



# Commercial Products Group

## COMMERCIAL DISPOSER CONTROL CENTER Installation Manual Model AS-101K



Warnings alert you to hazards or unsafe practices which could result in severe personal injury or death.



Cautions alert you to hazards or unsafe practices which could result in personal injury or property damage.

Please be certain that the person who installs or uses this appliance carefully reads and understands the Safety Instructions contained in this manual.

Part No. 14177 - March, 1999

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# FEATURES

## INTRODUCTION

The AS-101 K Control Center is UL listed for use with ISE Commercial Food Waste Disposers. See Table 1 for approved disposer and control center combinations. The control center operates the commercial disposer. Its main functions are:

- To start and stop the disposer.
- To reverse the direction of the disposer motor automatically upon restart.
- To start the water flow to the disposer.
- To regulate the amount of water needed for operation.
- To allow water flow for several minutes to flush the drain line after the disposer is turned off.

TABLE 1. Approved Disposer and Control Center Combinations

Model	Waste Disposer Model
AS-101J-1 AS-101J-2	SS50-26, SS75-27, SS100-28, SS125-25, SS150-34, SS150-38, SS200-27, SS200-31
AS-101J-3 AS-101J-4	SS50-27, SS75-28, SS100-29, SS125-26, SS150-36, SS150-39, SS200-29, SS200-32, SS300-25, SS300-27, SS500-28, SS500-30 SS750-13, SS750-15, SS1000-10, SS1000-12

The control center models and specifications are shown in Table 2

TABLE 2. Electrical Specifications

Model	Voltage	Phase	hp
AS-101K-1	120V	10	1/2-2
AS-101K-2	208-240V	10	1/2-2
AS-101K-3	208-240V	30	1/2-10
AS-101K-4	380-460V	30	1/2 - 10

## FEATURES

### AUTOMATIC REVERSE

The disposer motor will reverse its direction of rotation automatically upon restart. To avoid motor damage, a five second delay feature prevents reversing while the motor is coasting.

### WATER SHUTOFF DELAY (POST FLUSH)

After the motor is turned off, the water continues to flow for up to 10 minutes. The length of this post flush is controlled by the water shutoff delay timer. The post flush helps ensure that und food waste is flushed out of the drain line. Adjust water delay as described in the operating instructions on **page 6**.

### AUTOMATIC WATER REGULATION

This acts as an on-demand water saving system for ISE Commercial Food Waste Disposers. It senses the load of the disposer, and regulates the amount of water necessary for grinding and non-grinding situations. (Uses two solenoid valves.)

**NOTE:** When the disposer is first turned on, both solenoids will operate. After the set time has expired, the flow to the disposer will slow to one (1) gallon per minute if there is no food waste present in the grinding chamber.

### AUTOMATIC TIMED DISPOSER SHUTOFF

This water saving feature allows the disposer to run for up to 10 minutes before it automatically shuts off and must be manually restarted.

**NOTE:** This feature is set in the off position at the factory. To activate the automatic timed disposer shutoff, disconnect the electric power to the control center, then open the control center door. Locate the shutoff plug at the top of the circuit board (See page 6, Figure 7). Move the plug from manual (MAN) pins to automatic (AUTO) pins. The disposer now automatically shuts off 10 minutes after it starts.

### EXTERNAL REMOTE CONTROL

One or more remote controls may be connected to the control center. These enable the operator to start or stop the disposer from any control station. A 24 V control circuit provides low voltage push button operation.

### ELECTRIC DISCONNECT SWITCH

The lever switch on the front panel of the control center disconnects line voltage. It interlocks with the front cover so that the cover cannot be opened unless the switch is in off position.

### LOW VOLTAGE CONTROL

Controls operate on a 24 V solid state control circuit.

### ENCLOSURE

Stainless steel NEMA 4 construction.

### PUSH BUTTON OPERATION

Push black button to start disposer. Push red button to stop disposer.

## MOUNTING THE CONTROL CENTER/PLUMBING CONNECTIONS

### MOUNTING THE CONTROL CENTER

Use flanges at the back of the control center enclosure and only mount panel in the upright vertical position (door hinge is on the left). See Figure 1.

Locate control center within sight of disposer per local codes. Locate any remote control station within sight of disposer per local codes.

If box is mounted to the sink table, recess the box so that the buttons do not extend beyond the table's edge.

### PLUMBING CONNECTIONS

Two solenoid valves and one (1) GPM flow control valve are packed with the control center. The (X) GPM flow control valve and syphon breaker are supplied with all complete disposer packages (packed separately).

