shows:
PROGRAM ; you do not need
to enter a password.

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### 2.1 To Set Cook Temperature:

❑   Press the [🌡] key once.   The display will show [SET xxxF] [TEMP] or [SET xxxC] [TEMP],

where "xxx" is the temperature setting.

❑   Use the product keys for numeric entry to adjust the current setting.  Press the **P** key to

save setting.  Display now shows PROGRAM .  To exit here, press **P** again, or

continue.

**2.2 To Change a Product Key–Cook, Shake, Hold, and Hold Pre-Alarm Times:**

For each product key, Cook, Shake, Hold, and Hold Pre-alarm times are set in this section.
With display showing $PROGRAM$ , continue with the following section for each product key to change.

### 2.2.1    Cook Time

Cook Time may be set for each product key.  To deactivate any product key enter a zero value for cook time.

❏    Press the [clock] key.

❏    Display will show $SELECT$   $PRODUCT$ .  Press the desired product key to change.

❏    Display shows [nCK mm:ss] [TIME] where "n" is the key number, "CK" means Cook, and "mm:ss" is minutes and seconds.

❏    Use the product keys for numeric entry to adjust the current setting.  Press the [clock] key to save cook time and continue setup for this product key.

### 2.2.2    Shake Time

Shake time is an alarm that sounds during Cook Time to prompt operators to shake the basket. Default for this value is zero, meaning the Shake Time is inactive. To use Shake Time, the time value must be a non-zero value, and, must be set to a value less than cook time.

❏    Display shows [nSH mm:ss] [TIME] where "n" is the key number, "SH" means Shake, and "mm:ss" is time in  minutes and seconds.

❏    Use the product keys for numeric entry to adjust the current setting.  Press the [clock] key to save shake time and continue setup for this product key.

*Note: The value entered for shake time is the time from the <u>end</u> of the cook.*

### 2.2.3    Hold Time

Cooked product may stand in holding bins for a period of time.  This timer produces an alarm to inform operators to discard old product and start a new cook*. Default for this value is zero, meaning the Hold Time is inactive.*

❏    Display shows [nHD mm:ss] [TIME], where "n" is the key number, "HD means HOLD, and "mm:ss" is minutes and seconds.

❏    Use the product keys for numeric entry to adjust the current setting.  Press the [clock] key to save hold time and continue setup for this product key.

**2.2.4    Hold Pre-Alarm**

Hold Pre-Alarm is a timer setting that is used to warn operators that the Hold Time is about to expire.  To use Hold Pre-Alarm, the time value must be a non-zero value, and, must be set to a value less than Hold Time.  *Default value is zero, meaning the Hold Pre-Alarm is inactive.*

❑    Display shows [nPA mm:ss] [TIME] where "n" is the key number, PA means Pre-Alarm, and "mm:ss" is minutes and seconds.

❑    Use the product keys for numeric entry to adjust the current setting.  Press the ⏱ key to save pre-alarm time.

*Note: Value entered for hold pre-alarm time is the time from the end of the hold period.*

Display will again return to  `SELECT`  `PRODUCT` .  Repeat steps from section 2.2.2 to make changes to any other product keys or continue with section 2.3.

**2.3  To Exit Level 1 programming:**

Display shows `SELECT`  `PRODUCT` .

Press the (P) key.  Display shows `PROGRAM` .  Continue to section 3 "To Change Options", or, exit here in the next step.

To exit Level 1 programming, press the (P) key again.

Displays will show `MELT` ; `HEATING` , or `READY` , when no active cooks are running.

## 3 To Change Options Level 2 ( for the Store Manager):

The display must show [ PROGRAM ] from section 2 to change these options. When the

product key [10/0] is pressed, the display will show [ SELECT ][ OPTIONS ]. Indicator
lights above product keys will illuminate to represent options that may be changed.  Each option
listed below uses the product key [0] to toggle or scroll through available choices in the display.

When the correct value is displayed, press the (P) key to save choice.  The display will again

return to [ PROGRAM ] for another option selection.

### 3.1 Fahrenheit or Celsius Display:

The Controller will display temperatures in the Fahrenheit or Celsius scales. The default scale is °F.
With display showing [ PROGRAM ], press the product key [0].

❑ Display shows [ SELECT ][ OPTIONS ].

❑ Press product key **1**, display shows [DEGREE n] [F OR C], where "n" is the current
   setting.
❑ Use the product key [0] to scroll through choices (F or C).

❑ Press (P) key to save choice. Display now shows [ PROGRAM ].

### 3.2 Password Change or Required?

With factory settings, an operator password is not required to enter programming Levels 1 and 2.
The password may be activated or changed in these steps.
With display showing [ PROGRAM ], press the product key [0].

