

MicroVend™
Countertop Keeper
AIS OPERATION
AND SERVICE
MANUAL

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PUBLICATION NOTICE

L0187, Revision C, ECN 3913 01/31/17

It is our intent to assist our customers with up-to-date documentation: however, this manual may not contain all updates and is subject to revision without notice. Please contact our Service Department with your requests or comments.

1.0 INTRODUCTION

Congratulations on the purchase of your new AIS Sensit 3 vendor. All Sensit 3 models are versatile, high-capacity vending machines. AIS machines are designed, tested, and built to provide years of reliable, low-maintenance service in an indoor environment. Flexible product configuration is just one of the many features built into every AIS merchandiser.

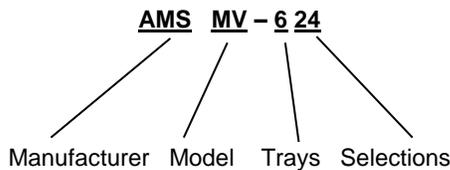
1.1 MODEL IDENTIFICATION

When requesting service, replacement parts or technical assistance, please copy the information found on the vendor Serial Plate (Refer to Figure 1.1). It is attached inside the door near the upper right corner of the window and is visible from the outside. The information contained on this plate is necessary to determine what parts, kits, or maintenance should be applied to your specific model.



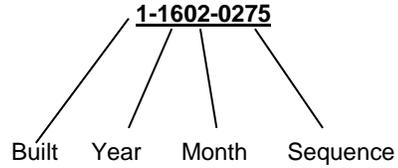
Figure 1.1 Typical Serial Plate

Model Number Breakdown (Refer to Figure 1.1)



Example: AMS MV-624 means it is an Automated Inventory Systems vendor, MicroVend, with 6 trays and 24 columns available for different products.

Serial Numbering System (Refer to Figure 1.1)



On all AIS serial numbers, the first digit identifies where a merchandiser was manufactured. Those merchandisers built in the U.S. start with the number 1. Those merchandisers built in Mexico start with the number 2.

The next two digits identify the year of manufacture. These numbers are 16 (for 2016) and so forth.

The next two digits identify the month. The first month of the year is 01 and the last month is 12.

The last four digits identify the number assigned to each merchandiser during assembly. Numbering starts with 0000 and continues through 9999, whereupon these four digits start over.

An example of the numbering system in use is as follows:

1-1602-1156

This merchandiser was manufactured at the Kearneysville, W.V. plant in 2016, in February, and was the 1156th merchandiser manufactured.

1.2 GENERAL SPECIFICATIONS

Operating Environment

AIS vendors are designed for indoor use only. Indoor temperatures must be between 35°F (1°C) and 110°F (43°C). The vendor should not be located in an area where it may be subjected to a water jet or rain.

Cabinet Physical Dimensions:

Model MicroVend (Refer to Figure 1.2)

22-1/4"W x 40-1/4"H x 24-7/8"D
(56.6 cm x 102.3 cm x 63.2 cm)

1.3.3 Cabinet Weight:

180 lbs. (72.6 kg)

Unit Capacity:

Up to 552 Units depending on configuration.

L0187 Rev. C

(6 trays, 4 columns, 23/helix)

Power Requirements:

United States,
Canada and Mexico:
115 VAC, 60 Hz, 3 Amps

International:
230 VAC, 50/60 Hz, 1.6 Amps

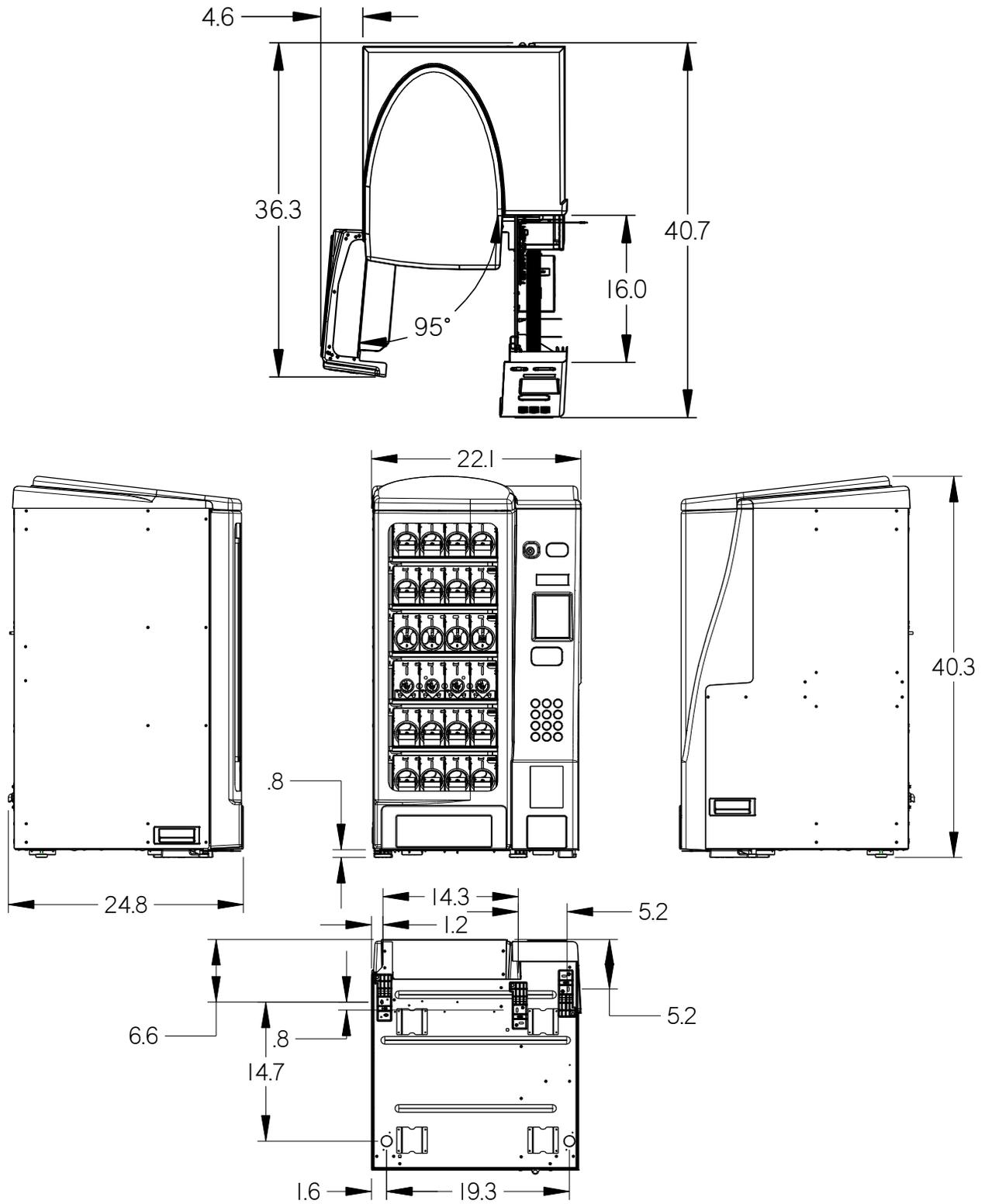


Figure 1.2 Cabinet Dimensions
(For reference only)

1.3 Merchandiser Configurations

7	7	7	7
7	7	7	7
7	7	7	7
7	7	7	7
7	7	7	7
7cw7		7cw7	

The above drawing shows a typical configuration used in a MicroVend model vendor.

The top tray in the above example contains 4 columns, formed by the placement of dividers, with motors and large diameter helices in place.

The pitch of the helices (the number of slots for loading product) is given by the number.

All of the top tray helices shown above are 7 pitch. The configuration on this tray can hold $7 \times 4 = 28$ products.

All trays can be configured in this or another configuration, depending on the products being vended.

Products which fit in the 10 pitch helix may be too large to fit in the 15 pitch helix. The product must be free to be pushed out of the column by the helix, and fall into the hopper.

A working configuration is one column with a given helix (or dual helices) to vend a given product. A record of working product configurations, as shown in the example diagram, will greatly speed up new set-ups and duplicate vendors.

With Sensit 3, extra wide product can be vended by 'coupling' two motors.

1. Form a column between dividers, wide enough for the product. When viewed from the front of the tray, install a clockwise (CW) motor and helix on the right side of the column, and a counter-clockwise (CCW) motor and helix on the left side of the column. Note that all normal or standard motors and helices turn CCW to vend

product. The motors can be any distance apart. The helices must be of the same pitch.

2. Using the configuration menu, couple the two motors together. See Section 6.7.
3. Install the product into the two helices and test vend. Change the selection and price on the tray.

When this product is selected, the two helices will turn at the same rate to vend the product.

The bottom tray shown in the above example contains two columns with small diameter, *coupled* helices. The pitch is 7 for all columns, so the configuration on this tray can hold $7 \times 2 = 14$ products.

Patent Disclosure

This vendor and/or certain of its components are covered by one or more of the following U.S. and International patents;

U.S.	6,145,699 6,520,373
Mexico	230,714

2.0 SAFETY

2.1 COMMITMENT TO SAFETY

Automated Inventory Systems Inc. is committed to designing and producing a safe product. As with all electrical or mechanical pieces of equipment, some potential hazards exist. It is the intent of Automated Inventory Systems, through this manual and service technician training, to alert individuals who will be servicing our equipment to these potential hazards, and to provide basic safety guidelines.

To reduce the risk of serious injury or death, please read and follow all warnings in this manual. It is important that we point out that these warnings are not comprehensive. Automated Inventory Systems cannot possibly anticipate all of the ways that service may be conducted, or all of the possible safety hazards that may result from service. Therefore at all times we urge you to beware of hazards such as electrical shock, mechanical entrapment, and tipping a vendor during movement.

