# LAFFERTY EQUIPMENT MANUFACTURING, INC.
# Program Settings Instructions

## # 950843  3-Zone & # 950846  6-Zone
## 120 Volt • Pump Fed Fogger PLC Vision Controller
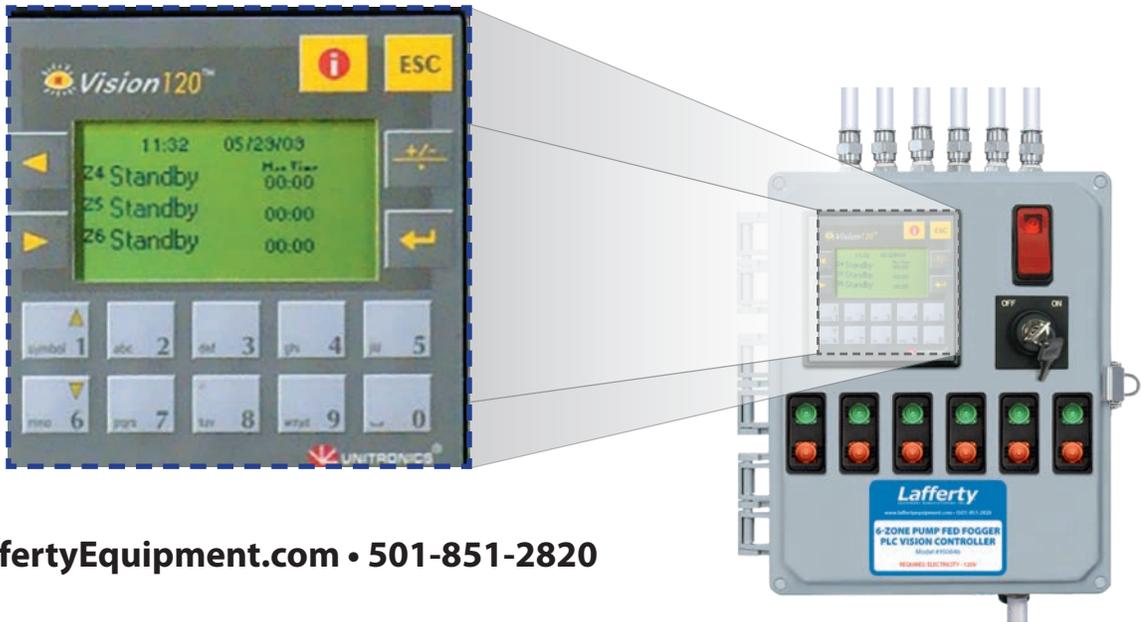


**www.LaffertyEquipment.com • 501-851-2820**

- Pump Fed Fogger PLC Vision Controllers are for facilities that need independent control of up to six zones.

- A Programmable Logic Controller (PLC) provides computerized control of multiple operating options. By selecting from menu lists displayed on the face panel, you can precisely set the time and duration of fogger operation on a 24/7/365 basis. *(The number of foggers that can be operated in each zone will depend on the capacity of the facility air compressor.)*

- The following Lafferty Pump Fed Foggers and related components are designed specifically for use with these controllers:

### # 950114  305 4-Way Pump Fed Fogger  •  # 950118  305 8-Way Pump Fed Fogger

- 950850   Pump Fed Fogger **Air / Solution Zone Control Kit** – Each zone of foggers requires a Zone Control Kit
- 950852   Pump Fed Fogger **Metered Bleed Assembly** – When fogging with off-gassing chemicals, such as peracetic acid, each zone should be equipped with a metered bleed assembly to prevent pressure buildup in the solution line.

Includes manual override feature for stopping or starting the system during any of the cycles, without affecting your program settings.

### Set-Up and Operation Overview

#### Passwords

- **Administrator password** — Required to set up or change the operation settings.

- **User password** — Required so the system can be set, temporarily, to Manual Mode for a specified period of time.

#### PLC Automatic Operational Modes

At various times, the PLC will display one of three Modes, depending upon the Administrator program settings you select.

**"Auto":** This indicates the system is operating automatically during the days and hours of operation you set and according to the schedule and other parameters you select during set up.

**"Standby":** This indicates the system is temporarily inactive as the time or day is outside the standard days and hours of operation you set.

**"Holiday":** This indicates the system is temporarily shut down for a pre-set holiday period that you selected/created during set up.

#### PLC Manual Operation Mode

Manual Mode temporarily overrides Standby and Holiday modes without changing your other settings. This allows fogging application for special circumstances during times when the system is programmed to be idle.