❑ Display will show [ SELECT ][ OPTIONS ].

❑ Press product key **2**, display shows [SET PAS] [NEW PASS]. Use the product key [0] to

   scroll through choices [NO PASS] or [PASS REQ].  Press (P) key to save choice.

❑ *If [NO PASS] is selected* Display returns to [ PROGRAM ].

❑ *If [PASS REQ]. is selected*, display will show [PASSnnnn] [NEW PASS] to prompt for new
   password.  Displayed value "nnnn" is the current password. Use the product keys for numeric
   entry to change password.

❑ Press (P) key to save choice.  Display then shows [ PROGRAM ].

   *Note:  The factory default password (6684) will always work even if a different password is selected
          here.*

### 3.3 Beeper Volume and Tone:

Volume and Tone of the beeper alarm may be changed in this section. Volume ranges are 1,2 and 3, where 3 is the loudest setting. This model also has a selection for tone.

With display showing `PROGRAM`, press the product key [0].

❑ Display will show `SELECT` `OPTIONS`. Press product key **3**, display shows [VOLUME n] [BEEPER].

❑ Use the product key [0] to scroll through choices (n= 1,2,3, or T). Beeper volume will change as each selection is made.

❑ If "T" is selected an additional display is shown, [TONE n] [BEEPER]. Use the product key [0] to scroll through choices (n= 1,2,3). Beeper tone will change as each selection is made.

❑ Press (P) key to save choice. Display shows `PROGRAM`.

### 3.4 Language Selection:

With display showing `PROGRAM`, press the product key [0].

❑ Display will show `SELECT` `OPTIONS`.

❑ Press product key **4**, display shows [ENGLISH] [LANGUAGE].

❑ Use the product key [0] to scroll through choices (ENGLISH, ESPANOL, FRANCAIS, DEUTSCH, HOLLAND).

❑ Press (P) key to save choice. Display shows `PROGRAM`.

### 3.5 Melt Cycle Type:

This adjustment allows selection of the melt cycle type and requirement when starting the appliance from a cold start.

With display showing `PROGRAM`, press the product key [0].

❑ Display will show `SELECT` `OPTIONS`.

❑ Press product key **5**, display shows [LIQUID], the default setting.

❑ Use the product key [0] to scroll through choices (liquid, solid, or, no melt).

❑ Press (P) key to save choice. Display will again return to `PROGRAM`.

**3.6 Recovery Test Value:**

This controller maintains a record of heat up times for the appliance.  A poorly running appliance will have increased recovery times stored in this display.  There is no selection done here, just the display of recovery time values.

With display showing $PROGRAM$ , press the product key [0].

❑ Display will show $SELECT$ $OPTIONS$ .

❑ Press product key **6**, display will show [RECOVERY] [TEST].

❑ Press the product key [0].  Display will show [FnnnLyyy], where nnn is the factory recovery value, and yyy is the last warm- up recovery value.

❑ After recording these values, press the (P) key. Display will again return to $PROGRAM$

**3.7 Control or Timer: Single Vat**

With display showing $PROGRAM$ , press the product key [0].

❑ Display will show $SELECT$ $OPTIONS$ .

❑ Press product key **7**, display will show [CONTROL].

❑ Use the product key [0] to scroll through choices (Control, Timer).

❑ Press (P) key to save choice. Display shows $PROGRAM$ .

*Note: If timer is selected, heat control outputs are disabled, leaving only the timer functions active.*

## 4 To Enter Programming Level 3 (for the Technician)

With no cook timers running, displays will show one of the following displays:

`MELT` ; `HEATING` , or `READY` .

❑ Press the (P) key. The left display will show `PROGRAM`. The right display will be blank.

❑ Enter password **Level 3 Password** using the product keys as a numeric keypad for entry. **6 6 8 5**

❑ Display will show `SERVICE`. Product key indicators will illuminate to prompt operator to select a key. This section details parameters that may be changed in Level 3 programming.

### 4.1 Offset Temperature Display

This adjustment allows the displayed temperature value to be offset to reflect the true center vat temperature while reading the probe tip temperature. Default value is +2. With zero value set, displayed values are the probe temperature.

With display showing `FACTORY` press product key **1**.

❑ Display shows [OFF nn F] [DEGREES], where "nn" is the value of the adjustment.

❑ Negative values are preceded with a minus sign. To change this value, use the product keys for numeric entry of a new value.

❑ Press the (P) key. Display will show [POSITIVE] [DEGREES]. Use the product key to scroll choices (Positive or Negative value).

❑ After selection, press the (P) key. Display shows `FACTORY`.