Automated Inventory Systems strongly recommends a commitment to safety on the part of all servicing personnel or organizations. Only personnel properly trained in vendor servicing should attempt any service to the internal components of the vendor. Automated Inventory Systems has no control over the vendor once it leaves our factory. **Maintaining the vendor in a safe condition is the sole responsibility of the owner.**

If you have questions concerning safety or service, or would like more information, please contact the Automated Inventory Systems Service Department at 304-725-6921 or e-mail info@AISvendors.com.

2.2 SAFETY PRECAUTIONS

Below are listed safety precautions and safe practices to follow to avoid injury from selected hazards. This list cannot possibly cover all hazards, therefore please remember to

++ THINK SAFETY FIRST! ++

High Voltage Contact

Each vendor is designed to operate on a specific voltage, either single phase 115VAC 60Hz or 220-240VAC 50-60Hz, depending on the country. The voltage is specified on the serial plate (Refer to Section 1.1 Model Identification). High voltage areas include the electrical panel. It is important to

understand that contact with the high voltage wiring can result in injury or death.

1. Always test the outlet for proper voltage, polarity and grounding before plugging in the vendor.
2. Always disconnect power to the vendor before servicing. Allow only fully trained service technicians to service the vendor if service must be performed with the power on.
3. Always keep electrical connections dry. Do not place the vendor in or near standing water.
4. Never use a worn or damaged power cord.

Grounding

Some electrical components have a green or green/yellow ground wire attached to a grounding point in the vendor. If it becomes necessary to remove a ground wire during service, note how the wire is attached, including the locations of any washers. After servicing, make sure that the wires and washers are replaced exactly as they were. Note that the vendor may appear to work normally without the ground wires, but there will be a potential shock hazard from ungrounded components.

1. Always test the outlet for proper grounding before plugging in the vendor.
2. Always reconnect ground wires after servicing.
3. Test the ground fault circuit interrupter (GFCI) periodically to insure proper operation. See section 8.6

Helix Motion and Jamming

Energized vend motors can turn a helix with considerable torque, creating a possible entrapment hazard. Also, turning helices may eject tools or other objects left on trays. A helix that is jammed or caught can store energy as it binds, which can cause it to twist or spring outward suddenly even if power is disconnected. Use gloves and caution when freeing a jammed helix.

1. Always disconnect power to the vendor or control board before servicing the vend motors.
2. Always check for proper fit when loading products in helices to avoid jamming.
3. Always restrain the helix before freeing a jammed or caught helix.

4. Always wear hand and eye protection when servicing the vendor.
5. Always keep hands, hair, loose clothing and tools away from moving parts.

6. Always lift the vendor from its designated hand holds. See Figure 4.1 in Section 4.3. Never lift the vendor from the door or escutcheon. Note that the specification weight listed is *empty* weight.

Vendor Tipping

The weight of an empty vendor is over 150 pounds! A falling vendor can cause serious injury or death. Caution should always be taken to avoid dropping or tipping a vendor.

AIS strongly recommends bolting the vendor to its mounting platform as described in Par. 1 below.

1. Never rock or tip the vendor. It must be kept horizontal for safe operation. The vendor has two square cutouts for mounting the vendor to the counter (See Figure 2.1). These cutouts are for two ¼-20 carriage bolts. Remove the lowest tray to gain access to these cutouts. It is strongly advised to bolt the vendor to the counter if vending heavy product.
2. Never place the vendor in an inclined position, such as on a ramp or with all the legs not on the same horizontal surface.
3. Never place the vendor in a moving environment such as on a ship without properly securing it in place.
4. Never place the vendor in a location where it may be struck by a vehicle.
5. Never transport an unsecured vendor, or a vendor still containing product

Other Improper Conditions

Hazardous conditions can be created by improper use or service of the vendor.

WARNING: Do not use electrical appliances inside the vendor unless recommended by AIS.

1. Always reinstall any parts removed during service to their original locations.
2. Never make unauthorized modifications to any part of the vendor.
3. Always replace components that are worn, broken, or otherwise unfit for use.
4. Never use unauthorized parts, or use parts for anything other than their intended application.

Ground Fault Circuit Interrupter

This merchandiser is equipped with a Ground Fault Circuit Interrupter (GFCI), in compliance with UL 943, as required by ANSI/UL 751.

2.3 TEST STANDARDS

AIS vending machines bearing the ETL mark have been tested and comply with the following standards:

Standard for Safety for Vending Machines ANSI/UL 751 and the Standard for Vending Machines, Consumer and Commercial Products (CAN/CSA C22.2 No. 128

Additional Standards-
Certain models comply with the following:

Americans with Disabilities Act
See Section 4.3.

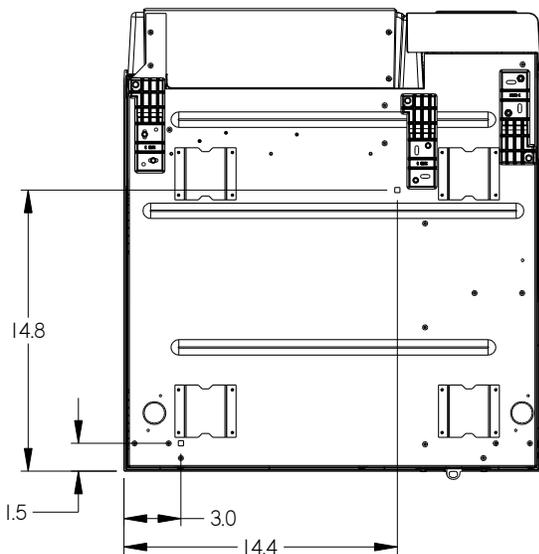


Figure 2.1 Locations of Anchor Cutouts

3.0 VENDOR SYSTEMS AND COMPONENTS

3.1 CONTROL BOARD

The control board controls and monitors the vendor, DEX, and MDB systems. The control board is located on the escutcheon control cassette.

Upgrading Software

The software can be upgraded by using a micro SD card. The card and card readers are available at Office supply chains or on the internet. Minimum capacity of 512Mb is adequate. See Section 8.1.

Mode Switch

Pressing the yellow service mode button (Refer to Figure 3.1) allows the user to get in to the controller's service mode to change settings, access vend data, and check error codes for troubleshooting. Data is displayed on the front display panel, and entered at the front selection panel. Pressing the switch again, closing the door, or waiting approximately 3 minutes will automatically switch the computer back to vend mode.

DEX Jack

The DEX jack (Refer to Figure 3.1) is provided for use with external features, such as Speech (Refer to Section 6.9). Data collection with third party devices can also be made here.

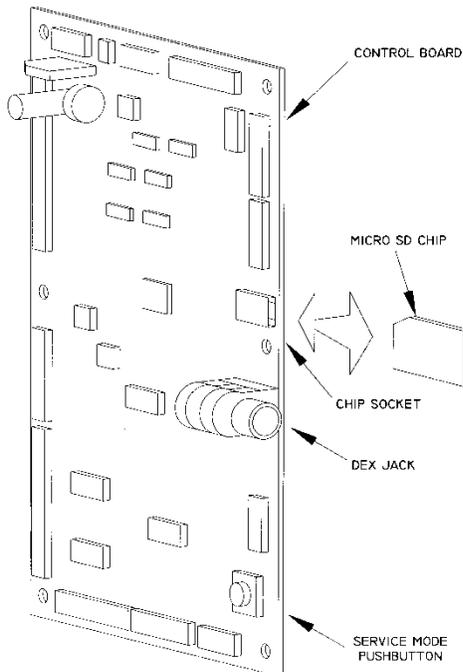


Figure 3.1 Control Board Components

3.2 ESCUTCHEON CONTROL CASSETTE

Card Reader Locations

There are two locations that will accept card and barcode readers. One location is under the display and the other is under the keypad.

Door Switch

The door switch is mounted at the back of the escutcheon control cassette. The control uses the door switch to switch from service mode to vend mode when the door is closed.

Display

The display is located on the front of the escutcheon. It serves as the interface for using and programming the machine. In service mode, it displays the active function and parameter values. In vend mode it can display the selection entered. When the machine is idle it can display the time and a customizable scrolling message.

When the asterisk key (*) is pressed, the display shows other machine details. One of the highlighted characters listed below will be shown in the lower right corner of the display.

- = Chiller off due to open door
- V = Chiller off due to low voltage
- D = Chiller off due to defrost timer
- P = Chiller off due to pressure timer
- % = Chiller can run, subject to temperature, set-point and EnergySENSIT

The number displayed before the % sign indicates the % of time the compressor has been running in the previous 4 hours. This is a moving average, and changes throughout the day.

If there are multiple reasons for a chiller to not be running, the display will show the foremost reason listed (i.e., door open takes precedence over low voltage). Because this model is not equipped with a chiller unit, this information can be ignored.

Keypad

The keypad is located below the display on the front of the escutcheon. A vending selection is made by keying in the number combination that corresponds to the location of an item in the machine. The keypad is also used to enter data in operation and servicing of the vendor.

Laser Barcode Scanner Option

The optional laser scanner is mounted in the lower card reader location underneath the keypad.

The scanner will read bar codes and send the account information to the server for processing.

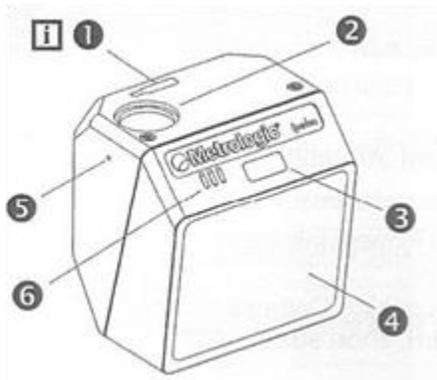


FIGURE 3.2 Barcode Scanner

Item 1 is not used.

