

G-Series Vendor
Instruction Manual
GFV-400
Vending Machine



idw

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For Future Reference

- This easy-to-use manual will guide you in getting the best use of your Vendor.
- Remember to record the model number and the serial number. This information can be found on the inside of your Vendor.
- Keep your receipt with this manual for future warranty service.

Model #: _____

Serial #: _____

Date of Purchase: _____

SAFETY INFORMATION

INNOVATIVE DISPLAYWORKS (IDW) COMMITMENT TO SAFETY

IDW is committed to safety with all our product designs. Please read this Instruction Manual in its entirety. We are committed to notifying the user of a possible danger involving the improper handling or maintenance of our Vendors. The servicing of any electrical or mechanical device involves **potential dangers**, both to those servicing the equipment and to the users of the equipment. These dangers can occur because of improper maintenance or usage. The purpose of this safety segment is to alert everyone that services IDW equipment to potentially dangerous areas, and to provide **basic safety guidelines** for proper upkeep.

The Instruction Manual contains various **warnings** that should be carefully read to minimize the risk of personal injury. This manual also contains service information to ensure that proper methods are followed to avoid damaging the Vendor or making it unsafe. It is also important to understand that these **warnings** provide general guidance only. IDW could not possibly know, evaluate, or advise of all the conceivable ways in which service might be done. Consequently, IDW cannot predict all the possible dangerous results. These outlined safety precautions are the basis for an effective safety program. Use these safety measures, along with the service bulletins, helpful hints and product specification sheets, when installing or servicing IDW equipment.

We recommend that anyone servicing our equipment maintain the same commitment to safety. **Only properly trained personnel should have access to the interior of the Vendor.** This will minimize the potential dangers that are inherent in electrical and mechanical devices. IDW has no control over the Vendor once it leaves the premises. It is the owner or lessor's responsibility to maintain the Vendor in a safe condition. See the Instruction Manual located in the coin box of a new Vendor for proper installation procedures and refer to the Programming, Operation and Service Manual for recommended maintenance procedures. If you have any questions, please contact the Technical Services Department toll-free at 1-877-307-2665. (Outside North America, dial +1 909-447-8254.)

SAFETY REGULATIONS

- Read the SAFETY SEGMENT before installation or service.
- Test for proper grounding before installing to reduce the risk of electrical shock and fire.
- Turn off or disconnect the power cord from the wall outlet before servicing.
- Only factory-authorized service technicians should service the Vendor.
- Remove any product before moving a Vendor.
- Use appropriate equipment when moving a Vendor.
- Always wear eye protection, and protect your hands, face, and body when working near the refrigeration system.
- Use only authorized replacement parts.
- Be aware of inherent dangers in rocking or tipping a Vendor.
- When moving the Vendor, care must be taken to prevent damage to the refrigerant tubing.

R290 (HC) REFRIGERANT SAFETY

The refrigerant gas contained in the cooling system is flammable. Failure to follow all warnings, cautions and instructions, both in this document, and as posted in the machine, may lead to fire or explosion. Service should be performed by only individuals trained in servicing cooling systems using flammable gas and properly equipped with the correct tools and leak detection devices designed for use with flammable gas coolants. Do not attempt to interchange electrical parts from older models into these new machines. New electrical parts designed specifically for use in machines with flammable refrigerants are used throughout this product. Failure to use the correct OEM parts from Innovative DisplayWorks increases the risk of fire or explosion. Please have the machine serial number, and if possible, the refrigeration unit S/N, along with your customer information available when you call.

Currently, no specialized training or certification is required for handling units with R290 gas, but specialized training is recommended.

PROPER R290 REFRIGERANT WORK PROCEDURES

If a complaint is received that a refrigerated unit containing R290 (Propane) is not chilling (drinks aren't cold, drinks don't get cold within X hours, etc.), any service work requires the proper precautionary steps in advance of approaching or servicing the machine.

These steps should be followed in the order in which they are provided here. No steps should be skipped.

- 1) Turn on an appropriate leak detection unit for use with flammable gases. The detection device should remain functional for the entire duration of the service event. If the service event requires removal of the refrigeration unit, the leak detector should remain operational until the refrigeration unit has been removed from the building.
- 2) As you approach the machine, sweep the lowest level of the floor, as propane is heavier than air, and will sink. Be aware of depressed pockets or spaces that might have collected residual gas after it has escaped.
- 3) If minimal refrigerant gas is detected, a fan to circulate the air should be placed to provide ventilation or exchange of the air in the area around the machine, or bank of machines.
- 4) If no gas is detected, the leak detector must remain operational, while the machine and/or unit is subjected to the troubleshooting process.
- 5) A plainly visible placard advising "No Smoking or Open Flame" should be positioned to be readily seen and obeyed by any local foot or vehicle traffic, including forklifts.
- 6) Once the placard is displayed, open the doors on the machine, one at a time, while continuing to hold the leak detector close to the floor. If a leak has occurred in the evaporator portion of the refrigeration units, any gas that has escaped would be

circulating in the chilled compartment. Exercise caution when opening the glass door as any gas will rapidly drop to the level of the floor.

7) Onsite repair, including evacuation of the unit, brazing, soldering or any other heat producing method, nor recharging should occur in a customer facility. These tasks should only occur in a properly equipped charging station specifically equipped to handle flammable refrigerant.

REFRIGERATION UNIT CAUTIONS AND DEFINITIONS



DANGER: Propane Gas (R290) is a flammable, odorless gas. While working on a machine, no smoking and no open flames should be permitted.



The hermetically sealed refrigeration unit in this machine does not contain any User Serviceable parts. In the event of any failure the entire refrigeration unit must be replaced.



CAUTION: Propane Gas (R290) is heavier than air, odorless, and can be considered an asphyxiant. It may displace oxygen and cause rapid suffocation. In the event of an accidental release, evacuate, then ventilate the area. Do not permit any ignition sources to approach until the area has been safely ventilated.



Use caution when handling, moving, and use of the Vendor to avoid either damaging the refrigerant tubing, or increasing the risk of a leak. **Do Not Puncture Refrigerant Tubing** or use any tools in the vicinity of the exposed tubing.