The solenoid valve is supplied with a 24 V coil. Make certain that the valves are plumbed according to water flow direction arrows marked on valves or the valves will not function properly.

The flow control valve regulates all water flowing into the disposer. This conserves water and prevents overloading. Check direction of water flow arrows.

A syphon breaker must be installed above the sink flood plane per local plumbing codes. Check direction of water flow arrows.

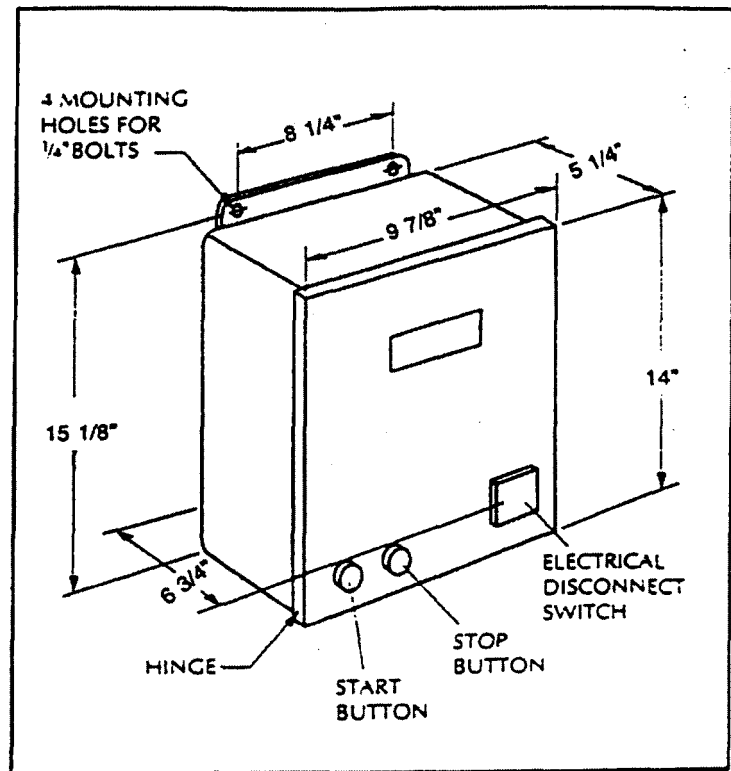


FIGURE 1. Control center dimensions

*NOTE: The AS-101 K control center requires the use of two (2) solenoid valves and (2) flow control valves. Figure 2 shows the recommended installation for an AS101K control center.*