Item 2 is for the connector to the control board.

Item 3 are LED indicators, which provide information on scanner status and activity.

Item 4 is the scanner window. The item with the barcode to be scanned should not be pressed against the window – a space of several inches will work.

The window may need cleaning on occasion. Dampen a cloth with glass cleaner and wipe the window clean. The scanner does not require any other maintenance. If the scanner fails it must be replaced.

Item 5 is a small opening for the connector socket release.

Item 6 is a small speaker for sound.

Magnetic Card Reader Option

The optional magnetic card reader is mounted in one of the card reader locations.

The card reader will read magnetic codes on the card and send the account information to the server for processing.

The card reader has a slot thru which the card is passed. The cards should have the proper codes and be in good condition.

The card reader may need cleaning on occasion. Dampen a cloth with glass cleaner and wipe the outside clean. The bar code reader does not require any other maintenance. If it fails it must be replaced.

3.4 TRAY RAILS

The rails are located inside the cabinet and are used to support the trays. The rails are adjustable up and down in 1" increments (Refer to Section 5.2).

3.5 TRAYS

Refer to section 5 and 10 for optional tray accessories.

S3 Vend Motors

The S3 vend motors are snapped into mounting holes on the back of each tray. The motor is driven by 24 VDC through a harness from the control board (Refer to Section 4.2 and Section 5.8). All the motors are set for home only.

The S3 vend motors have a plastic case of which the rear half is blue. S3 coupled motors can replace dual helix motors. Where a dual helix motor is used, replace it with a 23007 motor (having a blue and ivory case for CCW rotation) and a 23007-01 motor (having a blue and gray case for CW rotation) and reinstall the helices. Use Tray Setup in Service Mode to couple the motors in each column together, causing them to turn at the same rate.

Coupled motors will always stop at the home position. If one motor runs slightly faster, the slower will correct itself.

Note: When *not* in Service Mode, and with door open, press # to reset switched motors to Home position (Not available for non-switched motors. Refer to Section 6.7). Motors already at home will not move.

Helices

There are two sizes of helices available, approximately 1 ½ and 2 5/8" in diameter. There are several pitches available in each size, and is determined by counting the number of product openings in the helix (Refer to Sections 5.6 through 5.10).

Dividers

The dividers separate product columns on the tray. Two horizontal slots in the divider allow for the installation of a product pusher. To remove the divider, push rearward and lift. To install, insert the rear tab in the desired slot, push rearward and then down. Make sure the locking tabs on the bottom have engaged their respective slots and pull forward.

Product Pusher Bar

The product pusher bar keeps items pushed to one side of the column. This is typically used with tall product. The product pusher bar is removed by pulling the bar free from the plastic clips. To reinstall, it is easiest to squeeze the bar into the clip using pliers (Refer to Section 5.10).

3.6 ELECTRICAL COMPARTMENT

The electrical compartment is located on the changer mounting panel inside the escutcheon control cassette.

Power Switch

The power switch is located on the top of the electrical compartment near the fuse. The power switch is used to disconnect 24VAC power to the control board.

The power should be shut off when any device is being connected or disconnected, when the board is being serviced, or before any wiring harness is connected to or disconnected from the control board or sensors.

Fuse Holder

The fuse holder is located on the top of the electrical compartment near the power switch. It contains a 3 amp fast-blow fuse to protect the 24 VAC power supply to the control board. A spare fuse is stored in the cover. The fuse holder is opened by pressing in and down on the indicated side of the cover and pulling up.

Transformer

The transformer reduces the input voltage to 24 volts AC for the control board. This is located in the electrical compartment.

RFI Filter

The filter removes electrical noise from the power supplied to the 24VAC transformer to prevent interference with operation of the control board and software. This is located in the electrical compartment.

Ground Attachment

The vendor electrical ground is made through the use of grounding studs or screws at the wall of the changer mounting panel. Earth ground and individual ground wires from the high voltage components are attached here, *and should always be replaced after service or repair.*

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4.0 VENDOR PREPARATION AND INSTALLATION

Setting up a vendor has been divided into three stages. Step 4.1 confirms power and site suitability. Step 4.2 includes preparations accomplished in the shop. Step 4.3 is accomplished on-site, where the vendor is to be located.

4.1 CONFIRMING POWER AT OUTLET

Checking the Outlet (U.S. and Canada)

AIS recommends using a dedicated outlet which can supply 15 to 20 amps per vendor.

Using a volt meter set to AC VOLTS, check the voltage between the positive (smaller) lug entry and the ground lug entry (or center screw on two-lug outlets). The reading should be **between 110 volts and 130 volts**. Next, check the voltage between the negative (larger) lug entry and the ground. The reading should be **0 volts**. If your results vary, contact a qualified electrician to correct the outlet wiring before plugging in the vendor. **Abnormal voltage, reversed polarity or improper grounding may cause the vendor to malfunction or create hazardous conditions in the vendor, resulting in possible injury, damage to the vendor, or fire.**

The cord is supplied with a standard NEMA 3-wire plug. If there are no 3-wire outlets available for powering the vendor, a grounding adapter may be used to convert a 2-wire outlet to accept the 3-wire plug. **The adapter must have a ground tab or wire which must be fastened to the center screw of the outlet.**

NEVER USE AN EXTENSION CORD WITH THE VENDOR.

Checking the Outlet (Outside the U.S. and Canada)

Consult a qualified electrician to check the outlet for proper polarity, voltage, and grounding. Check the serial plate on the side of the door to confirm the vendor is rated for the outlet voltage.

Electrical Service Requirement for CE Compliance

The following requirement applies only to models using ½ HP compressors and displaying the CE mark on the serial plate. If this requirement applies to your vendor, you will find a similarly worded decal on the back of the vendor near the power cord.

This requirement does not apply to any vendor using 120V service.

ELECTRICAL SERVICE REQUIREMENT FOR CE COMPLIANCE:

THIS EQUIPMENT IS INTENDED FOR USE ONLY IN PREMISES HAVING A SERVICE CURRENT CAPACITY OF AT LEAST 100A PER PHASE, SUPPLIED FROM A DISTRIBUTION NETWORK HAVING A NOMINAL VOLTAGE OF 400/230V. THE USER SHOULD DETERMINE IN CONSULTATION WITH THE SUPPLY AUTHORITY, IF NECESSARY, THAT THE SERVICE CURRENT CAPACITY AT THE INTERFACE POINT IS SUFFICIENT FOR THIS EQUIPMENT.

Requerimiento de Servicio Eléctrico para Certificación CE

El siguiente requerimiento se aplica solamente a los modelos que utilicen compresores de ½ HP y que muestren la marca CE en la placa de serie. Si este requerimiento se aplica a su dispensadora, verá una calcomanía con una terminología parecida en la parte posterior de la dispensadora, cerca del cordón de corriente.

Este requerimiento no se aplica a dispensadoras que utilizan un servicio de 120V.

REQUERIMIENTO DE SERVICIO ELECTRICO PARA CERTIFICACION CE:

ESTE EQUIPO SE PUEDE UTILIZAR SOLAMENTE EN ESTABLECIMIENTOS QUE CONTENGAN UNA CAPACIDAD DE CORRIENTE DE SERVICIO DE POR LO MENOS 100A POR FASE, Y SUMINISTRADOS POR UNA RED DE DISTRIBUCION QUE CONTENGA UN VOLTAJE NOMINAL DE 400/230V. EL USUARIO DEBERA CONSULTAR CON UNA AUTORIDAD DE SUMINISTRO, SI ES NECESARIO, PARA VERIFICAR QUE LA CAPACIDAD DE CORRIENTE DE SERVICIO EN EL PUNTO DE INTERFASE ES SUFICIENTE PARA ESTE EQUIPO.

Les Utilites Electriques Necessaire Pour Conformement Aux Regles CE

Le suivant condition applique seulement à modèle en utilisant ½ HP compresseur et montrer le CE sur l'en série plaque. Si cette condition s'applique à votre vendeur, vous verrez un decal de même exprimé sur le dos du vendeur près du cordon d'alimentation.

Cette condition ne s'applique pas au service de 120V d'utilisation de vendeur.

LES UTILITES ELECTRIQUES NECESSAIRE POUR CONFORMEMENT AUX REGLES CE:

CET EQUIPEMENT NE DOIT UTILISER QUE SUR LES LIEUX AVEC UNE CAPACITE DU COURANT AU MOINS 100A LA PHASE, FOURNIE A UN

RESEAU DE DISTRIBUTION AVEC UN VOLTAGE NOMINAL DE 400/230V. LA PERSONNE QUI SE DETERMINER PENDANT UNE CONSULTATION AVEC L'ADMINISTRATION DU SECTEUR, S'IL FAUT, QUE LA CAPACITE DE COURANT AU POINT D'INTERFACE EST ASSEZ POUR CET EQUIPEMENT.

4.2 VENDOR PREPARATION

Inspection

Inspect the vendor carefully for shipping damage prior to signing the carrier's delivery receipt. Check for dents on the top or sides of the vendor, bent legs, scratched or cracked plastic or other damage on the exterior of the machine. Check the interior for components that may have been knocked loose or other damage.

Mounting and Connecting Card and Barcode Readers

Card and barcode readers can be installed on the vendor with adapter plates which are available from AIS. Please contact AIS for more details. Please read the device manufacturer's literature before proceeding.

1. **Always disconnect power to the control board before servicing.**
2. On the inside of the escutcheon control cassette, are (2) metal plates, each fastened to a set of (4) threaded mounting studs which correspond to the mounting holes in the reader adapter.
3. Remove the four nuts that retain the steel cover panel. Remove the steel cover panel, and then press out the plastic cover panel in the escutcheon.
4. Refer to the manufacturer's literature for instructions on accessing the mounting holes in your device. Place the mounting holes over the threaded studs and reinstall the nuts. Some devices may require spacers, which are available from AIS (Part Number 20258).
5. Connect the wiring harness to the reader harness from the control board.
6. Reconnect power to the control board.

