Phase 5
Coin
User's Manual

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Retain This Manual In A Safe Place For Future Reference

Please read this manual carefully to thoroughly familiarize yourself with the Phase 5 Coin computer system features, operational instructions, and programming characteristics. This manual contains important information on how to use all the features of your new dryer in the safest and fastest way.

This product embodies advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe, efficient, and trouble free operation.

We have tried to make this manual as complete as possible and hope you will find it useful. The manufacturer reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models.

⚠ WARNING

Proposition 65
Use of this product could expose you to substances from fuel combustion that contain chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

In the State of Massachusetts, the following installation instructions apply:

- Installations and repairs must be performed by a qualified or licensed contractor, plumber, or gasfitter qualified or licensed by the State of Massachusetts.
- If using a ball valve, it shall be a T-handle type.
- A flexible gas connector, when used, must not exceed 3 feet.

"IMPORTANT NOTE TO PURCHASER"

Information must be obtained from your local gas supplier on the instructions to be followed if the user smells gas. These instructions must be posted in a prominent location near the dryer.

List of Acronyms

L.E.D.	Light Emitting Diode
PL	Program Locations
PS	Program Switch

Table of Contents

Introduction

The Phase 5 Coin Computer System is a fully programmable, highly sophisticated dryer control system. American Dryer Corporation has designed the Phase 5 coin microprocessor controller (computer) to be the most versatile and reliable coin-operated control system available.

To eliminate as many moving parts as possible, all Phase 5 coin microprocessor controller (computer) programming is done through the membrane switch on the front of the control panel. The program switch that puts microprocessor controller (computer) into the program mode is a single program switch. This program switch eliminates the possibility of switch failure due to an accumulation of lint or moisture.

Phase 5 Coin Microprocessor Controller (Computer) Features

AUTOMATIC PROGRAM REVIEW

In the program mode, the Phase 5 coin microprocessor controller (computer) will show all settings by one touch of the low temperature keypad selection.

PROGRAMMABLE

Changes in the programs are made at the temperature keypad selection and actual programs are displayed for verification.

ADJUSTABLE TIME

Programmable from a minimum of 1 minute to a maximum of 99 minutes in 1 minute increments.

COIN ACCEPTOR DENOMINATIONS

Values of coin acceptors are programmable from a minimum of 1 to a maximum value of 9999 for any U.S. or foreign coin denomination.

AMOUNT TO START

Programmable from a minimum value of 1 to a maximum value of 9999 in increments of one.

ACCUMULATIVE TIME

This program yields a specific value of time for any coin entry made after the “Amount To Start” has been inserted.

Time For Amount To Start

This program retains the time the owner wishes to vend. The feature allows any additional purchase that is made to be calculated to the second. There is no calculation necessary by the owner. The Phase 5 coin microprocessor controller (computer) calculates the vended time.

ACCUMULATIVE COIN

This program selection requires that a specific value of coin(s) be inserted for additional time, programmable for any minimum amount.

COIN COUNT

The number of coins inserted, including a separate display program for optional dual coin acceptors, can be viewed through the Phase 5 computer’s L.E.D. display.

BAD COIN LOCKOUT

Each coin is monitored. Should someone tamper with the coin acceptor or attempt to insert a foreign object, the microprocessor controller (computer) will “LOCKOUT” and will not accept any entries until the reset time has elapsed (approximately 15-seconds). Once the reset time has expired, the microprocessor controller (computer) will automatically reset itself for the next coin entry.

TEMPERATURE CONVERSION

When the temperature conversion status is changed (i.e. from °F to °C), the Phase 5 coin microprocessor controller (computer) will automatically convert all temperature related programs/parameters from Fahrenheit to Celsius and vice versa. The Phase 5 coin microprocessor controller (computer) will perform this conversion within 1° F (2° C). The programs affected are:

1. Temperature Display Mode
2. Temperature Selections
3. Cool Down Temperatures

DRYING TEMPERATURES

Any of the three temperature selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 190° F in ten-degree increments or from a minimum of 38° C to a maximum of 88° C in five-degree increments. Actual temperature programs are displayed at time of programming for verification.

For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments, or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.

COOL DOWN TIME

All three temperature selections are programmable from a minimum of 0 minutes to a maximum of 9 minutes in 1 minute increments.

COOL DOWN TEMPERATURES

In the automatic or free dry modes, the cool down cycle termination is programmable from a minimum of 70° F to a maximum of 190° F in ten-degree increments or from a minimum of 21° C to a maximum of 88° C in five-degree increments.

AUTOMATIC MODE (Patent No. 4,827,627)

This program selection uses ADC’s patented Auto-Dry cycle. The microprocessor controller (computer) will calculate the percent of the dryness and read “donE” when complete. The Phase 5 coin microprocessor controller (computer) can be programmed to have a maximum time for the “Auto Mode.” The Automatic Cycle (mode) can be used in either the “Free Dry” Mode or the “Coin” Mode.

ANTI-WRINKLE

This program selection helps keep permanent press items wrinkle free when they are not removed from the dryer promptly at the end of the drying and cooling cycles. The Anti-Wrinkle program settings are:

1. Guard Delay Time .....1 to 9 minutes
2. Guard On Time .....1 to 99-seconds
3. Active Guard Time .....1 to 99 minutes

FREE DRY MODE

In this program selection, the dryer can be started without the insertion of coins by simply pressing any one of the three temperature selections. When set in the "Free Dry" Mode, the Phase 5 coin microprocessor controller (computer) can also be programmed to run with an Automatic Cycle (percent of dryness) or with a Timed Cycle. If the "Free Dry" program is utilized, the computer's L.E.D. display will cycle back and forth between "FILL" to "FrEE," unless otherwise programmed.

L.E.D. FLASH DISPLAY

Programmable to allow the L.E.D. readout to display a choice of "FILL" (no cycle in progress), "Amount To Start" (i.e., 25¢), or, in the case of free dry, "FrEE." This program selection also allows the L.E.D. display to flash back and forth every 2-seconds from "FILL" to "Amount To Start" or, in the case of free dry, from "FILL" to "FrEE."

AUDIBLE TONE

In this program selection, a tone (buzzer) will sound for each coin inserted, program entry, or at the drying and cooling cycles for a period of 5-seconds to indicate that the cycle is complete. Additionally, when in the Anti-Wrinkle program, the tone (buzzer) will sound for 5-seconds at the end of the "Guard On Time."

TEMPERATURE DISPLAY

This program selection enables the temperature in the dryer to be viewed (°F or °C) either while the dryer is off or running. This service feature shows that the dryer is maintaining the selected temperature.

DIAGNOSTICS

All major circuits, including door, microprocessor temperature sensor, heat, and motor circuits are monitored. There are also indicators installed on the outputs of each relay to easily identify failures, and the door switch has an indicator installed on the Phase 5 microprocessor controller (computer) to help indicate failure.

AUTOMATIC DRY TIME

This program selection allows the dryer to run up to a specific time. During the "AUtO" mode or "FrEE" dry mode this program is only designed to limit the dryer's operation during the drying cycle.

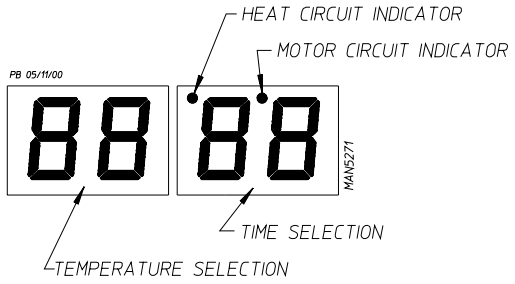
ROTATIONAL SAFE GUARD (Optional)

This program monitors the rotation of the tumbler. If the tumbler is not rotating, the Phase 5 coin microprocessor controller (computer) will disable all outputs, an audible tone (buzzer) will sound, and an error message will be displayed. This program selection can be programmed to be in the inactive mode.

BATTERY BACKUP (Optional)

This feature allows the Phase 5 coin microprocessor controller (computer) to maintain its operating status should a momentary power interruption occur while the dryer cycle is in progress.

L.E.D. Display and Codes



A	Automatic Cycle (Slope Program Factor)
ACOn	Accumulative Coin
Adrt	Maximum Auto Dryness Time
AFAt	Amount for Additional Time
AGt	Active Anti-Wrinkle Guard Time
AtIn	Accumulative Time
AtSt	Amount To Start
AUtO	Automatic Mode (Patent No. 4,827,627)
b	Automatic Cycle (Heat Loss [offset] Factor)
bCLO	Bad Coin Lockout
bCrS	Bad Coin Reset
bUZ	Buzzer (Tone)
°CEL	Degree in Celsius
CLCC	Clear Left Coin Count
Coin	Coin Mode
CrCC	Clear Right Coin Count
donE	Drying and Cooling Cycles Complete or Dryer is in Anti-Wrinkle Cycle
door	Door Circuit is Open*
dSFL	Dryer Sensor Circuit Failure*
°FAr	Degree in Fahrenheit
FILL	No Cycle in Progress
FLS	Flash Display Active
FrEE	Free Dry Mode
GdLY	Anti-Wrinkle Delay Time
Gont	Anti-Wrinkle On Time
Grd	Anti-Wrinkle Program Active
HICd	High Cool Down
Hot	Overheating Condition*
LCC	Left Coin Count
LCdE	Left Coin Denomination
LOCd	Low Cool Down
nbUZ	No Buzzer (Tone)
nFLS	No Flash Display
nGrd	No Anti-Wrinkle
nSEn	No Rotational Sensor Selected
PdrY	Percent Dry
PL	Program Location
PLOC	Program Location Automation Review
PPCd	Permanent Press Cool Down
PP°F	Permanent Press
PUSH	Amount to start has been Inserted Make Temperature Selection
rCC	Right Coin Count
rCdE	Right Coin Denomination
SEFL	Rotational Sensor Circuit Failure*
SEn	Rotational Sensor Selected
tFAS	Time For Amount to Start
tInE	Timed Mode

* Refer to Phase 5 Coin System Diagnostics on page 37 for detailed information.

Operating Instructions

NOTE: *Unless otherwise specified at the time of ordering, the Phase 5 coin microprocessor controller (computer) has been preprogrammed by the factory with the parameters shown on page 36. Should program changes be found necessary, please read this Phase 5 Coin User's Manual carefully to thoroughly familiarize yourself with the Phase 5 coin microprocessor controller (computer) programming characteristics.*

Timed Mode

When turning on power or when no cycle is in progress, the L.E.D. display will read "FILL" and/or "Amount To Start" ("AtSt").

Insert coin(s). Once the correct "Amount To Start" has been inserted, the L.E.D. display will read "PUSH."

Select temperature by pushing "HI TEMP," "LO TEMP," or "PERM PRESS." The dryer will start and the L.E.D. display will read the temperature cycle selected and the drying time.

The dryer will continue through the drying and cooling cycles, showing time counting downward.

NOTE: *If the door is opened during a cycle, both the heat and motor will stop. However, the Phase 5 coin microprocessor controller (computer) will continue to count downwards in time. Continuation of the cycle will resume only after the door has been closed and any one of the three temperature selection buttons is again depressed.*

Upon completion of the drying and cooling cycles, the buzzer (tone) will sound, and the L.E.D. display will read "donE" for 5-seconds, at which time the dryer will shut off.

NOTE: *If the Anti-Wrinkle Program is active ("Grd"), the L.E.D. display will remain reading "donE," and the Phase 5 coin microprocessor (computer) will proceed through the Anti-Wrinkle Program until the maximum "Guard On Time" has expired or until the door is opened, whichever comes first. The L.E.D. display will read "FILL" and/or "Amount To Start" ("AtSt").*

If the Anti-Wrinkle Program is not active ("nGrd") the L.E.D. display will read "donE" until the main door is opened, at which time the L.E.D. display will read "FILL" and/or "Amount To Start."

Automatic Mode (Patent No. 4,827,627)

When turning on power or when no cycle is in progress, the L.E.D. display will read "Fill" and/or "Amount To Start" ("AtSt").

Insert coin(s). Once correct "Amount to Start" has been inserted, the L.E.D. display will read "PUSH."

Select temperature by pushing "HI TEMP," "LO TEMP," or "PERM PRESS." The dryer will start, the L.E.D. display will read the temperature cycle selected, and the drying time portion of the L.E.D. display will read "00" and count upward as time elapses.

NOTE: *If the door is opened during a cycle, both the heat and motor will stop. However, the Phase 5 coin microprocessor controller (computer) will continue to count upwards in time. Continuation of the cycle will resume only after the door has been closed and any one of the three temperature selection buttons is again depressed.*

Once the preprogrammed dryness level and cool down period have been reached or maximum automatic time has expired, whichever comes first, the buzzer (tone) will sound, and the L.E.D. display will read "donE" for 5-seconds, at which time the dryer will shut off.

NOTE: *If the Anti-Wrinkle Program is active ("Grd"), the L.E.D. display will remain reading "donE," and the Phase 5 coin microprocessor controller (computer) will proceed through the Anti-Wrinkle Program until the maximum "Guard On Time" has expired or door is opened, whichever comes first. The L.E.D. will read "FILL" and/or "Amount To Start" ("AtSt").*

If the Anti-Wrinkle Program is not active ("nGrd"), the L.E.D. display will read "donE" until the main door is opened, at which time the L.E.D. display will read "FILL" and/or "Amount To Start."

Free Dry Mode

When turning on power or when no cycle is in progress, the L.E.D. display will read "FILL" and/or "FrEE."

Select temperature. The dryer will start, the L.E.D. display will read the temperature cycle selected and the drying time portion of the L.E.D. display will read the temperature cycle selected. The drying time portion of the L.E.D. drying will read "00" and count upward as time elapses, or the vended time will count downward, depending on which parameter is programmed.

NOTE: *If the door is opened during a cycle, both the heat and motor will stop. However, the Phase 5 coin microprocessor controller (computer) will continue to count the time, either upward or downward, depending on which parameter is programmed. Continuation of the cycle will resume only after the door has been closed and any one of three temperature selection buttons is again depressed.*

Once the preprogrammed percent dryness level and cool down period has been reached or maximum automatic time has expired, whichever comes first, the tone (buzzer) will sound, and the L.E.D. display will read "donE" for 5-seconds, at which time the dryer will shut off.

NOTE: *If the Anti-Wrinkle Program is active ("Grd"), the L.E.D. display will remain reading "donE," and the Phase 5 coin microprocessor controller (computer) will proceed through the Anti-Wrinkle Program until the maximum "Guard On Time" has expired or door is opened, whichever comes first. The L.E.D. display will read "FILL" and/or "Amount To Start" ("AtSt").*

If the Anti-Wrinkle Program is not active ("nGrd"), the L.E.D. display will read "donE" until the main door is opened, at which time the L.E.D. display will read "FILL" and/or "Amount To Start."

Program Selection

NOTE: *Programs are stored in the Phase 5 coin microprocessor controller (computer) memory and are cataloged as PL.*

Temperature Display Mode

By closing the PS located on the back side of the Phase 5 coin microprocessor controller (computer), the L.E.D. display will read the temperature in the dryer in either Fahrenheit (°F) or Celsius (°C), depending on how the temperature conversion status is in PL01. The temperature display mode can be activated while the dryer is in the operating cycle, or off. While in the operating cycle, the circuit indicators are visible for troubleshooting purposes.

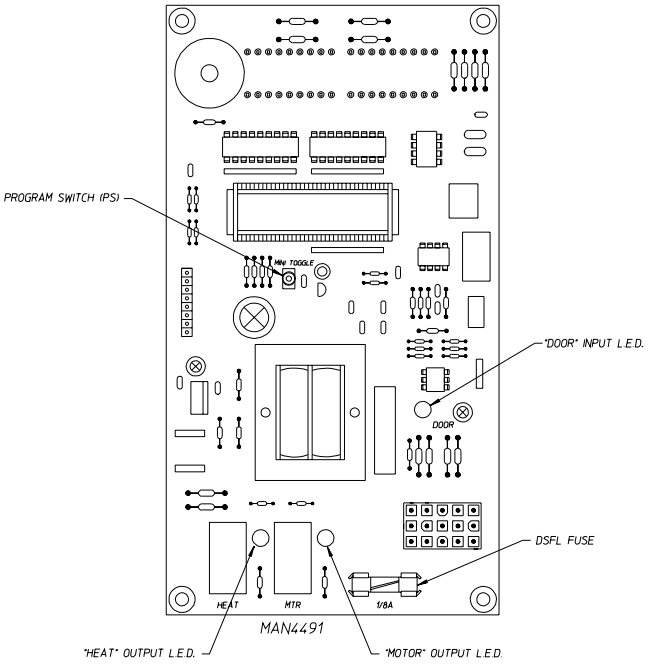
NOTE: *The dryer cannot be started while the Phase 5 coin microprocessor controller (computer) PS is closed, unless the cycle was already in progress.*

Right Coin Count (rCC)/Left Coin Count (LCC)

The “HI TEMP” key lets the operator review the coin counters. If the operator presses the “HI TEMP” key, the computer displays “_LCC.” The operator could then press either the “PERM PRESS” key to view the “Left Coin Count” or the “HI TEMP” key and the computer would display “_rCC.” Again, the operator could press the “PERM PRESS” key to view the “right coin count.” While displaying the coin count, if the operator presses the “HI TEMP” key the computer then displays “CxCC” (x = “r” or “L”) to indicate “clearing” the coin count. The operator then presses the “PERM PRESS” key to clear the coin count or the “HI TEMP” or “LO TEMP” key to exit without clearing the coin count.

Automatic Review of Program Location

This selection allows for the AUTOMATIC REVIEW of what the program locations are set (programmed) for, thereby eliminating the need to go into each and every PL manually for verification. By closing the PS with no cycle in progress, the L.E.D. display will read the temperature in the dryer. Then, by pressing the “LO TEMP” key, the L.E.D. display will read “PLOC” for 1-second. Then, the Phase 5 coin microprocessor controller (computer) will go into the Automatic Review Mode, the Program Location numbers (i.e., PL01, PL02, etc.) will not be shown and each parameter (i.e., “°FAr,” “tInE,” “Grd,” etc.) will be displayed for approximately 1-second each. The Automatic Review can be stopped/exited at any time by simply pressing the “PERM PRESS” key, at which time the L.E.D. display will read “0000” for 1-second and then return to the Temperature display mode.



PL01 – Temperature Conversion Status

This program controls whether the temperature related programs will be operated in Fahrenheit (°F) or Celsius (°C). The programs affected are:

1. Temperature Display Mode
2. Selection Cycling Temperatures
3. Cool Down Temperatures

Automatic Mode (AUtO) Patent No. 4,827,627

When this parameter (“AUtO”) is selected, the dryer will run for a preset level of dryness (PL02) or until the programmed automatic maximum time (PL14) has expired.

At the end of the drying cycle, the dryer will go into the cool down cycle for the time period programmed (PL04, PL06, or PL08) or until the temperature has dropped to the programmed cool down temperature (PL04, PL06, or PL08).