# Pump Fed Fogger PLC Vision Controller – 120VAC

## 1 — PASSWORDS

The Vision PLC has two levels of password control:
- Administrator (ADM) - required for all set up of and changes to operating parameters
- User – Allows activating "Manual" Mode (see page 1) without allowing changes to settings made by the Administrator

The PLC is supplied with the passwords pre-set at:
- Administrator (ADM) – 2820
- User – 3719

These passwords may be changed or retained at the preference of the Administrator.



Back
Forward
Navigation Arrows

Escape / Exit programming mode

Enter / Return
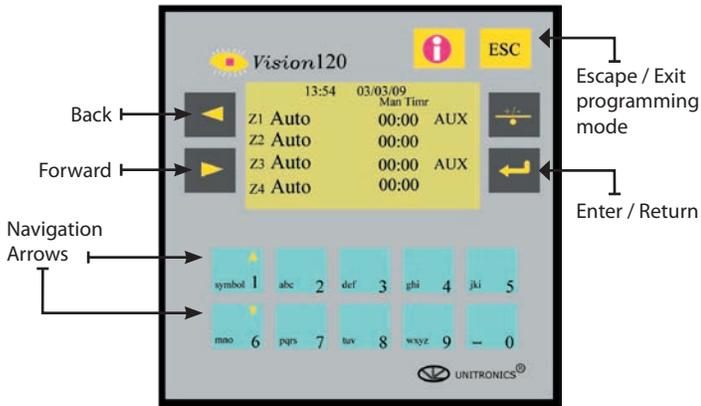
### Administrator Password Set-up/Change

| | |
|---|---|
| 🛈 | Password entry press 2 times |
| **Enter Admin Password** | |
| ⬛ | Enter Admin Password |
| **XXXX** | |
| ↵ | to Confirm Password |
| **Functions: Set Zone** | |
| ▲ symbol 1 | Up 2 times – Go to Functions: Set **Admin** Password |
| **Functions: Set Admin Pass** | |
| ↵ | Enter "Set Admin Password" |
| **Admin Password xxxx** | |
| ⬛ | Enter new password |
| ↵ | Confirm Password |
| **Functions: Set Admin Pass** | |
| ▼ mno 6 | Press down arrow to go to other Functions |
| | OR |
| ESC | Exit to Operational Mode |

### User Password Set-up/Change

| | |
|---|---|
| 🛈 | Password entry press 2 times |
| **Enter Admin Password** | |
| ⬛ | Enter Admin Password |
| **XXXX** | |
| ↵ | to Confirm Password |
| **Functions: Set Zone** | |
| ▲ symbol 1 | Up 1 time – Go to Functions: Set **User** Password |
| **Functions: Set User Password** | |
| ↵ | Enter "User Password" |
| **User Password xxxx** | |
| ⬛ | Enter new password |
| ↵ | Confirm Password |
| **Functions: Set User Password** | |
| ▼ mno 6 | Press down arrow to go to other Functions |
| | OR |
| ESC | Exit to Operational Mode |

## 2 — REQUIRED SETTINGS FOR OPERATION – (Set through the Administrator Function, only)

- **Set Clock:**

  Set the unit's clock to the current time and date, using the 24 hour and MM/DD/YYYY format.

### Set/Change Clock

| | |
|---|---|
| 🛈 | Password entry press 2 times |
| **Enter Admin Password** | |
| ⬛ | Enter Admin Password |
| **XXXX** | |
| ↵ | to confirm Password |
| **Functions: Set Zone** | |
| ▲ symbol 1 | Up 3 times |
| **Functions: Set Clock** | |
| ↵ | Enter clock set function |
| **Time: 16:05:00** **Date: 02/29/2009** | |
| ⬛ ↵ | Set Hour, Minute, Seconds; Month, Day and Year. Press "Enter/Return" to move from clock to the calendar function |
| ↵ | Return to Functions: Set Clock |
| ▼ mno 6 | Down 3 times — Go to Functions: Set Zone to select Zone # for other settings shown at right (See ♦.) |
| | OR |
| ESC | Exit to Operational Mode |