Configuring Motors

The vend motors **MUST BE CONFIGURED** after any changes in the arrangement, type, or number of motors have been made.

1. Press the service mode switch on the control board (Refer to Figure 3.1).
2. Using the # or the * key, scroll through the menu to "**TRAY SETUP**".
3. Press **6** to configure the motors. Each switched motor is moved to the home position (moving the motor only if it is not at

home) in addition to detecting connected motors.

If the number of motors displayed does not match the number of motors in the vendor, press **1 * 2** to jog all the motors in the vendor.

4. Watch the display for missing motors that should be connected. The vendor will not vend from a given helix when the motor is missing, jammed or has home switch problems.
5. After the motors have been configured check to make sure all the helices are in the correct position (See Figure 5.1). If the end of a helix is not at its recommended position in the column pull it out of the motor, turn it until it is, and reinsert the helix into the motor.

Note: When *not* in Service Mode and with door *open*, press # to reset switched motors to Home position. Motors already at home will not move.

Test Product Loading

Before putting the vendor on location, it is a good idea to determine the placement of products on the trays. Place at least one product in each helix to check for fit.

1. Remove the cardboard spacers and ties securing the trays.
2. Make use of Section 5.2 for tray vertical adjustments and Section 5.3 for tray column configuration when configuring your vendor to suit your product.
3. Make sure the product can slide in and out of the helix easily. If the product is too snug, it may cause the helix to jam during vending. Place it in a helix with a larger opening.
4. Likewise, if the product is too loose in the helix, it may not vend properly. Use a helix with the smallest opening that will allow the product to slide in and out freely (Refer to Sections 1.3, and 5.5 through 5.9).
5. Place tall, narrow products in a column with a product pusher bar, which is an adjustable bar used to push the product to one side of the column. Typically these are installed in columns 2 and 3 on the trays.
6. Make sure there is adequate clearance between the tops of the packages and the trays above when sliding the trays in and out, and when the product is being vended.
7. This is also a good time to set the end position of the helix to make sure the first product is held securely in the helix. To do this, vend a product from each column. If desired, the end position can be set manually by pulling the helix out of the motor, rotating it, and reinserting it in the motor.

8. Test vend the product and add a helix ejector if necessary. The helix ejector is a plastic device installed on the front end of the 2 5/8" helix to kick out the product (Refer to Section 5.7 Helix Ejector).

Installing Location Labels

After determining the product placement, install the location labels. The labels are shipped in the envelope with this manual.

1. Insert the bottom edge of the label in the lower groove of the extrusion on the front of the tray.
2. Carefully press in on the label until it bows enough to snap into the top groove of the extrusion.

4.3 ON-SITE INSTALLATION

Remove the MicroVend from pallet

1. Remove box and plastic wrap.
2. Located at the bottom of the vendor, there are two straps holding the machine to the pallet. Remove the four screws that fasten these straps to the back of the pallet. Open the escutcheon control cassette and the door. Remove the four screws that fasten the straps to the front of the pallet.
3. From the front of the vendor pull the straps straight forward.
4. Using two or more people, lift the vendor up from the sides and back ***but not the front.*** There are handles on the side of the machine for lifting. See Figure 4.1.
5. Place the vendor on a level counter top or table rated for the weight of the vendor.

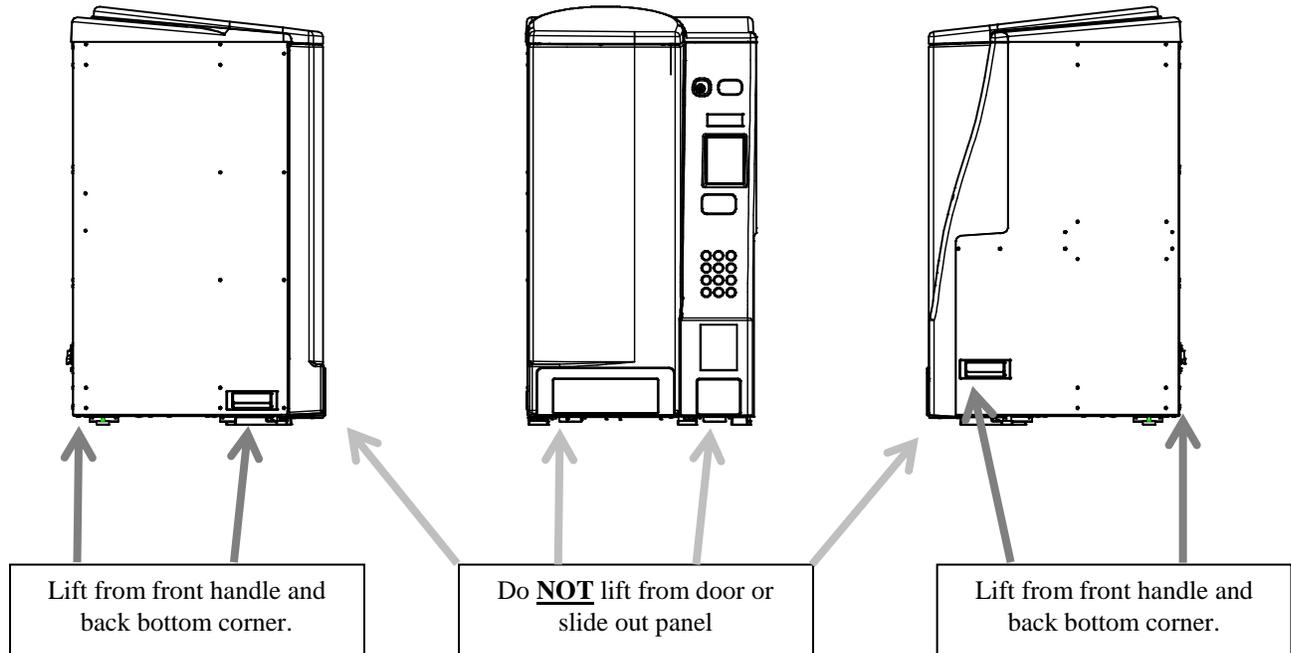


Figure 4.1 Lifting Locations

Placing the Vendor in Location

1. Place the vendor within 5 feet of the designated power outlet. The power outlet should be accessible when the vendor is in position.
2. Make sure the vendor does not block walkways or exits.
3. Do not place the vendor in a location where it can be struck by vehicles.
4. Leave at least 6 inches between a wall and the hinge side of the vendor to prevent the door hitting the wall when opened, or use a protective wall bumper. The door must open wide enough to allow the trays to be pulled out.
5. If ADA requirements must be met then make sure the customer operated devices are no higher than 48 inches off the floor. The vendor is designed to meet ADA guidelines for persons in wheelchairs using a parallel approach (side of wheelchair adjacent to

front of vendor). Make sure there is adequate room to maneuver a wheelchair into this position in front of the vendor.

6. The vendor has two leveling legs located at the rear of the cabinet. Use these legs to level the machine on the countertop. These legs will help adjust uneven seams of the machine due to an uneven counter surface.

5.0 TRAY ADJUSTMENT AND CONFIGURATION

The trays in AIS Sensit 3 vendors are highly configurable. Practically any combination of wide and narrow columns can be set up on a tray. Before changing the configuration of your trays, make sure to order the parts you will need, such as new helices, dividers or additional motors.

5.1 TRAYS

Removal

1. To remove the tray, start with the tray pushed to its rearmost position. Lift the back of the tray up and pull the tray forward about ten inches. Reposition your hands to grasp the tray at its sides and slide the tray out. If the tray is spaced close to the tray above, it may be helpful to raise the front of the tray as you pull it free.

Installation

1. To install the tray, place the tray on top of the rails and slide the tray all the way to the rear. It will automatically drop into position. Make sure the harness slack is draped over the outside of the rail.

5.2 TRAY VERTICAL POSITIONS

The trays can be adjusted to different vertical positions in 1 inch increments. To reposition a tray use the following steps.

Removal

1. Remove the tray for access to the support rails.
2. Remove the screw located at the front of each rail.
3. The front of the rail can now be lifted upward and disengaged from the vertical column.
4. Pull forward to disengage the rail from the slots at the back of the cabinet.

Use these same steps for the other side.

Installation

1. To reinstall the rail in the new position, locate the rear "T" slots that will be used.
2. Then push the two tabs at the back of the rail into the appropriate slots.

3. Engage the hooked tabs at the front of the rail into the appropriate rectangular holes and pull down.
4. Make sure the rail is level.
5. Align the round hole in the rail with the hole in the column and replace the screw.
6. Use these same steps for the other side.
7. Reinstall the tray, making sure the harness is routed over the top of the rail and all slack is draped to the outside of the rail.

5.3 TRAY COLUMN POSITIONS

The tray columns can be configured by the user for up to 4 columns wide for these trays. Typically the vend columns are set to single (2.66") width, to be used with the small helices. Single and double width columns can be configured in any arrangement on the tray by following the procedure below.

Plan your tray arrangement before beginning to determine which extra parts may be required. Contact your distributor to order the necessary parts.

1. Disconnect the harness and remove the tray. Place the tray on a flat, stable work surface.
2. Reposition, remove, or add tray dividers in the desired locations. To remove the divider, push rearward then lift. Reverse the procedure to reinstall.
3. It may be necessary to remove a motor and helix in order to install some dividers. Pull forward on the helix to remove it from the motor. Press down and rearward on the top motor tab to remove the motor from the tray.
4. Reposition the motors to the center of each vend column. It may be easiest to disconnect the motors from the harness first.
5. The harness has 4 sets of motor connections. The first set of connections (at the end of the harness farthest away from the connector) is position 0, followed by 1, 2, and 3. Starting at the left side of the tray, attach the harness connectors to the motors in order. For double columns, use the even numbered connection and disregard the odd numbered connection. (Example: If the first column on the left is double width, disregard position 1 and attach the connectors for position 0). Each set of connectors has a wide and a narrow

connector, corresponding to a wide and a narrow tab on the back of the motor.

