GILBARCO VEEDER-ROOT

LATITUDE™

Owner's Manual

MDE-5422D

Computer Programs and Documentation

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Federal Communications Commission (FCC) Warning

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Approvals

Gilbarco is an ISO 9001:2008 registered company.

Underwriters Laboratories (UL):

UL File#	Products listed with UL
MH1941	All Gilbarco pumps and dispensers that bear the UL listing mark.
MH8467	Transac System 1000 and PAM 1000
E105106	Dell DHM Minitower
E165027	G-SITE and Passport Systems

California Air Resources Board (CARB):

Executive Order #	Product
G-70-52-AM	Balance Vapor Recovery
G-70-150-AE	VaporVac

National Conference of Weights and Measures (NCWM) - Certificate of Conformance (CoC):

Gilbarco pumps and dispensers are evaluated by NCWM under the National Type Evaluation Program (NTEP). NCWM has issued the following CoC:

CoC#	Product	Model #	CoC#	Product	Model #
02-019	Encore	Nxx	02-036	Legacy	Jxxx
02-020	Eclipse	Exx	02-037	G-SITE Printer (Epson)	PA0307
02-025	Meter - C Series	PA024NC10		G-SITE Distribution Box	PA0306
	Meter - C Series	PA024TC10		G-SITE Keyboard	PA0304
02-029	CRIND	—		G-SITE Mini Tower	PA0301
02-030	TS-1000 Console	—		G-SITE Monitor	PA0303
	TS-1000 Controller	PA0241		G-SITE Printer (Citizen)	PA0308
	Distribution Box	PA0242	02-038	C+ Meter	T19976
	Meter - EC Series	PA024EC10	02-039	Passport	PA0324
	VaporVac Kits	CV	02-040	Ecometer	T20453
			05-001	Titan	KXXY Series

Trademarks

Non-registered trademarks

Applause™ Media System	Gilbert™	Optimum™ Series	Tank Monitor™
CIM™	G-SITE™	PAM™	TCR™
C-PAM™	G-SITE® Link™	PAM™ 1000	The Advantage™ Series
Dimension™ Series	G-SITE® Lite™	PAM™ 5000	Titan™
Ecometer™	Highline™	Passport™	Trimline™
Eclipse™	Horizon™	SMART Connect™	Ultra-Hi™
ECR™	InfoScreen™	SMART CRIND™	ValueLine™
e-CRIND™	Insite360™	SMART Meter™	
EMC™	Making Things Better™	SmartPad™	
FlexPay™	MPD™	Super-Hi™	
G-CAT™	MultiLine™	Surge Management System™	

Registered trademarks

CRIND®
Encore®
Gilbarco®
Legacy®
Performer®
Transac®
Transac® System 1000
TRIND®
VaporVac®

Service mark

GOLD℠

Additional U.S. and foreign trademarks pending.
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1 – Introduction

Purpose

This manual provides instructions for safely operating and maintaining LATITUDE™ pumps/dispensers (hereafter referred to as units, unless otherwise specifically stated).

IMPORTANT INFORMATION
This is the original manual and contains instructions in English. Manuals that are in languages other than English are a translation of the original manual. Modifications to this equipment or connection of unauthorized equipment to its electrical circuits is likely to invalidate any safety or metrological certification and is likely to invalidate Electromagnetic Compatibility (EMC®) performance.

Intended Users

This manual is intended for the owners and operators of Latitude units.

Support Information

For technical assistance, contact Gilbarco® Help Desk on the following numbers:

- Middle East Africa (MEA): +9971566441341
- South-East Asia (SEA): +6596723261
- Sub-Saharan Africa (SSA): +27725308637

Scope

This manual provides the following information on using Latitude units:

- Operating the units
- Preliminary steps for servicing the units
- Maintaining the units

Related Documents

Document Number	Title	GOLD℠ Library
MDE-5427	Latitude Installation Manual	Latitude
MDE-5445	Latitude Service Manual	Latitude
MDE-5474	Latitude Programming Quick Reference Guide	Latitude
MDE-5475	Calibration Quick Reference Card LATITUDE LS100/200/300	Latitude
MDE-5512	Latitude Multimedia Programming and Service Manual with Applause™ Media System	Latitude
MDE-5551	Latitude Vapor Recovery and Monitoring System Operational Manual	Latitude

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
ATCL	Automatic Transfer Control Logic
ATEX	Explosive Atmospheres
CC	Command Code
CSC	Customer Specified Contractor
CPR	Cardiopulmonary Resuscitation
EC	Error Code
EMC	Electromagnetic Compatibility
EU	European Union
GOLD	Gilbarco Online Documentation
GPU	Global Pumping Unit
J-box	Junction Box
LCD	Liquid Crystal Display
LED	Light Emitting Diode
MEA	Middle East Africa
POS	Point of Sale
PPU	Price per Unit
SEA	South-East Asia
SSA	Sub-Saharan Africa
USB	Universal Serial Bus
VDC	Voltage Direct Current

2 – Important Safety Information

Note: Save this Important Safety Information section in a readily accessible location.