NOTE: *Due to humidity, atmospheric pressure, percentage of extraction, etc., the desired dryness level may vary. It is suggested that the owner determine which level of dryness (90% to 100%) is best suited for his/her application by experimenting with a few test loads.*

When programming, to use the Automatic Mode (“AUtO”) (Patent No. 4,827,627), the following parameter/programs need to be checked and/or changed accordingly:

PL01 ..... “AUtO”
“FrEE” or “Coin” (coins required to start)
PL02 ..... “PdrY” (percent dry from 90% to 100%)
PL14 ..... “Adrt” (maximum auto dry time)
PL17 ..... “A” and “b” Factors

Timed Mode (tInE)

When this parameter is selected ("tInE") and the Phase 5 coin microprocessor controller (computer) has been activated, the dryer will continue to run until the preset time, including the cool down period (PL04, PL06, or PL08), has elapsed, at which time the dryer will cycle off or go into the optional Anti-Wrinkle Program.

Anti-Wrinkle Program (Grd)

This feature can be used in conjunction with any of the three operating modes (Coin Mode, Auto Mode, or the Free Dry Mode). In this program ("Grd"), when the drying and cooling cycles are completed, the dryer will shut off, the buzzer (tone) will sound, and the L.E.D. display will read "donE." If the door is not opened, the Phase 5 coin microprocessor controller (computer) will wait until the "Guard Delay Time" (PL15) has expired, at which time the clothes will be tumbled (without heat) for the programmed "Guard On Time" (PL15). The Phase 5 coin microprocessor controller (computer) will repeat this process until the programmed "Active Guard Time" (PL16) has expired or until the dryer door is opened, at which time the L.E.D. display will read "FILL" and/or "Amount To Start" ("AtSt") or "FILL" and/or "FrEE."

NOTE: *When programming the use of the Anti-Wrinkle Program ("Grd"), the following parameter/programs need to be checked and/or changed accordingly:*

PL01 ..... "Grd" (Anti-Wrinkle Program active)
"bUZ" or "nbUZ" (buzzer [tone] active/not active)
PL15 ..... "GdLY" (guard delay time)
"Gont" (guard on time)
PL16 ..... "AGt" (active guard time)

Buzz/Tone (bUZ)

With the Anti-Wrinkle Program active, the option is available to have the buzzer/tone ("bUZ") sound for a period of 5-seconds at the end of each "Guard On Time" cycle, or, no buzzer ("nbUZ") sound.

Free Dry Mode (FrEE)

The Phase 5 coin microprocessor controller (computer) can be programmed to run without the insertion of coins. When the Phase 5 coin microprocessor controller (computer) is in the "FrEE" dry mode, it may be programmed to run in the "AUtO" (Automatic) Mode or the "tInE" (Timed) Mode.

NOTE: *When programming the use of the Free Dry Mode ("FrEE"), the following parameters/programs need to be checked and/or changed accordingly:*

PL01 ..... "AUtO" (automatic drying cycle) or
"tInE" (timed drying cycle) "FrEE"
PL02* ..... "PdrY" (percent dry)
PL14* ..... "Adrt" (maximum auto dry time)
PL17* ..... "A" and "b" factors

* Needs to be programmed only if PL01 "AUtO" cycle is chosen.

Coin Mode (Coin)

In this program mode ("Coin"), coins are required to start the dryer, even if the Phase 5 coin microprocessor controller (computer) is set in the Automatic Mode (Patent No. 4,827,627).

NOTE: *When programming the use of the Coin Mode, ("Coin"), the following parameter/programs need to be checked and/or changed accordingly:*

PL01 ..... "AUtO" (automatic drying cycle) or
"tInE" (timed drying cycle) "FrEE"
PL02* ..... "PdrY" (percent dry)
PL11 ..... "tFAS" (time for amount to start)
PL12 ..... "AtSt" (amount to start)
PL14* ..... "Adrt" (maximum auto dry time)
PL17* ..... "A" and "b" factors

* Needs to be programmed only if PL01 "AUtO" cycle is chosen.

Flash Display Status (FLS)

When the Phase 5 coin microprocessor controller (computer) is set in this program status ("FLS") it allows the L.E.D. readout to display "FILL" and/or "FrEE" (no cycle in progress), and/or "Amount To Start" (PL12) or, in the case of free dry, "FrEE." The programming allows the L.E.D. readout to flip-flop back and forth every 2-seconds from "FILL" to "Amount to Start," or in the case of free dry, from "FILL" to "FrEE." If the L.E.D. display is programmed for "No Flash" ("nFLS"), the microprocessor controller (computer) will then prompt you on whether you would like "FILL" displayed or the "Amount To Start" ("AtSt").

Bad Coin Lockout Status (bCLO)

In this program status ("bCLO"), each coin entry is monitored. Should someone tamper with the coin acceptor or attempt to insert a foreign object, the Phase 5 coin microprocessor controller (computer) will "LOCKOUT" and not accept any entries until the reset time has elapsed (approximately 15-seconds). Once the reset time has expired, the Phase 5 coin microprocessor controller (computer) will automatically reset itself immediately for the next entry.

Bad Coin Reset (bCrS)

When set in this program ("bCrS"), the Phase 5 coin microprocessor controller (computer) counts in milliseconds the amount of time required for a coin entry signal. If someone should tamper with the coin acceptor or attempt to insert a foreign object, the Phase 5 coin microprocessor controller (computer) will not accept the entry and will automatically reset itself immediately for the next entry.

Accumulative Time (AtIn)

(Single Coin)

In this program mode ("AtIn"), each coin inserted has a specific value in time, which is determined by the "Time For Amount to Start" ("tFAS") program (PL11).

Example No. 1: If the dryer is equipped with a 25¢ coin acceptor and the desired time is 30 minutes, each additional coin inserted would yield 30 minutes.

Settings: PL09 (LCdE) 25
PL11 (tFAS) 30
PL12 (AtSt) 25

Example No. 2: If the dryer is equipped with a 25¢ coin acceptor and the "Amount To Start" ("AtSt") is 50¢ for 30 minutes, the insertion of each additional coin would yield 15 minutes. In this application the vended time for additional coins is determined by a Phase 5 coin microprocessor controller (computer) calculation. There is no calculation required by the owner.

Formula: (LCdE/AtSt) (tFAS) = Vended Time for " LCdE"
(25¢/50¢) (30) = 15 minutes

Settings: **PL09 (LCdE) 25**
PL11 (tFAS) 30
PL12 (AtSt) 50

(Dual Coin)

In the Accumulative Time (AtIn) Mode, when using a dual coin acceptor, once the "Amount To Start" ("AtSt") has been inserted, the addition of a coin(s) yields more time.

The vended time for additional coins is determined by the Phase 5 coin microprocessor controller (computer) calculation. There is no calculation required by the owner.

Formula: (LCdE/AtSt) (tFAS) = Vended Time

Example No. 1: Using a 10¢/25¢ dual coin acceptor with the desired "Amount to Start" ("AtSt") being 25¢ for 15 minutes, each additional 10¢ would yield the following:

Formula: (LCdE/AtSt) (tFAS) = Vended Time for "LCdE"
(10¢/25¢) (15 minutes) 6 minutes

Settings: **PL09 (LCdE) 10**
PL10 (rCdE) 25
PL11 (tFAS) 15
PL12 (AtSt) 25

Example No. 2: If the dryer is equipped with a 10¢/25¢ dual coin acceptor and the desired "Amount To Start" ("AtSt") is 35¢ for 14 minutes, each additional 10¢ inserted would yield 4 minutes and each additional 25¢ would yield 10 minutes.

Formula: (LCdE/AtSt) (tFAS) = Vended Time for "LCdE"
(10¢/35¢) (14 minutes) 4 minutes

Settings: **PL09 (LCdE) 10**
PL10 (rCdE) 25
PL11 (tFAS) 14
PL12 (AtSt) 35

Example No. 3: If the dryer is equipped with a 10¢/25¢ dual coin acceptor and the desired "Amount To Start" ("AtSt") is 55¢ for 33 minutes, each additional 10¢ inserted would yield 6 minutes, and each additional 25¢ would yield 15 minutes.

Formula: (LCdE/AtSt) (tFAS) = Vended Time for "LCdE"
(10¢/55¢) (33 minutes) 6 minutes

Settings: **PL09 (LCdE) 10**
PL10 (rCdE) 25
PL11 (tFAS) 33
PL12 (AtSt) 55

NOTE: *If the total Vend Time cannot be divided evenly by the "Amount To Start" ("AtSt"), the "Time For Amount To Start" will calculate precisely the amount of the time entitled to the purchaser.*

Formula: (LCdE/AtSt) (tFAS) = Vended Time for "LCdE"
(10¢/35¢) = 2.85 minutes
(2 minutes and 51-seconds)

Settings: **PL09 (LCdE) 10**
PL10 (rCdE) 25
PL11 (tFAS) 10
PL12 (AtSt) 35

Accumulative Coin (ACOn)

When this program mode ("ACOn") is selected, additional time can only be achieved when the "Amount For Additional Time" ("AFAt") PL13 has been inserted.

NOTE: *When programming, to use the Accumulative Coin Mode ("ACOn"), the following parameters/programs need to be checked and/or changed accordingly:*

Settings: **PL01 ..... "ACOn"**
("Accumulative Coin")
PL13 ..... "AFAt"
("Amount For Additional Time")

(Single Coin Acceptor)

Example No. 1: Using a 25¢ coin acceptor with the desired "Amount To Start" ("AtSt") being 50¢ for 24 minutes, the Phase 5 coin microprocessor controller (computer) would yield more time (24 minutes) only when an additional 50¢ is inserted. For this application, the "Time For Amount To Start" ("tFAS") program (PL11) is determined as follows:

Formula: (AFAt/AtSt) (tFAS) = Vended Time for "AFAt"
(50¢/50¢) (24 minutes) = 24 minutes

Settings: **PL09 (LCdE) 25**
PL11 (tFAS) 24
PL12 (AtSt) 50
PL13 (AFAt) 50

(Dual Coin Acceptor)

With a dual coin acceptor the "Time For Amount To Start" ("tFAS") is determined as shown below:

Formula: (AFAt/AtSt) (tFAS) = Vended Time for "AFAt"

Example No. 1: Using a 10¢/25¢ dual coin acceptor the desired "Amount To Start" ("AtSt") is 50¢ for 20 minutes and the "Amount for Additional Time" ("AFAt") is set for 20¢ each additional 20¢ would yield 8 minutes.

Formula: (AFAt/AtSt) (tFAS) = Additional Vended Time
(20/50) (20 minutes) = 8 minutes

Settings: **PL09 (LCdE) 10**
PL10 (rCdE) 25
PL11 (tFAS) 20
PL12 (AtSt) 50
PL13 (AFAt) 20

Example No. 2: If the dryer is equipped with a 10¢/25¢ dual coin acceptor and the desired "Amount To Start" ("AtSt") is 35¢ for 14 minutes and the "Amount For Additional Time" ("AFAt") is set for 25¢, each additional 25¢ inserted would yield 10 minutes.

Formula: (AFAt/AtSt)(tFAS) = Vended Time for "AFAt"
(25¢/35¢) (14 minutes) = 10 minutes

Settings: **PL09 (LCdE) 10**
PL10 (rCdE) 25
PL11 (tFAS) 14
PL12 (AtSt) 35
PL13 (AFAt) 25

Rotational Safe Guard – Optional (nSEn)

This program monitors the rotation of the tumbler and works in conjunction with a special sensor (optional) located at the rear tumbler support area of the dryer. If the tumbler is not rotating (i.e., broken belt, failed motor, etc.), the Phase 5 microprocessor controller (computer) will disable all outputs (shut the dryer down), the buzzer (tone) will sound (for time programmed), and the L.E.D. display will read a failure message "SEFL" (Rotational Sensor Circuit Failure). The failure code must be cancelled manually by opening and closing the PS. This program selection (option) can be programmed to be active ("SEn") or inactive ("nSEn").

NOTE: *This parameter is programmed by the factory to be inactive ("nSEn") unless the dryer was manufactured with optional "rotational sensor."*

PL02 – Percent Dry (PdrY)

When in the Automatic Mode, the dryer will run until the preset level of dryness has been reached or until the Maximum Auto Dryness Time (Adrt) has been reached or until the Maximum Auto Dryness Time (Adrt) has expired. The dryness level is programmable from a minimum of 90% to a maximum of 100%.

NOTE: *Due to humidity, atmospheric pressure, water retention in the garment etc., the desired "Percent Dry" ("PdrY") may vary. It is suggested that the owner determine which level of dryness (90% to 100%) is best suited for his/her application by experimenting with a few test loads.*

PL03 – High Temperature (HI°F)

The high operating temperature is programmable from a minimum of 100° F to a maximum of 190° F in ten-degree increments or from a minimum of 38° C to a maximum of 88° C in five-degree increments.

For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.

PL04 – High Cool Down Temperature/Time (HICd)

The first part of this program controls the cool down temperature when the Phase 5 microprocessor controller (computer) is used in the automatic mode. The cool down temperature is programmable from a minimum of 70° F to a maximum of 190° F in ten-degree increments or from a minimum of 21° C to a maximum of 88° C in five-degree increments.

For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.

The second part of this program controls the cool down time for both the automatic and timed modes. The cool down time can be programmed from a minimum of 0 to a maximum of 9 minutes.

NOTE: *When the Phase 5 microprocessor controller (computer) is used in the automatic mode, at the end of the drying cycle, the Phase 5 microprocessor controller (computer) will start the cooling cycle for the cool down time programmed or until the temperature has dropped to the programmed cool down temperature, whichever of the two comes first.*

PL05 – Low Temperature (LO°F)

Same as PL03 but for Low Temperature program.

PL06 – Low Cool Down Temperature/Time (LOCd)

Same as for PL04 but for low Cool Down Temperature/Time.

PL07 – Permanent Press (PP°F)

Same as PL03 but for Permanent Press.

PL08 – Permanent Press Cool Down Temperature/Time (PPCd)

Same as PL04 but for Permanent Press Cool Down Temperature/Time.

PL09 – Left Coin Slot Denomination (LCdE)

In the case of a single coin acceptor, this program setting is determined by the value of the coin acceptor (i.e., 25¢).

When a dual coin acceptor is used, the program setting is determined by the left coin slot coin acceptor value (lower coin value).

Program settings are from a minimum of 1 to a maximum of 9999.

PL10 – Right Coin Slot Denomination (rCdE)

This program need only be set when a dual coin acceptor is used. The program setting is determined by the value of the right coin acceptor slot (higher value).

Program settings are from a minimum of 1 to a maximum of 9999.

When used in conjunction with the left Coin Slot Denomination program, the Phase 5 microprocessor controller (computer) automatically calculates the ratios necessary for coin insertion time values.

PL11 – Time For Amount To Start (tFAS)

This program is set for the specific value in TIME that will be vended for the programmed "Amount To Start" ("AtSt") the dryer. For example, if 25¢ is required to start the dryer for 10 minutes, the settings would be...

PL11 "Time for Amount to Start" ..... "tFAS" = 10
PL12 "Amount To Start" ..... "AtSt" = 25

In addition, with the "Time For Amount to Start" ("tFAS") and the "Amount To Start" (PL12 – "AtSt") programmed along with the type of coin acceptor (denominations) on the dryer (i.e. 10¢/25¢), the Phase 5 microprocessor controller (computer) will do all calculations and vend the correct amount of time for any coin inserted after the initial "Amount To Start" has been inserted – including both accumulative coin program settings. For example, if a dryer is equipped with a 10¢/25¢ dual coin acceptor and the desired "Amount To Start" ("AtSt") is 55¢ for 33 minutes ("tFAS"), with the microprocessor controller (computer) set for accumulative time, after initial "Amount To Start" is inserted (55¢), each additional 10¢ inserted would yield 6 minutes, and each additional 25¢ inserted would yield 15 minutes.

PL12 – Amount To Start (AtSt)

This program sets the "Amount To Start" the dryer and can be programmed from a minimum of 1 to a maximum of 9999.

PL13 – Minimum Amount For Additional Time (AFAt)

This program need only be set when the Phase 5 microprocessor controller (computer) is set in the "Accumulative Coin" ("ACOn") mode (PL01). The value set for this program is what will have to be inserted for more time after the "Amount To Start" ("AtSt") has been inserted.

Example No. 1: "Amount to Start" ("AtSt") is 50¢ for 30 minutes and an additional 50¢ is required for more time. In this example PL13 should be set for 50¢.

PL14 – Maximum Time For Automatic Dry (Adrt)

This program is used only when the Phase 5 microprocessor controller (computer) is set in the Automatic Mode. This program controls the maximum time the dryer will run even if the Dryness Level program (PL02) has not been reached.

PL15 – Anti-Wrinkle Timing

Guard Delay Time (GdLY)

This program controls the dwell (stop) time and activation of anti-wrinkle "Guard On Time" ("Gont"). The dwell (stop) time can be programmed from a minimum of 1 minute to a maximum of 9 minutes in 1 minute increments.

Guard On Time (Gont)

The setting controls the amount of time that the tumbler will turn, without heat, when the Anti-Wrinkle is active ("Grd"). The "Guard On Time" ("Gont") is programmable from a minimum of 1-second to a maximum of 99-seconds in 1-second increments.

PL16 – Active Guard Time (AGt)

This program controls the maximum time that the Anti-Wrinkle Program will be active and is programmable from a minimum of 1 minute to a maximum of 99 minutes in 1 minute increments.

PL17 – "A" and "b" Factors

This location will include the "Auto-Cycle" parameters. These parameters are necessary to allow the Phase 5 microprocessor controller (computer) to calculate the percentage of dryness in the tumbler. The "A" Factor is adjustable from 1 to 99.

These parameters are the factors that the Phase 5 microprocessor controller (computer) utilizes when programmed for an "Automatic Drying Cycle." The "A" Factor slope program, pertains to the thermal characteristic of each model dryer. The "b" Factor, heat loss (offset) program, also pertains to the thermal characteristics of each model dryer. This factor setting is dependent upon the model dryer and type of heating unit.

The "A" and "b" Factors have not been preprogrammed by the factory and must be programmed if the Phase 5 microprocessor controller (computer) programming is changed to be used in the Automatic Mode. The "A" and "b" Factors must be programmed for the particular dryer model and heating unit as shown in the "A" and "b" Factors (parameter) table on page 38 of this manual.

Programming Instructions

Introduction To Programming

The various program (parameters) dryer selections are stored in the computer memory and are cataloged as "PL" 1 through 17. These programs (parameters) have been preprogrammed by the factory as noted on page 36 of this manual. The various program selections available are outlined in the proceeding section (Program Selection on page 6).

All programming is done through the keypad selection buttons on the front of the control panel. To change programs (parameters) or to put the Phase 5 microprocessor controller (computer) in the temperature display mode or the coin count display mode, the PS located on the back side of the microprocessor controller (computer) must be put into the (down) position (PSC).