6. Place the correct label in front of each column, according to the motor connections used (Refer to Section 4.2 Installing Location Labels).
7. Reconnect the harness, routing it over the rail and through the back of the column.
8. Reinstall the tray.
9. After changing the tray configuration, it will be necessary to reconfigure the motor matrix (Refer to Section 4.2).

5.4 CHANGING DIVIDERS

1. To remove, push rearward on the divider as far as it will go, then lift it up and out of the tray.
2. Reverse the removal procedure to reinstall.

5.5 CHANGING HELICES

Each helix is snapped into an adapter which snaps into the vend motor.

To remove a helix from the motor, and while wearing gloves, grasp the helix about one "turn" away from the motor, and pull straight out sharply. Do not remove the helix adapter if the helix is going to be reinstalled.

To install a helix, insert the end of the adapter into the motor, and push the helix back towards the motor until the adapter snaps into place.

5.6 HELIX ADAPTER

1. To remove, twist the adapter to free the mounting leg from the locking tab.
2. Reverse the removal procedure to reinstall.

5.7 HELIX EJECTOR

The ejector's function is to cause the product to fall sooner, and therefore stop the helix sooner. This will help retain the next product in the helix coil, especially if they are difficult products.

1. The helix ejector is pulled off and pressed on the helix by hand.
2. The ejector is typically positioned half a coil, and often much less, from the end of the helix.
3. The "fin" shaped portion is angled towards the front of the tray.

The best position and angle for the ejector is determined by test vending products.

5.8 MOTOR POSITIONS / HOME

Motor position can be changed sideways for different width columns on the snack tray.

1. Remove the helix. Remove the harness terminals (one small and one large).
2. Press down and rearward on the top mounting tab, and then pull the lower mounting legs out of the mounting slots.
3. Reverse the removal procedure to reinstall.
4. After all motor changes have been made use the Tray Setup option in Service Mode to configure the motors.
5. The vendor will not vend from a given helix when the motor is missing, jammed or has home switch problems.
6. After a motor has been configured check to make sure all the helices are in the home position. Check to see if the helix end is in the indicated position shown below (Refer to Figure 5.1).

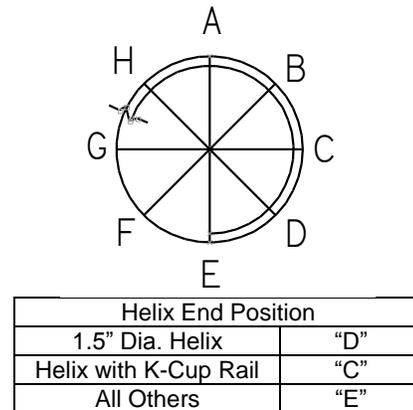


Figure 5.1 Helix End Position

5.9 AVOIDING PRODUCT HANG-UPS

Avoid bag products from "hanging-up" between the tray and the window by loading them left corner first into the helix. The bottom left corner of the bag should be in front of the helix to let the helix push the bottom out first (Refer to Figure 5.2). An incorrect loading may cause the bag to fall top first, which could lead to a hang-up. Loading "left corner first" prevents the product from falling top first.

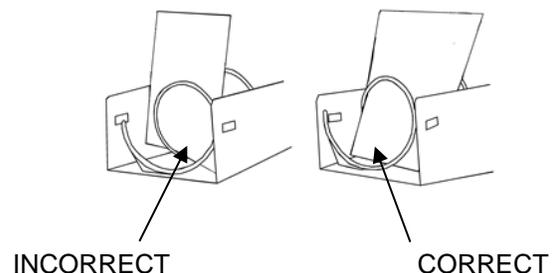


Figure 5.2 Bag Vending

5.10 TALL PRODUCT VENDING

Place tall, narrow products in a column with a product pusher bar. Rotate the bar upward or downward to the desired position. It should hold the product upright, but not pinch or bind the product.

5.11 PRODUCT PUSHER BAR INSTALLATION

The product pusher bar is an adjustable bar that mounts to any tray divider to keep tall product from falling sideways (Refer to Figure 5.3).

1. Snap the pusher bar into the retainer.
2. Rotate the pusher bar to accommodate the product.

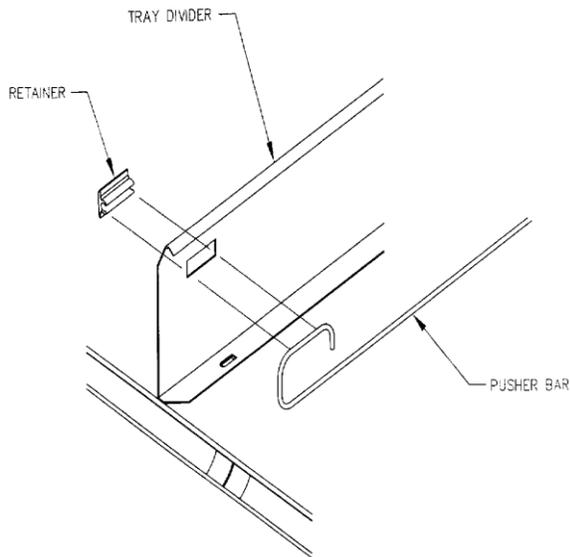


Figure 5.3 Pusher Bar Installation

5.12 TIP WARNING DECAL

WARNING

Do not extend more than one tray at a time to prevent tipping of the machine. (Refer to Figure 5.4).



Figure 5.4 Tip-Over Warning

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6.0 SERVICE PROGRAMMING

6.1 SERVICE MODE

Access the service mode by pressing the yellow mode button on the control board (Refer to Figure 3.1). If there are no errors, ACCOUNTING DATA is displayed. Press # or * to scroll through the errors and functions. Return to vend mode by closing the door, pressing the mode switch or allowing the 2 minute time-out to occur.

For convenience, there is an instruction card at the back cover of this manual that presents the basic information in this section in a flow-chart format.

6.2 ERROR CODES

Any errors that have been recorded will be displayed when the mode switch is pressed. Section 7.2 provides descriptions of errors and tips for troubleshooting them.

ALWAYS CORRECT THE ERROR BEFORE CLEARING THE MESSAGE!

1. **# NEXT ERROR** – View the next top level error code.
2. **1. SUBLVL ERRORS** – Displays any sublevel error codes.
3. **2. DETAILS** – Displays date and time of the *last* sublevel error.
4. **0. CLEAR ERROR** – Erases the error code from memory.

6.3 ACCOUNTING DATA

Inventory and vend information can be displayed and edited directly on the vendor display. More detailed sales information is contained in the DEX data. This data can be collected with any DEX data collection system.

1. **ADJ. INVENTORY** – View and change the current inventory level.
 - 0 = Previous – Index to previous selection
 - * = Next – Indexes to Next selection
 - # = Exit – Exits out of the Inventory menu
 - 1 = Select – Enters selection to adjust
 - 8 = Replenish – Enters amount added to selection inventory
 - 9 = Cycle Count – Enters amount in that selection inventory
2. **HIST. VENDS** – Displays number of vends since initialization of the control board.

3. **HIST. VALUE** – Displays the total sales since initialization of the control board.
4. **RESET. VENDS** – Displays the number of vends since the last reset.
5. **RESET. VALUE** – Displays the total sales since the last reset.
6. **CLEAR VALUES** – Clears RESET. VENDS and RESET. CASH.
7. **SERIAL NUMBER** – Allows programming of the serial number that will appear in field ID101 in the DEX data. The user may also choose to have this programmed serial number used in place of the changer serial number in field CA101.
8. **RESET. CARD** – Displays the total cashless sales since the last reset.

6.4 DELAYED SALES

This feature is not used for this model.

6.5 TEMPERATURE

This feature is not used for this model.

6.6 PRICE SETTINGS

This feature is not used for this model.

6.7 TRAY SETUP

Test Motors

Enter the selection number to be tested, or press * to see the following options for testing multiple motors.

1-JOG ALL – All motor positions in the vendor will be tested. Each motor will turn until it returns to the home position. The display will show the number of the motor being jogged, or it will show a message that a motor is missing.

2-JOG TRAY – All motor positions on the selected tray will be tested. The display will show the number of the motor being jogged, or it will show a message that a motor is missing.

3-CHECK JAMMED – The control will attempt to run each motor that has caused a jammed motor error. The status of the motor will be displayed afterward.

Link Motors

The user can link selections to ensure even vending of dated products, or other “space-to-sales” functions. Linked selections are vended sequentially for better product rotation. Up to 40 groups can have motors linked together *regardless of location or tray*. The linked selection with the lowest number is the

master selection. All other linked selections are vended using the selection number and price of the master selection. Entering the selection number of any linked selection will default to the master selection number, and the control will vend the next linked selection in the sequence. If motors are linked- but not present (or jammed), the next available motor will run.

From Tray Setup, select **2-Link Motors**.

Enter Selection: then select from the following.

9- EDIT – Use 1 & 2 to select desired link group. * saves *this* selection to *this* link group.

0- CLEAR – This will unlink the current selection. The price will revert to its original value. All other linked selections in that group will remain unchanged.

* **NEXT** – Press to increment by one selection. Any selection number may be entered directly for faster access.

EXIT – Returns to the Tray Setup menu.

Repeat for each linked selection.

Motor Type

Motor Type is only set for Home_Only/3 for this model.

You must press **6** (configure) after making any changes to motor type, or quantity, of vend motors.