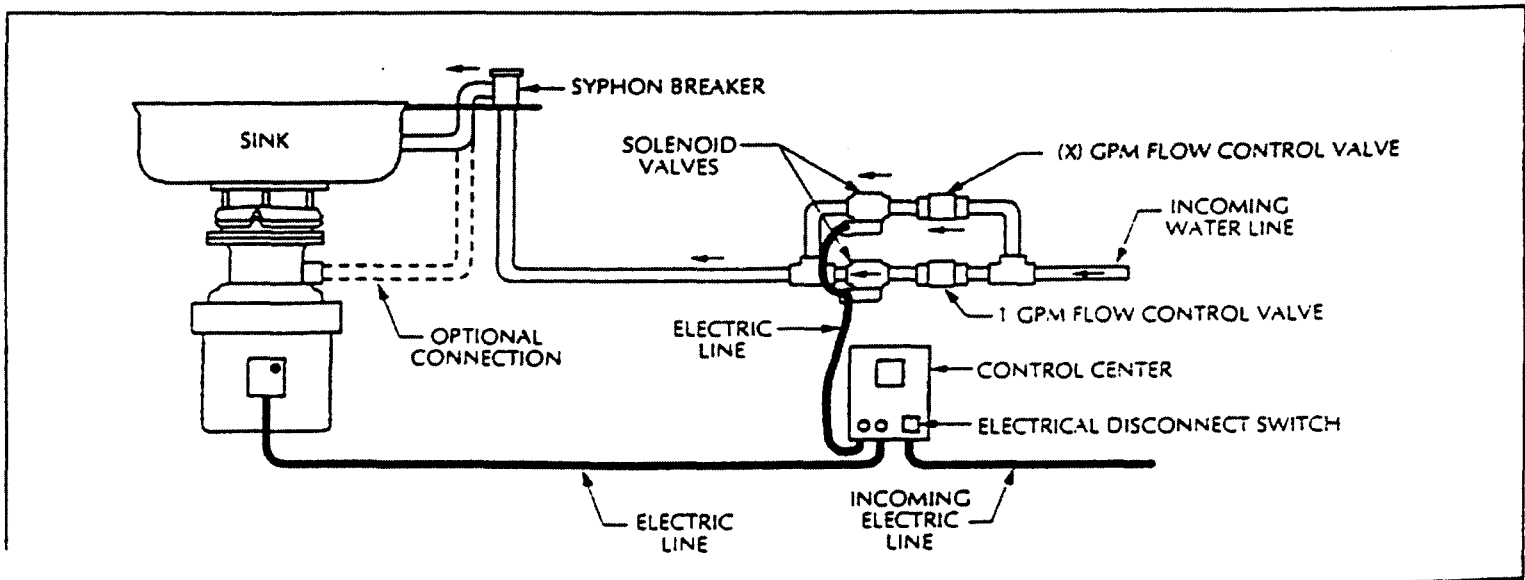


Figure 2. Typical Installation Diagram

# ELECTRICAL CONNECTIONS



## WARNING

### ELECTRICAL SHOCK

- Turn off the electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that the power is off.
- All installation work must conform to local plumbing and electrical codes.
- All control centers and disposers must be carefully and permanently grounded.
- A properly fused disconnect must be installed at the electrical supply source for the control center.
- The control center's door disconnect must be in the off position before the panel door can be opened. Power is still present at the disconnect until power is turned off at the electrical supply source.

## ELECTRICAL CONNECTIONS

### LINE VOLTAGE

connect the incoming line power to the electrical disconnect - switch and connect the disposer motor to labeled terminal blocks in the control center. Use appropriate voltage and phase electrical connection diagram, Figures 3, 4 or 5. A wiring diagram is also located on the inside door of the control center. Wire the disposer motor for correct voltage using the connection diagram inside the motor terminal box.

### LOW VOLTAGE

The AS-101K control center uses low voltage (24 V) to operate contractor coils, solid state control circuit, push buttons and solenoid valves. Red wires denote a 24 V circuit.



## CAUTION

### PROPERTY DAMAGE

- Ensure that control center voltage and phase match the disposer motor and electrical supply. Check name plates on disposer and control centers for voltage and phase specifications.
- Refer to the control center wiring diagrams in this manual for correct connection.
- Use NEMA 4 watertight electrical connectors (not supplied) when making electrical connections to the control center.

FIGURE 3. Incoming 120 V 1Ø line power

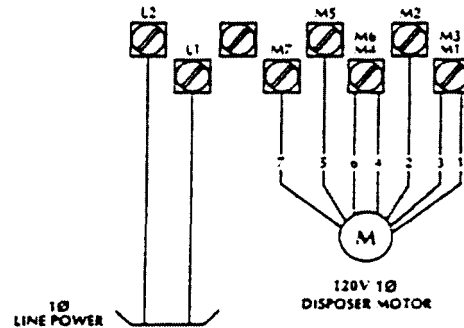


FIGURE 4. Incoming 208-240 V 1Ø line power

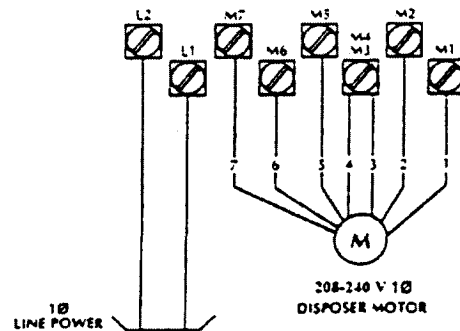
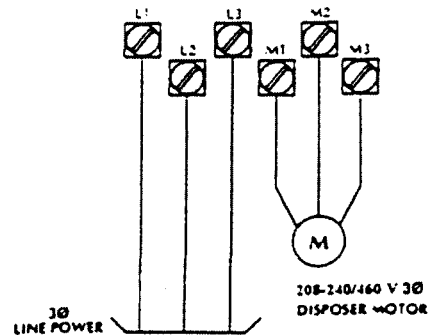


FIGURE 5. Incoming 208-240/460 V 3Ø line power



# ELECTRICAL CONNECTIONS

## REMOTE CONTROL STATION

Any number of remote control stations can be used. Mount remote controls within sight of the disposer per local codes. Refer to Figure 6. Remove jumper wire when using remote control stations.

## WATER SOLENOID VALVE

Two (2) 24 V solenoid valves are supplied with all control centers. Connect one (1) 24 V solenoid valve (in line with the 1 GPM flow control) to terminal 4 and 13, connect the other 24 V solenoid valve (in line with the (X) QPM flow control) to terminal 4 and 14. See Figure 6.

Wire per local electrical code using 7/8" diameter holes in bottom of control center cabinet and install NEMA 4 watertight electrical connectors.