- **Cycle Time by Zone:**

  **SEE SAFETY NOTE, PAGE 4**

  **ON Time (seconds)** – Length of time that fog will be applied.

  **OFF Time (minutes)** – Length of time between fog applications.

### Set/Change Cycle Time by Zone

| | |
|---|---|
| 🛈 | Password entry press 2 times |
| **Enter Admin Password** | |
| ⬛ | Enter Admin Password |
| **XXXX** | |
| ↵ | to confirm Password |
| **Functions: Set Zone** ♦ | |
| ↵ | **Set Zone X** |
| ⬛ | Enter Zone # |
| **Functions: Set Zone** | |
| ▼ mno 6 | Down 1 time then ↵ |
| **Zone x** *(zone # entered above)* **Cycle on:** 900 sec *(15 min.)* **Cycle off:** 120 min *(2 hrs.)* * | |
| ⬛ | Enter times |
| *(Press Enter to move from 1st to 2nd line)* | |
| ↵ | **Enter Functions: Set Cycle Time** |
| ▲ symbol 1 | Up 1 Time — Go to Set Zone |
| ▼ mno 6 | **OR** Down — Go to other functions **OR** |
| ESC | Exit to Operational Mode |

- **Days of the Week:**

  For each zone, enter the days of the week and the hours of the day when you want fogging to occur. These are the time periods when the foggers will operate in Auto Mode.*

### Set/Change Days of Week

| | |
|---|---|
| 🛈 | Password entry press 2 times |
| **Enter Admin Password** | |
| ⬛ | Enter Admin Password |
| **XXXX** | |
| ↵ | to Confirm Password |
| **Functions: Set Zone** ♦ | |
| ↵ | **Set Zone X** |
| ⬛ | Enter Zone # |
| **Functions: Set Zone** | |
| ▼ mno 6 | Down 2 times — Go to Set Days in week |
| **Functions: Set Days in Wk.** | |
| ↵ | **Set Days of Wk. - Sunday** |
| ↵ | Enter Sunday time set |
| **Sunday Zone 1** **Time on 0800** **Time off 1700** | |
| ⬛ ↵ | Enter times in 24 Hour time **ONLY** |
| *(Press Enter to move from 1st to 2nd line)* | |

*Entering all zeroes in both fields indicates the facility is not operating that day.*

| | |
|---|---|
| **Set Days of Wk. - Sunday** | |
| ▼ mno 6 | Down 1 time |
| **Set Days of Wk. - Monday** | |
| ↵ | Enter Monday time set |
| **Monday Zone 1** **Time on 0800** **Time off 1700** | |
| ⬛ ↵ | Enter times in 24 Hour time **ONLY** |
| *(Press Enter to move from 1st to 2nd line)* | |

REPEAT FOR THE REMAINING DAYS OF THE WEEK

| | |
|---|---|
| ◄ | Back to Functions |
| ESC | Exit to Operational Mode |
| | **OR** |
| ▲ symbol 1 | Up 2 times — Go to Set Zone Function (♦) to select another zone |

*This system is now operational in accordance with specific zone settings.*

**\*Important**: See special Safety Notes, page 4.

## 3  OPTIONAL SETTINGS FOR ENHANCED OPERATION

*Note: Optional Settings can be set through the Administrator function only.*

- **Auxiliary Cycles:**

  An Auxiliary Cycle can be set for times when extra fogging applications are desired — for example, when extra odor control is needed, extra fog cycles can be set for times of day just after new material is added to an area.

  The Auxiliary Cycle overrides the standard Cycle at the times designated. Up to 22 auxiliary time periods can be set up for each day.

- **Holiday / Shut-down Times:**

  Up to 16 named or numbered periods can be programmed for times when the facility will not be operating normal hours. Some Holiday names are pre-entered, but the actual dates and times must be set up. Any date and time can be set for any of the named holidays or numbered shut-down periods.

- **Strobe Time:**

  An optional **strobe** may be installed to alert personnel in advance of fog application. These settings define the number of seconds between the strobe's activation and the beginning of fog application. The strobe will be deactivated at the end of the fog application.

---

### Set/Change Auxiliary Cycle

- Password entry press 2 times
- **Enter Admin Password**
- Enter Admin Password
- **XXXX**
- to confirm Password
- **Functions: Set Zone** ♦
- **Set Zone X**
- Enter Zone #
- **Functions: Set Zone**
- Down 3 times — Go to Fnct: Set auxiliary time
- **Functions: Set aux time**
- Enter set auxiliary time

**Zone X** *(zone # entered above)*
**Cycle on   10      Min**
**Cycle off    5      Min**

- Use Numeric key pad to enter times
  (Press Enter to move from 1st to 2nd line)