*Note: Computer Display Temp – Center Vat Temp = Offset (+/-). Example: Computer Display shows 350F while Center Vat Temp measures 352F. 350F – 352F = - 2 °F. A negative offset value.* Proper equipment and expertise is required to correctly adjust this value. Even *s*mall changes may negatively effect cooking performance.

### 4.2 Melt Cycle ON Time

With display showing `SERVICE` press product key **2**.

❑ Display shows [MLTON :nn] [MELT ON], where "nn" is the value, in seconds, of time for a melt cycle heat pulse.

❑ To change this value, use the product keys for numeric entry of a new value.

❑ Press the (P) key. Display returns to `SERVICE`.

### 4.3 Minnimum ON and OFF Cycle Time

With display showing $\boxed{SERVICE}$ press product key **3**.

❑ Display shows [MIN ON:nn] [MIN ON], where "nn" is the value, in seconds, of time for minimum heat pulse period.

❑ To change this value, use the product keys for numeric entry of a new value, then press the 🕐 key to save.

❑ Display shows [MIN OFF:nn] [MIN OFF], where "nn" is the value, in seconds, of time for minimum heat off period. Use the product keys for numeric entry of a new value.

❑ Press the Ⓟ key. Display now shows $\boxed{SERVICE}$.

### 4.4 Recovery Times:

This controller maintains a record of heat up times for the appliance. A poorly running appliance will have increased recovery times stored in this display. There is no selection done here, just the display of recovery time values.

With display showing $\boxed{PROGRAM}$, press the product key [0].

❑ Display will show $\boxed{SELECT}$ $\boxed{OPTIONS}$.

❑ Press product key **4,** display will show [RECOVERY] [TEST].

❑ Press the product key [0]. Display will show [FnnnLyyy], where nnn is the factory recovery value, and yyy is the last warm- up recovery value.

❑ After recording these values, press the Ⓟ key. Display will again return to $\boxed{PROGRAM}$.

## 4.5  Diagnostic Menu Entry

The diagnostic menu is used to determine the functionality of controller outputs and inputs.  By exercising each output and examining inputs, a determination can be made if an appliance problem is controller related.  In the diagnostic menu, product keys are assigned specific inputs or outputs.

All outputs in the ON state should produce 22VDC at the appropriate pins on the controller connector.  Controller inputs can be verified by the on or off state of the indicator above the product key.  This section details the process of checking each input and output.

❑  With display showing $SERVICE$ press product key **5**.

❑  Display will show [DIAGNOST] [DIAGNOST].

**The following list describes the function of each key in the diagnostic mode.**

| Function | Description | Button |
|---|---|---|
| 4.5.1  **Left Basket Lift Output** | Toggles basket lift output on and off. Display will show [L BASKET] | 1 |
| 4.5.2  **Right Basket Lift Output** | Toggles basket lift output on and off. Display will show [R BASKET] | 2 |
| 4.5.3  **Heat Demand Output** | Hold the product key 3 to force Heat Demand output ON. Display will show [HEAT DEM].  Releasing the key will force output OFF. | 3 |
| 4.5.4  **Side On Output** | Toggles the "Side ON" output ON. Display will show [SIDE ON]  Press again to toggle output OFF. | 4 |
| 4.5.5  **Drain Switch Input** | Display will show state of the Drain Valve input. Display will show [DRN ON (or OFF)].  Product key 5 indicator shows the ON or OFF state of the input. | 5 |
| 4.5.6  **Lamp Test** | All display indicators will be forced on.  The purpose is to reveal non-functional indicators or displays. | 6 |
| 4.5.7  **Heat Feedback Input** | Display will show state of the Heat Feedback input [FB xxx], where xxx is ON or OFF.  Key 7 indicator shows the ON or OFF state of this input. | 7 |

### 4.5.8  Exit Diagnostic Menu

❑  To exit diagnostic menu, press the **(P)** key.  Display will return to $SERVICE$.  Other service menu items may be selected for changes.

❑  To return to programming, press the **(P)** key again.  Display will show $PROGRAM$.

❑  To return to normal operations, press the **(P)** key again. Display will show one of the normal displays: $MELT$; $HEATING$, or $READY$.

### 4.6 Ready Level

With display showing $\boxed{SERVICE}$ press product key 6. Display shows [READY nn],

where "nn" is the value, in degrees, below set temperature that the $\boxed{READY}$ message is displayed. To change this value, use the product keys for numeric entry of a new value.

❑ Press the (P) key. Display now shows $\boxed{SERVICE}$.

### 4.7 Temperature Operating Range

Forces the control to display the range of temperatures that may be set by operators.

With display showing $\boxed{SERVICE}$ press product key **7**.