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock or pressure release could occur and cause death or serious injury, if these safe service procedures are not followed.

Preliminary Precautions
You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage or pressures. Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain or service this equipment.

Emergency Total Electrical Shut-Off
The first and most important information you must know is how to stop all fuel flow to the pump/dispenser and island. Locate the switch or circuit breakers that shut off all power to all fueling equipment, dispensing devices, and Submerged Turbine Pumps (STPs).

WARNING

The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser. This means that even if you activate these stops, fuel may continue to flow uncontrolled.

You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not the console's ALL STOP and PUMP STOP or similar keys.

Total Electrical Shut-Off Before Access
Any procedure that requires access to electrical components or the electronics of the dispenser requires total electrical shut off of that unit. Understand the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gilbarco equipment.

Evacuating, Barricading and Shutting Off
Any procedure that requires access to the pump/dispenser or STPs requires the following actions:

- An evacuation of all unauthorized persons and vehicles from the work area
- Use of safety tape, cones or barricades at the affected unit(s)
- A total electrical shut-off of the affected unit(s)

Read the Manual
Read, understand, and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call a Gilbarco Authorized Service Contractor. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations
All national regulations related to installation, commissioning, maintenance, and repair must be observed.

Replacement Parts
Use only genuine Gilbarco replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gilbarco replacement parts could create a safety hazard and violate local regulations.

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol

This safety alert symbol is used in this manual and on warning labels to alert you to a precaution which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

Signal Words
These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions below must be followed to prevent death, injury or damage to the equipment:

DANGER: Alerts you to a hazard or unsafe practice which will result in death or serious injury.
WARNING: Alerts you to a hazard or unsafe practice that could result in death or serious injury.
CAUTION with Alert symbol: Designates a hazard or unsafe practice which may result in minor injury.
CAUTION without Alert symbol: Designates a hazard or unsafe practice which may result in property or equipment damage.

Working With Fuels and Electrical Energy

Prevent Explosions and Fires
Fuels and their vapors will explode or burn, if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause potentially dangerous vapors in the vicinity of the dispenser or island.

No Open Fire

Open flames from matches, lighters, welding torches or other sources can ignite fuels and their vapors.

No Sparks - No Smoking

Sparks from starting vehicles, starting or using power tools, burning cigarettes, cigars or pipes can also ignite fuels and their vapors. Static electricity, including an electrostatic charge on your body, can cause a spark sufficient to ignite fuel vapors. Every time you get out of a vehicle, touch the metal of your vehicle, to discharge any electrostatic charge before you approach the dispenser island.

Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Familiarize yourself with Cardiopulmonary Resuscitation (CPR) methods, if you work with or around high voltages. This information is available from the American Red Cross. Always advise the station personnel about where you will be working, and caution them not to activate power while you are working on the equipment. Use the Lockout/Tagout procedures. If you are not familiar with this requirement, refer to this information in the service manual.

Working With Electricity Safely

Ensure that you use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion or electrical shock. Ensure that grounding connections are properly made. Take care that sealing devices and compounds are in place. Ensure that you do not pinch wires when replacing covers. Follow Lockout/Tagout requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Ensure that you clean hands after handling equipment. Do not place any equipment in the mouth.

Gilbarco Veeder-Root encourages the recycling of our products. Some products contain electronics, batteries, or other materials that may require special management practices depending on your location. Please refer to your local, state, or country regulations for these requirements.

In an Emergency

Inform Emergency Personnel

Compile the following information and inform emergency personnel:

- Location of accident (for example, address, front/back of building, and so on)
- Nature of accident (for example, possible heart attack, run over by car, burns, and so on)
- Age of victim (for example, baby, teenager, middle-age, elderly)
- Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on)
- Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on)

WARNING

Gasoline ingested may cause unconsciousness and burns to internal organs. Do not induce vomiting. Keep airway open.
Oxygen may be needed at scene. Seek medical advice immediately.

WARNING

Gasoline inhaled may cause unconsciousness and burns to lips, mouth and lungs.
Keep airway open.
Seek medical advice immediately.