- **Functions: Set aux time**
- Down 1 – Go to Set Auxiliary Period Times (Details in next column – ◄.)
  OR
- Up 3 times — Go to Function: Set Zone (♦) to select another zone
  OR
- ESC  Exit to Operational Mode

---

### Set/Change Auxiliary Period Times

- Password entry press 2 times
- **Enter Admin Password**
- Enter Admin Password
- **XXXX**
- to confirm Password
- **Functions: Set Zone** ♦
- **Set Zone 1** *(or last set zone)*
- Enter Zone #
- **Functions: Set Zone**
- Down 4 times — Go to Fnct: **Auxiliary Period time**
- **Functions: Aux Period time** ◄
- Enter set Period 1
- **Aux Cycle Period 1**

Arrow Up or Dwn to select Period 1

**Zone X** *(zone # entered above)*
**Start      0000**
**Stop       0000**

- Enter times in 24 Hour time **ONLY**
  (Press Enter to move from 1st to 2nd line)

- **Aux Cycle Period 1**
- Down 1 – Go to Period 2
- **Aux Cycle Period 2**

**Zone X** *(zone # entered above)*
**Start      0000**
**Stop       0000**

- Enter times in 24 Hour time **ONLY**
  (Press Enter to move from 1st to 2nd line)

*Repeat for other Periods or other Zone Periods, as needed.*

- ◄  Back to Functions – OR
- ESC  Exit to Operational Mode

---

### Set/Change Holiday Times

- Password entry press 2 times
- **Enter Admin Password**
- Enter Admin Password
- **XXXX**
- to confirm Password
- **Functions: Set Zone** ♦
- Down 5 times – Go to Functions: Holiday Settings
- **Functions: Holiday settings**
- Enter Set Holidays
- **Set HOLIDAYS New Year's Day**
- Set times, New Year's Day. **Enter all zeros to de-activate this setting.**

(Press Enter to move from number set to number set.)

**START   HH:mm       MM/dd**
**END       HH:mm       MM/dd**

- Enter times in 24 Hour time **ONLY** & Date in U.S. format (Month/Day).

- **Set HOLIDAYS New Year's Day**
- Down 1 – Memorial Day
- **Set HOLIDAYS Memorial Day**
- Set times, Memorial Day

**START   HH:mm       MM.dd**
**STOP     HH:mm       MM.dd**

- Enter times in 24 Hour time **ONLY** & Date in U.S. format (Month/Day).

*Repeat for other 14 Holidays / periods as needed.*
OR

- ◄  Back to Functions – OR
- ESC  Exit to Operational Mode

---

### Set/Change Strobe

- Password entry press 2 times
- **Enter Admin Password**
- Enter Admin Password
- **XXXX**
- to confirm Password
- **Functions: Set Zone** ♦
- **Set Zone 1** *(or last set zone)*
- Enter Zone # for the zone you wish to adjust
- **Functions: Set Zone**
- Down 6 times – Go to Function **Strobe time**
- **Function: Strobe Time**

**Strobe Time           Zone X**
**00      sec         Before**

- Numeric key pad to enter time in seconds
- Return to Functions: Strobe Time
- Down 1 – Go to set Functions: External Eye

*(See next page, item 4 – Optional Photocell for further instructions.)*

- Up to return to other Functions
  OR
- ESC  Exit to Operational Mode

---

## (4) DAYLIGHT SAVINGS TIME SETTINGS

- Default setting is for U.S. time. Follow steps below to change settings.
- To disable DST, enter zero for times and select blank for wk., day, month.

> **For Daylight Savings Time start & stop dates see this web site:**
>
> www.worldtimezone.com/daylight.html

**Daylight Savings Time**

🛈 Password entry press 2 times

**Enter Admin Password**

⬚⬚⬚⬚ Enter Admin Password

**XXXX**

↵ to confirm Password

**Functions: Set Zone**

🔼 Up 4 times – Go to Functions: Daylight Savings Time

**Functions**
**Daylight Savings Time**

↵ to set Daylight Savings Time

**Daylight savings time edit**
**Start xxxx (wk) (---day)**
**        IN        (month)**
**End xxxx   1st   (---day)**
**        IN        (month)**
**Offset   100   HHMM**

🔼 Press 5 to allow editing

⬚⬚⬚⬚ Enter the Start time in 24 Hour time **ONLY**

*(Continued in next column)*

↵ to move to week and day and month. The item to be set will be highlighted in `black`

🔼🔽 Use Up and Down arrows to scroll through options.

