

VMSL

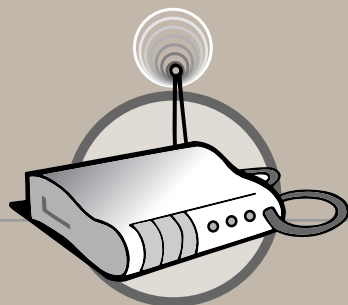
VENDING MANAGEMENT SERVICES LTD

Technical Information

Vendware™

EVIU300™

Vendor Interface Unit
Installation Instructions



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Technical Information

VIU300™ Installation Instructions

Vendor Interface Unit

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REGULATORY DECLARATIONS:

- This unit is only to be serviced by suitably qualified personnel.
- There are no user serviceable parts within the VIU.
- All power must be removed from the vending machine and VIU prior to any servicing, installation or de-installation.
- Caution, risk of explosion if battery is replaced with an incorrect type. Dispose of used batteries according to the instructions.

WARNING

The Motorola G18 GSM Radio Module used in the VIU300 may produce electromagnetic fields that are capable of igniting some gases and vapours if present in the vicinity of the device.

To avoid risk of igniting flammable gasses and vapours, always use and install this device in a well ventilated area away from all Type IIA gases and gas storage facilities.

The device may operate without warning and contains battery backup to ensure operation even during mains power failure.

Disable the backup battery and disconnect all mains power before releasing all Type IIA gasses near this device.



Ignition of Flammable Atmospheres Hazard

COMPATIBILITY

This Instruction covers the installation of the Vendor Interface Unit (VIU) with the following specifications.

VIU Unit Specification:

VIU300 unit with integral Motorola G18 GSM/GPRS Modem module

The vending machine specifications

- Electronically Controlled (uses a VMC)
- MDB compatible (EVS 2.2 or later)
- DEX compatible (EVS 2.2 or later)

Preparation

Before commencing the installation it is necessary to confirm that the VIU will call in from the machine site.

- Check the signal strength with an ordinary Cell-phone by reading the number of "signal bars" that are present, or by making a call from the site. Note that this should be done from a phone connected to the same GSM network as the VIU being installed
- Make a quick check of the machine to ensure that it is compatible with the VIU

To perform a pre-install call in, use the following steps

- Ensure that the machine is **powered down**
- Insert the SIM card in the modem – refer to section on "Installation of SIM Card"
- Connect the antenna harness to the VIU and the antenna, temporarily position the antenna as close as practicable to the place where it is to be mounted
- Connect the MDB harness – refer to the section on "MDB Harness Installation"
- Connect the DEX harness – refer to the section on "DEX Harness Installation"
- **Power up** the vending machine and wait for the initialisation sequence to finish
- Press the Test Button, the green LED (Light Emitting Diode) on the Fill Button should flash then stay on solid until the call is completed
- Contact the Support Centre to verify that the call is successful

Equipment required for Installation

- | | | |
|-------------------|---|---------------------------------------|
| - VIU | - | VIU300 Unit |
| - GSM SIM Card | - | SIM may be pre-installed in the unit. |
| - MDB Harness | - | LM-VIU050 |
| - DEX Harness | - | LM-VIU026 |
| - Antenna Kit | - | VA-ANTG-035 |
| - Electronic Lock | - | Optional |

OTHER REQUIRED ITEMS ARE

- 13/32" Pilot point Drill (or standard 10.0mm Drill Bit)
- VIU support brackets (Specific to machine type)