WARNING

Gasoline spilled in eyes may cause burns to eye tissue.
Irrigate eyes with water for approximately 15 minutes.
Seek medical advice immediately.

WARNING

Gasoline spilled on skin may cause burns.
Wash area thoroughly with clear water.
Seek medical advice immediately.

IMPORTANT: Use of non-Gilbarco replacement parts, defects caused by the unauthorized addition of non-Gilbarco items to Gilbarco equipment or by the unauthorized alteration of Gilbarco equipment voids this warranty.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Lockout/Tagout

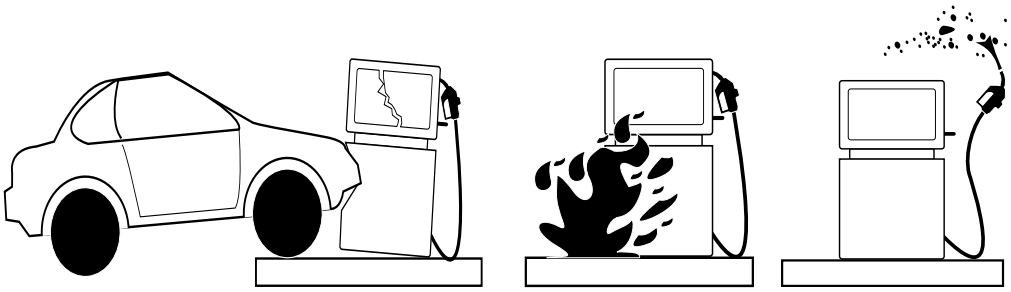
Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical, or other energy, but does not cover electrical hazards.

Hazards and Actions

WARNING

Spilled fuels, accidents involving pumps/dispensers, or uncontrolled fuel flow create a serious hazard.
Fire or explosion may result, causing serious injury or death.
Follow established emergency procedures.

The following actions are recommended regarding these hazards:



Collision of a Vehicle with Unit | Fire at Island | Fuel Spill

- Do not go near a fuel spill or allow anyone else in the area.
- Use station EMERGENCY CUTOFF immediately. Turn off all system circuit breakers to the island(s).
- Do not use console E-STOP, ALL STOP, and PUMP STOP to shut off power. These keys do not remove AC power and do not always stop product flow.
- Take precautions to avoid igniting fuel. Do not allow starting of vehicles in the area. Do not allow open flames, smoking or power tools in the area.
- Do not expose yourself to hazardous conditions such as fire, spilled fuel or exposed wiring.
- Call emergency numbers.

General Exclusion

Problem caused by faulty installation are not covered by this warranty. This warranty applies only if equipment has been installed, used, and maintained in-accordance with Gilbarco installation, operating, and service instruction.

Use of service personnel other than qualified Gilbarco ASC's without prior approval of Gilbarco product support department will void payment of the warranty claim in question.

Damage suffered by Gilbarco equipment resulting from shipping, accident, power surges, neglect, misuse, act of God, or abuse is not covered by this warranty.

Use of non-Gilbarco replacement parts, defect caused by the unauthorized addition of non-Gilbarco equipment or unauthorized alteration of Gilbarco equipment voids this warranty.

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3 – Supplementary Instructions for European Union (EU) Countries

Dispensing areas of the forecourt must be adequately lit for safety purposes at all times of use. The luminance at ground level and the read-out level of displays must not be less than 100 lux.

Sample Declaration of Conformity

This document is provided with the dispenser. The document includes information like Serial Number and Date of Manufacture of the dispenser. It also confirms about the directives followed and standards applied at the time of manufacturing the dispenser.

GILBARCO VEEDER-ROOT

CE

Gilbarco Veeder Root India Pvt Ltd.
PDP Manufacturing Facility
S.F No628/2, 627/2, W4- Coimbatore Campus
Eachanari, Chettipalayam Road,
Malumichampatti, Coimbatore –
641 021 Tamilnadu, INDIA

www.gilbarco.com www.veeder.com

EU Declaration of Conformity

We declare, under our sole responsibility as manufacturer that **Latitude Fuel Dispenser**

Serial Number :

Date of Manufacture:

is in conformity with directives

2014/34/EU ATEX	(OJ L 96, 29/3/2014 p309)	
2014/30/ EU EMC	(OJ L 96, 29/3/2014 p79)	
2014/35/EU LVD	(OJ L 96, 29/3/2014 p357)	
2014/32/EU MID	(OJ L 96, 29/3/2014 p149)	Module B+F
2006/42/EC MD	(OJ L 157 9/6/2006 p24)	
2011/65/EU RoHS	(OJ L 174 1/7/2011 p88)	

by application of the following harmonised standards:

EN 13617-1:2021
EN 61000-6-3:2007+A1:2011
EN 60204-1:2018
EN 61000-6-1:2007
EN IEC 63000:2018

and normative documents and technical specifications:

OIML R117-1 Edition 2019 (E)

The harmonized standards have been compared to the standards used for certification and there are no changes in the state of the art and normative documents

Type examination has been performed by:

CML BV, (Amsterdam, Netherlands), Notified Body Number 2776, certificate CML 19ATEX9035X

QAN, Intertek Italia S.p.A. (Milan, Italy), Notified Body 2575, certificate ITS12ATEXQ7563

Marking (non-vapour recovery): Ex II 2/3G EN13617-1

(vapour recovery): Ex II 1/2/3G EN13617-1

NMI, (Delft, Netherlands), Notified Body Number 0122, certificate T11790

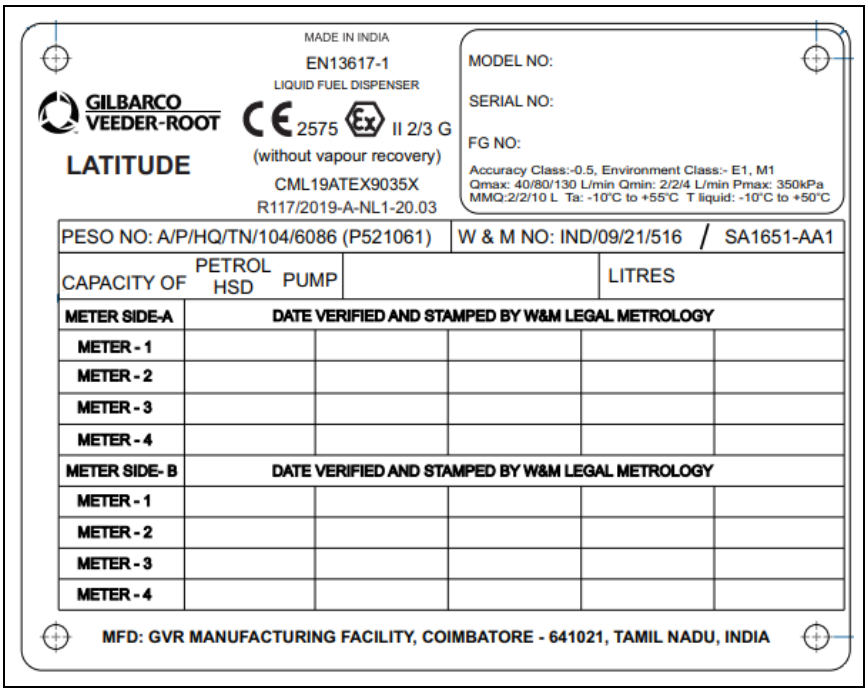
2006/42/EC Technical File Location:
Gilbarco GmbH
Ferdinand-Henze Strasse 9
33154 Salzkotten, Germany

Manufacturer:
Gilbarco Veeder Root India Pvt Ltd
PDP Manufacturing Facility
S.F No628/2, 627/2, W4- Coimbatore Campus
Eachanari, Chettipalayam Road,
Malumichampatti, Coimbatore –
641 021 Tamilnadu India

Importer:

Name: Selvaraj Rajkumar
Position: Quality Head

Markings Related to Explosive Atmospheres (ATEX) Directive



Specifications

Parameter	Value
Three-phase Power Supply (For 3-phase motor only)	400 VAC +10 or - 20%
Single-phase Power Supply (For CDM and 1-phase motor)	230 VAC +10 or - 20%
Maximum Pressure	3.5 bar
Airborne Noise Emissions	≤ 67 dBA
Minimum Ambient Temperature for safe use	-20°C
Maximum Ambient Temperature (default)	45°C
Maximum Ambient Temperature (specific models) Contact Gilbarco for details / observe Nameplate	55°C
Gas Group and Temperature Class	IIA, T3

IMPORTANT INFORMATION

The Latitude fuel dispenser is only intended for use in an open location. The dispenser's electronics are suitable for use in condensing humidity. Ensure that you follow the operating conditions and classes stated on the nameplate of the equipment. Note that the minimum and maximum ambient temperatures stated above are those for safe use.

Zoning Diagram

Latitude pumps and dispensers are ATEX certified. The dispenser must be installed to not compromise the zones illustrated in Figure 3-1, Figure 3-2 on page 3-4, and Figure 3-3 on page 3-5. These zoning diagrams show the extent of the external hazardous areas.