*Note: Display shows [RANGE 1] [200  380].  No adjustments are permitted here.*
*This is an information display only.*

❑ Press the (P) key. Display returns to $\boxed{SERVICE}$.

### 4.8 More Service Menu Entry

With display showing $\boxed{SERVICE}$ press product key **8** to enter submenu.  Display now

shows $\boxed{MORE}$ $\boxed{SERVICE}$.

Product keys will illuminate where adjustments are permitted; all other keys are inactive.  The following section details each product key function in the $\boxed{MORE}$ $\boxed{SERVICE}$ menu.

### 4.8.1 Instant On Toggle

This setting is to allow disabling the instant on feature.  This feature applies a momentary heat pulse to the appliance when a cook key is pressed.  *Factory default value is ON.*

❑ With display showing $\boxed{MORE}$ $\boxed{SERVICE}$, press product key **1**.

❑ Display will show [INST ON  [xxx    ], where "xxx" is ON or OFF.

❑ Use product key [0] change value.  Press the (P) to save choice.

❑ Display returns to $\boxed{MORE}$ $\boxed{SERVICE}$.

### 4.8.2 Cook Now(Single Only)

Should operators be forced to acknowledge a Cook Done Alarm before starting another cook?  This setting forces that requirement.  *Factory default value is OFF.*

❑ With display showing [ MORE ] [ SERVICE ] , press product key **2**.

❑ Display will show [NOW xxx] [COOK NOW], where "xxx" is ON or OFF.

❑ Use product key [0] change value.  Press the (P) to save choice.

❑ Display returns to [ MORE ] [ SERVICE ] .

*Note: With OFF value selection, operators must acknowledge a done cook [ DONE n] display before starting any another cooks.*

*With an ON value, operators are permitted to start a cook on the opposite side before acknowledging a cook done alarm.*

<u>*Example*</u>*: The left display is showing [DONE 2] with the beeper alarm sounding.  Indicator 2 is flashing needing to be acknowledged.  All other product indicators are off.*

> *With a set value of OFF, no other cooks can start until product key 2 is pressed to acknowledge and clear the cook done alarm.*

> *With a value of ON set, a cook on the right side of the control (keys 7-12) may be started <u>before operator clears the cook done alarm for product key #2 on the left side.</u>*

### 4.8.3 Heat Demand Profile

With display showing [ MORE ] [ SERVICE ] , press product key **3**.  Display will show [xxxxxxx] [HEAT DEM], where xxxxxxx may be one of 6 heat control profiles listed below.

1. [GENERIC 1] for gas fired fryer appliance.  *This is the factory default.*

2. [GENERIC 2] for electric fryer appliances.

Use product key [0] change value, then press the (P) to save choice Display returns to

[ MORE ] [ SERVICE ] .

### 4.8.4 Shake Alarm Duration

With display showing [ MORE ] [ SERVICE ] , press product key **4**.

Display will show [SH-DUR:nn] [DURATION], where "nn" is the time in seconds the shake alarm will sound. Use product keys for numeric entry of desired value, then press the (P) to save choice. Display returns to [ MORE ] [ SERVICE ] .

### 4.8.5 Hold Alarm Duration

With the display showing [ *MORE* ][ *SERVICE* ], press product key **5**.

Display will show [HD-DUR:nn] [DURATION], where "nn" is the time in seconds the hold alarm will sound. Use product keys for numeric entry of desired value, then press the (P)

to save choice. Display returns to [ *MORE* ][ *SERVICE* ].

### 4.8.6 Cancel Duration

With the display showing [ *MORE* ][ *SERVICE* ], press product key **6**.

Display will show [CANCEL:nn] [DELAY] , where "nn" is the time in seconds the operators must press a product key to cancel a cook. Use product keys for numeric entry of desired

value, then press the (P) to save choice. Display returns to

[ *MORE* ][ *SERVICE* ]. Default value is 2 seconds.

### 4.8.7 Configuration Value

With display showing [ *MORE* ][ *SERVICE* ], press product key **7**.

Display will show [CFG hhhh], where "hhhh" is a hexadecimal checksum of the configuration memory contained in the controller. Modifications to any part of the setup of this control will

change the check sum value. Press the (P) display will return to

[ *MORE* ][ *SERVICE* ].

### 4.8.8 Factory Reset

Factory Reset provides a quick way to erase all setup changes and restore control to factory settings.

*Warning: Any settings made prior to a factory reset will be lost. This includes customer specific downloads performed at ANETS. Heat profile after a reset is Generic 1 for gas appliances.*

With the display showing [ *MORE* ][ *SERVICE* ], press **8** product key. After a few

moments, the display will show [P]. Press the (P) display will return to

[ *MORE* ][ *SERVICE* ].