MOTOR TYPES			
ITEM	DISPLAYED OPTION	MOTOR STOP	CREDIT DEDUCTION
4	HOME_ONLY/3	Home	Home

generated in service mode to alert the service person that the motor is disconnected.

Home_Only/ will make one complete turn and take credit.

Delayed Stop

This feature is not used on this model.

Letter / Number

Allows use of either keyboard format. The control board/software default is for NUMERIC, using the 12-key keypad. This setting should be set for NUMERIC because this vendor is only equipped with a 12-key keypad.

Configure Motors

Configure Motors moves each switched motor to the home position (moving the motor only if it is not at home) in addition to detecting connected motors.

This selection MUST BE RUN after changes in the arrangement or number of motors have been made.

The vendor will not vend from a given helix when the motor is missing, jammed or has home switch problems. This requires that Configure Motors *must be run* after adding motors or otherwise changing the motor configuration.

The configuration of connected motors is stored in memory. If a configured motor is later found to be missing during a vend, an error message will be

Coupled Motors

Configurations to vend extra wide product can be made by using the coupled- motors feature (Refer to Section 1.3). The coupled motor feature works by coupling together a set of two motors. One motor turns counter-clockwise, and the other motor must turn clockwise. Both motors turn for the same length of time. Trays may have multiple coupled motors.

From the Tray Setup menu, press “7”, then enter the first selection to couple (for example 24).

Press “9” to edit, then enter the column number of the second column to couple. For this example, press 7 to couple selections 24 and 27. The second column could also be 5 or 6 for this set. In this example, the display will read COUPLE 24,27.

Press the “*” to save these selections and move to the next selection.

Note that a coupled motor set will vend using the lowest numbered column selected. In the example given above, use 24 to select a product. A column selection of 25 will display the message “PLEASE MAKE ANOTHER SELECTION”.

If the "*" button is pressed the display will move to the next selection. Entering the desired number will also take you to another selection. Press "0" to clear coupled motor sets from the control board. The display will read "XX: COUPLE OFF".

To return to Tray Setup, press the "#" key at any time.

The tray numbers on the front of the tray should be changed to suit.

The Coupled Motor feature will not work with Sensit II motors.

6.8 NETWORK SETTINGS

1. **SERVER IP ADDRESS** – Shows and edits IP addresses of server. Use * for decimal point.
2. **SERVER PORT** – Shows and edits server port number for the system. Use * to backspace, # to save.
3. **EMERGENCY MODE** – Will allow vending while network is down.
4. **ANSWERING** – Creates sequences for communication.

6.9 OPTIONS

Message

The user can customize the scrolling message that is displayed when the vendor is idle. Write out the desired message first. The message to be displayed on the scrolling display can be up to 50 characters, including letters, numbers, punctuation and spaces. New messages erase old ones.

Select the message option and the controller will prompt the user to press "1" to change the message, or press "#" to exit.

To enter a message, the user should rapidly tap a particular key to cycle through a list of characters for that key. Stop at the desired character. When the keypad is left idle, the last-displayed character is moved over to the end of the message. Continue to select the next character. The key definitions are similar to those of cell phones:

- | | |
|---|---------------------|
| KEY 0: (space)0 | KEY 5: JKL5 |
| KEY 1: !?,.,\$,:*;&" +-/<>=#%"'1 | KEY 6: MNO6 |
| KEY 2: ABC2 | KEY 7: PQRS7 |
| KEY 3: DEF3 | KEY 8: TUV8 |
| KEY 4: GHI4 | KEY 9: WXYZ9 |

Pressing the * key will back space through the message. Pressing the # key will save the message.

Prize

The factory default is "0" for none. The user can set the vendor to give away a free product after a predetermined number of successful vends. Enter the

number of vends between free vends, up to 9999. Setting the number to "0" will disable the prize option.

Language

Primary

The user is presented with a menu of available languages. The user may choose the primary language for the display of all messages. Note that Service Mode messages are available in Primary language only.

Secondary

If desired, the user can select a secondary language for the display of all messages. Messages will be displayed first in the primary language, then in the secondary language.

Product Sensor

This feature is not used on this model.

Speech

A speech synthesizer option is available for use with RC Systems Inc. DoubleTalk LT speech synthesizer. It operates only while the vendor is in service mode. The speech synthesizer vocalizes keystrokes and what is shown on the display.

The Options menu selection 5 enters the synthesizer on/off menu. Press 5 to toggle on/off. Press # to exit to the Options Menu.

When turned on the synthesizer is inactive until the vendor is placed into service mode.

The synthesizer must be plugged into the DEX plug on the control board. A utility cable (AIS P/N 20786, Harness, Chip Programming) may be used, but it must be plugged into a male-to-male gender adapter (Radio Shack 26-231B) followed by a null modem adapter (Radio Shack 26-264). The serial cable from the DoubleTalk LT is plugged into the null modem adapter. The 1/4" jack from the utility cable is then plugged into the DEX plug on the control board (other DEX functions cannot be used while the DoubleTalk LT is plugged in). A dedicated cable could also be constructed.

6.10 CLOCK SETTINGS

1. **TIME AND DATE** – Enter the current time and date. This information will be used for data logs and error records.
2. **DAYLIGHT SAVINGS** – The factory default is "Y", and the time is automatically adjusted for Daylight Savings Time to the US scheme. Other locations available are Europe, Australia, and Mexico. Selecting "N" will disable this feature completely.

3. **DISPLAY CLOCK** – The factory default is “Y”. The current time will appear on the display beneath the scrolling message when the vendor is not in use.
4. **12/24 FORMAT** – The user can choose to display the time in 12-hour or 24-hour (military) format. The factory default is 12-hour format.

6.11 FREE VEND

The factory default is “N” for no. The vendor can be quickly set to vend all products for free. Prices are ignored while FREE VEND is enabled. The original prices will be restored when FREE VEND is turned off. Note that Free Vend will **not** time-out on its own.

1. **VIEW / EDIT** – The current setting is displayed, and the user can change the setting. A warning will be briefly displayed if FREE VEND is turned on.

6.12 AUXILIARY OUTPUT

The auxiliary output is a 5VDC signal lasting 100 milliseconds following a successful vend. This signal can be used to trigger user-supplied external devices. As of this writing, AIS does not supply such accessory devices and cannot offer technical assistance for such devices. This feature is provided only as a convenience to those users of advanced technical skill who wish to connect such a device to their AIS vendor and have sufficient electronic expertise to do so.

1. **VIEW / EDIT** – The current setting is displayed, and the user can change the setting. Enabling the auxiliary output will not harm the vendor or affect the performance of the vendor in any way.

6.13 DATA LOGS

The user can review recorded data on vendor temperature, power outages, and door openings. This data is sometimes helpful in diagnosing problems with the vendor. These logs are cleared whenever the software is changed, and once the maximum number of entries is reached, the oldest entry will drop from the list.

1. **TEMPERATURE** – The temperature log contains temperature measurements taken at half-hour intervals over the previous two days. The display shows the recording number, the recorded temperature, and the time and date of the recording. The log holds 96 measurements, with number 1 being the most recent.

2. **POWER** – The power log records power failure information. The display shows whether power went ON or OFF, the temperature in the cabinet, and the time and date of the recording. The log holds 10 recordings, with number 1 being the most recent.
3. **DOOR SWITCH** – The door switch log records door openings and closings. The display shows whether the door was OPENED or CLOSED, the temperature in the cabinet, and the time and date of the recording. The log holds 10 recordings, with number 1 being the most recent.

6.14 EnergySENSIT

This feature is not used because the vendor is not equipped with a refrigeration unit.

7.0 TROUBLESHOOTING

7.1 OUT OF SERVICE MESSAGE

Certain critical errors will disable the vendor. When this happens, an "OUT OF SERVICE" message will be displayed.

To get the vendor back in service, press the mode switch on the control board. Any errors will be displayed immediately. Refer to the list of error codes and explanations below. *Correct the cause of the error first*, then press "0" to clear the error code. Certain errors will have more detail available: press **1** to see more detailed (sublevel) error codes, or **2** for date/time of last occurrence.

7.2 MACHINE ERROR CODES: CAUSES AND SOLUTIONS

Viewing Top Level Error Codes

To view top level error codes, enter the service mode by pressing the mode switch located at the lower right corner of the control board. **ACCT**

DATA will be displayed if there are no errors or an error has been cleared (whether corrected or not). If the error message has been cleared, but the cause has not been corrected, the message can be re-displayed by briefly turning off the power. Use the keypad buttons to perform the following:

- #. NEXT ERROR** – to view the next top level error code in memory.
- 2. DETAILS** – displays the time and date of last error occurrence.
- 1. SUBLVL ERRORS** – to display any sublevel error codes including MDB devices.
- 0. CLEAR ERROR** – to erase the error code from memory (first correct the error).

Viewing Sub-Level Error Codes

To view the sub-level error codes, press the **1** key while the top level error code is being displayed. Correct the condition which caused the error first, then clear the error code by pressing "0".

Once all errors are cleared, "ACCT-DATA" will be displayed.

ERROR CODES – CAUSES AND SOLUTIONS			
TOP LEVEL ERROR CODE	SUB LEVEL CODE	CAUSES	SOLUTIONS
X STUCK	NONE	Keypad selection button X has been depressed more than 2 minutes.	Clear any obstructions or dirt from around the selection buttons and make sure they can move freely. If proper operation is not restored, replace the keypad.
HOME ERROR	NONE	Motor switch problem.	Check for correct motor type. Check for proper connections. Check for correct motor set-up (See section 6.7)
MOTOR JAMMED	Displays selection #	Excessive current draw.	Caution! See section 7.3 below
CARD READER	A message has been generated by the card reader. Press 1 to see sub-level error codes.		
	CARD ERROR –.	Card error	Use a different card.
	INVALID CARD –	Invalid card	Use a different card
	TAMPER	Tamper error.	Consult card reader manual or manufacture
	COMMUNICATIONS 4	Communications error.	Check MDB harness connections
	SERVICE	Unit needs service.	Consult card reader manual or manufacturer.
	READ ERROR	Reader failure.	Consult card reader manual or manufacturer.
	COMMUNICATIONS 9	Communications error	Check the card reader harness connections.
JAMMED CARD	Card is jammed.	Clear the jammed card from the card reader.	