ELECTRICAL HAZARDS GENERAL ADVICE

Careless or improper handling of electrical circuits can result in injury or death. Anyone installing, repairing, loading, opening, or otherwise servicing a Vendor should be aware of this precaution. Apply all the normal precautions when handling electrical circuits, such as:

- Refrigeration service to be performed by qualified personnel only.
- Unplug the Vendor before servicing.
- Replace electrical cords if there is any evidence of fraying or other damage.
- Keep all protective covers and ground wires in place.
- Plug equipment into outlets that are properly grounded and polarized (where applicable) and protected with fuses or circuit breakers of the correct size.
- All electrical connections must be dry and free of moisture before applying power.

WARNING:

1. ALWAYS TEST TO VERIFY PROPER GROUNDING PRIOR TO INSTALLATION IN ORDER TO REDUCE THE RISK OF ELECTRICAL SHOCK AND FIRE.

ELECTRICAL HAZARDS

A. Servicing with "Power Off"

For maximum safety, unplug the power cord from the wall outlet before opening the Vendor door. This will remove power from the equipment and avoid electrical hazards. Service personnel should remain aware of possible hazards from hot components although electrical power is off.

B. Servicing with "Power On"

Some service situations may require access with power on. Only factory-authorized service technicians should perform service with power on. Caution is required in servicing assemblies that combine electrical power and mechanical movement. Sudden movement (to escape mechanical action) can result in contact with live circuits and vice versa. It is therefore important to maintain maximum clearances from both moving parts and live circuits when servicing.

2. ONLY FACTORY-AUTHORIZED PERSONNEL SHOULD PERFORM SERVICING. SUCH SERVICE BY UNQUALIFIED INDIVIDUALS CAN BE DANGEROUS.
3. LIGHTING CIRCUITS CAN BE HAZARDOUS. ALWAYS DISCONNECT VENDOR FROM THE WALL OUTLET BEFORE REPLACING OR SERVICING THE VENDOR IN THAT AREA.
4. NEVER USE A HOSE, PRESSURE WASHER OR ANY CLEANING METHOD THAT COULD WET ELECTRICAL COMPONENTS. SEE THE CLEANING SECTION OF MANUAL FOR THE CLEANING METHODS SUGGESTED. IF WATER CONTAMINATION OF ELECTRICAL COMPONENTS IS SUSPECTED, USE QUALIFIED ELECTRICAL TESTING EQUIPMENT AND TEST METHODS TO ASSURE THAT THE VENDOR IS NOT A HAZARD BEFORE APPLYING POWER FOR ANY REASON.



CAUTION: Any procedure marked with the symbol at left requires that the Machine have the power applied and a shock hazard exists. Only a trained and authorized person should attempt these repairs.



CAUTION: The Power Cord for all Machines are of a type X attachment. If the Power Cord is damaged, it should be replaced by a trained service agent, or a similarly qualified person to avoid a hazard.



CAUTION: It is important that this Machine is hooked up to the proper voltage and polarity for your country. Use a Voltmeter to verify voltage and polarity. Should the reading be any different than a normal reading or if you are unsure of what the reading should be, contact an electrician.

GENERAL INFORMATION AND SETUP

IDW GFV-400

GENERAL INFORMATION

INTRODUCTION

This Instruction Manual contains installation, operation, programming, and service information for the IDW GFV-400, by Innovative DisplayWorks, LLC. This manual also contains the electrical schematic for the IDW GFV-400.

The IDW GFV-400 is a microprocessor-controlled Glass Front Vendor that permits pricing per Selection from \$0.00 to \$99.95. The IDW GFV-400 provides electronic Space to Sales programmability, and it will collect, store, and transfer MIS (Management Information System) data fields to a Hand-Held Computer (HHC) or on-line device through a DEX port.

UNPACKING THE VENDOR AND INSTALLING IT ON LOCATION

UNWRAP THE VENDOR

IMPORTANT: Upon receiving the Vendor, carefully unwrap it and remove the shipping packaging. Check for any signs of damage. If the Vendor is damaged, note it on the Bill of Lading and contact the carrier immediately. If concealed damage is found after delivery driver has left, contact the carrier immediately and report the concealed damage. The carrier will instruct you on the procedure for filing a claim.

If the Vendor is being stored, remove the plastic stretch wrap, cardboard cover, and Styrofoam cushioning first. The plastic stretch wrap and Styrofoam cushioning can adhere to the exterior of the Vendor over an extended period of time, damaging the Vendor's finish.



T-HANDLE SPRING CLIP: The Vendor is shipped with a spring clip in the T-handle securing it in the locked position. Remove the spring clip by pulling it out of the T-handle.

SHIPPING SKID BOARDS: The Vendor will need to be safely lifted to remove the Leveling Legs that secure the Shipping Skid Boards. You can use a 7/16" socket on the top of the Leveling Leg to adjust or remove them. You can also use 1.5" socket or wrench on the bottom of the Leveling Leg to adjust or remove the Leveling Legs. Once Shipping Skid Boards are removed, put the Leveling Legs back on the Vendor to allow adjusting to level the Vendor.

!!! IMPORTANT!!! REMOVE THE INTERIOR PACKING

Before plugging in the Vendor's power cord, remove the interior packing. Failure to remove this packing before plugging in the Vendor may result in damage to the vend mechanisms.



- Remove the binder clips that secure each of the XY assembly two belts, located approximately in the middle of the belts' runs. Keep these clips in the Vendor for use when servicing or moving Vendor.
- Also, remove the blue transparent tape that restricts the movement of the Delivery Cup on the XY Assembly.

INSTALLING VENDOR ON LOCATION

This machine is designed to be used in an Indoor Setting only. Indoor Setting is defined as inside a structure constructed with four walls and a roof and sufficiently protected from ambient conditions and not subjected to the effects of weathering. Any other usage is in direct violation of these instructions and will void the warranty of the machine and its components. When placing the Vendor on location, allow for a minimum of 4" (10 cm) of space at the back of the Vendor. This will ensure proper ventilation of the refrigeration system.



CAUTION: The Vendor is a heavy item (Gross Shipping Weight 750 lbs./340 kg). Ensure that sufficient personnel are available for moving and/or transporting the Vendor. Use proper lifting procedures and equipment to prevent injury or damage.