First make sure there is no cycle in progress and the L.E.D. display reads "FILL" and/or "Amount To Start," or "FILL" and/or "FrEE." Close the Program Switch (PSC). The L.E.D. display will now read the temperature in the dryer (i.e., 72° F [22° C]). From this point, any of the 17 program locations can be accessed by pressing the "PERM PRESS" key once, at which time the L.E.D. display will read "PL01."

To alter programming, the operator must first locate the program location or parameter to be changed. To advance to the specific program location press the "HI TEMP" key until the desired program location is displayed (i.e. PL01, PL02, etc.). The "LO TEMP" key will advance the program locations downward (i.e., PL11, PL10, etc.). Once the correct program location is displayed and access to change is desired, press the "PERM PRESS" key. The "PERM PRESS" key provides two functions:

Allows access into a PL.

Advances to next bit (part of a program location) or next location.

NOTE: *When in a PL and the "PERM PRESS" key is pressed, whatever parameter is displayed will be stored in the microprocessor controller's (computer's) memory and the programming is now advanced to the next step (bit) or program location.*

The “HI TEMP” or “LO TEMP” key provide the following functions:

Change numeric values...“HI TEMP” increases and “LO TEMP” decreases.

Flip-flop for status changes...by pressing either key, a status will revert back and forth no matter which of the two keys is pressed.

If the change to be made is a numerical one (i.e., time or temperature), the operator must now press the “HI TEMP” key to increase the number value, or press the “LO TEMP” key to lower/increase the number value. Pressing the “PERM PRESS” key will store the change and advance to the next step (bit) or program location.

NOTE: *To accelerate increase/upward value, press and hold in “HI TEMP” key. To accelerate decrease/downward value, press and hold in “LO TEMP” key.*

When making numerical changes, please keep in mind to stay within the programming limits shown.

If the change to be made is a status change (i.e., to change from °FAr to °CEL) simply press the “HI TEMP” or “LO TEMP” key and the L.E.D. display will revert back and forth between status choices (i.e. “Grd” and “nGrd”). Once the correct status is displayed, pressing the “PERM PRESS” key will store the change and advance to the next step (bit) or program location.

Once the change or changes desired are made, to exit program mode flip up (open) the PS.

NOTE: *You can exit the programming mode at any time (even if you are in the middle of a program location) by simply opening the PS. However, if a change was made be sure the “PERM PRESS” key is pressed before opening the PS to ensure the change was stored in the microprocessor controller’s (computer’s) memory.*

Programming (Flowcharts)

This section explains the programming through the use of flowcharts. A flowchart is nothing more than a diagram of the programming process.

Represents the microprocessor L.E.D. display. For example, if the flowchart shows the symbol “FILL,” the computer L.E.D. display will read the same.

Represents the key on the label that is to be pressed. For example, if flowchart shows “HI TEMP,” you would press that key on the label.

Represents the program path.

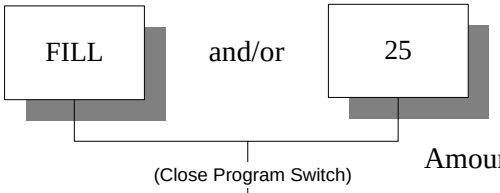
On the side of each flowchart is an explanation of the chart procedures, in some cases, the programming limits.

NOTES

(No cycle in progress)

Dryer Off (Power On)

Display Reads



To enter temperature display

(Close Program Switch)

Amount To start

Display Reads

75F

(Dryer Temperature Display)

To enter program locations press the "Perm Press" keypad selection button.

Perm Press

Display Reads

PL01

To advance to next program location press the "HI Temp" selection button.

HI Temp

Display Reads

PL02

To accelerate advance, press and hold in "HI Temp" selection button.

HI Temp

Display Reads Program Location and will advance until "HI Temp" selection button is released.

PL03

PL04

PL05

To revert back to lower program locations push "LO Temp" selection button.

LO Temp

Display Reads

PL04

Continued

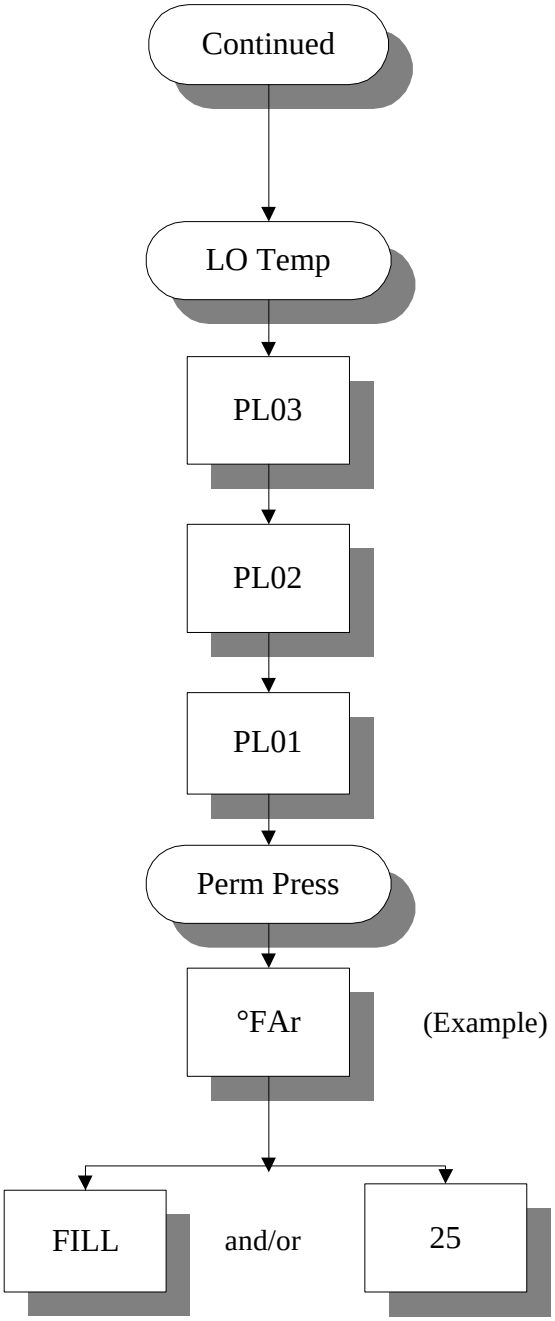
To accelerate press and hold in "LO Temp" selection button.

Display reads program locations and will advance downward until "LO Temp" selection button is released.

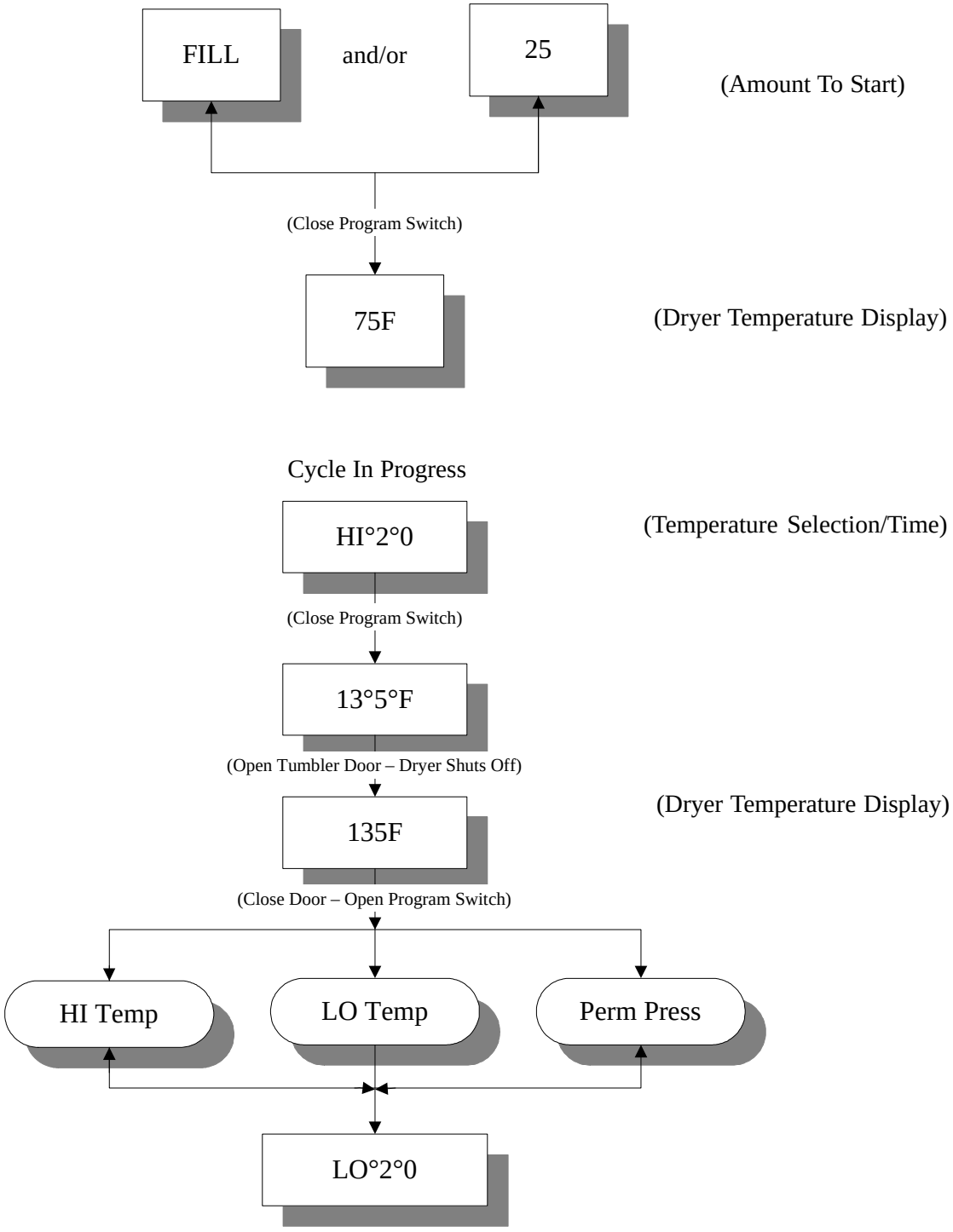
To enter a specific program location (i.e. PL01) push the "Perm Press" selection button.

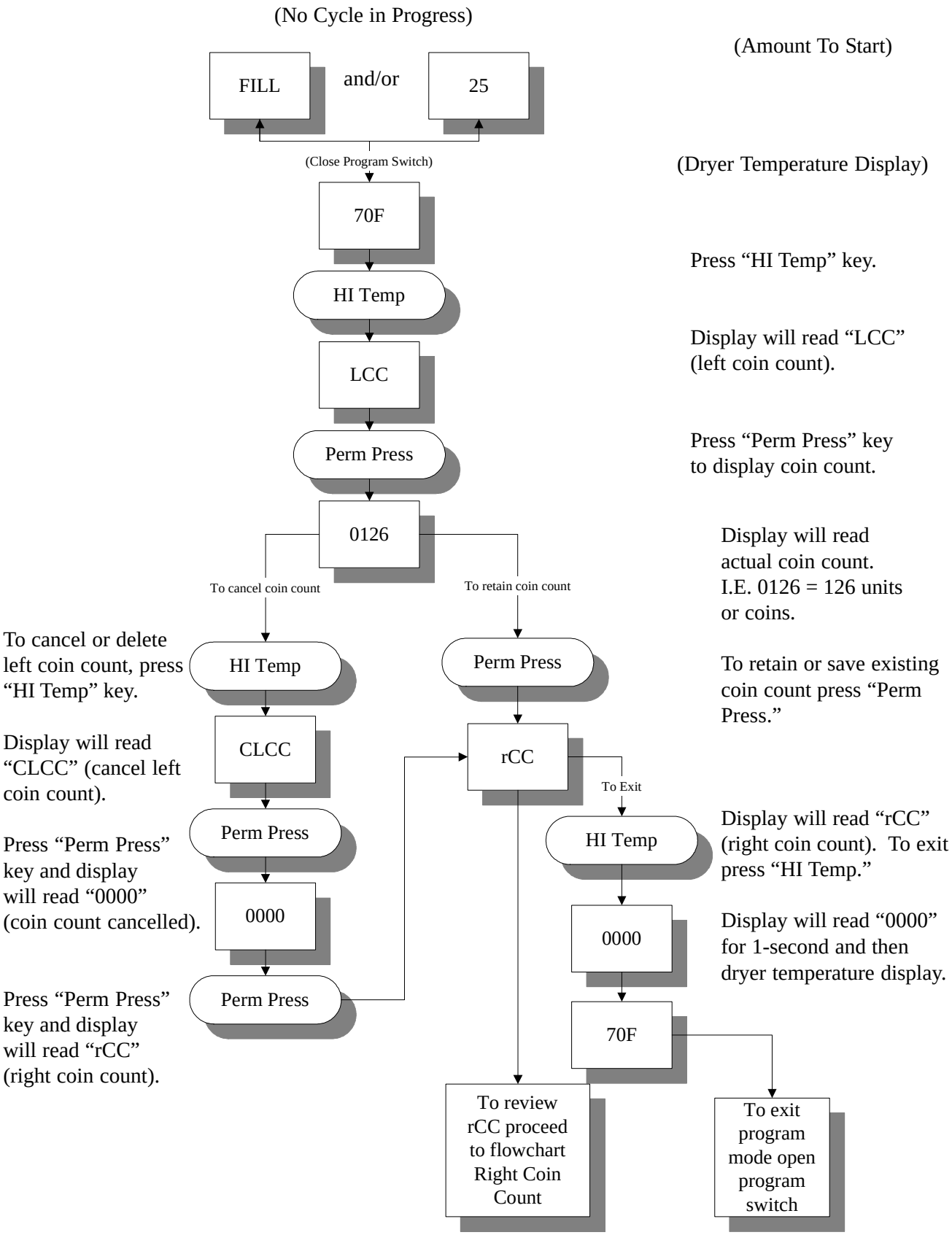
Display will read specific program location called up.

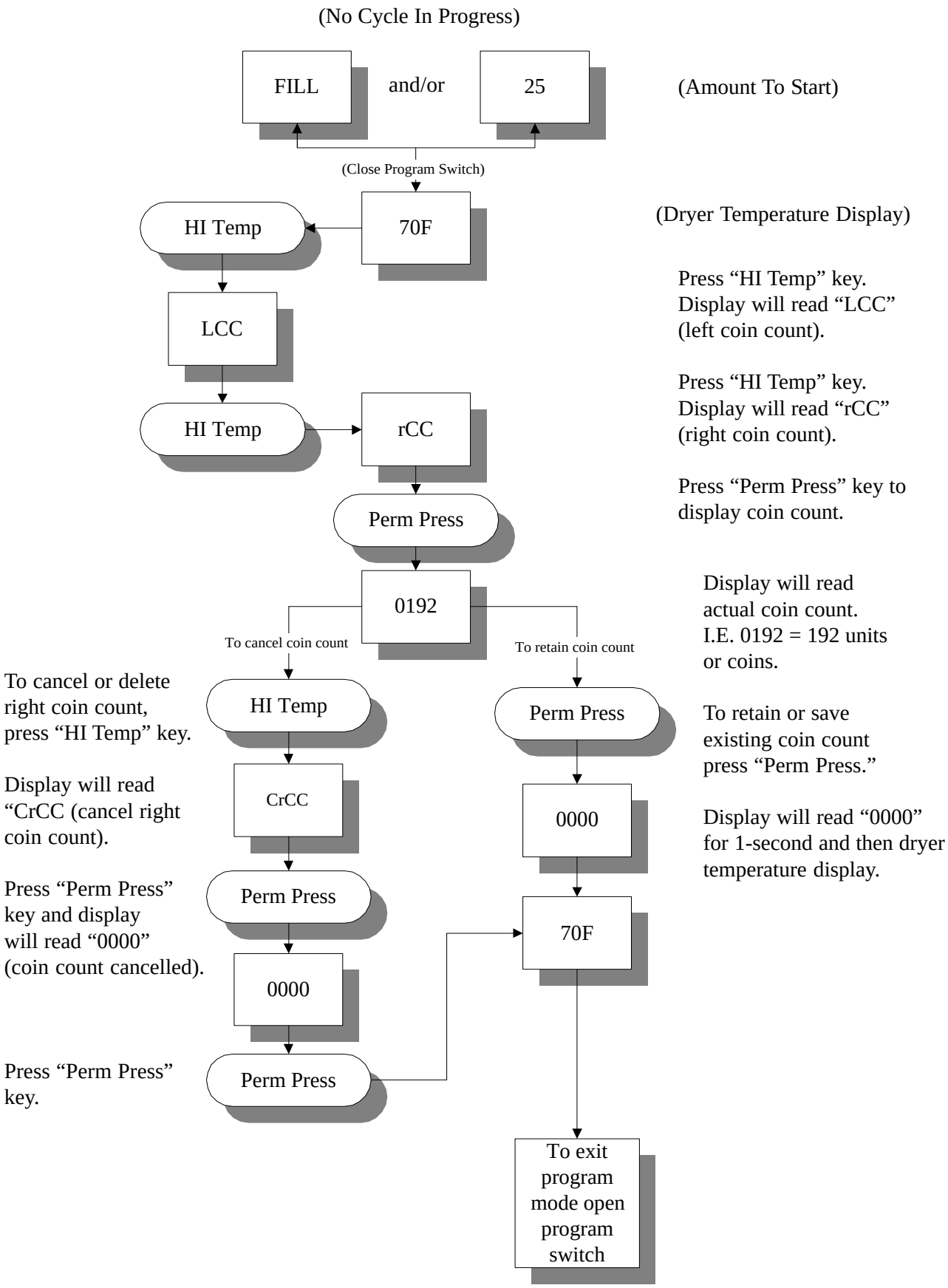
To exit program mode, open program switch. Display reads.