After completing the connections, replace all terminal block shields, close door and fasten all locking clamps. Replace disposer motor cover. Turn on power.

Please read the disposer operating instructions and train your personnel before operating the disposer. The operating instructions include:

- Disposer operation.
- How to restart the disposer after a jam condition.

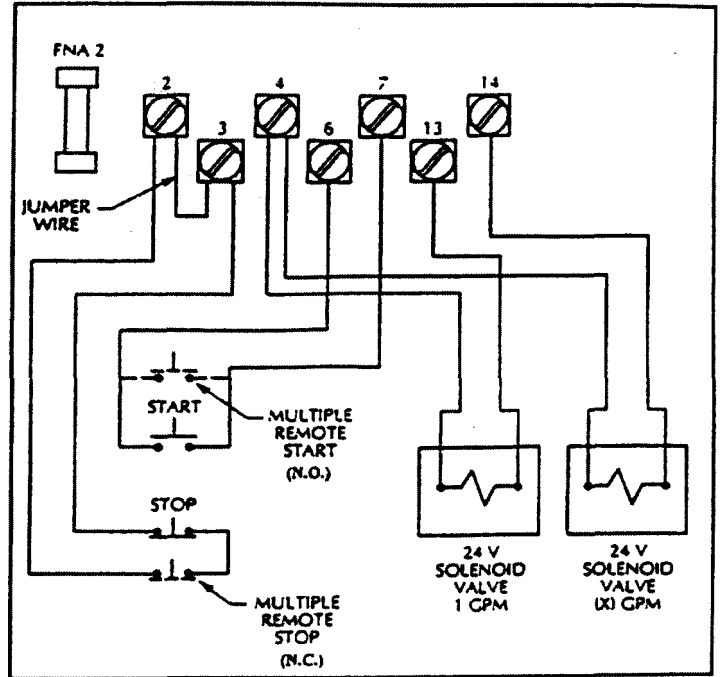


FIGURE 6. All control circuits 24 V



## WARNING

### PERSONAL INJURY

- Allow only trained personnel to operate the disposer.
- Use baffles and guarding to avoid splashing and ejection of materials.
- Do not put fingers or hands into the disposer.
- When attempting to remove objects from a disposer, use long-handled tongs or pliers.
- Turn power off before clearing a jam, removing an object from the disposer or pressing the red reset button. See Troubleshooting, **page 7**.
- Disconnect electricity before adjusting set points.

# OPERATING INSTRUCTIONS/AQUA-SAVER ADJUSTMENT

## OPERATING INSTRUCTIONS

### TO START

1. Check to ensure disposer is free from foreign objects.
2. Ensure power is on.
3. Push start button. Disposer motor will run, and water will flow into the disposer.
4. Water flow will decrease to 1 GPM approximately 30 seconds after initial start-up if no load is present in disposer.

### TO STOP

1. Push stop button. Disposer motor will stop.
2. Water will continue to flow into disposer for 30 seconds to 10 minutes, per the time set on the water shutoff delay timer.

**Note:** This post-flush clears the drain lines of food waste.

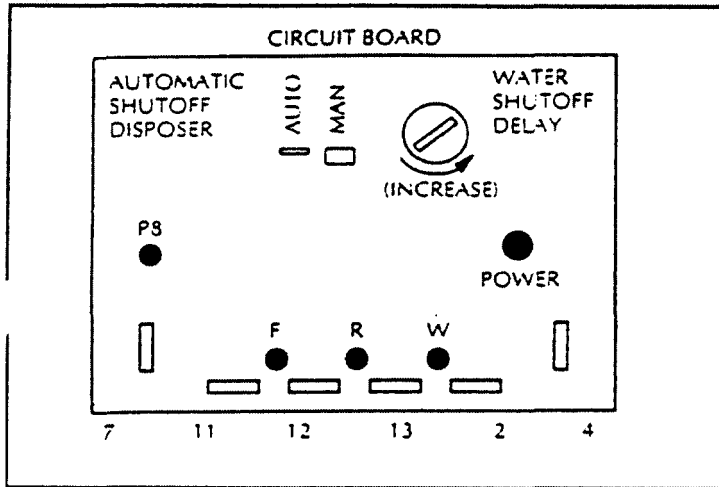


FIGURE 7. Circuit board with water shutoff delay.

### WATER SHUTOFF DELAY ADJUSTMENT

The water shutoff delay is adjustable from 30 seconds to 10 minutes. See Figure 7.



### WARNING

#### PERSONAL INJURY

To adjust the water shutoff delay, disconnect the electrical power to the control panel and open the control center door.