7.3 CLEARING JAMMED MOTOR

If one or more motors and helices become jammed, the motor(s) will be displayed as a sublevel error under “Motor Jammed”.

Energized vend motors can turn a helix with considerable torque, creating a possible entrapment hazard. Disconnect power to the vendor or control board before freeing a jammed helix or motor. Always restrain or block the helix before freeing a jammed or caught product.

CAUTION: Use caution when freeing jammed product (Refer to 2.2 Section Helix Motion and Jamming)!

Clear any jammed products from the indicated vend columns.

To reset the error, first enter service mode, then select Tray Setup (Refer to Section 6.7). Press “1”, then “*”, then “3”. The control will attempt to run the jammed motors. If the motor had been taken out of the motor matrix, it will be re-established in the matrix.

7.4 MACHINE TROUBLE SHOOTING CHART The following troubleshooting chart may be used to find quick remedies for electrical and mechanical failures in the vendor.

MACHINE TROUBLE SHOOTING CHART

IF A REPLACEMENT PART IS NECESSARY, PLEASE CONTACT YOUR DISTRIBUTOR

Symptom	Possible Cause	Remedy
No power at the control board. (no beeping sound during power-up or when the service mode button is pushed)	No power from power cord.	Check power cord, outlet or supply.
	3.0 amp fuse is blown.	Replace 3.0 amp fuse.
	Fuse harness is not connected to the back of the fuse holder.	Connect fuse holder harness.
	Short or cut in the power harness between the transformer and control board.	Check continuity through the power harness. If there is no continuity replace the power harness.
	Transformer does not have power at the LOAD side.	Insure primary side of transformer is receiving power. If there is not at least 29 VAC on LOAD side replace transformer.
Vendor displays “Please Make Another Selection”.	Selection not configured in the motor matrix.	Reconfigure the motors. Check for motor coupling.
	Motor jammed	Clear jammed motor and clear error code.
Tray selections do not make a complete cycle.	Harness off at the J-1 and/or J-5 connector on the control board. Motor jammed.	Connect harness to the control board connector. Check harnesses.
Tray selection continues to turn after a successful vend.	Wrong motor or motor type.	See Section 6.7.

8.0 MAINTENANCE

8.1 UPGRADING FIRMWARE

Occasionally it may be necessary to take advantage of new software features. The software can be upgraded by using a micro SD card, available at most electronics retailers.

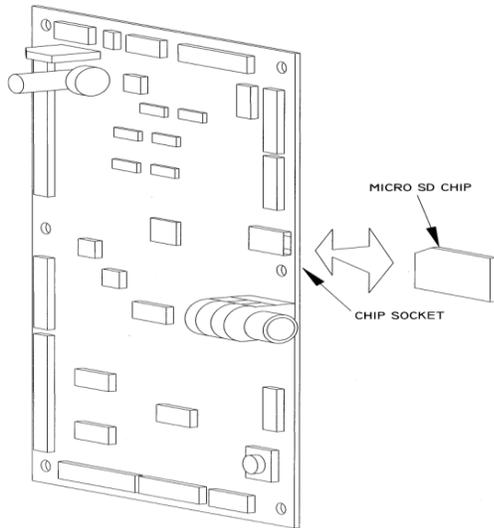


Figure 8.1 Loading Control Software

1. Locate the socket for the micro SD program card (Refer to Figure 8.1).
2. Load the program chip into the socket (it will only fit one way). Push in until it latches in place.
3. Press the yellow Mode button. Three software options will be shown on the display.
4. Press **3**, then the “*” key to scroll through the options.
5. When the desired software is shown on the display press the “#” key.
6. The selected software will be loaded and verified (this will take about 30 seconds).
7. After the software has been loaded the vendor will re-boot, and display will show the software number, version and name.
8. Remove the chip by pushing it into the socket a small amount. It will unlatch and slide out when pressure is released.
9. Check options and set prices as needed. Note that prices and settings (but not DEX data) are saved and restored during this process.
10. Store the micro SD card in a safe place.

The small program that starts the sequence of loading the program into RAM, is known as a *boot loader*. This can be upgraded in the same manner as firmware, but settings will NOT be saved.

8.2 CLEANING THE VENDOR EXTERIOR

Clean the vendor exterior as necessary using mild household cleaners and water. Dampen a cloth or sponge with the cleaning solution and gently wipe clean the exterior.

This vendor uses a door and top made from clear acrylic plastic. These plastic pieces will scratch or haze if chemical solvents or harsh detergents are used. Use a cleaner that is specified for plastic and microfiber cloth like those supplied with the vendor.

1. Clean the door inside and out with the designated plastic cleaner.
2. Do not use chemicals or solvents. These can damage paint, plastic trim and decals.
3. Do not use abrasive cleaners.
4. Do not use a water jet.
5. Do not let water or cleaning solutions contact electrical or electronic components.

8.3 CLEANING THE VENDOR INTERIOR

Clean the interior using mild household cleaners and water. Dampen a cloth or sponge with the cleaning solution and gently wipe the interior surfaces clean.

This vendor uses a door and top made from clear acrylic plastic. These plastic pieces will scratch or haze if chemical solvents or harsh detergents are used. Use a cleaner that is specified for plastic and microfiber cloth like those supplied with the vendor.

1. Unplug the vendor from the power socket.
2. Open the vendor door.
3. Clean the door inside and out with the designated plastic cleaner.
4. Do not use chemicals or solvents. These can damage paint, extruded plastic parts and other plastic parts.
5. Do not use abrasive cleaners.
6. Do not use a water jet.
7. Do not let water or cleaning solutions contact electrical or electronic components.
8. Allow to air dry, or place a window fan on the floor in front of the open interior.
9. When dry, plug in the vendor.

8.4 LAMP REPLACEMENT

Replacing LED Lamps

1. Open the door.
2. Turn off the power to the control board by using the power switch.
3. Locate the LED harness and remove it from its extension harness.
4. To get to the connector of the hinge side LED, remove the screw that holds the little access panel below the LED. The connection of LED to extension harness is behind this panel.
5. Remove the screws holding the P-clips, and remove the LED lamps.
6. Install the replacement LED lamps, using the P-clips and the screws.
7. Connect the LED harness to the extension harness. For the hinge side LED run the wire through the access panel before making connection to the extension harness. Fasten the access panel down and then fasten the LED with its P-clips.
8. Turn on the power to the control board.
9. Close the vendor door.

8.5 SENSIT 3 UTILITY

A basic software Utility is available for Sensit3 control boards. Currently it allows an operator to save/load vendor configurations, and upgrade firmware. Please contact your distributor or AIS for more information.

8.6 REPLACING THE POWER CORD and GFCI TEST

TOOLS REQUIRED:

Use this procedure to replace a power cord that is cut, split open or is otherwise damaged or is a hazard. A ¼" nut driver, pliers, gloves and protective eyewear are required.

REMOVAL

1. Move the vendor away from the wall and unplug the power cord from the wall outlet.
2. Remove and save the 4 screws attaching the cover. Save the cover.
3. Open the escutcheon control cassette. Unplug the power cord from the bottom of the electrical compartment.
4. Operate the small lever on the wire tie to open the wire tie loop and free the power cord.
5. Remove and dispose of the damaged power cord.