To level the Vendor, close and latch the Vendor's door. Using a carpenter's level, adjust the four leveling legs until the top of the Vendor is level left-to-right and front-to-back. Make sure all leveling legs are in contact with the floor.

VOLTAGE REQUIREMENTS AND VENDOR'S POWER CORD

The Vendor is designed to operate at a voltage of 115 Volts AC, 60 Hertz. It requires a minimum 15-amp breaker or fuse, and it should be on a dedicated circuit. The service outlet voltage must not exceed 129 VAC or fall below 103 VAC.

The Vendor has a three-wire grounding cord. The Vendor must be plugged in a grounded electrical outlet to protect customers from electrical shock. If the outlet is not equipped with a grounded socket, have one installed by a qualified electrician. Do not use an extension cord. Extension cords are not recommended and if used void Vendor warranty.

After plugging the Vendor's power cord into the AC voltage source, the following should be observed:

1. The lighting system will illuminate.
 - a. Note the short Service area light is off when the Service Door is closed or the 3-pole Door Switch is pulled out.
2. The Refrigeration Compressor and Condenser Fan will start to run after approximately 5-7 minutes (with the Service Door closed or the 3-pole Door Switch pulled out).
3. The Evaporator Fan will run when the Service Door is closed or the 3-pole Door Switch is pulled out.
4. The Liquid Crystal Display (LCD) will light.

The Control Board is equipped with a battery back-up for use in the event of power loss. The battery is used to retain important programming information, such as Space to Sales, Prices, etc., so that it will not be erased if power is lost, GFCI is tripped, or if the Vendor is unplugged.

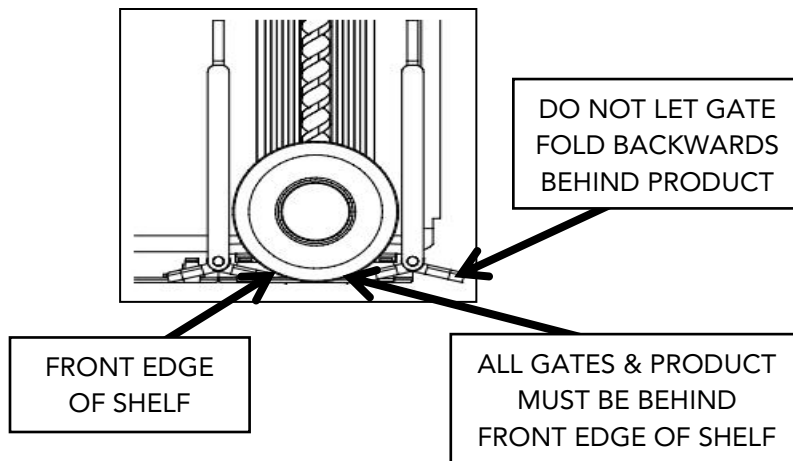
PROGRAMMING THE VENDOR

All programming of the Vendor is done in Service Mode. To enter Service Mode, open the Vendor's Service Door, press and hold the Service Mode Button located on the VMC (Vending Machine Control Board) until you hear a beep. For programming see the section entitled "Programming Quick Reference Menu Prompts," later in this manual. For detailed programming instructions refer to the Programming, Operation, Service Manual.

LOADING THE VENDOR

All products should be loaded so they

are in front of the pusher plate (not shown) but behind the front edge of the shelf, as shown in the illustration. The clear gate should not be folded backwards behind the product.



IDW GFV-400 SPECIFICATIONS

IDW GFV-400			
HEIGHT	72" (1830.8 mm)	Operating Voltage	120 VAC / 60 Hz
WIDTH	47.125" (1196.98mm)	Amperage Rating	8 Amp
DEPTH CABINET	33" (838.2 mm)	Refrigerant	R290
DEPTH with SERVICE DOOR	33.5" (850.9 mm)	Refrigerant Charge	113g
BASE	3.5" (88.9 mm)	# of Shelves	5
GROSS SHIPPING WEIGHT	750 lbs. (340 kg)	# of Cells (Columns)	50
NET WEIGHT	683 LBS. (310 kg)		
Glass Door: 37.5" (952.5 mm) wide, 68.875" (1749.4 mm) high. 66 lbs. (30KG) weight.			
Construction: Steel cabinet, plastic cells, glass front.			

IMPORTANT NOTE ON TRANSPORTING THE IDW GFV-400

Before transporting the IDW GFV-400, always ensure that the protective transport packaging is replaced, including:

- Binder clips to secure each belt, placed approximately in the middle of each belt's run.
- Cardboard to protect the glass.

Improper packaging before shipping/moving may cause damage and voids Vendor warranty.



VENDOR IDENTIFICATION

VENDOR SERIAL LABEL — The Vendor's main serial label is located on the interior left side of the Vendor's refrigerated product area and has the following information:

- Vendor Item Code/Model Number.
- Vendor Serial Number.
- Vendor Asset Code/Equipment Number.

The Vendor's Item Code/Model Number (Example GFV-400) provides the machine type, such as GFV - Glass Front Vendor; the model number such as 400 representing the number of 20-ounce PET bottles the machine will hold to vend.

The Vendor Serial Number contains several important pieces of information as well. The serial number currently in use consists of the following:

- "S" for Serial number.
- The first 3 numbers represent the manufacturing product code. GFV-400 is 637.
- The next 2 numbers represent the year the Vendor was produced.
- The next 2 numbers represent the month the Vendor was produced.
- The next 2 numbers represent the day the Vendor was produced.
- The next 4 numbers represent the number of a specific Vendor built within that week.

Vendor Serial Number Example: S6372505081234					
S	637	25	05	08	1234
Serial #	Product Code	Year	Month	Day	Specific Vendor # built on the date.

GLASS FRONT VENDOR INFORMATION LABEL ABOVE VENDOR SERIAL LABEL – this label provides important information that is used when operating and servicing the Vendor.

- Voltage/Frequency required by the Vendor.
- Rating Current - Amps required by the Vendor.
- Refrigerant used – R290.
- Charge - Unit charge amount of R290.
- Refrigeration design pressures – High Side & Low Side.
- Vendor Circuit Diagram.