Locate the water shutoff delay at the top of the printed circuit board in AS-101 K. Use a small screwdriver to turn the control counterclockwise to increase the shutoff time and clockwise to decrease it. The water shutoff delay is factory set at three minutes.

## AQUA-SAVER ADJUSTMENT



### WARNING

#### ELECTRICAL SHOCK

- Line voltage is present at terminals during adjustment
- Adjustment to be made by professional electrician only.

### CURRENT SENSING CONTROL SET-UP

See Figure 8.

1. Adjust the trip delay to mid-setting. This adjusts the length of time the water runs at full flow after grinding is completed. Mid-setting is approximately 15 seconds.
2. With the disposer running but not grinding:
  - a. Adjust the trip point control to maximum position. Water to the disposer should be at slow flow.
  - b. Turn the trip point control counterclockwise until the red fault light comes on. Water flow should increase.
  - c. Turn the trip point control clockwise just until the red fault light goes out. This is the set point.

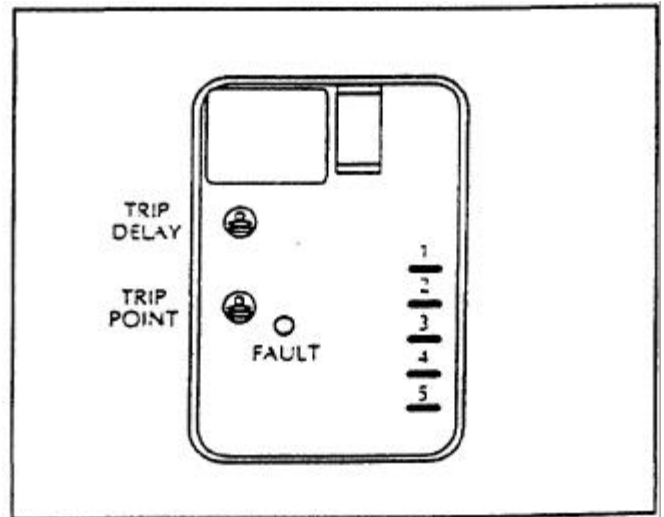


FIGURE 8. Current sensing control set-up

# TROUBLESHOOTING

## TROUBLESHOOTING



### WARNING

#### ELECTRICAL SHOCK/PROPERTY DAMAGE

- Troubleshooting other than what is recommended in this section should only be performed by qualified service personnel.
- Further troubleshooting performed by untrained personnel could result in electric shock or damage to the control center.
- All electrical checks must be performed by a qualified professional.

This control center was inspected and tested under operating conditions before shipment from the factory. In case of trouble check the items listed below.

A. Disposer motor will not start and water does not flow/low water flow.

1. No incoming line power. Turn line power on.
2. Electric disconnect switch is not ON. Turn electric disconnect to ON position.
3. Control circuit fuse FNA2 is blown. Replace fuse.



### CAUTION

#### PROPERTY DAMAGE

Use only an FNA2 replacement fuse. Using another replacement fuse will result in product damage.

B. Disposer motor stops while grinding but water continues to flow.

1. Control center wired for automatic shut-off. Repress start button. If disposer runs for 10 minutes then shuts off, the automatic shutoff is active. If the manual setting is desired, change as indicated in the feature section.
2. Disposer is jammed. Press stop button and follow directions for unjamming supplied with the disposer.
3. Disposer motor overload protector has tripped. Follow instructions in C1.



### WARNING

#### PERSONAL INJURY

- \* Do not put fingers or hands in the disposer.
- When attempting to remove objects from a disposer, use long handled tongs or pliers.
- Turn power off before clearing a jam, removing an object from the disposer, or pressing the red reset button,
- Disconnect electricity before adjusting.

C. Disposer will not start but water flows.

1. Overload protector on the disposer may have tripped. Press stop button. Locate red reset button on front of the disposer electrical cover. Press to reset. If motor had been running, wait five minutes for the motor and overload to cool down.
2. Disposer jammed. Press stop button and follow directions for unjamming supplied with disposer.

D. Water flows constantly before start button is pushed.

1. Water solenoid valve is installed backward. Water flow should be in direction of arrow on valve.

E. Water flow does not decrease to 1 GPM.

1. Incorrect solenoid valve combination connection see Water Solenoid Valve, page 5.
2. Incorrect trip point adjustment see Current Sensing Control Setup, page 6.
3. Food load is present in disposer.

F. Water flow does not increase.

1. Incorrect trip point see Current Sensing Control Setup, page 6.
2. Insufficient food load is present.

G. Overload trips frequently.

1. Do not over feed disposer with excess amounts of garbage and water.

If trouble still persists, call your nearest ISE Authorized Service Agency. For the locations of your nearest service agency, call toll free 1-800-558-5700.