VIU300 Main Board

CONNECTOR LAYOUT OF CIRCUIT BOARD



Connector locations on VIU300 Unit

SIM Card Installation

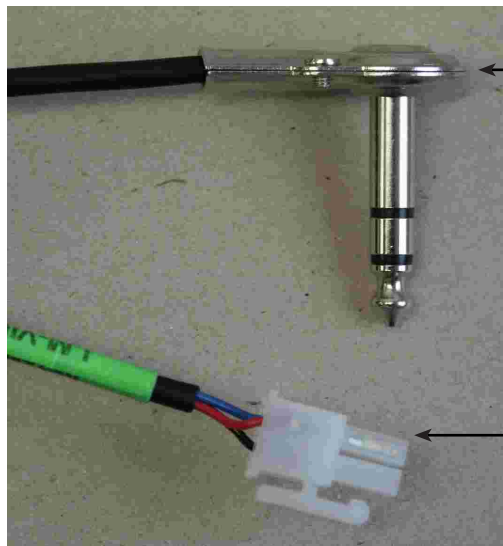
- The SIM card may be pre-installed in the VIU prior to issue. Please check before proceeding with this part of the instruction.
- Installation of the SIM card will require removal of the end panel of the VIU300 unit.
- Undo the 4 screws holding the end panel with the antenna connector to the VIU300 case body.
- Undo the antenna connector retaining nut from the end panel.
- Remove the end panel, exposing the modem unit SIM slot.
- Carefully slide the SIM card into the SIM card slot of the modem unit with the SIM card contacts facing the body of the modem.
- Refit the end panel with the 4 screws and the antenna retaining nut. Do not over tighten.



Harness Installation

DEX HARNESS

- Plug the DEX connector into the DEX output of the Vending Machine Controller (VMC)
- Run the harness to the VIU and connect
- Secure the harness with plastic cable ties

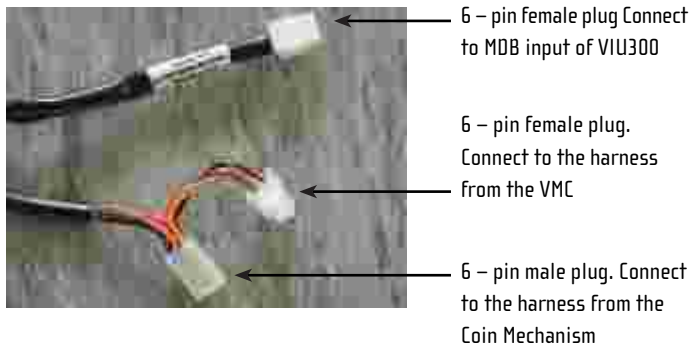


Connects to DEX output on VMC (Phono plug shown, but a Flat plug version is also available)

This 4 way Molex Minifit Jr connector goes to the DEX port on VIU300

MDB HARNESS

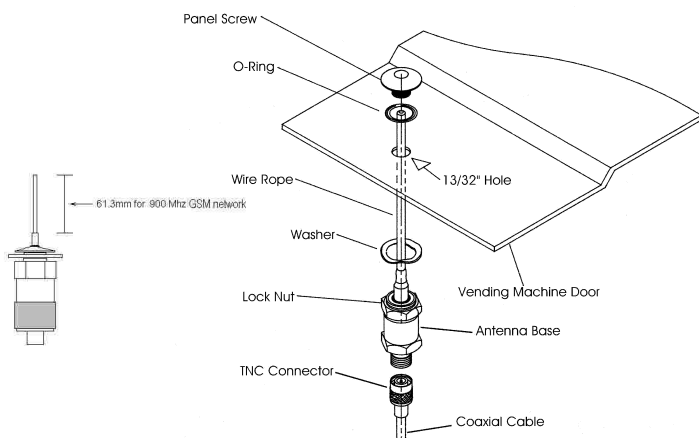
- **POWER DOWN THE VMC** to prevent damage to the VMC and Coin mechanism when connecting and disconnecting the MDB harness.
- Interrupt the Power harness (MDB) between the Coin Mechanism and the VMC
- Connect the VIU Power harness (MDB harness) in line with the Coin Mechanism and the VMC. The two 6 – pin connectors on the loom are configured so that it is difficult to make an incorrect connection.



Antenna Installation

Note: the Antenna must be positioned such that it will be (normally) no less than 20cm distant from any persons in the vicinity.

- Locate and mark the position to mount the Wire-rope antenna. This would normally be in the middle/top of the door. (The thickness of the metal here is nominally 1.6mm thick)
- Drill a 10mm (13/32") hole; making sure the metal filings don't fall into the machine. Note: Some machines like the Dixie Narco® Elevator have pre-drilled holes from factory
- Assemble antenna in door as shown in the figure below. Screw the antenna base into the Panel Screw hand tight, and then tighten the 21mm lock nut
- Connect coaxial lead to antenna base
- Connect the other end of coaxial lead to the TNC connector on the VIU
- Continue installing the VIU in the normal manner



Assembling GSM Wire-rope Antenna

Initial Call Through Tests

Complete the initial call through tests before fixing the VIU to the mounting bracket and securing all the looms

1. The VIU will initialise once the power has been applied to it.

- First the LED on the FILL button will pulse for 10 seconds. (Start up delay period)
- Next it will flash for approximately 10 – 15 seconds to indicate that a DEX interrogation is in progress
- The LED will stop flashing and stay off

2. Press the FILL button.

- The LED will flash for approximately 10 – 15 seconds indicating a DEX interrogation is in progress
- The LED will stay on solid for up to 30 minutes indicating that the Fill button has been pressed.