**Week:** 1st; 2nd; 3rd; 4th; Last, blank

**Day:** Sunday, Monday, etc., blank

**Month:** January, February, etc., blank

⬚⬚⬚⬚ Enter the End time in 24 Hour time only

↵ to move to week and day and month. The item to be set will be highlighted in `black`

🔼🔽 Use Up and Down arrows to scroll through options as noted above.

⬚⬚⬚⬚ Enter the Offset time in HHMM format to set the time difference between Standard and Daylight times. (One hour = 0100.)

↵ to confirm settings

ESC Exit 1 time — Return to Functions

OR

ESC 2 times — Go to Operational Mode

---

### Safety Notes

> To prevent accidental human exposure to harmful chemical mist the controller's Cycle Time and Days of Week settings are factory set to prevent startup if left unchanged.

- **To set fogging to occur on specified days for only one time period per day when workers are not present:** (Refer to page 2, #2 - "Required Settings for Operation")

1. Follow instructions for "Set/Change Cycle Time by Zone" & go to Cycle on & Cycle off times and verify or reset the Cycle on & Cycle off settings to the following:

2. Set **Cycle on** to 999 seconds      *(This is the factory setting.)*

3. Set **Cycle off** to 00      *(This is the factory setting.)*

4. Follow instructions for "Set/Change Days of Week" and **Set Days of Wk.** when fogging is required

5. For each day selected, set **Time on** to the precise time fogging should begin and set **Time off** to the precise time fogging should end.

- Do NOT place the front rocker switch in the ON position when there is a possibility that people may be present in the fogging zone. (See details at right.)

- **Emergency Zone Shut Down** — Set the zone's rocker switch to OFF.

- **EMERGENCY TOTAL SHUT DOWN** — Press the lower end of the red rocker switch located at the top right of the controller's front cover.

---

## (•) OPERATING INSTRUCTIONS

- **PLC AUTOMATIC OPERATION**

  Once the clock, cycle time and days of the week have been set up for **each zone**, the system is operational.

- **PLC TIMED MANUAL OPERATION**

  To allow for fogging application for special circumstances during times when the system is programmed to be idle, the unit can be activated in Manual Mode for a specified period of time via the control functions. Activating Manual Mode will override Standby and Holiday Modes without changing the pre-set parameters and will produce fog according to the parameters set for the CYCLE TIME in step 2 of the set up instructions. This will continue for the specified Manual Mode time period and the unit will then revert to whichever mode it would normally be in at that time of the day or day of the week.

  The User Password enables access to set the unit to Manual Mode and to specify the time period that the unit will stay in Manual Mode in 30 minute increments.

**Set / End Manual Mode**

🛈 Password entry press ONE time

**Enter USER Password**

⬚⬚⬚⬚ Enter USER Password

**XXXX**

↵ to confirm Password

*(Depending on the day or the time of day, one of the three following messages will appear.)*

| MANUAL | Zone x |
| --- | --- |
| AUTO | |
| Manual time | 00:00 |

| MANUAL | Zone x |
| --- | --- |
| Standby | |
| Manual time | 00:00 |

| MANUAL | Zone x |
| --- | --- |
| Holiday | |
| Manual time | 00:00 |

The number for the Zone designation will be blinking. Enter the number for the Zone you wish to manually control.

↵ to confirm the Zone number

🔼 Up to increase time in 30-minute increments

🔽 Down to decrease time in 30-minute increments

*(To end Manual Mode, decrease the time to zero.)*

▶ Forward Arrow to set Manual Mode time.

*The second line of the display will change to "Manual Mode" to confirm manual activation.*

| MANUAL | Zone x |
| --- | --- |
| Manual Mode | |
| Manual time | 00:00 |

ESC Exit to Operational Mode

To set manual control for additional zones, repeat the steps shown above, entering a different zone number each time.

*To end Manual Mode, follow details above and decrease the Manual Mode time to zero.*

---

## TO FOG:

- Select the AUTO setting with the rocker switch on the front of the controller. *(See details below.)*

- Caution: The ON setting overrides all AUTO timer settings, and fogging does not stop until the switch is set to AUTO or OFF.

**Controller Rocker Switch Settings**

*ON – Press here: Fogging is immediate and constant; Green LED illuminates & red LED is off*

*Green LED illuminates anytime fogging is active*

*OFF – Set switch to mid-point; both red and green LED are dark*

*AUTO – Press here: Fogging activates according to your settings; Red LED stays on; Green LED illuminates only while fogging is active*