### 4.8.9 Standing Pilot Toggle

For some applications, it is desirable to maintain the gas pilot flame when the appliance is OFF.  Heat from the pilot keeps solid shortening in the liquid state for quicker warm-ups in the morning. Default setting for standing pilot is off.

*Note: Heat Demand Profile (section 4.8.3) must be set to Generic 1, or T-stat. Standing Pilot toggle has no effect in with any other setting.*

With the display showing `MORE` `SERVICE` , press product key **9**.  Display will show [STANDING] [PILOT n], where "n" is ON or OFF. Use product key [0] change value, then press the **P** to save choice. Display returns to `MORE` `SERVICE` .

### 4.8.10 Set Network Address

With the display showing `MORE` `SERVICE` , press key **10**.

Display will show [ADDR aa], where "aa" is a current address (default is 31) for this control. This feature will allow for data collection and configuration changes on a network for cooking computers that are tied together with the RS-485 communications port. When controls are connected together for data collection, all controls must have different addresses.

❑ To change this value, use the product keys for numeric entry of a new value.

❑ Press the **P** key. Display returns to `MORE` `SERVICE` .

### 4.8.11 Exit More Service sub menu

With display showing `MORE` `SERVICE` , press **P** key.

Display will show `SERVICE` .  Continue with Level 3 programming in this section (display showing [SERVICE]), or continue.

**4.9** <u>Number of Basket Lifts</u>

With the display showing $\boxed{5ERVICE}$ ; press key **9**.

❑ Display will show $\boxed{L\ BASKET2}$ ; where the number is the current setting for basket lift outputs. Use product key [0] to scroll through the choices:

> 0 = no basket lift outputs
> 1 = one basket lift output for all keys.
> 2 = two outputs – keys 1-6 on left side, 7-12 on the right.
> 3 = Four outputs: keys 1-3 and keys 4-6 on left side.  Keys 7-9 and keys
> > 10-12 on the right side. (Only one Cook allowed on each three number division.)

❑ Press the (**P**) key to save your choice. The display will show $\boxed{5ERVICE}$ .

**4.10** <u>To Exit Programming Level 3</u>

*This process is similar to section 2.3 except* $\boxed{5ERVICE}$ *is displayed instead of* $\boxed{PROGRAM}$ .

## 5   *Factory Menu Level 4 (for the Technician)*

With no cook timers running, displays will show one of the following displays: $\boxed{MELT}$ ;

$\boxed{HEATING}$ , or $\boxed{READY}$ .Press the $\textbf{(P)}$ program key.  Left display will show

[PROGRAM].  Right display will be blank.

Enter password number Level 4 Password **1 9 9 3** using the product keys as a numeric keypad for entry.

Display will show $\boxed{FACTORY}$ .  The key indicators will illuminate to prompt operator to select a key.
This section details parameters that may be changed in Factory menu.

### 5.1 PCollect (toggle)

With display showing $\boxed{FACTORY}$ press product key **1**.

❑  Display shows [PCOLLECT] [OFF    ].  This toggle forces the RS-485 link to output data
collection parameters during test, and calibration.  This has no meaningful use in the field.
*Do not change this setting.* Factory shipped default is **OFF**.

❑  To change this value, use the 0 key to select a new value.

❑  Press the $\textbf{(P)}$ key. Display returns to $\boxed{FACTORY}$ .

### 5.2 Offset Temperature Display

*This menu is identical to Offset Temperatuer Display Menu section 4.1 except*

$\boxed{FACTORY}$ *is displayed instead of [SERVICE].*

### 5.3 Melt Cycle ON Time

*This menu is identical to Melt Cycle ON Time Menu section 4.2 except*

$\boxed{FACTORY}$ *is displayed instead of [SERVICE].*

### 5.4 Minimum ON and OFF Cycle Time

*This menu is identical to Minimum ON and OFF Time Menu section 4.3*
*except* $\boxed{FACTORY}$ *is displayed instead of [SERVICE].*

### 5.5 Recovery Test Values

*This menu is identical to Recovery Test Menu section 4.4 except*

$\boxed{FACTORY}$ *is displayed instead of [SERVICE].*

**5.6 Diagnostic Menu Entry**

*This menu is identical to Diagnostic Menu section 4.5 except*

FACTORY *is displayed instead of [SERVICE].*

**5.7 Ready Level**

*This menu is identical to Ready Level Menu section 4.6 except*

FACTORY *is displayed instead of [SERVICE].*

**5.8 Operating Temperature Range**

*This menu is identical to Operating Temperature range Menu section 4.7 except* FACTORY *is displayed instead of [SERVICE].*

**5.9 High Limit Value**

*With display showing* FACTORY *press product key* **9**.