3. Press the TEST button (for about 1 second) – located through hole on side of the case

- The LED will flash for approximately 10 – 15 seconds (DEX Interrogation)
- The LED will then stay on solid as the unit calls in. (approximately 20 seconds)
- At the completion of the call, the LED will flash for a few seconds and then remain off

4. Call the Support Centre and confirm that the unit called in correctly.

Lock Installation

Refer to the appropriate instructions for the installation and testing of Vendware™ locks

Final Checks

- Secure all harnesses in the harness runs
- Check that all harness connections on the VIU are secure
- Secure the VIU in it's final position
- Tie back excess loom lengths and ensure looms are placed out of the way and are not in a position to be snagged or damaged
- Check all remaining harness connections are secure
- Press the TEST button and observe the operations of the Green LED as described in the previous chapter
- Call the Support Centre and confirm that the unit called in correctly

Troubleshooting

Installation of the VIU is designed to be straightforward. If the unit does not perform as expected, then the problem should be referred to your Support Centre for further investigation. The VIU will display certain Error Codes as a series of cadenced flashes on the status LED viewed through the aperture in the side of the case below the connector strip. These will assist with testing and isolating communication problems. The VIU Error Codes are:

CODE	ERROR	POSSIBLE CAUSES
1	Modem problem	<ul style="list-style-type: none"> – Modem/carrier board not seated correctly – Loose or faulty SIM card, or incorrect network configuration – Internal VIU/modem problem
2	(Not used)	
3	Failed to connect to HOST computer	<ul style="list-style-type: none"> – Antenna not connected correctly or not at all – Insufficient signal strength and/or quality – Loose or faulty SIM card, or incorrect network configuration – VIU configuration has been corrupted – Possible problems with the Carrier's network – VMSL Host computer is unavailable at time of call
4	Failed to complete a successful call to the HOST computer	<ul style="list-style-type: none"> – Insufficient signal strength and/or quality – Loose or faulty SIM card, or incorrect network configuration – Possible problems with the Carrier's network – VMSL Host computer problem
5	EEPROM fault	<ul style="list-style-type: none"> – EEPROM data missing or corrupt
50/50 <i>(slow flash)</i>	5 Failed Call Attempts	<ul style="list-style-type: none"> – Failed to successfully call within 5 attempts after a reset. This can result from any of the above errors.

VIU300 Error Codes

Electrical Specifications

Power Supply Requirements: (from MDB Interface)

Input Voltage: 24 to 42 Volts DC, 28 Volts Nominal

Input Currents: 2 Amps peak,
50mA nominal
while calling: 250mA
while locking or unlocking: up to 1A

Internal Power Sources (Batteries):

Real Time Clock backup supply: CR2032

Unit backup: Yuasa NP0.8-12 (12V 0.8Ah/20hr) or similar

Wireless Communications:

Modem Type: Motorola G18 GSM/GPRS wireless modem

basic specifications: GSM + GPRS Compliant

RF Frequencies : 900MHz 1800MHz and 1900MHz

Maximum Output Power: 33dbm (2 Watts) at 900MHz

Antenna Connection on VIU300: TNC

DEX Interface Port:

Electrical Interface : RS232 with High Impedance Mode

Communications Rate: 9600 bps 8 bit, no parity

Extension Peripheral Port:

Electrical Interface : RS232

Key Input: 5 Volt Logic at up to 1mA

Lock Output: 12 Volts DC at up to 2 Amps

Other Input and Output:

5 Volt logic level inputs and open drain outputs.

Environmental Specification:

Operating Temperature Range: 0 to 50 degrees centigrade

Operating Humidity: 0 to 75 percent non-condensing



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