The Refrigeration Serial Plate is in the compressor chamber, pasted on the front side of the compressor (the side facing the condenser fan), it looks like the Vendor Serial Plate with the exception that the model number specified is the Refrigeration Unit model. There is currently one model in use:

Model	Compressor size	Usage
NUS70NR R290	1/4 Horsepower	All Domestic IDW GFV-400

Vendor Component Explanation

VENDOR MAIN CONTROL BOARD - VMC

The Vending Machine Control Board (VMC) is responsible for most Vendor operations. The Control Board is protected by a cover. Removing this cover will expose the Control Board, along with all wiring connections to the Board.

OPERATION REQUIREMENTS: The VMC requires approximately 24- and 36-Volts DC from the Power Module Assembly. This will allow the VMC to function and to supply power to all the Vendor's components listed below.

OPERATION: Upon receiving the appropriate voltage from the Power Module, the VMC issues information to some components, receives information from some components, and communicates both ways with some components.

VENDOR MAIN CONTROL BOARD

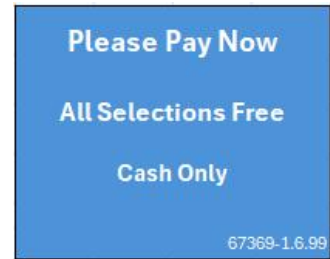
PINOUTS: Refer to IDW GFV-400 Programming/Operation/Service Manual.

WARNING: Unplug the Vendor before connecting or disconnecting harnesses to any component or another harness unless specifically advised by manufacturer to have power applied for a specific process / repair / installation.



LIQUID CRYSTAL DISPLAY (LCD)

The 3.2" LCD is located above the Bill Validator/Card Reader. All information to the programmer and to the customer is conveyed on the LCD.



DOOR SWITCH

The Door Switch is mounted on the Vendor's chassis above the Vendor's slide-out Service Door. The Door Switch is actuated by the Service Door each time it is opened or closed. The following functions are performed each time the Vendor Service Door is closed:



1. All Sold-Out Selections are cleared.
2. The greeting (POS) message scrolls on the Display.
3. If the Door Switch Reset is enabled (On) in Programming, the resettable MIS Counters will be reset if at least one Selections data has been read.
4. A 5–7-minute delay begins after which the Refrigeration Unit will come on.
5. The Lighting System will turn on.

TOUCH PAD

The 12-button Touch Pad is located on the right side of the Service Door front below the Bill Validator/Card Reader area. The Touch Pad contains the numbers 0-9, plus the * key and the # key. All the programming and sales selections are performed by way of the Touch Pad.



XY DELIVERY CUP

The XY Delivery Cup receives a package from the Cell and delivers it to the Delivery Port. The Delivery Cup has an IR (infrared) Sensor that consists of two separate components which work in conjunction with one another. The Emitter which emits an infrared beam and the Receiver which receives the infrared beam. When a product enters the Delivery Cup, the infrared beam is broken, signaling that a package is entering the Delivery Cup. The Boards then drive the Delivery Cup plunger a set number of rotations to drive the package into the Delivery Cup.



DELIVERY PORT

The Delivery Port on the Service Door receives a package from the Delivery Cup. The Delivery Port has a capacitive sensor in its base. This sensor is a circuit board with a digital circuit on it that detects when something is in the Delivery Cup. During a vend sequence once it senses something in the Delivery Port, the clear Delivery Door will open to allow consumer to remove package. Once the package is removed from the Port the sensor no longer detects the package and sends signal to close the clear delivery door.



POWER MODULE ASSEMBLY

The IDW GFV-400 uses a Power Module Assembly which converts 115 volts AC (conventional voltage) to 24- and 36-Volts DC, to power the Vendor's Control Board. The Power Module Assembly is a major contributor to the Vendor's operation. Without it, the Control Board cannot function.

LOCATION OF ELECTRONIC POWER MODULE ASSEMBLY: The Power Module Assembly is in the bottom of the service compartment area of the Vendor behind the Service Door Assembly. It is contained in a metal box which also holds the master Power On/Off Switch and the Fusebox assembly.

WARNING: Before removing this module, remove power from the Vendor by unplugging the Main Power Cord from the AC voltage source (wall outlet)!



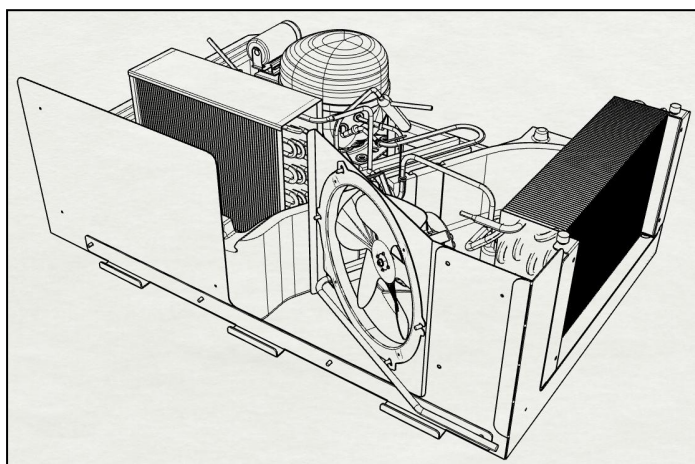
The Power Module has 2 Fuses (3AMP/250V). To remove, turn the Fuse Holder to the left to release and pull out the Fuse. To install, place a 3AMP/250V new Fuse in the Fuse Holder, place in Power Module, push in and turn to the Fuse Holder to the right to secure in place.



REFRIGERATION SYSTEM

The Vendor's Refrigeration System is responsible for the cooling of the cabinet and the products loaded in the refrigerated compartment. The Refrigeration System comes as a completely sealed Unit and should never be cut or tapped into, or the warranty will be voided.

Operation Requirements



The Refrigeration System requires 115 volts AC from the Main Wiring Harness for it to operate. The Main Wiring Harness gets its voltage for the Unit from the Refrigeration Relay.

Credit Peripherals

There are three possible credit peripherals for the IDW GFV-400: the Coin Changer, Bill Acceptor/Validator, and Card Reader.