INSTALLATION

1. Run the new cord through the hole in the back of the cabinet.

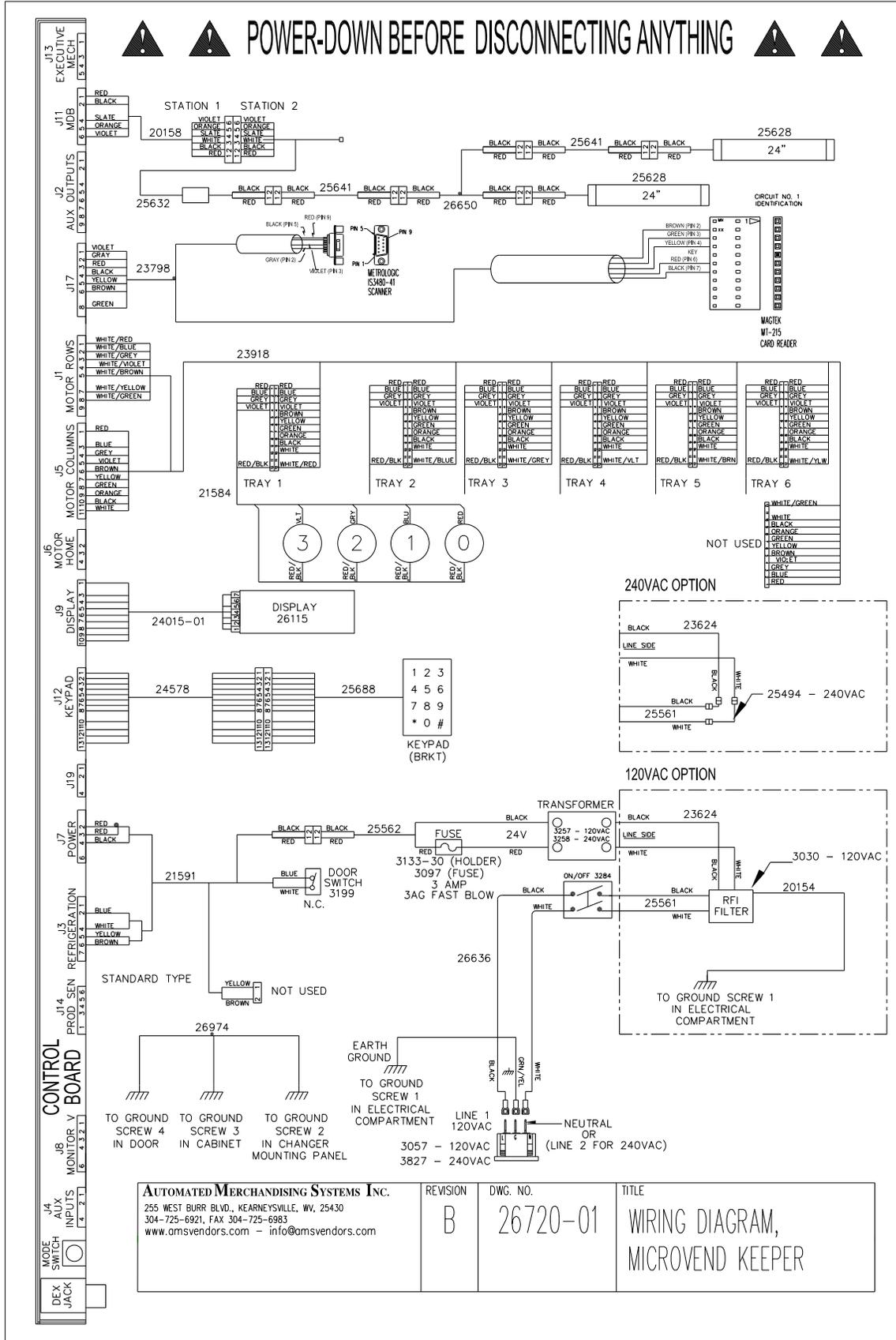
2. With the escutcheon control cassette fully extended, plug the new power cord into the IEC receptacle at the bottom of the electrical compartment on the escutcheon control cassette but do not plug the power cord into a power outlet at this time.
3. Secure the cord to the escutcheon cassette with the panel mount wire tie.
4. Place the molded strain relief on the cord just outside the opening in the cabinet.
5. Align the holes in the cover with the holes on the back of the machine. Reinstall 4 screws through the holes in the cover. Do not over-tighten the screws. The grommet on the cord should rest in the slot of the cover.
6. Plug the power cord into the power outlet. The power should come on in the vendor.
7. If the power is on in the vendor, test the GFCI as follows: press the TEST pushbutton on the GFCI for 1 second to trip the GFCI and shut it off. The vendor power should turn off. Then press the RESET pushbutton for 1 second to return the GFCI to normal operation. The vendor should turn on.
8. If the power is not on in the vendor check the GFCI as follows: press the TEST pushbutton on the GFCI for 1 second to trip the GFCI and shut it off. Then press the RESET pushbutton for 1 second to return the GFCI to normal operation. The vendor should turn on.
9. If there is no power, check the power outlet at the wall. If there is power at the outlet check for power at the plug end of the power cord.
10. If everything is operational return the vendor to its position next to the wall.

8.7. STORING THE VENDOR

If the vendor is to be stored without power for several days or longer, use the following instructions. These instructions are similar to those used to store any refrigerator.

1. Unplug the vendor from the power outlet.
2. Remove any products from the vendor.
3. Clean the inside of the vendor using the general directions given in Section 8.3.
4. Leave the vendor door open for a day to allow the interior to thoroughly dry.
5. Close the vendor door and lock it to protect the interior.
6. Roll up the power cord and place it in the hopper. If the vendor is being moved follow the handling and setup procedures given in Section 4.

9.0 WIRING DIAGRAM



<p>AUTOMATED MERCHANDISING SYSTEMS INC. 255 WEST BURR BLVD., KEARNEYSVILLE, WV, 25430 304-725-6921, FAX 304-725-6983 www.amsvendors.com - info@amsvendors.com</p>	<p>REVISION B</p>	<p>DWG. NO. 26720-01</p>	<p>TITLE WIRING DIAGRAM, MICROVEND KEEPER</p>
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10.0 OPTIONAL EQUIPMENT

P/N 20786, Harness, Chip Programming

Use with the speech hardware and software program.

P/N 3701, S3 Utility Programming software

Use with 20786 harness.

Part No. 24046-01 - Kit, Mini Dispenser

Replaces a selection with 1.5" helix and spacer.

Part No. 23968 - Kit, Product Pusher

The product pusher is an adjustable bar that mounts to any tray divider to keep tall product from falling sideways.

Part No. 24058 - Kit, Helix Splitter

The helix splitter is a plastic divider that can be inserted into a small helix to divide each coil into two product openings, thereby doubling product capacity. The helix splitter works best with narrow products.

Part No. 23967 - Kit, Cup Rail, Small Helix

The cup rail is a flat plastic bar that can be placed inside the helix to provide a flat surface for rigid flat-bottomed packages that otherwise do not stay upright when placed in a helix

Part No. 26966 Kit, K-Cup[®] Rail, MicroVend

This rail inside of a helix dispenses K-Cup and does not have a holder for the static display of the K-Cup selection.

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11.0 LIMITED WARRANTY

Automated Inventory Solutions (AIS) warrants this equipment to the Original Purchaser only, for a period of one (1) year from the date of shipment, to be free under normal use and service from defects in material or workmanship, and for three (3) years on the refrigeration unit, electronic control board, and the two sensor boards. The refrigeration unit consist of the compressor, fan motors, relay, and the sealed components of the system. Light bulbs, glass, and painted surfaces are not covered by this warranty.

Should any part prove defective within the warranty period, AIS will repair or replace (at its option) the defective component. AIS will provide normal ground shipment for parts replaced under warranty. This warranty does not cover the labor or other costs associated with removal and reinstallation of a defective component. All defective components, at the option of AIS, are to be returned, properly packaged, freight prepaid, to AIS or to the authorized dealer or distributor from whom the equipment was purchased for verification of the defect. Prior to returning any parts for replacement, the customer is to contact the AIS Service Department at (304) 725-4801 for return authorization. AIS reserves the right to refuse any collect shipment.

This warranty applies only if the equipment has been serviced and maintained in strict accordance with the instructions presented in the AIS service manual and no unauthorized repair, alteration, or disassembly has been done. Any defects caused by improper power source, abuse of the product, accident, alteration, vandalism, improper service techniques, or damage incurred during return shipment due to improper packaging will not be covered by this warranty. Likewise, any equipment that has had the serial number removed, defaced or otherwise altered will not be covered by this warranty.

AIS reserves the right to make changes or improvements in its products without notice and without obligation, and without being required to make corresponding changes or improvements in equipment already manufactured or sold.

AIS SHALL NOT BE BOUND BY ANY REPRESENTATION OR WARRANTY MADE BY ANY PERSON, INCLUDING BY EMPLOYEES OF AIS, EXCEPT AS SET FORTH IN THIS LIMITED WARRANTY. AIS DISCLAIMS ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES OF ANY NATURE, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS OF A PARTICULAR PURPOSE OR OTHER IMPLIED WARRANTIES.

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12.0 PROGRAM QUICK REFERENCE

SERVICE MODE

- Open door and press the mode switch on the control board to enter SERVICE MODE.
- Press # or * to scroll through the functions.
- Return to vend mode by closing the door or pressing the mode switch.

ERROR CODES

- # NEXT ERROR
- 1 SUBLVL ERRORS
- 0 CLEAR ERROR

ACCOUNTING DATA

- 1 ADJ. INVENTORY
- 2 HIST. VENDS
- 3 HIST. VALUES
- 4 RESET VENDS
- 5 RESET VALUES
- 6 CLEAR ALL
- 7 SERIAL NUMBER
- 8 RESET CARD

DELAYED SALES

- 1 START DELAY
- 2 CANCEL DELAY
- 3 SET DELAY
- 4 CLEAR ALL
- 5 EDIT SEL'NS

TEMPERATURE

- 1 CURRENT TEMP
- 2 SETPOINT
- 3 START LOG
- 4 VIEW LOG
- 5 HEALTH TEST

PRICE SETTINGS

- 1 SET PRICES

TRAY SETUP

- 1 TEST MOTORS
ENTER SELECTION OR * TO CHOOSE
OPTION
- 2 LINK MOTORS
 - 1 NEW LINK
 - 2 VIEW / EDIT
 - 3 CLEAR ALL
- 3 MOTOR TYPE
- 4 DELAYED STOP
- 5 LETTER / NUMBER
- 6 CONFIGURE
- 7 COUPLE MOTORS

NETWORK SETTINGS

- 1 SERVER IP ADDRESS
- 2 SERVER PORT
- 3 EMERGENCY MODE
- 4 ANSWERING

OPTIONS

- 1 MESSAGE
- 2 PRIZE
- 3 LANGUAGE
 - 1 PRIMARY
 - 2 SECONDARY
 - 3 CREATE CUSTOM
- 4 PRODUCT SENSOR
- 5 SPEECH

CLOCK SETTINGS

- 1 TIME AND DATE
- 2 DAYLIGHT SAVINGS
- 3 DISPLAY CLOCK
- 4 12/24 FORMAT

FREE VEND

- 1 VIEW / EDIT

AUXILIARY OUTPUT

- 1 VIEW / EDIT

DATA LOGS

- 1 TEMPERATURE
- 2 POWER
- 3 DOOR SWITCH

ENERGYSENSIT

- 1 ON/OFF
- 2 CLEAR HISTORY
- 3 SET TEMP CHG
- 4 SET PATT TIME
- 5 SET HIST FACT
- 6 SET DEL TIME
- 7 LIGHTING
- 8 BRIGHTNESS

Note: When not in Service Mode and with door open, press # to move out-of-position switched motors to Home position (Home/Sensor +/2 or Home/Sensor +/3 only).