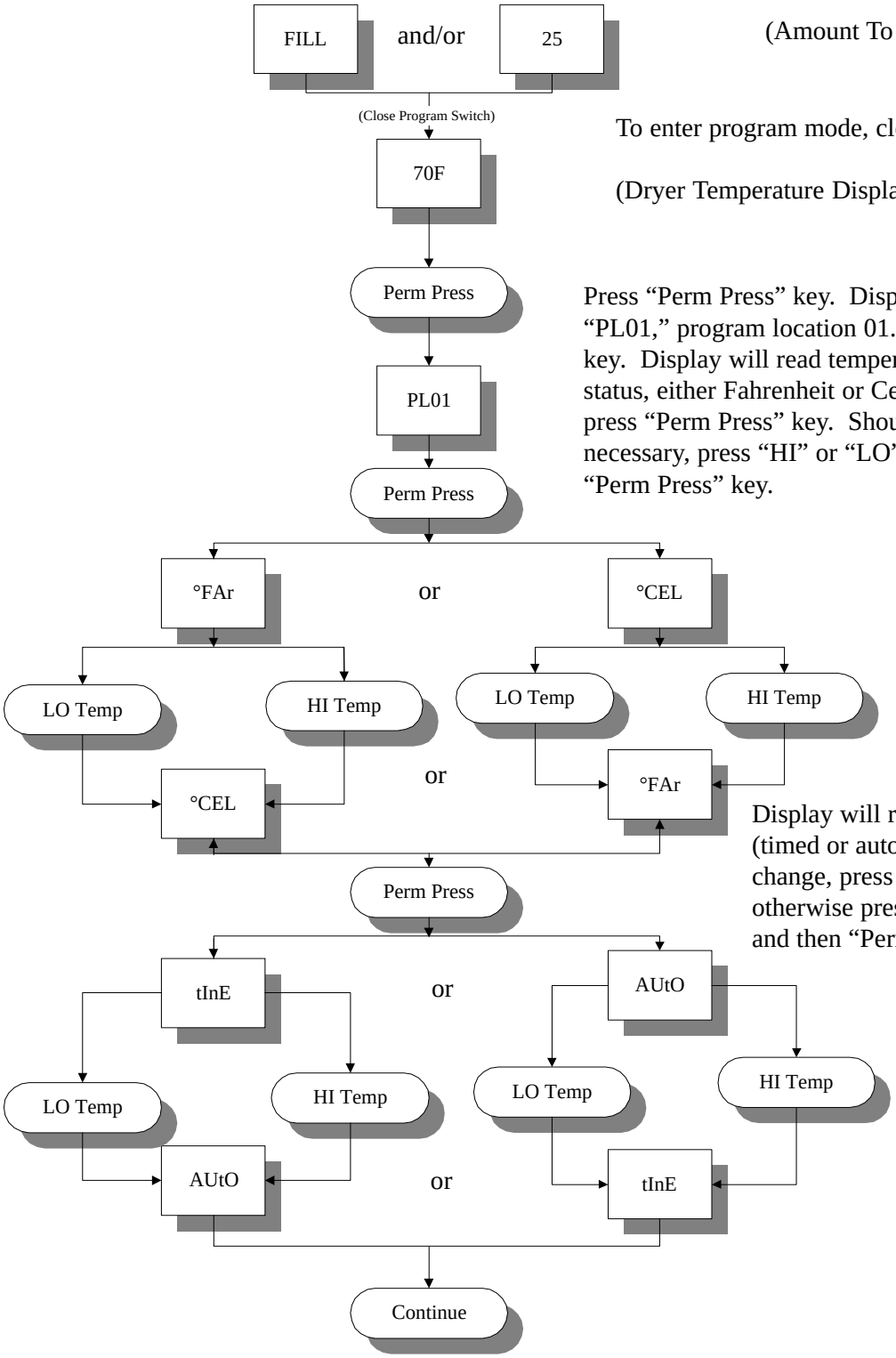
Temperature Display Mode

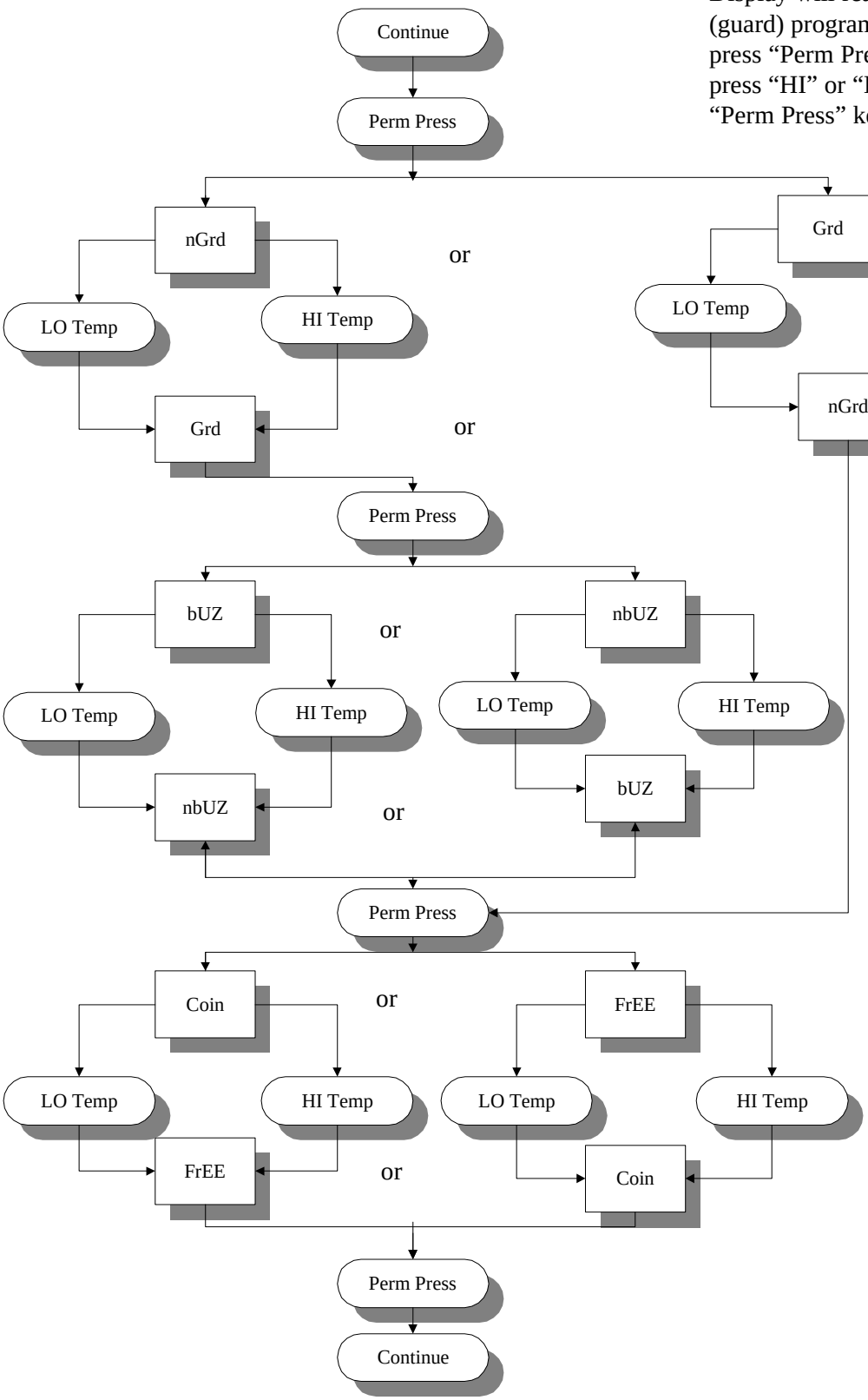



(No Cycle in Progress)
FILL
and/or
25
(Amount To Start)
(Close Program Switch)
(Dryer Temperature Display)
70F
HI Temp
Press “HI Temp” key.
LCC
Display will read “LCC” (left coin count).
Perm Press
Press “Perm Press” key to display coin count.
0126
Display will read actual coin count. I.E. 0126 = 126 units or coins.
To cancel coin count
To retain coin count
To cancel or delete left coin count, press “HI Temp” key.
HI Temp
Perm Press
To retain or save existing coin count press “Perm Press.”
Display will read “CLCC” (cancel left coin count).
CLCC
rCC
To Exit
Perm Press
Press “Perm Press” key and display will read “0000” (coin count cancelled).
HI Temp
Display will read “rCC” (right coin count). To exit press “HI Temp.”
0000
0000
Display will read “0000” for 1-second and then dryer temperature display.
Press “Perm Press” key and display will read “rCC” (right coin count).
Perm Press
70F
To review rCC proceed to flowchart Right Coin Count
To exit program mode open program switch


(No Cycle In Progress)
FILL
and/or
25
(Amount To Start)
(Close Program Switch)
HI Temp
70F
(Dryer Temperature Display)
Press “HI Temp” key. Display will read “LCC” (left coin count).
LCC
Press “HI Temp” key. Display will read “rCC” (right coin count).
HI Temp
rCC
Press “Perm Press” key to display coin count.
Perm Press
0192
Display will read actual coin count. I.E. 0192 = 192 units or coins.
To cancel coin count
To retain coin count
To cancel or delete right coin count, press “HI Temp” key.
HI Temp
Perm Press
To retain or save existing coin count press “Perm Press.”
Display will read “CrCC (cancel right coin count).
CrCC
0000
Display will read “0000” for 1-second and then dryer temperature display.
Press “Perm Press” key and display will read “0000” (coin count cancelled).
Perm Press
70F
0000
Press “Perm Press” key.
Perm Press
To exit program mode open program switch

(No Cycle In Progress)



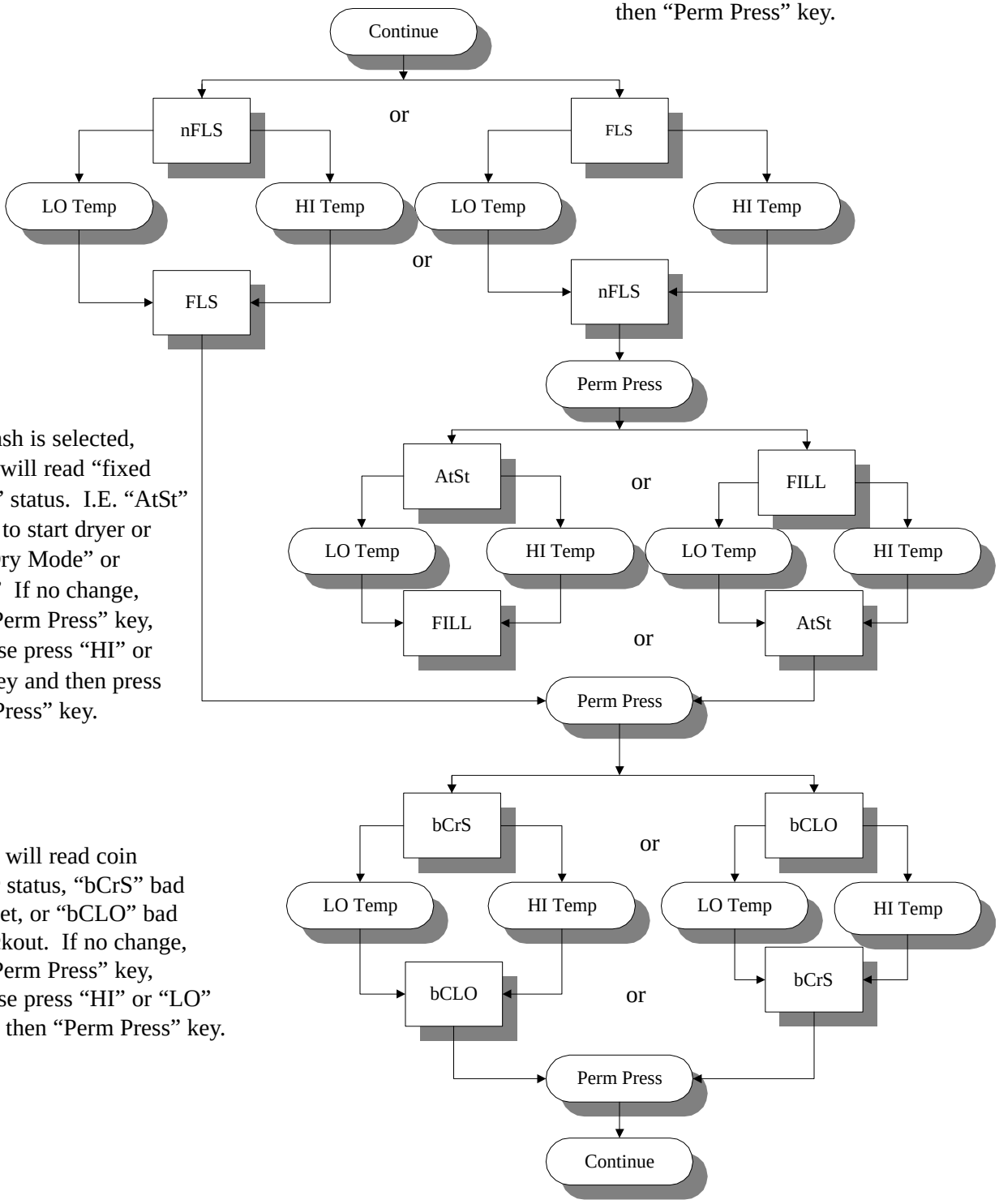


Display will read anti-wrinkle (guard) program status. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.

If guard (Grd) was selected, display will read tone/buzzer status. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.

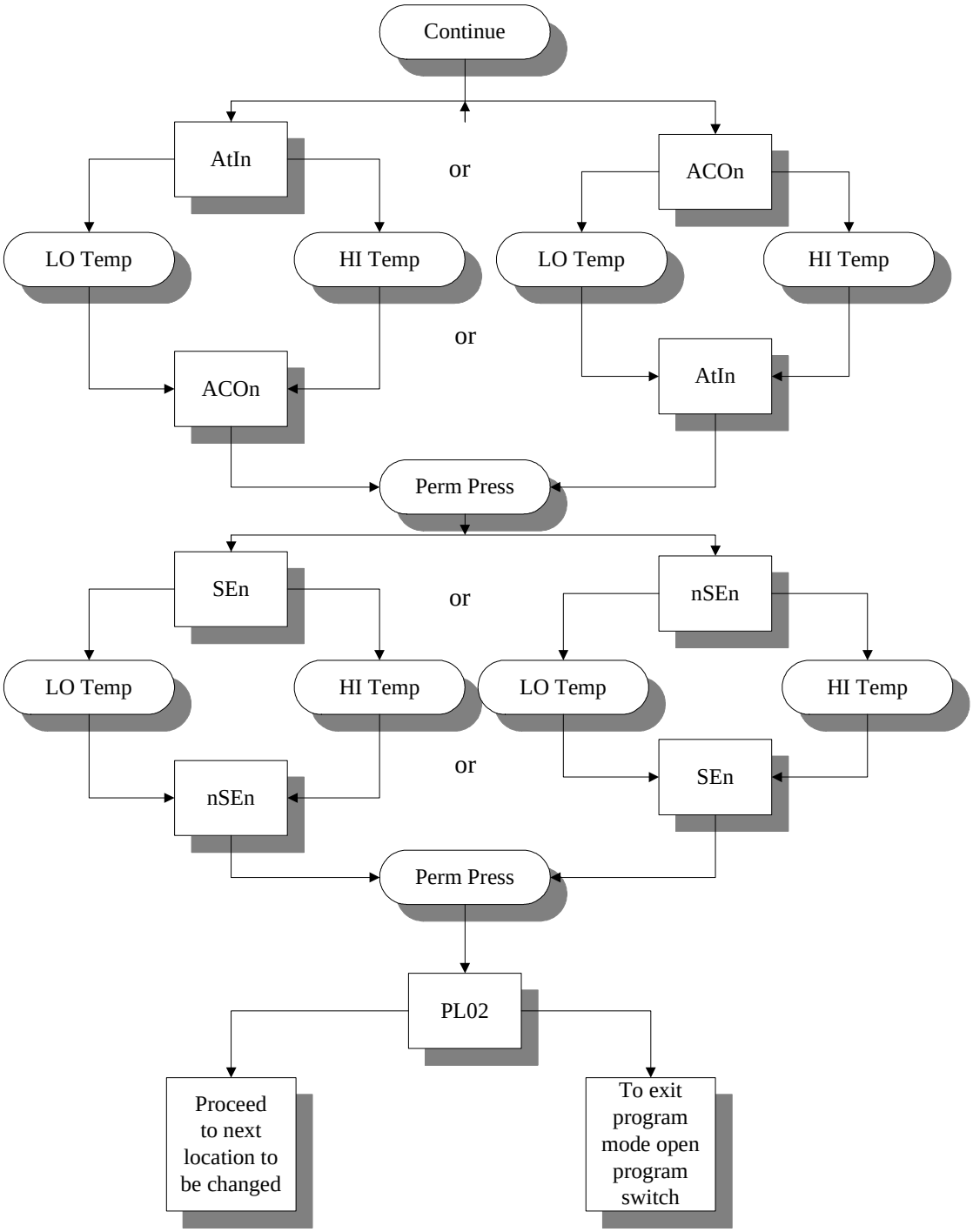
Display will read vend status, either “Coin” (coins required to start) or “FrEE” (no coins required). If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.

Display will read L.E.D. display status. Either no flash (nFLS) or flash (FLS). If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.



If no flash is selected, display will read “fixed display” status. I.E. “AtSt” amount to start dryer or “Free Dry Mode” or “FILL.” If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then press “Perm Press” key.

Display will read coin monitor status, “bCrS” bad coin reset, or “bCLO” bad coin lockout. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.

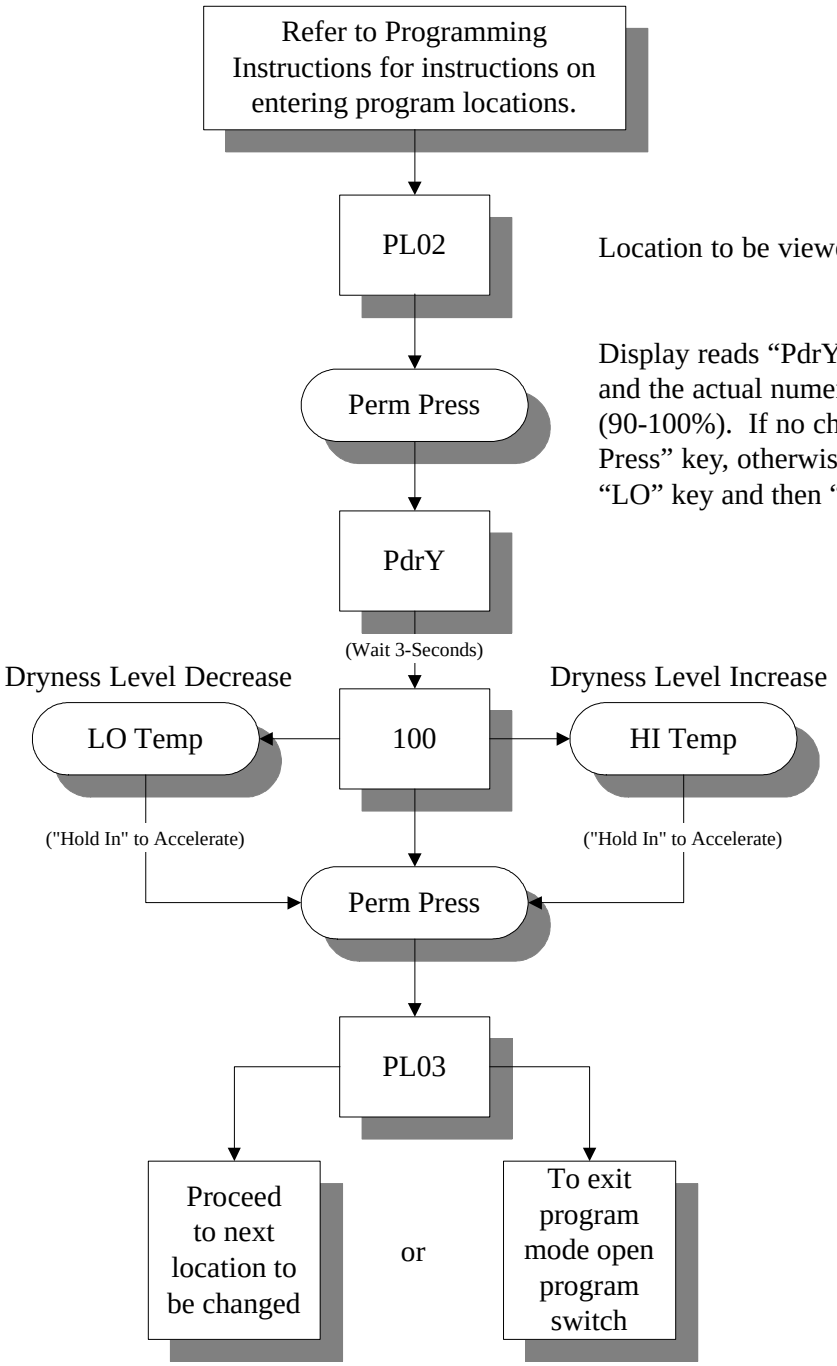


Display will read coin/time accumulation status. I.E. “AtIn” accumulative time or “ACOn” accumulative coin. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then press “Perm Press” key.