- The Coin Changer determines the validity and value of each coin that is inserted in the Vendor and sends the coin information to the Vendor Control Board. The Coin Changer also continuously informs the Vendor Control Board if coins are available in the change tubes to be used for change payout.
- The Bill Acceptor/Validator determines the validity and value of each bill that is inserted and sends that information to the Vendor Control Board.
- The Card Reader which may allow customers to purchase a product using a debit card, credit card, campus card, apple pay, and android pay.

Note: For detailed information on any of the credit peripherals, refer to the separate operation and service manual provided by the peripheral's manufacturer.

Vendor Programming

PRECAUTIONS TO TAKE WHEN WORKING WITH CONTROL BOARDS

As with any printed circuit board, our electronics are very sensitive to Electrostatic Discharge (ESD). Simply walking across a tile or carpeted floor can generate a range of 30,000 to 50,000 volts of electricity. One ESD can be enough to seriously damage your Control Board or at least weaken it enough that erratic problems may occur in the future. Even a discharge surge under 100 to 200 volts is enough to create problems within the circuitry of the electronics. It is advised when storing the electronics that they be kept in anti-static bags, even if the electronics are thought to be defective. If a Control Board is thought to be defective and is not, it soon will be after being charged with ESD. **The ideal prevention against ESD is to use anti-static conductive wrist straps which ground you to the machine before touching the electronic boards.** If it is not possible to use these, at least ground yourself before handling the electronic boards by touching the metal framework of the Vendor. Whatever method you use, always handle the electronic boards by the edges. Be careful not to touch the components on the Control Board.

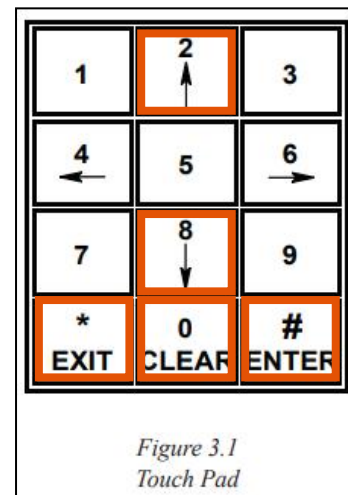
TOUCH PAD PROGRAMMING

It is very important that the IDW GFV-400 is programmed properly. All programming of the Vendor options is done in Service Mode. To enter Service Mode, open the Vendor Service Door, and press the blue Service Mode Button located on the bottom right corner of the Control Board until you hear a beep.



The Vendor's Touch Pad consists of 12 Buttons. Seven of these Buttons (see Figure 3.1) are used to program the Vendor and navigate through the Service routines as follows:

Select Button ↑ or 2 : Up	Select Button ← or 4 : Left
Select Button ↓ or 8 : Down	Select Button → or 6 : Right
Select Button 0 : Clear Errors	
Select Buton * : Exit, Cancel, Back, Delete, Save	
Select Button # : Enter, Change, Save, Select, Enable, Disable, Assign, Unassign	



The Control Board will automatically return to the Sales Mode if:

- No response from the Touch Pad has been received for approximately 5 minutes.
- The Service Mode Button is pressed a second time.
- The Service Door is closed.

- The three-way Door Switch is pulled out.

If credit exists, the credit amount will be displayed after returning to Sales Mode.

Internal (Service) Menu

To enter Service Mode, open the Vendor Service Door, and press the blue Service Mode Button located on the bottom right corner of the Control Board until you hear a beep.



The following is the IDW GFV-400 Programming Quick Reference Menu Prompts.

Following the Display prompts will direct you how to program the Vendor.

Note: For detailed programming instructions please refer to the IDW GFV-400 Programming/Operation/Service Manual.

IDW GFV-400-50 PROGRAMMING QUICK REFERENCE MENU PROMPTS pg. 1

Select Button ↑ or 2 : Up			Select Button ← or 4 : Left		123 456 789 *EXIT0#	Calibration (continued)	· Calibrate Selection		
Select Button ↓ or 8 : Down			Select Button → or 6 : Right				· Calibrate Port		
Select Button 0 : Clear Errors							· Light Activity Time (default 300 sec)		
Select Buton *: Exit, Cancel, Back, Delete, Save									
Select Button #: Enter, Change, Save, Select, Enable, Disable, Assign, Unassign									
						*Enter Password #4231#	*Cash Counters	Total \$ all paid vends	
No Errors		No errors registered since the last reset.		Errors Continued	· Refrigeration		Temp Sensor	Select # \$ all paid vends	
Errors	· Control System	Door Switch	System Info		Time setting, Machine Model & Serial #, VMC Model & Serial #, Boot Loader #, etc.		Temp Too Cold	*Sales Counters	Total products vended
		RAM Checksum					Temp Too Hot		Select # total products vended
		DC Under Voltage					Compressor	*Card Counters	Total or by Selection
		DC Over Voltage					Heater		Vends #####
		System Scale Factor					Not Cooling		Value \$\$\$\$.\$
		Inlet Sense					Health Safety Failed	*Token Counters	Same as Card Counters
		Inlet Blocked						*Discount Counters	Same as Card Counters
	· Select Switch	Select Switch ##	Coin Payout	5¢, 10¢, 25¢, etc.			*Free Vend Counter	Same as Card Counters	
	· Changer	Changer Comm	Tube Fill	5¢ #, 10¢ #, etc.	\$0.00 X 0		*Set Prices	All	
		Tube Sense						Shelf	
Changer Inlet		Test Modes	· Test Vend	All/Individual Selection	*Space to Sales		Selection		
Tube Jam XX				· Test Sel Switch			1-9, 0=10	1 to 1	
Changer ROM				· Test Display			<Exit> to end test	By Half Rows	
Excessive Escrow				· Test Relays			Heater Relay	By Rows	
Coin Jam							Compressor Relay	Custom	
Low Acceptance							Evap Fan Relay	Vend Evenly	
Disconnected Acceptor									
Misrouted Coin		Vend Mech Diagnostics (Is under Test Modes and follows Test Relays)	· Run Cup	Pass/Fail	*Set Package Sizes		All		
· Bill Validator	· Perimeter Test		(x5) (Pass/Fail)				Shelf		
	· Figure-8 Test		(x5) (Pass/Fail)				Cell		
	· Delivery Test		Pass/Fail	*Configurations			C2- Optional Features		
	· Production Test		Pass/Fail				C3 – POS Message		
	· Port		Lock Outer Door				C4 – Auto View Counts		
			Close Outer Door				C5 – Dr Switch Reset		
Open Outer Door			C7 – Save Credit						
Lock Inner Door			C8 – Force Vend						
Light (check box)	C9 – Multi-vend								
		C10 – Bill Escrow							
· Card Reader	Card Reader Comm	· Motors	Up/down to test Y axis	*Correct Change	Consumer Overpay				
	Card Reader Error XY		Left/right to test X axis		Correct Change Value				
	Delivery System				Uncond. Accept. Value				
	Cup Sensor		· Sensors	Shows Sensors Status	*Preview Password		View current PW		
	Home Sensor			Calibration			#3456#	Change PW	
Critical Mech	(Is under Test Modes and Follows Sensors)	· Package Size Mapping			*Set Date/Time	Date YYYY-MM-DD			
Delivery Port Sensor			Small – 300 revolutions	Time 24-hour format					
Delivery Port Door			Standard = 520 revs.	Daylight Savings Time					
· Space to Sales	Unassigned ##			Large = 690 revs.					