❑ Pressing product key 8 forces the control to display the temperature *above the set temperature*, where the high limit alarm will sound. This is a display only value, this value cannot be changed with a keypad entry.

❑ Press the ⓟ key. Display now shows FACTORY .

*Note: Factory default value is 40°F over set temperature, or 410°F absolute, whichever is less. Customer specific downloads at manufacturing may change this value.*

**5.10 Number of Basket Lifts**

*This menu is identical to Number of Basket Lift Menu section 4.9 except*

FACTORY *is displayed instead of [SERVICE].*

**5.11 Test On/Off**

With display showing FACTORY press product key **11**.

Display shows [TEST xx], where "xx" is ON or OFF. If ON is selected, temperatures displayed by the controller are probe tip temperatures unaltered by values set in section 4.1, or 5.1.

*Note:For normal operations, this setting should remain OFF.*

To change this value, use product key 0 to toggle choice (ON or OFF).

Press the ⓟ key. Display now shows FACTORY .

### 5.12 More Factory Menu Entry

With display showing $\boxed{FACTORY}$ press product key **12**.

Display shows $\boxed{MORE}$ $\boxed{FACTORY}$.

#### 5.12.1 Control ID Display

From the $\boxed{MORE}$ $\boxed{FACTORY}$ display, press the **11** key.

Display will show [CONTROL ] [60149509], the ANETS part number.

❑ Press the [0] key again.

Display will show [S/W      ] [0149501x], this is ANETS's software number and current revision letter.

❑ Press the [0] key again.

Display will show [CHECKSUM] [00Fxxxxx], the software check sum of the loaded software.

❑ Press the [0] key again to repeat these items, or, press **(P)** to return to

$\boxed{MORE}$ $\boxed{FACTORY}$.

#### 5.12.2 Set Network Address

*This menu is identical to Set Network Address Menu section 4.8.10 except* $\boxed{MORE}$ $\boxed{FACTORY}$ *is displayed instead of [SERVICE].*

#### 5.12.3 To exit More Factory Menu

With display showing $\boxed{MORE}$ $\boxed{FACTORY}$ press **(P)** key.

Display returns to $\boxed{FACTORY}$.

### 5.13 To Exit Factory Menu (Level 4):

To exit Factory Programming, Press the **(P)** key. Display will show $\boxed{PROGRAM}$. Continue with settings in section 2 or 3, or exit in the next step.

To return to normal operations, press the **(P)** key again.

❑ Display shows $\boxed{MELT}$ ; $\boxed{HEATING}$ , or $\boxed{READY}$.

## 6 *Other Displays:*

PROBE OP    OPEN

Open probe detection is standard on all ANETS controls.  If probe is detected open, normal heating and cooking activities are suspended.

HIGH TMP HIGH TMP

This display warns operators that the vat temperature has exceeded set temperature by +40°F (+22°C), or an absolute maximum of 410°F (210°C). The alarm will also sound.  This display does not show the status of the mechanical high limit switch.

DRAINING TURN OFF

This message indicates that the drain valve has been opened, the vat is assumed to be empty by the controller.  Normal heat control activities are suspended.  Display will show an alternating message [DRAINING] [TURN OFF]. To restore to normal operation, close the drain value. Display will show [TURN OFF] [TURN OFF].

Turn controller off, and refill the vat.  Continue with normal operations at section 1.

HEAT     FAILURE

This message indicates that the heating system failed to respond.  Typically, the high temperature limit switch has tripped and is in need of resetting.  In the case on gas fired appliances, this message will display if the pilot fails to light or is detected marginal by the ignition module.

SYSTEM  FAILURE

This message indicates a shorted probe. If probe is detected as a short circuit, normal heating and cooking activities are suspended.

FACTORY  Y OR N
RESET

This message indicates that a recoverable system error has occurred. Press '6' for YES to perform a factory reset or '0' for NO to return to OFF. Normal use of the system will only resume when a factory reset has been performed.