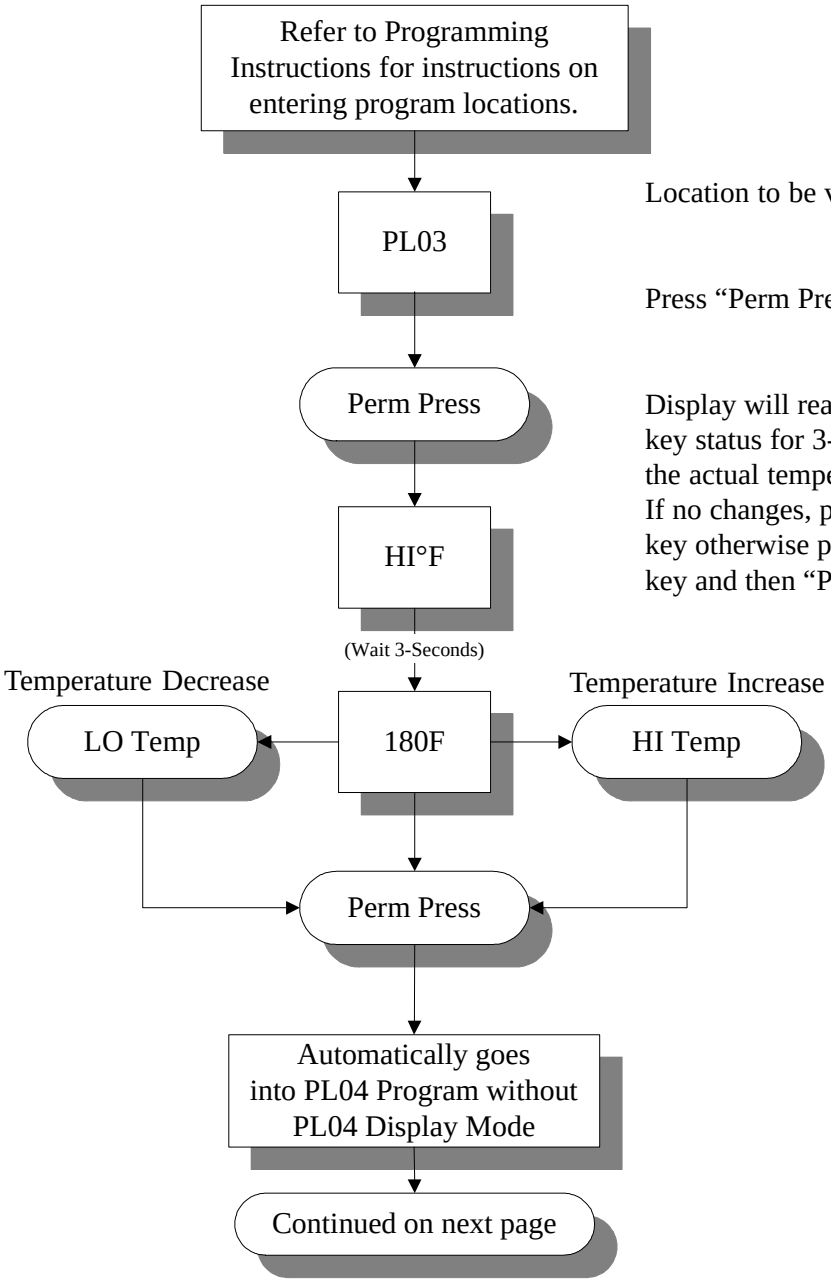
Display will read basket rotational sensor status. “SEn” sensor active or “nSEn” sensor not active. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then press “Perm Press” key.

Program Location 02 (PL02)

Percent dry from 90 to 100%



Summary: The percentage of dryness is programmable from a minimum of 90% to a maximum of 100%.



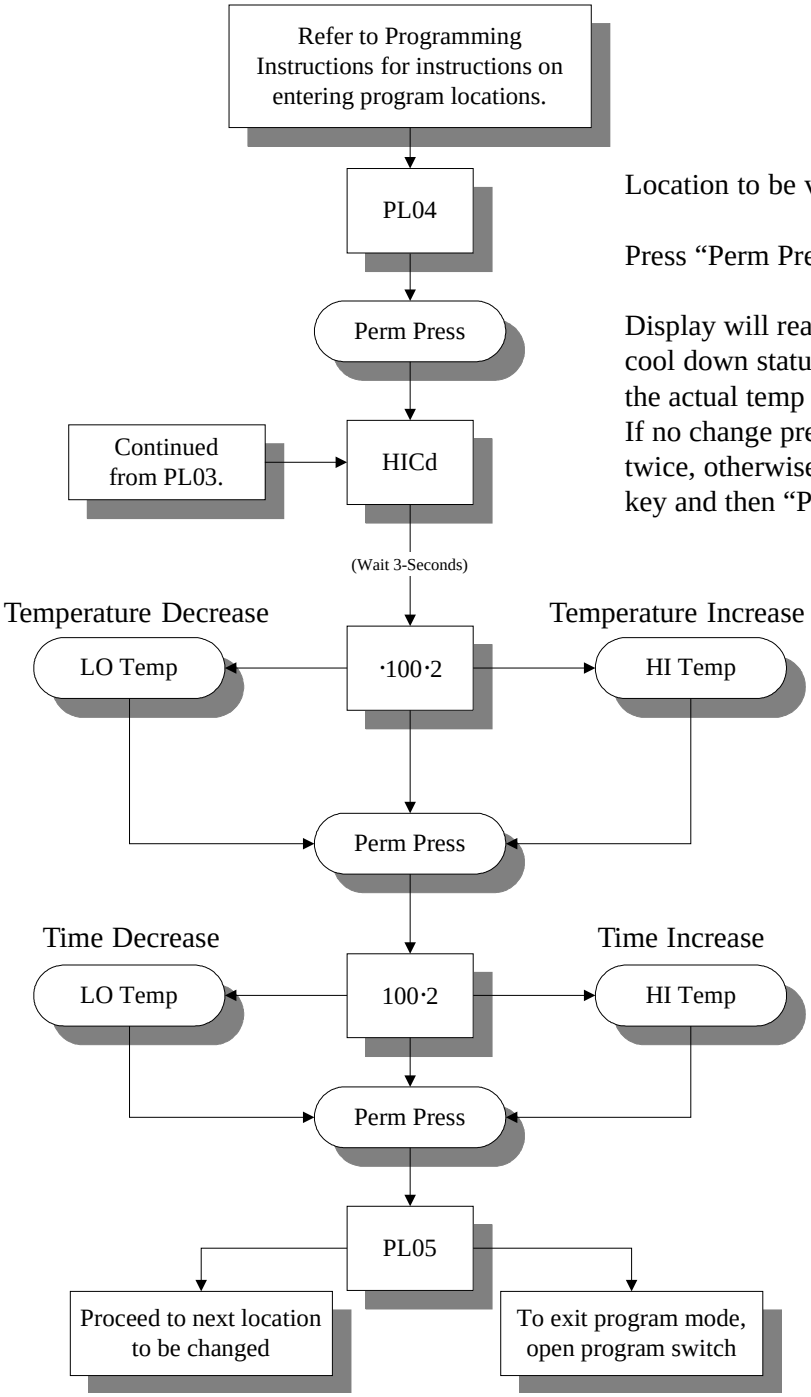
Summary: HI Temp is programmable from a minimum of 100° F to a maximum of 190° F in ten-degree increments or from a minimum of 38° C to a maximum of 88° C in five-degree increments.

For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.

Program Location 04 (PL04)

HI Temp cool down temperature/time



Location to be viewed/changed.

Press “Perm Press” key.

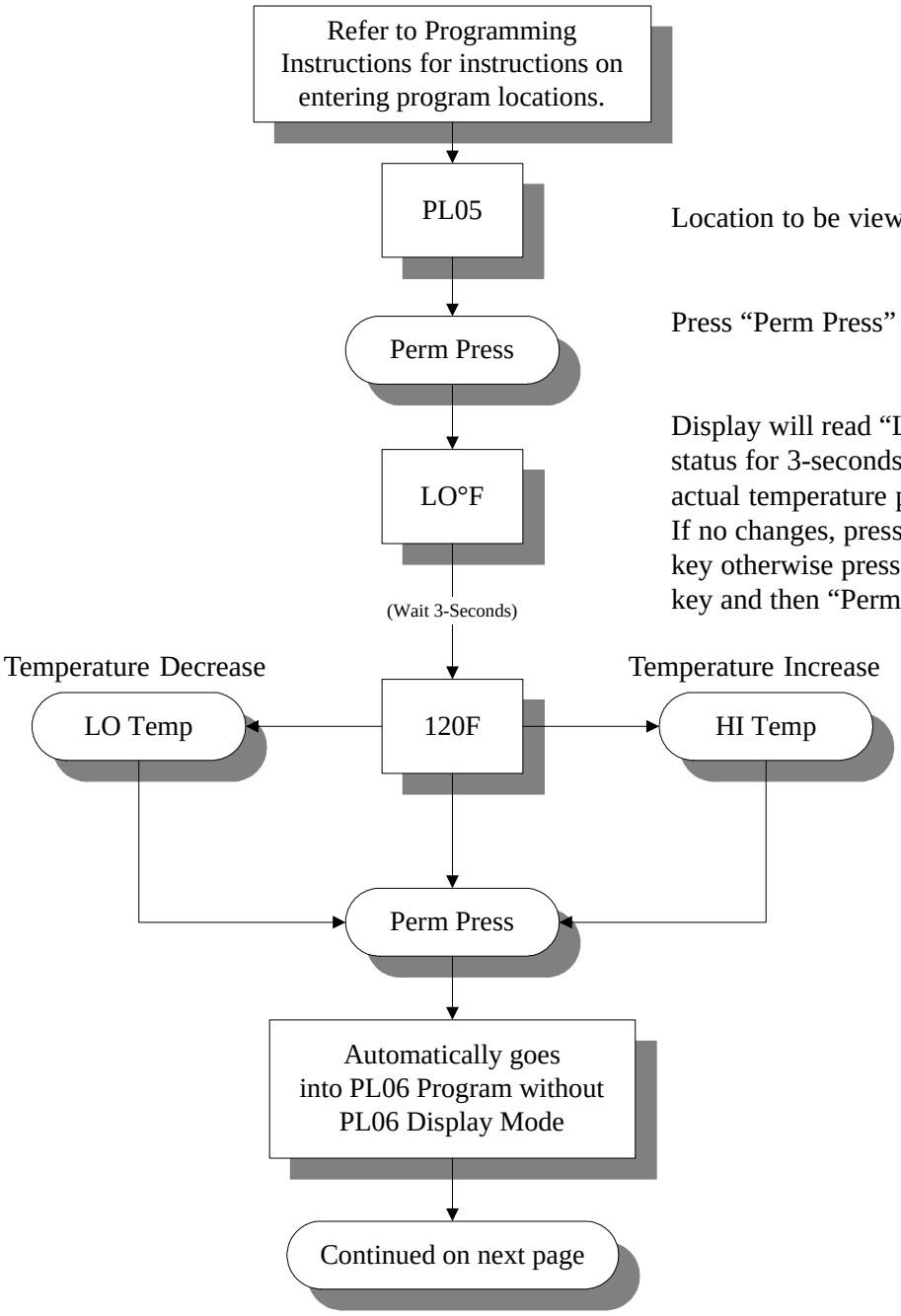
Display will read “HICd,” HI Temp cool down status for 3-seconds and then the actual temp and time programmed. If no change press “Perm Press” key twice, otherwise press “HI” or “LO” key and then “Perm Press” key.

Summary: Cool down temperature is programmable from a minimum of 70° F to a maximum of 190° F in ten degree increments or from a minimum of 21° C to a maximum of 88° C in five-degree increments.

For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.

Cool down is programmable from 0 to 9 minutes.



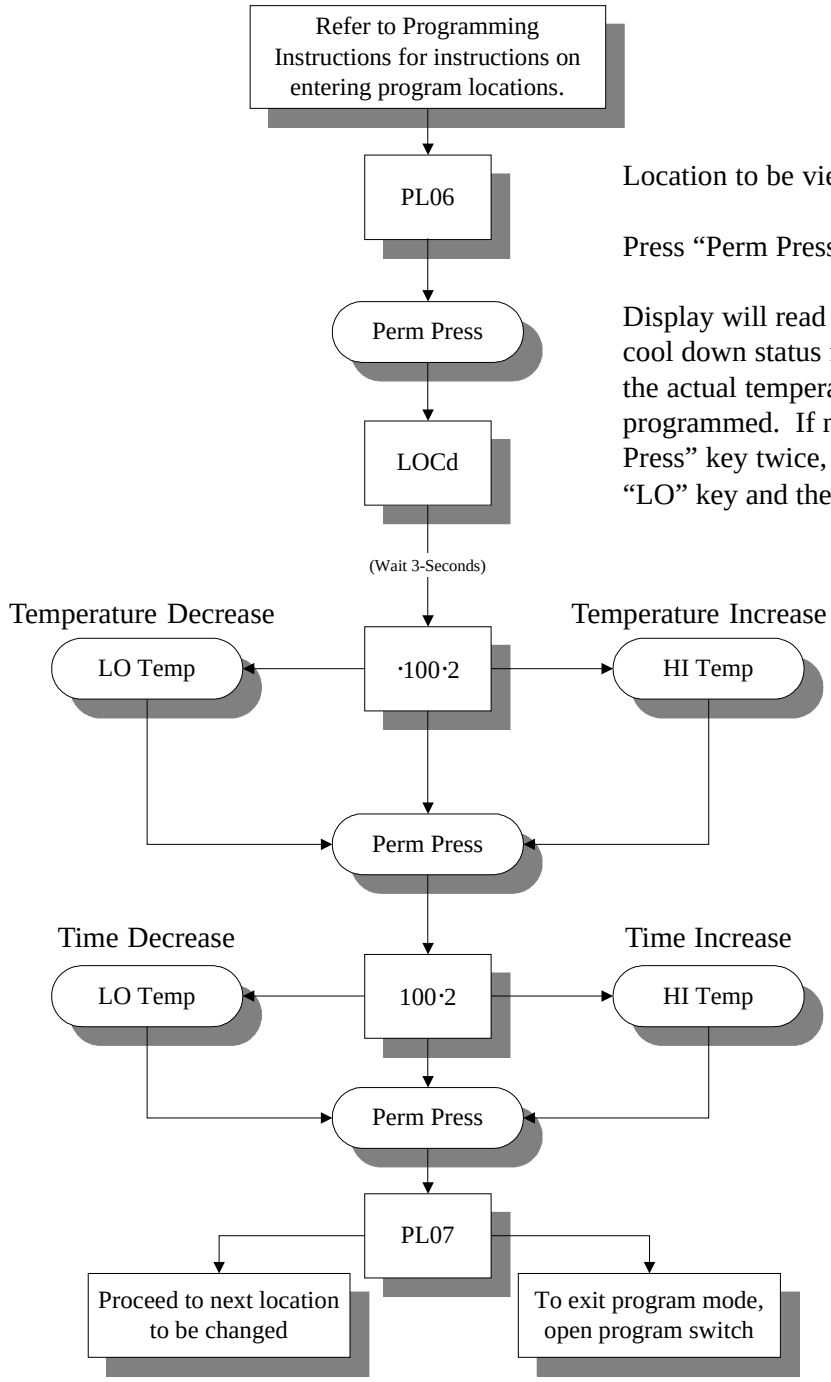
Summary: LO Temp is programmable from a minimum of 100° F to a maximum of 190° F in ten-degree increments or from a minimum of 38° C to a maximum of 88° C in five-degree increments.

For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.