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Select Button ↑ or 2 : Up		Select Button ← or 4 : Left									
Select Button ↓ or 8 : Down		Select Button → or 6 : Right									
Select Button 0 : Clear Errors											
Select Buton *: Exit, Cancel, Back, Delete, Save											
Select Button #: Enter, Change, Save, Select, Enable, Disable, Assign, Unassign											
*Enter Password #4231# Continued	*Refrigeration	Conserve Energy									
		Start Days									
		Start Time									
		Stop Days									
		Stop Time									
		Use Celsius									
		Set Point									
		Storage Temp									
		Display									
		Defrost Duration									
	*Lighting Control	Active Brightness									
		Inactive Brightness									
		Control Enable									
		Start Days									
		Start Time									
		Stop Days									
		Stop Time									
	*Select Block 1/2	Enable									
		Start Days									
		Start Time									
		Stop Days									
		Stop Time									
		Blocked Selections									
	*Select Discount 1/2/3	Enable									
		Start Days									
		Start Time									
		Stop Days									
		Stop Time									
		Discount Selections									
		Less Amount									
	*Override Switch	Free Vend									
		No Vend									
		Blocking Disable									
		Discount Disable									
		Light Control Disable									
		Refrigeration Disable									
	*Apply Update										
*Revert to Defaults											

Vendor Maintenance and Cleaning

Vendor Maintenance

The most important facets of proper care and maintenance of your machine are the electrical power supplied to it, leveling, and cleanliness of the machine.

What to Clean

CAUTION: Electrical and electronic components should **NEVER** be subjected to water.

Remove power to the Power Module Assembly before cleaning or when any electrical components are connected / disconnected for testing or replacement unless specifically advised by manufacturer to have power applied for a specific process / repair / installation.

Glass Door:

The display glass should be cleaned inside and out with paper towels and glass or non-abrasive all-purpose cleaner. The gasket around the product door should be wiped down using warm water, any mild general purpose, non-abrasive cleaner and a soft towel. Never lubricate the gasket and always check for cracking or deformities which may cause leaks. Replace it if necessary.

Belts:

The belts should always be kept clean and free of debris to ensure efficient operation, as well as to extend the life of the belts.

Cabinet:

Wash the cabinet with a good detergent or soap mixed in warm water. Wax the Vendor often with a good grade of automobile wax. Any corrosion inside the Vendor should be removed with fine steel wool and the area should be painted with white paint. Repair any scratches on painted surfaces to prevent corrosion.

Cells (Track):

Make sure the shelf Cells are free of dirt, syrup, and debris. Build-up of foreign material, especially syrup from broken or leaking packages, can cause the Cell to stick and adversely affect the Cell's performance. Remove the Track from the Vendor and use warm soapy water or other food grade cleaning agents to maintain a clean smooth surface. Also make sure that the Cells are level and seated properly in the tracks that they slide into.

DO NOT USE SOLVENTS OR ABRASIVE MATERIALS TO CLEAN ANY PORTION OF THE CELLS (TRACK).

Refrigeration Condenser and Evaporator Coils:

For efficient operation, the Condenser and Evaporator Coils must be kept clear of any dirt or foreign materials. The Refrigeration Cassette will need to be removed from Vendor to clean dirt and debris from the Condenser and Evaporator Coils with a small light-bristled brush, vacuum cleaner, or compressed air. This will help to ensure an extended Refrigeration Unit life.

Drain Pan and Soakers:

To prevent mold and mildew growth, and to avoid personal injury or property damage, the Drain Pan and Soakers must be periodically inspected for the presence of dirt, debris, mold, and mildew. Clean as needed and replace soakers as needed.

VMC (Vending Machine Control Board):

The Vendor's Control Board (VMC) should always be enclosed by its cover to protect it. Routine cleaning is not necessary but, if desired, **remove power from Vendor** and the Board area may be blown out with compressed air.

Delivery Port:

Make sure that the Delivery Port remains clean and free of any debris or other objects that may block the Optic Sensors. Bottles tend to lose their labels, which may be left in the Delivery Port. If objects are left in the Port and the Sensors are blocked, the Board will assume there is a package in the Port and will not deliver product to the Port.

Elevator Arm and Cup Tracks:

The Elevator Arm and Delivery Cup assemblies travel on aluminum tracks that guide these components. Make sure that these tracks are kept clean and free from foreign material such as dirt, syrup, or other debris. Use a wet cloth to wipe these tracks clean. Avoid using any type of silicone or lubricant, as they tend to collect dirt and will adversely affect performance.

XY Delivery Cup: The Delivery Cup Floor should be kept clean and free of syrup, dirt, and debris. Use warm soapy water on a cloth or other food grade cleaning agents to maintain a clean smooth surface. Periodically apply Armor All or a Food Grade Silicone to the Delivery Cup Floor to enhance Package delivery into the Cup. **DO NOT USE SOLVENTS OR ABRASIVE MATERIALS TO CLEAN ANY PORTION OF THE DELIVERY CUP.**

Peripherals (Coin Mech, Bill Acceptor, Card Reader)

Follow the Peripheral Manufacturer's instructions for maintenance and cleaning.