## 7 Mechanical Dimensions:
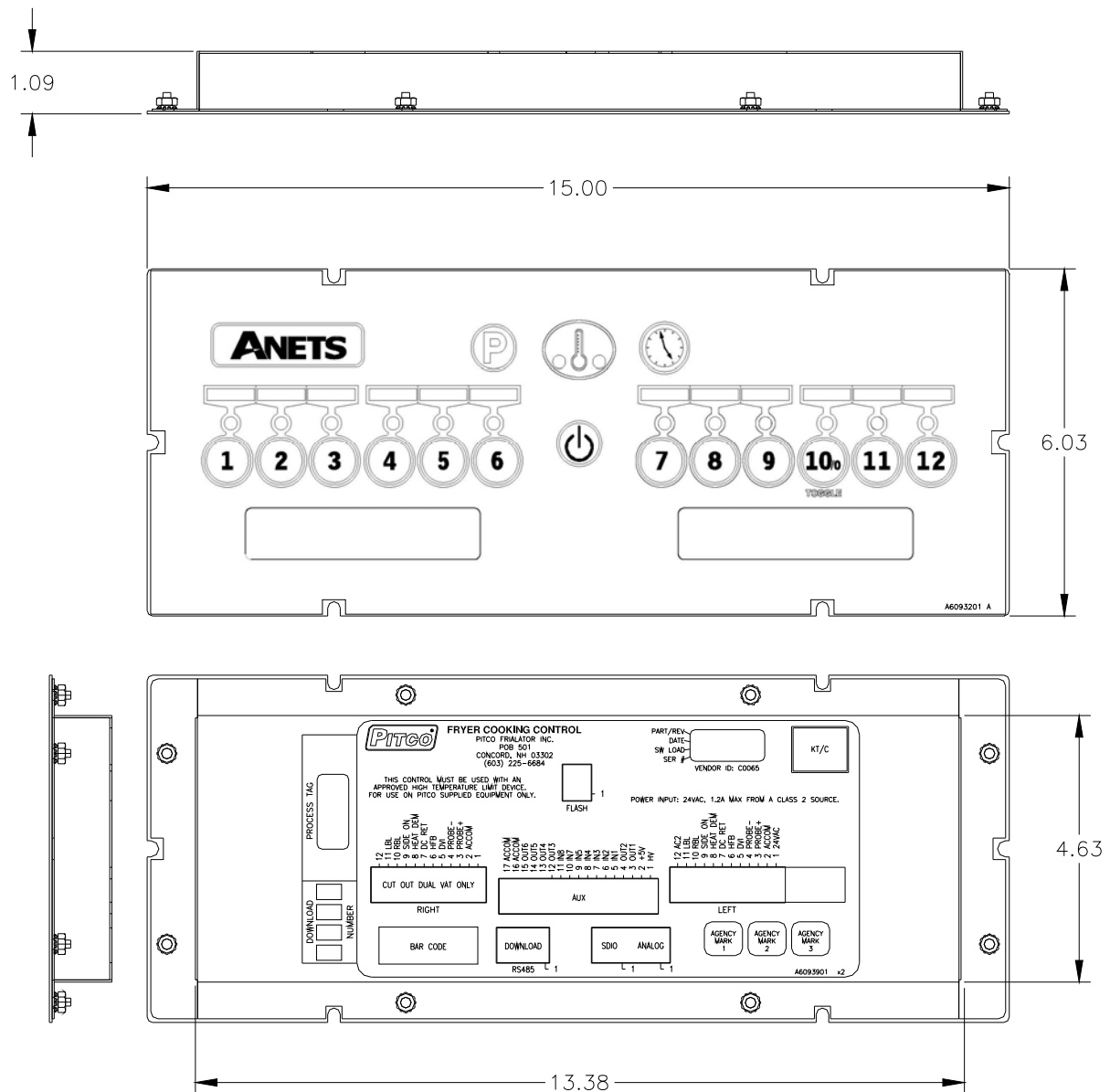
## 8 *Electrical Connections at LEFT and RIGHT connectors:*



As viewed from the rear of the control.

| J1(Left) | Inputs | Type | Nominal | Notes: |
|---|---|---|---|---|
| 1 | ACH | PWR | 24VAC | 24VAC +20% -15% 50/60Hz. |
| 2 | ACN | PWR | 24VACN | 24VAC Return. |
| 3 | PROBE+ | Thermistor | Resistance varies with vat temperature. 942 Ohms |
| 4 | PROBE- | Proble | @ 350°F |
| 5 | DVI | IN | 24VAC | Drain Valve Interlock |
| 6 | HFB | IN | 24VAC | Heat Feed Back |
| 7 | 24VDC COM | IN | 24VDC | DC Returm |
| 8 | HD | OUT | 24VDC | Heat Demand |
| 9 | SO/xFER | OUT | 24VDC | Side ON or XFER |
| 10 | RBL | OUT | 24VDC | Right Basket Lift |
| 11 | LBL | OUT | 24VDC | Left Basket Lift |
| 12 | AC2 | PWR | 24VAC | Aux Power Input |