Program Location 06 (PL06)

LO Temp cool down temperature/time

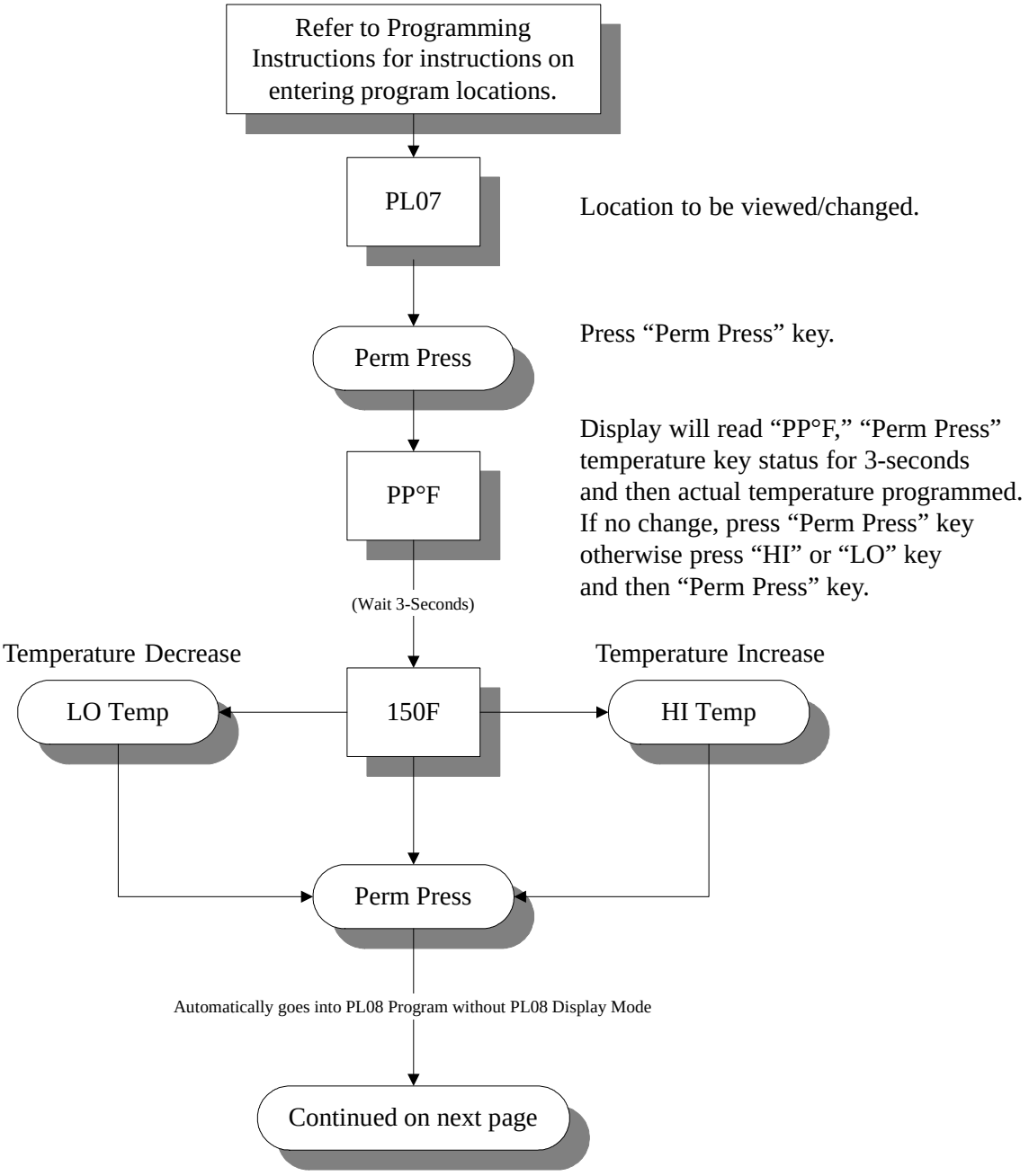


Summary: Cool down temperature is programmable from a minimum of 70° F to a maximum of 190° F in ten degree increments or from a minimum of 21° C to a maximum of 88° C in five-degree increments.

For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.

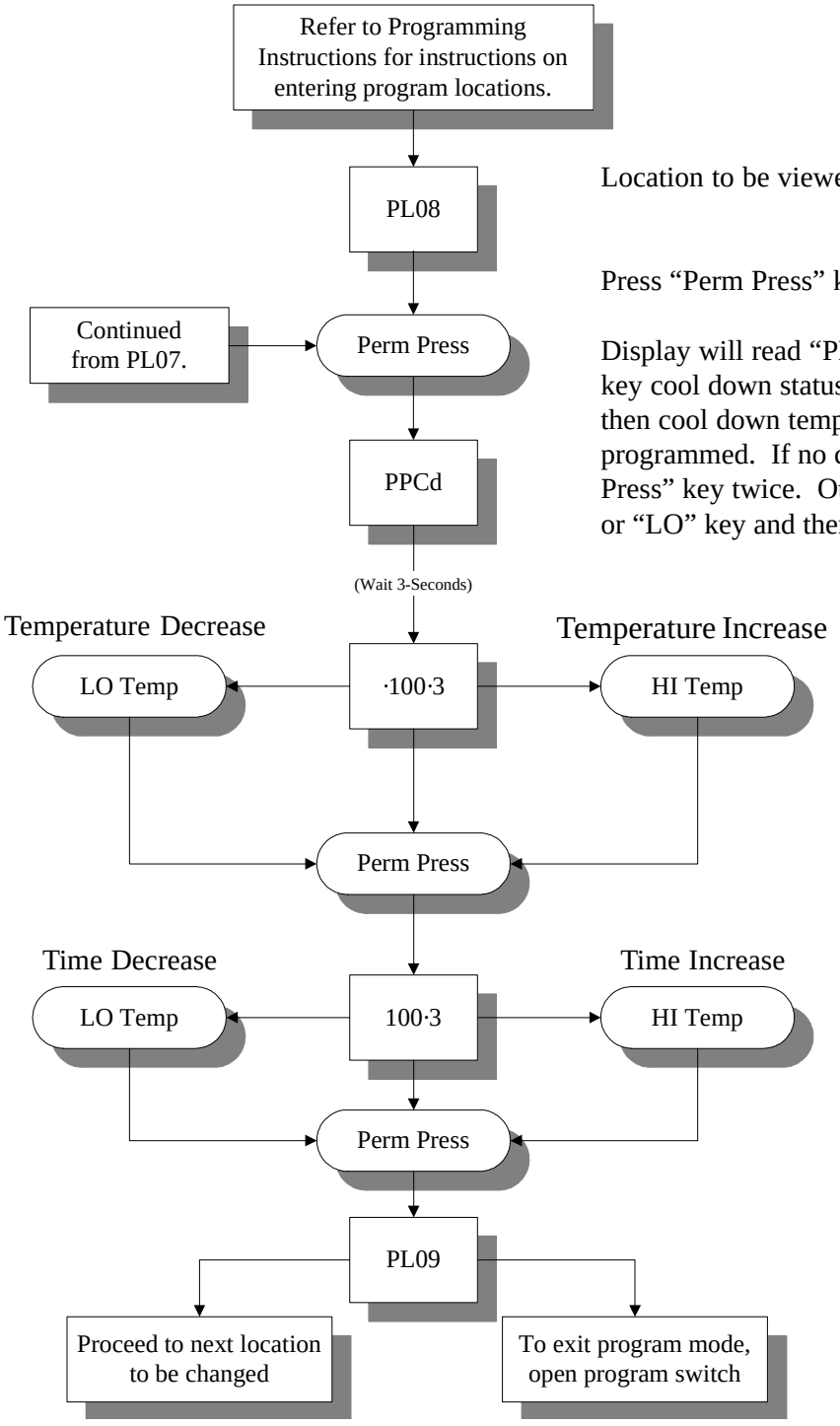
Cool down is programmable from 0 to 9 minutes.



Summary: Perm Press Temp is programmable from a minimum of 100° F to a maximum of 190° F in ten-degree increments or from a minimum of 38° C to a maximum of 88° C in five-degree increments.

For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.



Summary: Cool down temperature is programmable from a minimum of 70° F to a maximum of 190° F in ten-degree increments or from a minimum of 21° C to a maximum of 88° C in five-degree increments.

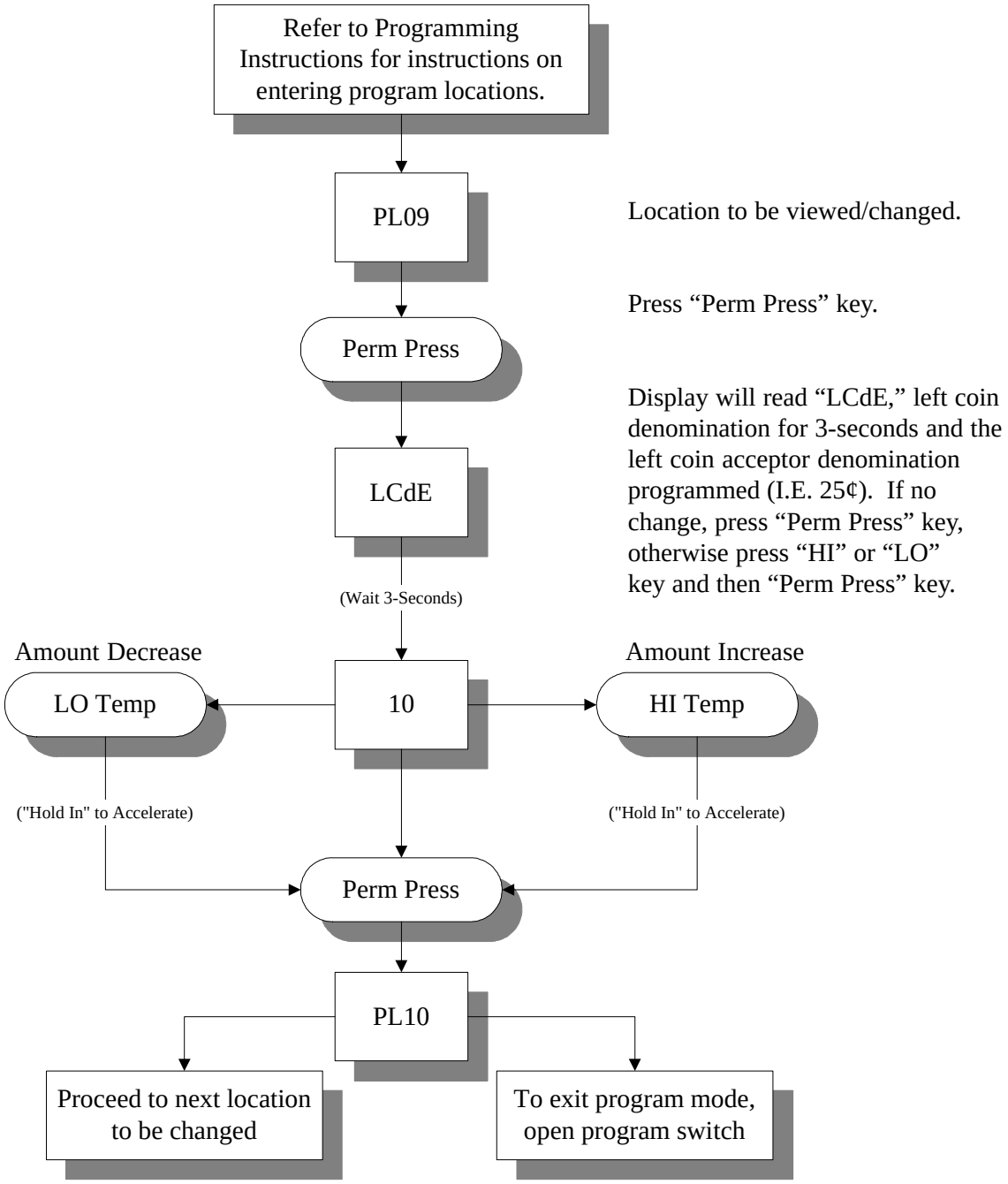
For the AD-26 and AD-295 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 170° F in ten-degree increments or from a minimum of 38° C to a maximum of 77° C in five-degree increments.

For the AD-540 and WDA-540 any three of the selections (HI/LO/PP) are programmable from a minimum of 100° F to a maximum of 160° F in ten-degree increments or from a minimum of 38° C to a maximum of 71° C in five-degree increments.

Cool down is programmable from 0 to 9 minutes.

Program Location 09 (PL09)

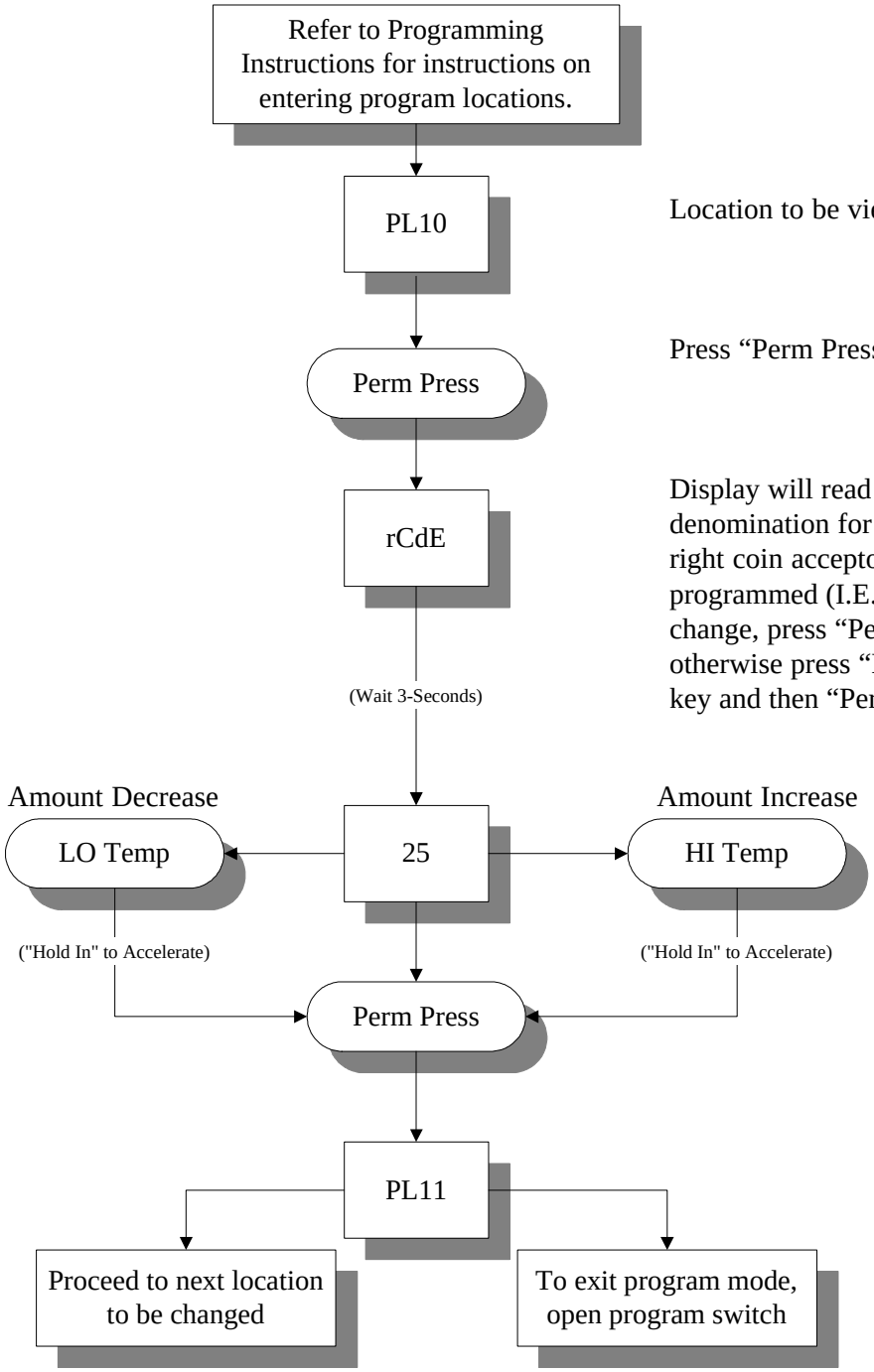
Left Coin Denomination



Summary: The left coin denomination is programmable from 1 to 9999.

IMPORTANT: *When the dryer is equipped with a dual coin acceptor, the value set here is the lower value denomination, which is not necessarily the left coin portion of the acceptor.*

NOTE: *For single coin models this parameter must be set for the value of the acceptor. I.E. 25¢ acceptor = 25.*



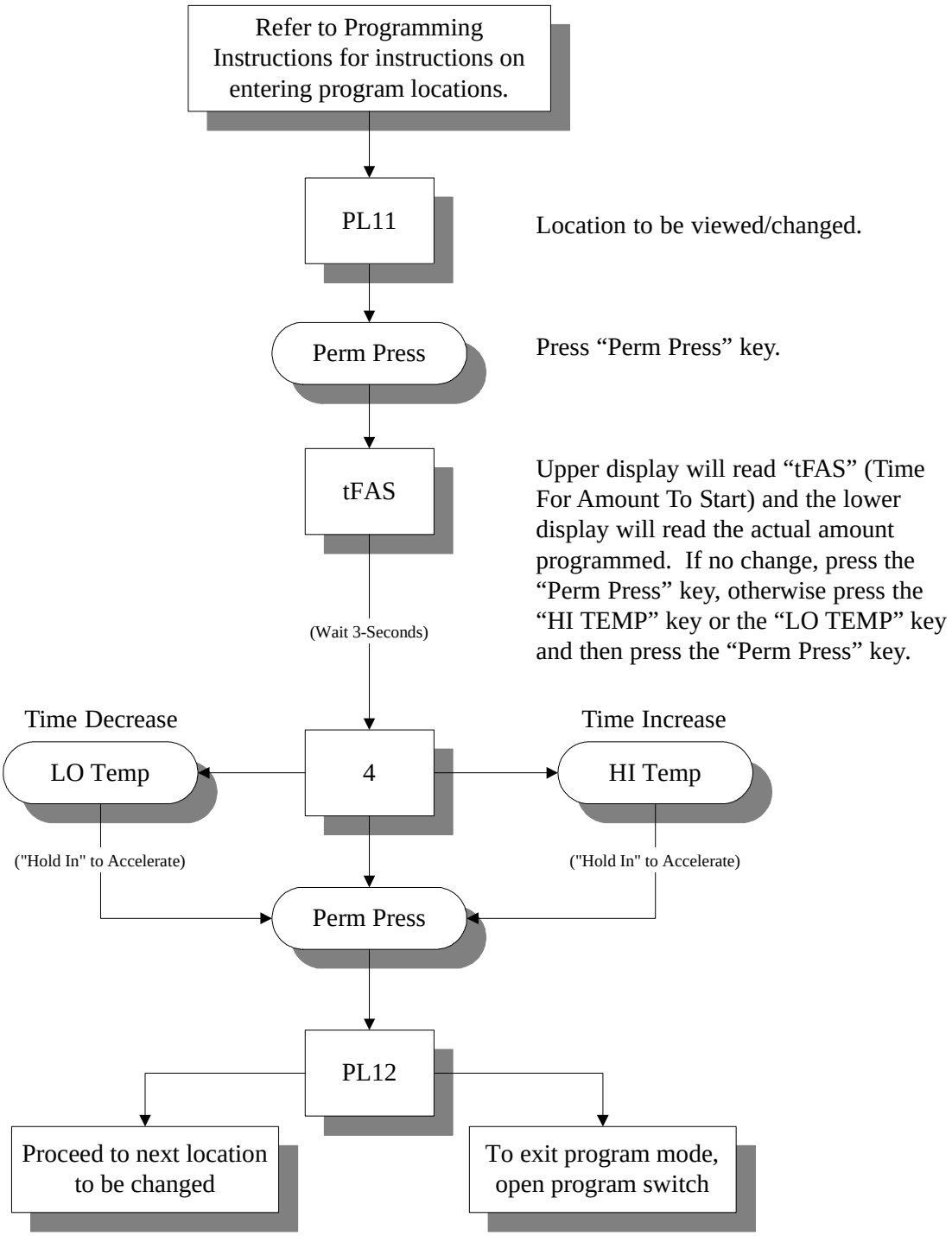
Summary: The right coin denomination is programmable from 1 to 9999.