Preventive Maintenance

Vendor Leveling:

Make sure that the Vendor is level when placed on site. If the Vendor is not properly leveled it can begin to accumulate standing water, which over time may begin to freeze and will eventually freeze the Evaporator. Another problem that may occur from an unlevelled Vendor will be improper vending, which would include but not be limited to product not vending from Cell, product vending slowly from Cell, product not being delivered to the Delivery Bin, or product jamming.

Power

Domestically the machine must be connected to a dedicated 120 VAC, 15 Amp circuit (U.S. and Canada). Refer to the cabinet serial number plate to determine the correct voltage and frequency for the machine.

Power Supply Cord

Periodically inspect the Power Supply Cord for damage. If the cord or plug is worn or damaged, it must be replaced with a new Power Supply Cord of the same type, size and specification as originally provided with the machine. **DO NOT USE THE VENDING MACHINE UNTIL THE WORN OR DAMAGED POWER SUPPLY CORD IS REPLACED.**

Ground Fault Circuit Interrupter (GFCI)

The Ground Fault Circuit Interrupter (GFCI) must be tested frequently and before each use in accordance with the instructions provided on the GFCI device. **IF THE GFCI DOES NOT PASS THE TEST, DO NOT USE THE MACHINE.** Unplug the Power Supply Cord from the receptacle and call the Innovative DisplayWorks Technical Support Group for assistance at 1-909-447-8254.

Lubrication Not Required

Refrigeration Unit:

The Refrigeration Unit is a hermetically sealed system that does not require any lubrication.

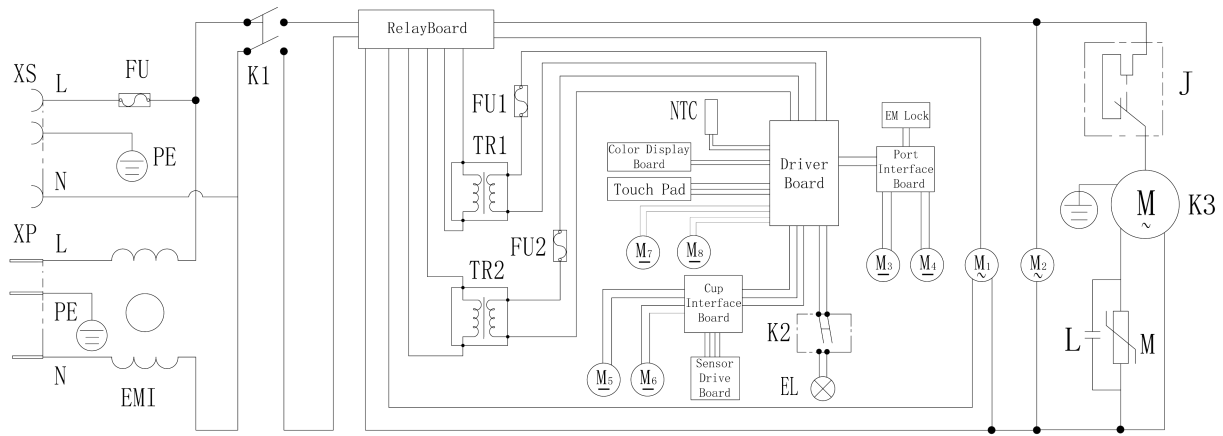
Condenser Fan Motor and Evaporator Fan Motor:

The Condenser Fan Motor and Evaporator Fan Motor are sealed and do not require any lubrication.