# Schematic Wiring Diagram - Model AS101K 120v 1Ø 1/2-2hp



## WARNING

### ELECTRICAL SHOCK

- Turn off all electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that power is off.
- Installation must conform to local electrical codes.
- All control centers and disposers must be carefully and permanently grounded.
- A properly fused disconnect must be installed at the electrical supply source for the control center.

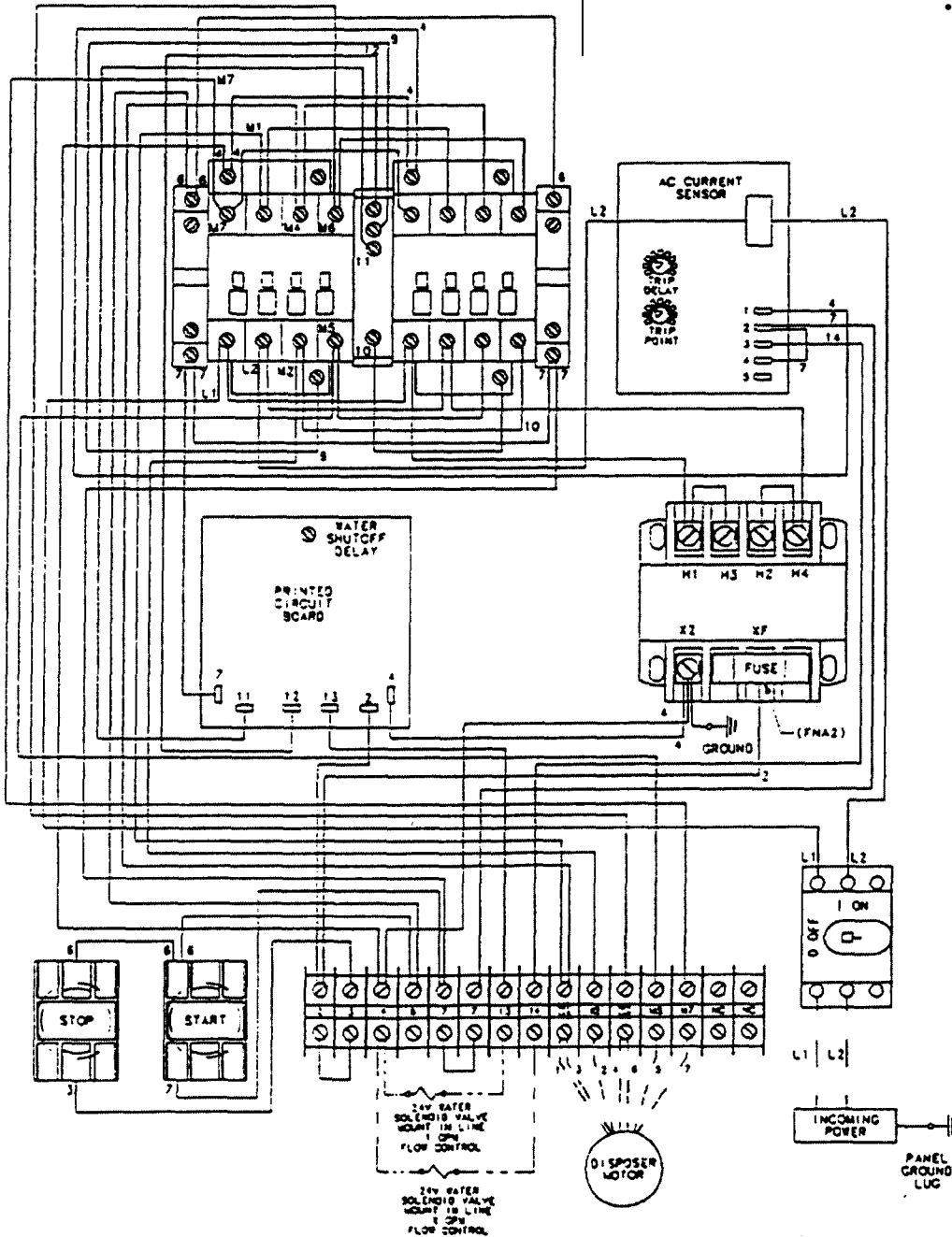


## CAUTION

### PROPERTY DAMAGE

- Ensure that the control center voltage and phase match the disposer motor and electrical supply. Check nameplates on disposers and control centers for voltage and phase specification.
- The disposer motor wiring connection is shown in the disposer terminal box.