IMPORTANT: *When the dryer is equipped with a dual coin acceptor, the value set here is the higher value denomination, which is not necessarily the right coin portion of the acceptor.*

NOTE: *For single coin models this parameter need not to be set.*

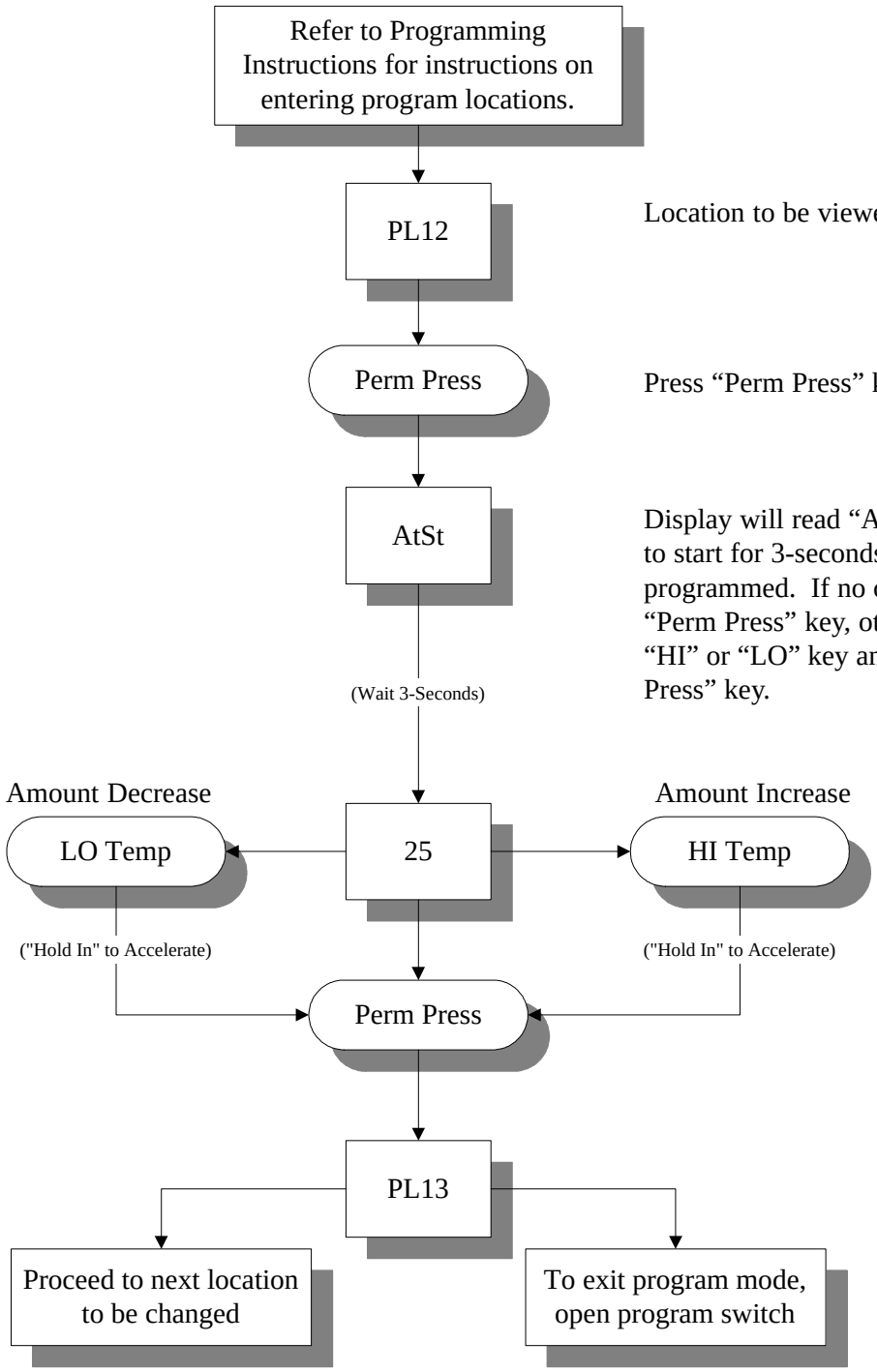
Program Location 11 (PL11)

Time For Amount To Start

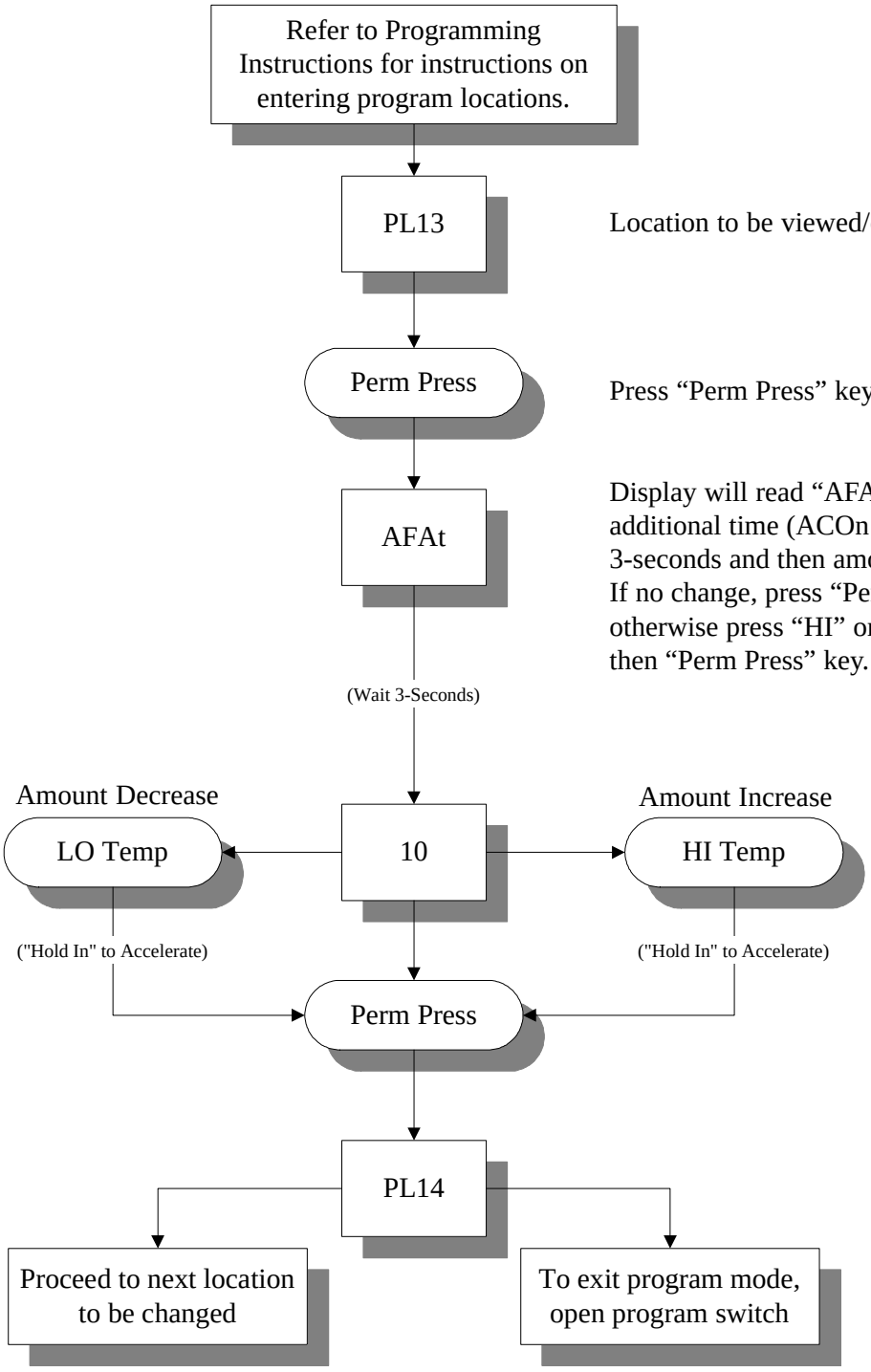


Summary: The time for amount to start is programmable from 1 to 99 minutes.

Amount To Start



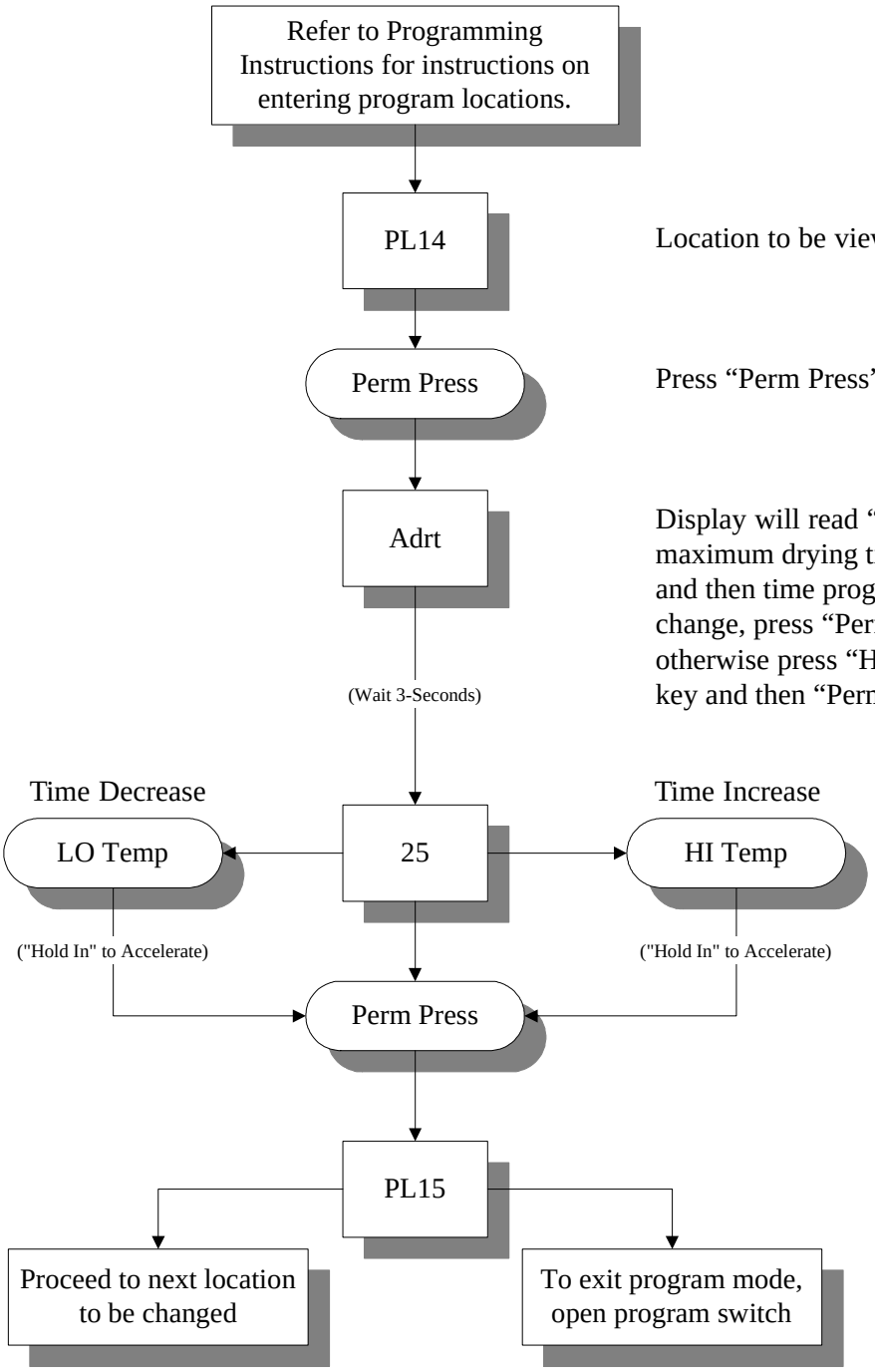
Summary: The amount to start is programmable from 1 to 9999.



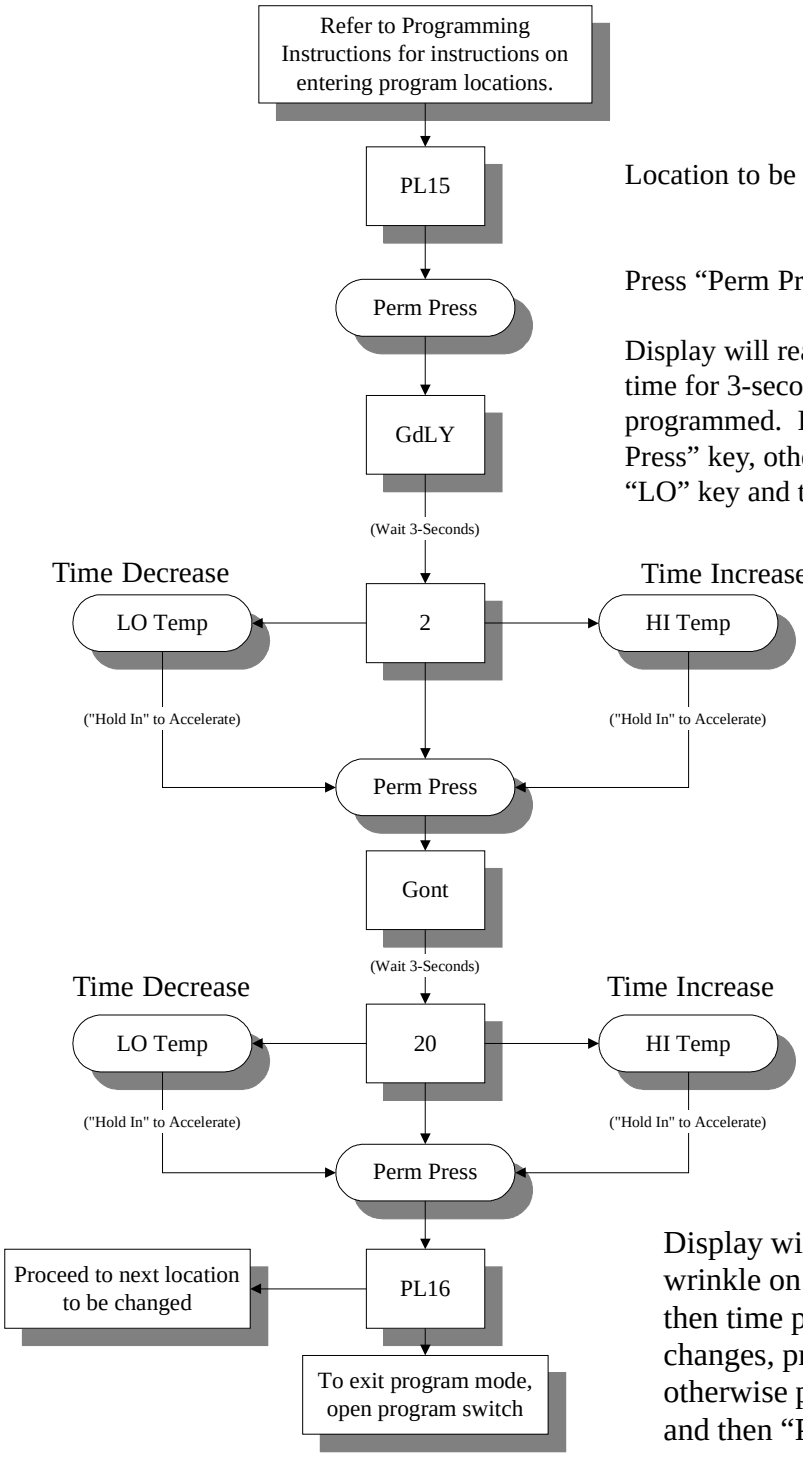
Summary: The amount to start is programmable from 1 to 9999.

Program Location 14 (PL14)

Maximum Time for Auto Dry



Summary: The maximum auto dryness time is programmable from 1 to 99 minutes.



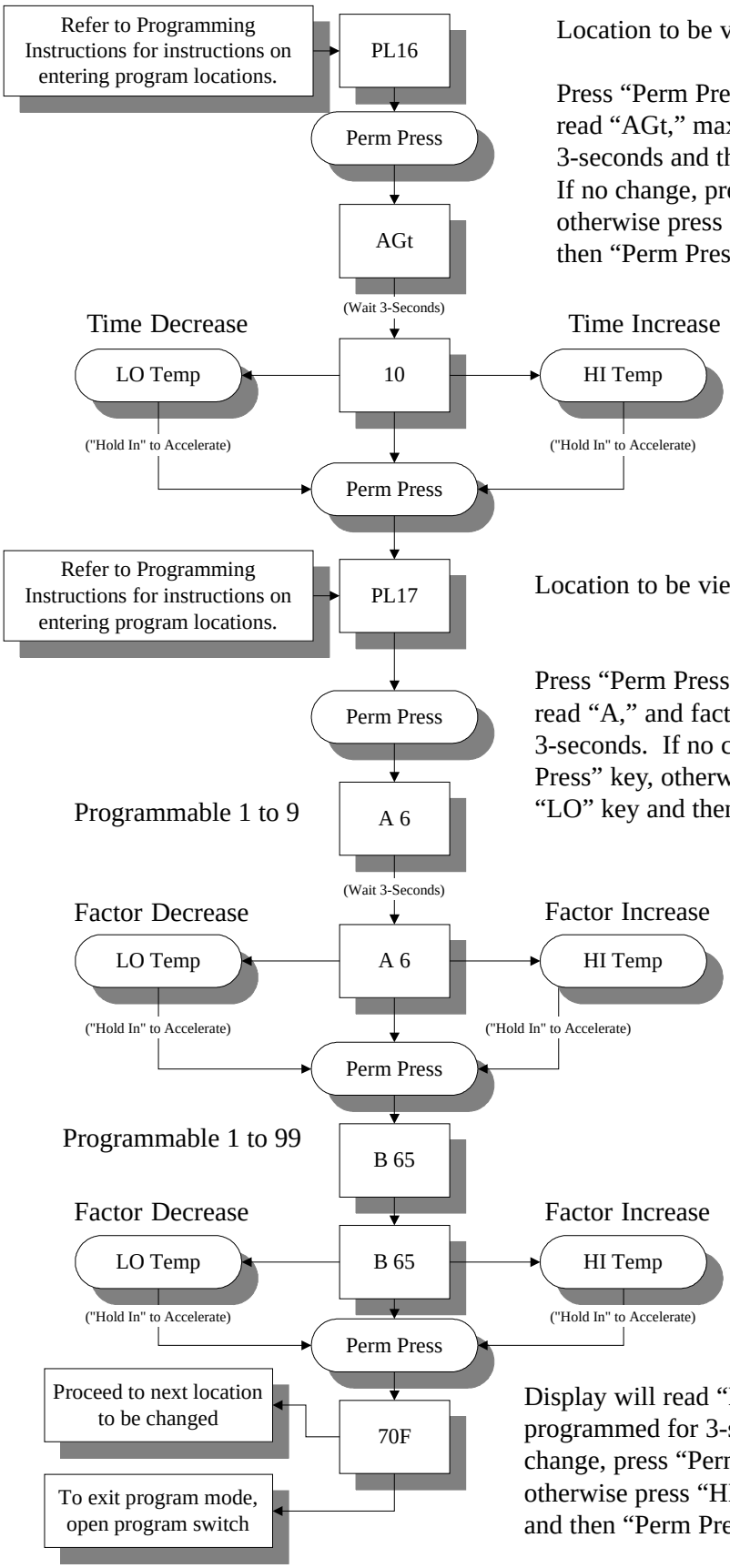
Location to be viewed/changed.