**Tip: Use the diagnostic menu to verify operation of outputs, and inputs.**

## 9 Probe Resistance Chart:

| Probe Resistance in 5°F Increments. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Probe Temp (°F) | Probe Temp (°C) | Resistance (Ohms) | Probe Temp (°F) | Probe Temp (°C) | Resistance (Ohms) | Probe Temp (°F) | Probe Temp (°C) | Resistance (Ohms) |
| 10 | -12.2 | 562734 | 175 | 79.4 | 11719 | 340 | 171.1 | 1058.23 |
| 15 | -9.4 | 483875 | 180 | 82.2 | 10716 | 345 | 173.9 | 998.09 |
| 20 | -6.7 | 417167 | 185 | 85.0 | 9812 | 350 | 176.7 | 942.00 |
| 25 | -3.9 | 360589 | 190 | 87.8 | 8995 | 355 | 179.4 | 889.67 |
| 30 | -1.1 | 312474 | 195 | 90.6 | 8255 | 360 | 182.2 | 840.78 |
| 35 | 1.7 | 271446 | 200 | 93.3 | 7586 | 365 | 185.0 | 795.10 |
| 40 | 4.4 | 236370 | 205 | 96.1 | 6979 | 370 | 187.8 | 752.38 |
| 45 | 7.2 | 206311 | 210 | 98.9 | 6427 | 375 | 190.6 | 712.41 |
| 50 | 10.0 | 180491 | 215 | 101.7 | 5926 | 380 | 193.3 | 674.95 |
| 55 | 12.8 | 158252 | 220 | 104.4 | 5470 | 385 | 196.1 | 639.87 |
| 60 | 15.6 | 139055 | 225 | 107.2 | 5055 | 390 | 198.9 | 606.96 |
| 65 | 18.3 | 122489 | 230 | 110.0 | 4675 | 395 | 201.7 | 576.09 |
| 70 | 21.1 | 108051 | 235 | 112.8 | 4329 | 400 | 204.4 | 547.09 |
| 75 | 23.9 | 95539 | 240 | 115.6 | 4013 | 405 | 207.2 | 519.86 |
| 80 | 26.7 | 84644 | 245 | 118.3 | 3723 | 410 | 210.0 | 494.24 |
| 85 | 29.4 | 75136 | 250 | 121.1 | 3458 | 415 | 212.8 | 470.16 |
| 90 | 32.2 | 66823 | 255 | 123.9 | 3214 | 420 | 215.6 | 447.49 |
| 95 | 35.0 | 59540 | 260 | 126.7 | 2991 | 425 | 218.3 | 426.13 |
| 100 | 37.8 | 53146 | 265 | 129.4 | 2785 | 430 | 221.1 | 406.02 |
| 105 | 40.6 | 47523 | 270 | 132.2 | 2597 | 435 | 223.9 | 387.04 |
| 110 | 43.3 | 42569 | 275 | 135.0 | 2422 | 440 | 226.7 | 369.14 |
| 115 | 46.1 | 38195 | 280 | 137.8 | 2262 | 445 | 229.4 | 352.24 |
| 120 | 48.9 | 34328 | 285 | 140.6 | 2113.9 | 450 | 232.2 | 336.29 |
| 125 | 51.7 | 30902 | 290 | 143.3 | 1977.3 | 455 | 235.0 | 321.21 |
| 130 | 54.4 | 27862 | 295 | 146.1 | 1851.0 | 460 | 237.8 | 306.94 |
| 135 | 57.2 | 25161 | 300 | 148.9 | 1734.3 | 465 | 240.6 | 293.46 |
| 140 | 60.0 | 22755 | 305 | 151.7 | 1626.1 | 470 | 243.3 | 280.69 |
| 145 | 62.8 | 20610 | 310 | 154.4 | 1525.9 | 475 | 246.1 | 268.61 |
| 150 | 65.6 | 18695 | 315 | 157.2 | 1433.0 | 480 | 248.9 | 257.15 |
| 155 | 68.3 | 16981 | 320 | 160.0 | 1346.7 | 485 | 251.7 | 246.30 |
| 160 | 71.1 | 15446 | 325 | 162.8 | 1266.6 | 490 | 254.4 | 236.00 |
| 165 | 73.9 | 14069 | 330 | 165.6 | 1192.1 | 495 | 257.2 | 226.24 |
| 170 | 76.7 | 12823 | 335 | 168.3 | 1122.8 | 500 | 260.0 | 216.96 |

Notes: Resistance, of either probe lead, to the frame of the appliance should read as "open' on the meter.  Typically this is 1Meg ohms or more.

°C = 5/9 (°F-32)

°F = (9/5 * °C) +32

| In the event of problems with or questions about your order, please contact the ANETS factory at<br><br>(603) 225-6684 World Wide<br><br>www.anets.com | In the event of problems with or questions about your equipment, please contact the ANETS Authorized Service and Parts representative (ASAP) covering your area, or contact ANETS at the numbers listed to the left. |
|---|---|

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