Note: • Red wires - Low voltage (24 v) control  
 • Black wires - Line voltage (120v) control



# Schematic Wiring Diagram - Model AS101K 208-240v 1Ø 1/2-2hp



## WARNING

### ELECTRICAL SHOCK

- Turn off all electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that power is off.
  - Installation must conform to local electrical codes.
  - All control centers and disposers must be carefully and permanently grounded.
- \* A properly fused disconnect must be installed at the electrical supply source for the control center.

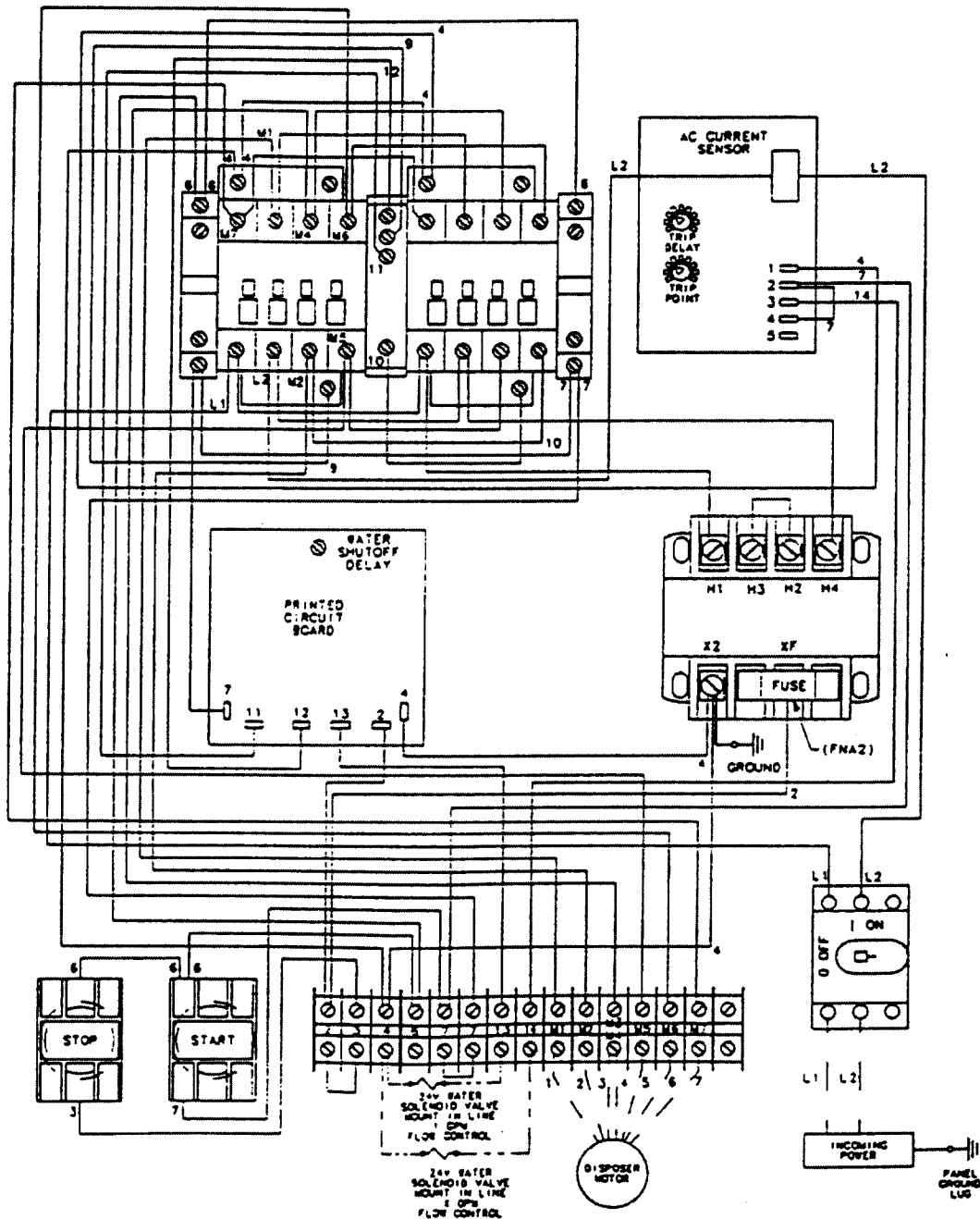


## CAUTION

### PROPERTY DAMAGE

- Ensure that the control center voltage and phase match the disposer motor and electrical supply. Check name-plates on disposers and control centers for voltage and phase specification.
- The disposer motor wiring connection is shown in the disposer terminal box.