Press “Perm Press” key.

Display will read “GdLY,” guard delay time for 3-seconds and then time programmed. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.

Display will read “Gont” anti-wrinkle on time for 3-seconds and then time programmed. If no changes, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.

Summary: Guard delay time is programmable from 1 to 9 minutes. Guard on time is programmable from 1 to 99-seconds.


Refer to Programming Instructions for instructions on entering program locations.
PL16
Location to be viewed/changed.
Perm Press
Press “Perm Press” key. Display will read “AGt,” maximum guard time for 3-seconds and then time programmed. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.
AGt
(Wait 3-Seconds)
Time Decrease
Time Increase
LO Temp
10
HI Temp
("Hold In" to Accelerate)
("Hold In" to Accelerate)
Perm Press
Refer to Programming Instructions for instructions on entering program locations.
PL17
Location to be viewed/changed.
Perm Press
Press “Perm Press” key. Display will read “A,” and factor programmed for 3-seconds. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.
Programmable 1 to 9
A 6
(Wait 3-Seconds)
Factor Decrease
Factor Increase
LO Temp
A 6
HI Temp
("Hold In" to Accelerate)
("Hold In" to Accelerate)
Perm Press
Programmable 1 to 99
B 65
Factor Decrease
Factor Increase
LO Temp
B 65
HI Temp
("Hold In" to Accelerate)
("Hold In" to Accelerate)
Perm Press
Proceed to next location to be changed
70F
Display will read “B,” and factor programmed for 3-seconds. If no change, press “Perm Press” key, otherwise press “HI” or “LO” key and then “Perm Press” key.
To exit program mode, open program switch

Factory Preset Programs/Parameters

Unless otherwise specified at the time of ordering, the Phase 5 microprocessor controller (computer) has been preprogrammed by the factory with the following programs/parameters. Should changes be found necessary, please read this Phase 5 Coin User's Manual carefully to thoroughly familiarize yourself with the Phase 5 microprocessor controller's (computer's) programming characteristics.

Single Coin Only

For all dryer models except AD22/AD-26/AD-265/AD-295 and AD-540/WDA-540. (For single coin models AD22/AD-26/AD-265/AD-295 and AD-540/WDA-540 refer to right column).

PL01 – °FAr – Temperatures in Fahrenheit
tInE – Timed mode
Grd – Anti-wrinkle guard on
bUZ – Anti-wrinkle guard buzzer (tone) on
Coin – Coin(s) required to start
FLS – Display will flash in intervals between "FILL" and "Amount To Start"
bCrS – Bad coin reset
AtIn – Accumulative time
nSEn – Rotational sensor not selected
PL02 – PdrY – Percent Dry – 97%
PL03 – HI°F – 180°
PL04 – HICd – Temperature – 100°, Time – 2 minutes
PL05 – LO°F – 120°
PL06 – LOCd – Temperature – 100°, Time – 2 minutes
PL07 – PP°F – 150°
PL08 – PPCd – Temperature – 100°, Time – 3 minutes
PL09 – LCdE – Left coin denomination – 25¢
PL10 – rCdE – Right coin denomination – 25¢
PL11 – tFAS – Time for amount to start – 10 minutes
PL12 – AtSt – Amount to Start – 25¢
PL13 – AFAt – Amount for additional time – 25¢
PL14 – Adrt – Automatic dry maximum time – 30 minutes
PL15 – GdLY – Anti-wrinkle guard off delay time – 2 minutes
Gont – Anti-wrinkle guard on time – 20-seconds
PL16 – AGt – Active anti-wrinkle guard time – 10 minutes
PL17 – A and b – "A" is adjustable from 1 to 99 (example: A = 5)
Factors – "b" is adjustable from 1 to 99 (example: B = 75)

Dual Coin Only

For all dryer models except AD22/AD-26/AD-265/AD-295 and AD-540/WDA-540. (For dual coin models AD22/AD-26/AD-265/AD-295 and AD-540/WDA-540 refer to right column).

PL01 – °FAr – Temperatures in Fahrenheit
tInE – Timed mode
Grd – Anti-wrinkle guard on
bUZ – Anti-wrinkle guard buzzer (tone) on
Coin – Coin(s) required to start
FLS – Display will flash in intervals between "FILL" and "Amount to Start"
bCrS – Bad coin reset
AtIn – Accumulative time
nSEn – Rotational sensor not selected
PL02 – PdrY – Percent Dry – 97%
PL03 – HI°F – 180°
PL04 – HICd – Temperature – 100°, Time – 2 minutes
PL05 – LO°F – 120°
PL06 – LOCd – Temperature – 100°, Time – 2 minutes
PL07 – PP°F – 150°
PL08 – PPCd – Temperature – 100°, Time – 3 minutes
PL09 – LCdE – Left coin denomination – 10¢
PL10 – rCdE – Right coin denomination – 25¢
PL11 – tFAS – Time for amount to start – 10 minutes
PL12 – AtSt – Amount to Start – 25¢
PL13 – AFAt – Amount for additional time – 10¢
PL14 – Adrt – Automatic dry maximum time – 30 minutes
PL15 – GdLY – Anti-wrinkle guard off delay time – 2 minutes
Gont – Anti-wrinkle guard on time – 20-seconds
PL16 – AGt – Active anti-wrinkle guard time – 10 minutes
PL17 – A and b – "A" is adjustable from 1 to 99 (example: A = 5)
Factors – "b" is adjustable from 1 to 99 (example: B = 75)

Single Coin Only

For dryer models AD22/AD-26/AD-265/AD-295 and AD-540/WDA-540 only.

PL01 – °FAr – Temperatures in Fahrenheit
tInE – Timed mode
Grd – Anti-wrinkle guard on
bUZ – Anti-wrinkle guard buzzer (tone) on
Coin – Coin(s) required to start
FLS – Display will flash in intervals between "FILL" and "Amount To Start"
bCrS – Bad coin reset
AtIn – Accumulative time
nSEn – Rotational sensor not selected
PL02 – PdrY – Percent Dry – 98%
PL03 – HI°F – 150°
PL04 – HICd – Temperature – 80°, Time – 2 minutes
PL05 – LO°F – 120°
PL06 – LOCd – Temperature – 80°, Time – 2 minutes
PL07 – PP°F – 130°
PL08 – PPCd – Temperature – 80°, Time – 3 minutes
PL09 – LCdE – Left coin denomination – 25¢
PL10 – rCdE – Right coin denomination – 10¢
PL11 – tFAS – Time for amount to start – 10 minutes
PL12 – AtSt – Amount to Start – 25¢
PL13 – AFAt – Amount for additional time – 25¢
PL14 – Adrt – Automatic dry maximum time – 30 minutes
PL15 – GdLY – Anti-wrinkle guard off delay time – 2 minutes
Gont – Anti-wrinkle guard on time – 20-seconds
PL16 – AGt – Active anti-wrinkle guard time – 10 minutes
PL17 – A and b – "A" is adjustable from 1 to 99 (example: A = 5)
Factors – "b" is adjustable from 1 to 99 (example: B = 70)

Dual Coin Only

For dryer models AD22/AD-26/AD-265/AD-295 and AD-540/WDA-540 only.

PL01 – °FAr – Temperatures in Fahrenheit
tInE – Timed mode
Grd – Anti-wrinkle guard on
bUZ – Anti-wrinkle guard buzzer (tone) on
Coin – Coin(s) required to start
FLS – Display will flash in intervals between "FILL" and "Amount To Start"
bCrS – Bad coin reset
AtIn – Accumulative time
nSEn – Rotational sensor not selected
PL02 – PdrY – Percent Dry – 98%
PL03 – HI°F – 150°
PL04 – HICd – Temperature – 80°, Time – 2 minutes
PL05 – LO°F – 120°
PL06 – LOCd – Temperature – 80°, Time – 2 minutes
PL07 – PP°F – 130°
PL08 – PPCd – Temperature – 80°, Time – 3 minutes
PL09 – LCdE – Left coin denomination – 25¢
PL10 – rCdE – Right coin denomination – 10¢
PL11 – tFAS – Time for amount to start – 10 minutes
PL12 – AtSt – Amount to Start – 25¢
PL13 – AFAt – Amount for additional time – 25¢
PL14 – Adrt – Automatic dry maximum time – 30 minutes
PL15 – GdLY – Anti-wrinkle guard off delay time – 2 minutes
Gont – Anti-wrinkle guard on time – 20-seconds
PL16 – AGt – Active anti-wrinkle guard time – 10 minutes
PL17 – A and b – "A" is adjustable from 1 to 99 (example: A = 5)
Factors – "b" is adjustable from 1 to 99 (example: B = 70)

Phase 5 Coin System Diagnostics

All major circuits, including door, microprocessor temperature sensor, heat and motor circuits are monitored. The Phase 5 coin microprocessor controller (computer) will inform the user via the L.E.D. display of certain failure codes along with indicators both in the L.E.D. display and at the outputs of each relay (and door switch circuit) to easily identify failures.

Diagnostic (L.E.D.) Failure Codes

"door" – Indicates door switch circuit is open.

Keypad entry was made while main door is open or there is a fault in the door switch circuit (external of the microprocessor controller [computer]).

"dSFL" – Indicates a fault in the microprocessor temperature sensor circuit. If a fault is detected in the microprocessor heat sensor circuit, the L.E.D. display will read "dSFL" and the buzzer (tone) will sound for approximately 5-seconds every 30-seconds.

The problem is corrected or power to dryer is discontinued… and the problem is then corrected.

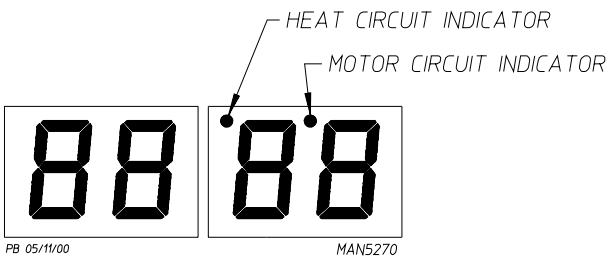
IMPORTANT: *The Phase 5 coin microprocessor controller (computer) has its own internal heat sensing circuit fuse protection located on the back side of the (computer). If a "dSFL" condition occurs, check to see if this fuse has blown. If it has, do not replace the entire microprocessor controller (computer); replace only the fuse and do so only with a 1/8-Amp (Slo-Blo) type fuse.*

NOTE: *Once the Phase 5 coin microprocessor controller (computer) detects a problem in the heat circuit, it updates every 30-seconds so if a problem was a loose connection in this circuit, which corrected itself, the "dSFL" condition would automatically be cancelled.*

"SEFL" – Indicates rotational sensor circuit failure meaning that there is a fault somewhere in the tumbler rotation detection circuit or the microprocessor controller (computer) program related to this circuit (PL01) is set incorrectly in the active mode ("SEn"), where the dryer is not equipped with optional rotation sensor and should be set in the inactive mode ("nSEn").

"Hot" – Indicates a possible overheating condition. The Phase 5 microprocessor controller (computer) monitors the temperature in the dryer at all times. If the microprocessor controller (computer) detects that the temperature in the dryer has exceeded 220° F (104° C) it will disable all outputs (shut the dryer down), the tone (buzzer) will sound for approximately 5-seconds, and the display will read "Hot." The L.E.D. display will continue to read "Hot" until the temperature sensed has dropped to 220° F (104° C) or lower and the microprocessor controller (computer) is manually reset by closing and opening the PS.

L.E.D. Display Indicators/Dots

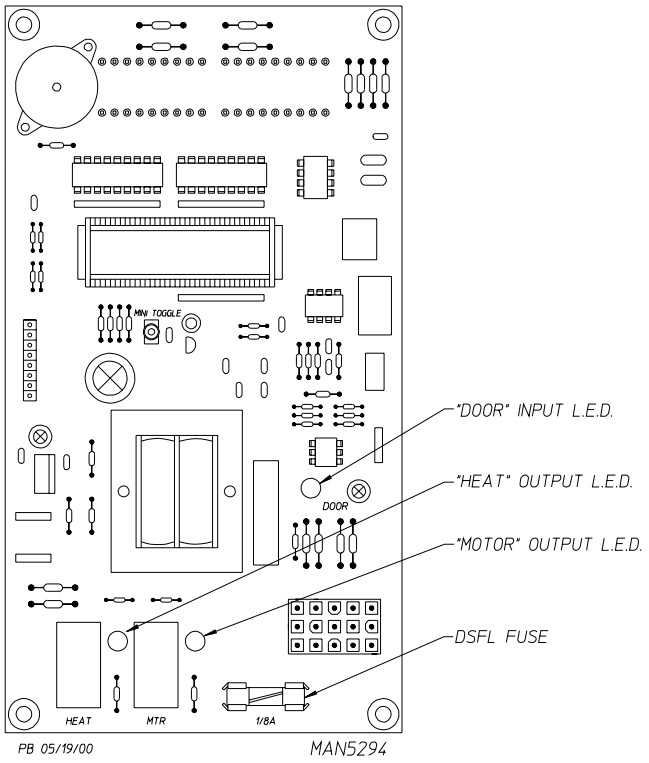


The L.E.D. indicator dots located at the top portion of the display indicates the various microprocessor controller (computer) output functions while a cycle is in progress. These dots do not necessarily mean that the outputs are functioning. They are only indicating that the function (output) should be active (on).

Heat Circuit Indicator – indicator dot is on whenever the microprocessor controller (computer) is calling for the heating circuit to be active (on).

Motor Circuit Indicator – indicator dot is on whenever a cycle is in progress.

Phase 5 Microprocessor Controller (Computer) Relay Output L.E.D. Indicators



There are three L.E.D. indicators ("red" lights) located at the lower back side area of the microprocessor controller (computer) which are identified/labeled as "DOOR," "HEAT," and "MTR" (motor). These L.E.D.s indicate that the outputs of the microprocessor controller (computer), or in the case of the door switch, the inputs are functioning.

"DOOR" – L.E.D. SHOULD BE ON ALL THE TIME (even if the dryer is not running) unless the main door is open or there is a problem (open circuit) in the main door switch circuit.

NOTE: *If the dryer is started (the display L.E.D. indicator dots are on) and there are no outputs ("HEAT" and/or "MTR" output L.E.D. are off) and the "DOOR" input L.E.D. is on, the fault is in the Phase 5 microprocessor controller (computer) itself.*

If the failure was elsewhere (i.e. dryer's door switch circuit) the L.E.D. display would read "door" if a keypad entry was attempted. If the display L.E.D. indicators are on, and the door L.E.D. indicators are on, and the door L.E.D. input and motor/heat output L.E.D.s are on, yet the motor and/or heat is not active (on); then the problem is not the door switch on the Phase 5 microprocessor controller (computer), the problem is elsewhere in the dryer.

"HEAT" – Output L.E.D. Indicator – if the dryer is started and there is no heat, yet the microprocessor controller (computer) L.E.D. display heat indicator dot is on, but the heat output L.E.D. indicator is off, then the fault is in the Phase 5 microprocessor controller (computer) itself. If both the display heat output L.E.D. indicator are on, then the problem is elsewhere (external of the microprocessor controller [computer]).

"MTR" (motor) – Output L.E.D. Indicator – if the dryer is started and the motor is not operating, yet both the microprocessor controller (computer) L.E.D. display motor indicator dot and "DOOR" input L.E.D. indicator are on, but the "MTR" output L.E.D. indicator is off; then the fault is in the Phase 5 microprocessor controller (computer) itself. If the motor is not operating and the "MTR" output indicator is on, then the problem is elsewhere (external of the microprocessor controller [computer]).

Phase 5 Auto Cycle (Patent No. 4,827,627)

"A" and "b" Factor Parameters

GAS			ELECTRIC				STEAM			
Model	**"A"**	**"b"**	**Model**	**Kw**	**"A"**	**"b"**	**Model**	**Type**	**"A"**	**"b"**
ADG-15D	3	80	ADE-15	12	2	74	ADS-15	High or Low	N/A*	
ADG-25D	5	80		15	2	55	ADS-25			
ADG-26D	N/A*			18	3	63	ADS-320			
AD-265	N/A*		ADE-25	18	2	65	ADS-330			
ADG-215D	5	67		20	3	80	ADS-30S			
ADG-220D	5	65		24	5	80	ADS-50			
ADG-230D	5	65	ADE-215	15	5	67	UDS-50			
ADG-320D	5	75	ADE-220	15	N/A*		ADS-75			
ADG-330D	5	75	ADE-230	15						
ADG-285DH	5	65	ADE-320	15						
ADG-295D	N/A*		ADE-330	15						
ADG-30DS (A)	5	70	ADE-30S	30 (b)						
ADG-30DS (b)	N/A*			36 (A)	5	70				
ADG-30D	5	70		40 (b)	N/A*					
ADG-50D	5	72		42 (A)						
UDG-50D	5	65		48 (A)						
ADG-75D	5	65	ADE-30	20	3	80				
				24	3	80				
				30	5	75				
			ADE-50	20	2	81				
				24	3	65				
				30	5	75				
			UDE-50	20	2	65				
				24	4	81				
				30	5	72				
			ADE-75	20	2	81				
				24	2	81				
				30	3	76				
				36	3	75				

Contact factory for models and/or "A" and "b" Factors not listed.

* "A" and "b" Factors N/A at time of printing.

(A) For 60 Hz models only.

(B) For 50 Hz models only.

IMPORTANT: *The "A" and "b" Factors have been preprogrammed by the factory and should be changed in the field unless the Phase 5 coin microprocessor controller (computer) should fail and is replaced. THE REPLACEMENT PHASE 5 COIN MICROPROCESSOR CONTROLLER (COMPUTER) MUST BE REPROGRAMMED FOR THE SPECIFIC MODEL SHOWN IN THE CHART ABOVE.*

Optional 9 Volt Battery Backup _____

Dryers ordered from the factory with the 9 volt battery backup option (battery is not included) allow the Phase 5 microprocessor controller (computer) to maintain its operating status should a momentary power interruption occur while the dryer cycle is in progress.

It is suggested that the battery be replaced at least once a year or as found necessary. The battery life will depend on the age of the battery, the amount of power interruptions, and the backup time used.

IMPORTANT: *For proper operation use alkaline batteries only. Suggest Energizer, Duracell or equivalent. DO NOT USE CARBON TYPE BATTERIES.*

NOTES