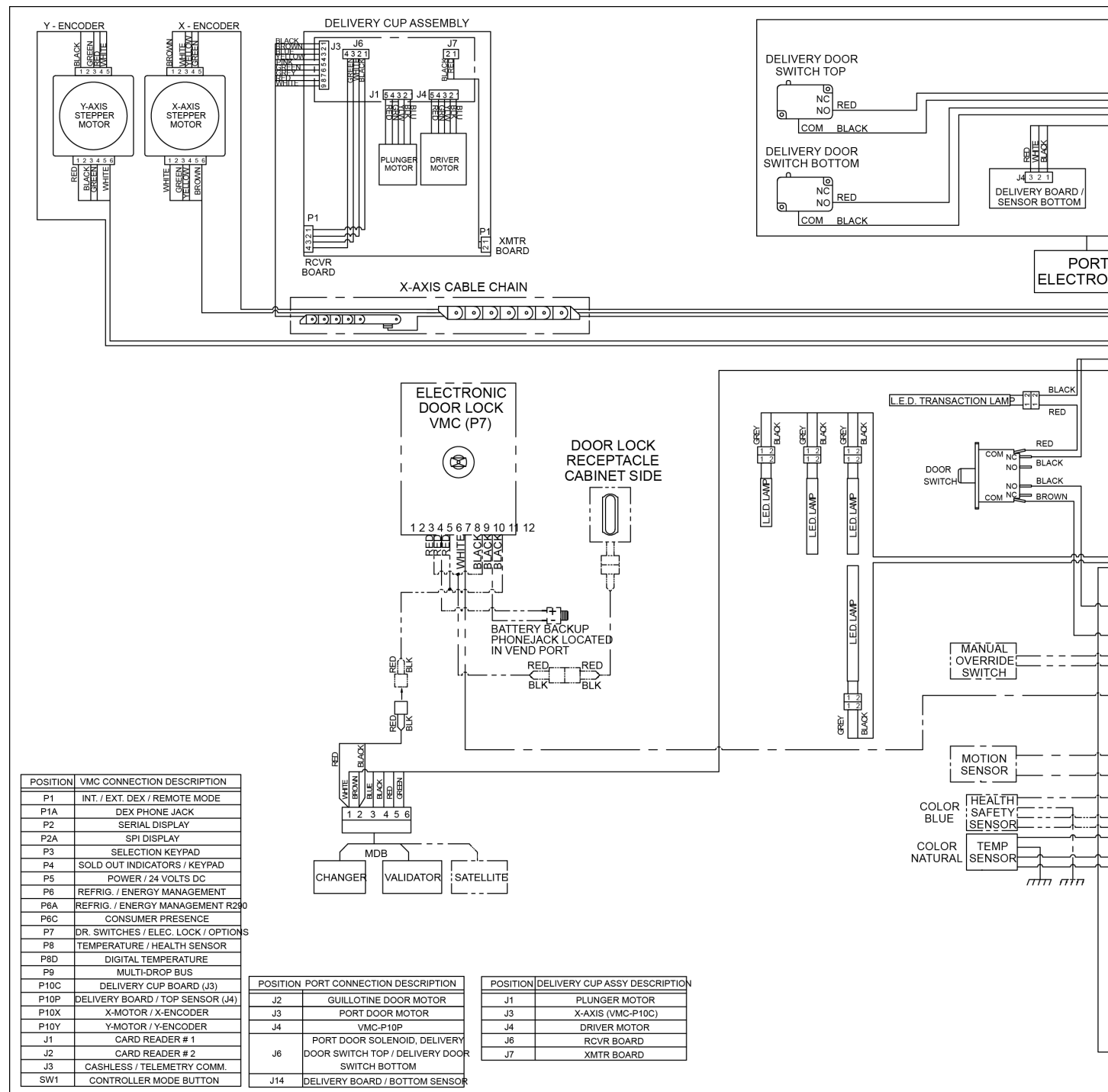
Troubleshooting

For Vendor Troubleshooting please refer to the IDW GFV-400 Programming/Operation/Service Manual.

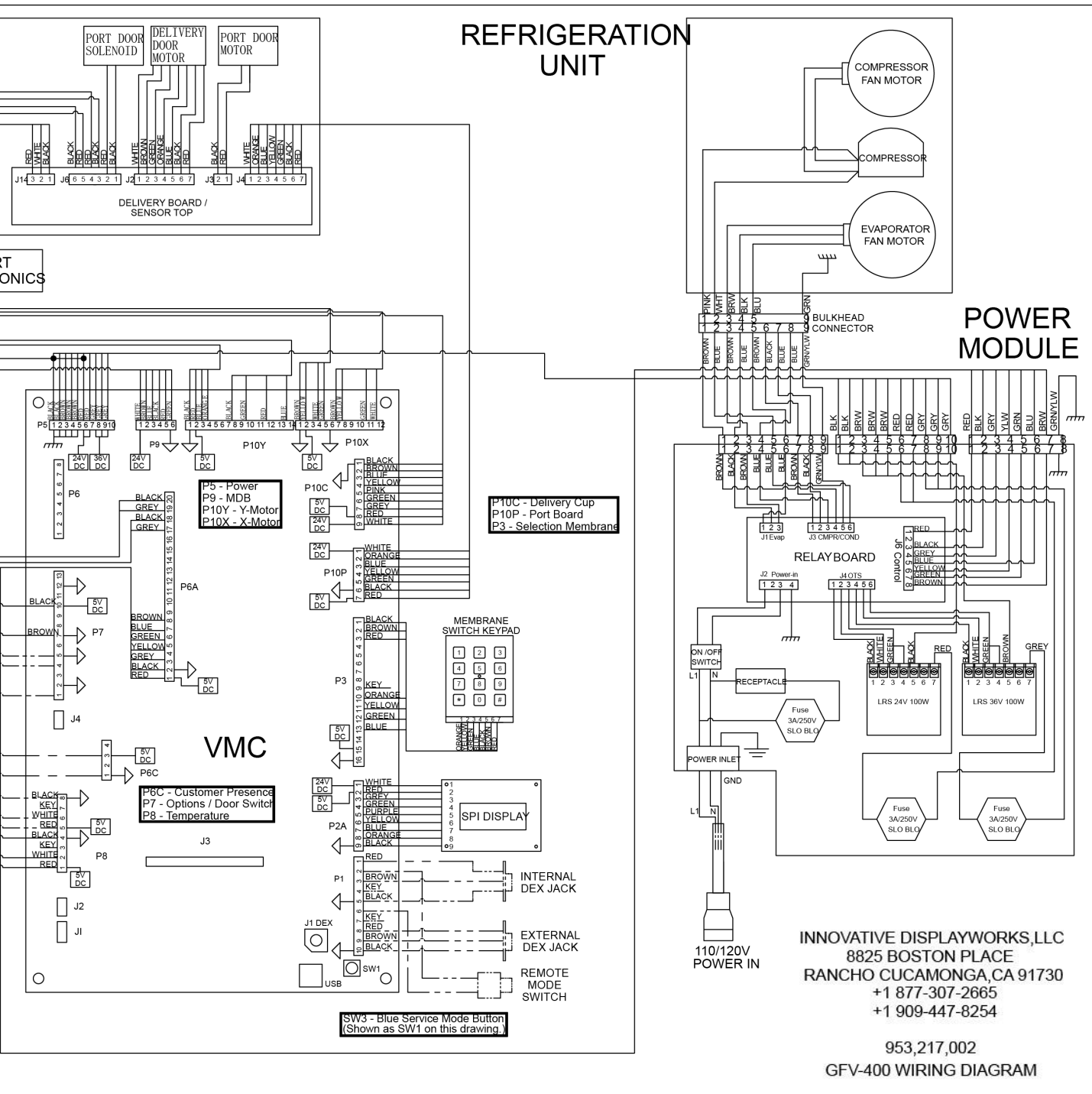
Circuit Diagram



XP – Power	M1 – Evap Fan
XS – Outlet	M2 – Condenser Fan
EMI – EMI Filter	M3 – Port Door Motor
TR1 – 36V Power Supply	M4 – Port Pickup Motor
TR2 – 24V Power Supply	M5 – Cup Rotary Motor
L – Compressor Running Capacitor	M6 – Cup Telescopic Motor
K1 – Power Switch	M7 – Elevator (Y) Motor
K – Door Switch	M8 – Traverse (X) Motor
J – Overload Protector	M – Compressor PTC
FU1 – 36V Fuse	K – Compressor
FU2 – 24V Fuse	NTC – Temperature Sensor
FU – Fuse	EL - Light



Electrical Wiring Diagram





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