Note: • Red wires - Low voltage (24 v) control • Black wires - Line voltage (208-240v) control



# Schematic Wiring Diagram - Model AS101K 208-240v 30 1/2-10hp



## WARNING

### ELECTRICAL SHOCK

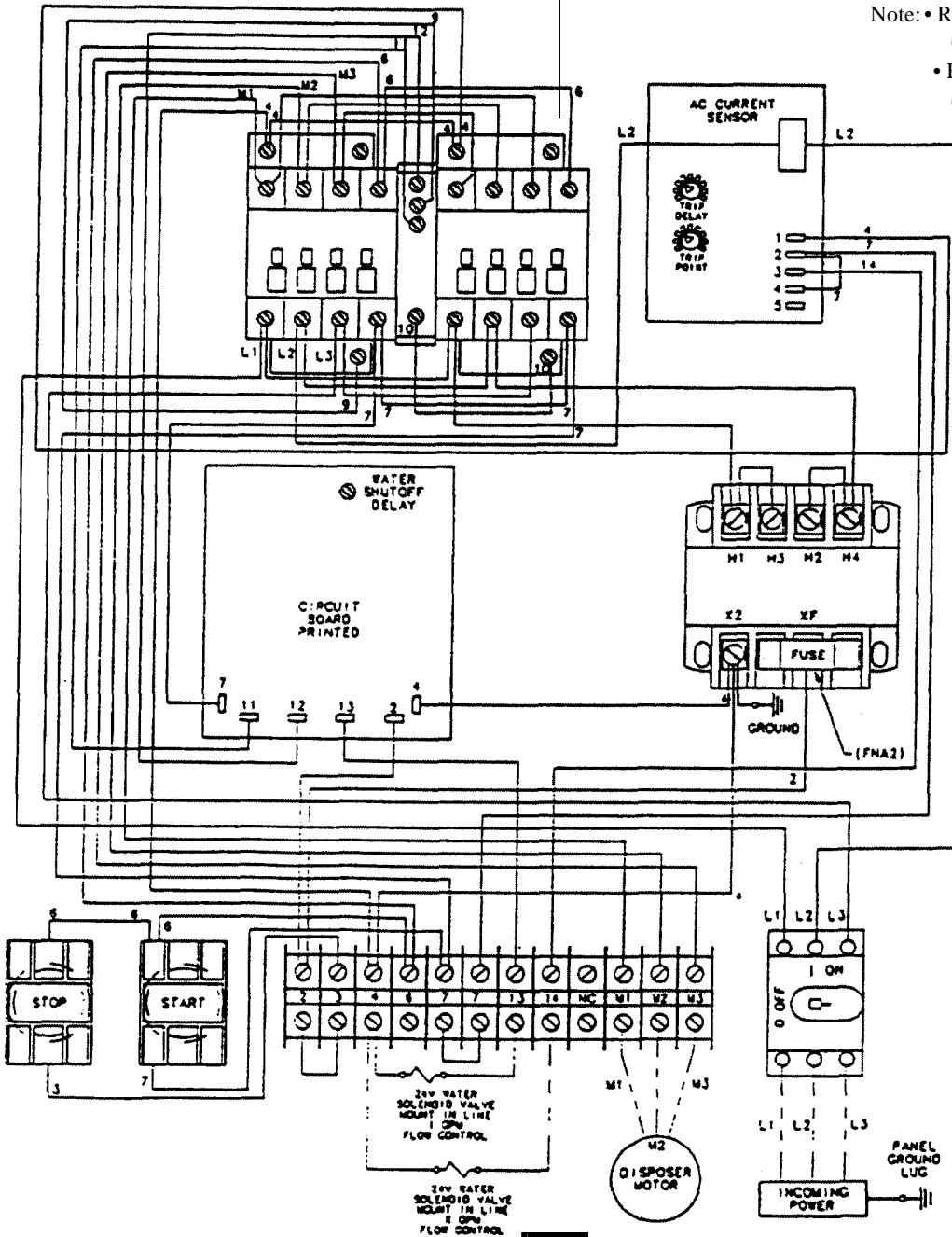
- Turn off all electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that power is off.
- Installation must conform to local electrical codes.
- All control centers and disposers must be carefully and permanently grounded.
- A properly fused disconnect must be installed at the electrical supply source for the control center.



## CAUTION

### PROPERTY DAMAGE

- Ensure that the control center voltage and phase match the disposer motor and electrical supply. Check nameplates on disposers and control centers for voltage and phase specification.
- The disposer motor wiring connection is shown in the disposer terminal box.



Note: • Red wires - Low voltage (24 v) control  
 • Black wires - Line voltage (208-240V) control