The zones 0, 1, and 2 indicated in the zoning diagrams define the probability of the hazard actually being present in flammable concentrations.

- **Zone 0**: A place in which an explosive atmosphere is present continuously or for long periods or frequently.
- **Zone 1**: A place in which an explosive atmosphere is likely to occur in normal operation occasionally.
- **Zone 2**: A place in which an explosive atmosphere mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

Figure 3-1: Zoning Diagram for LS-200 Lane Configuration

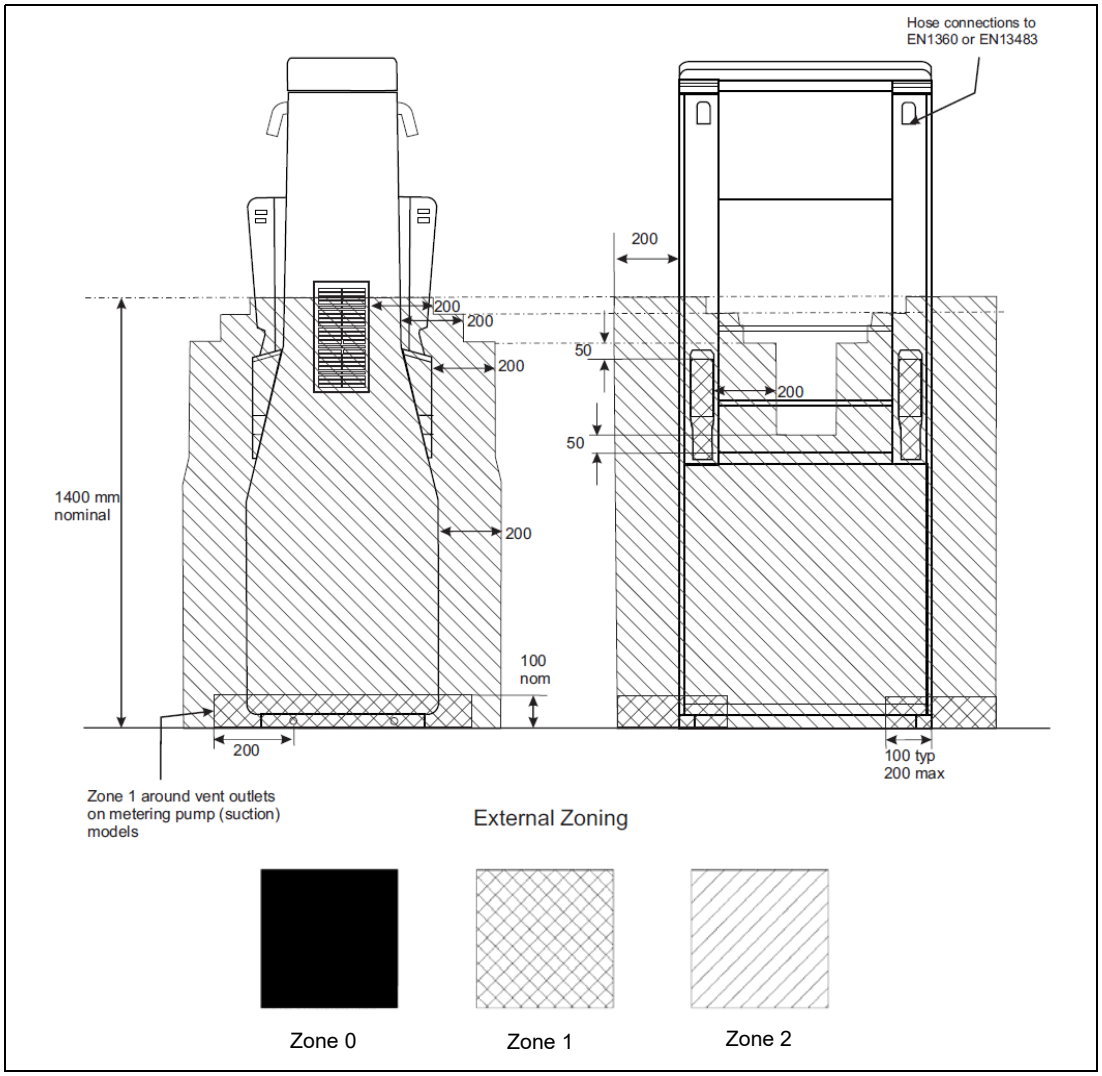


Figure 3-2: Zoning Diagram for LS-100 and LS-200 Island Configuration

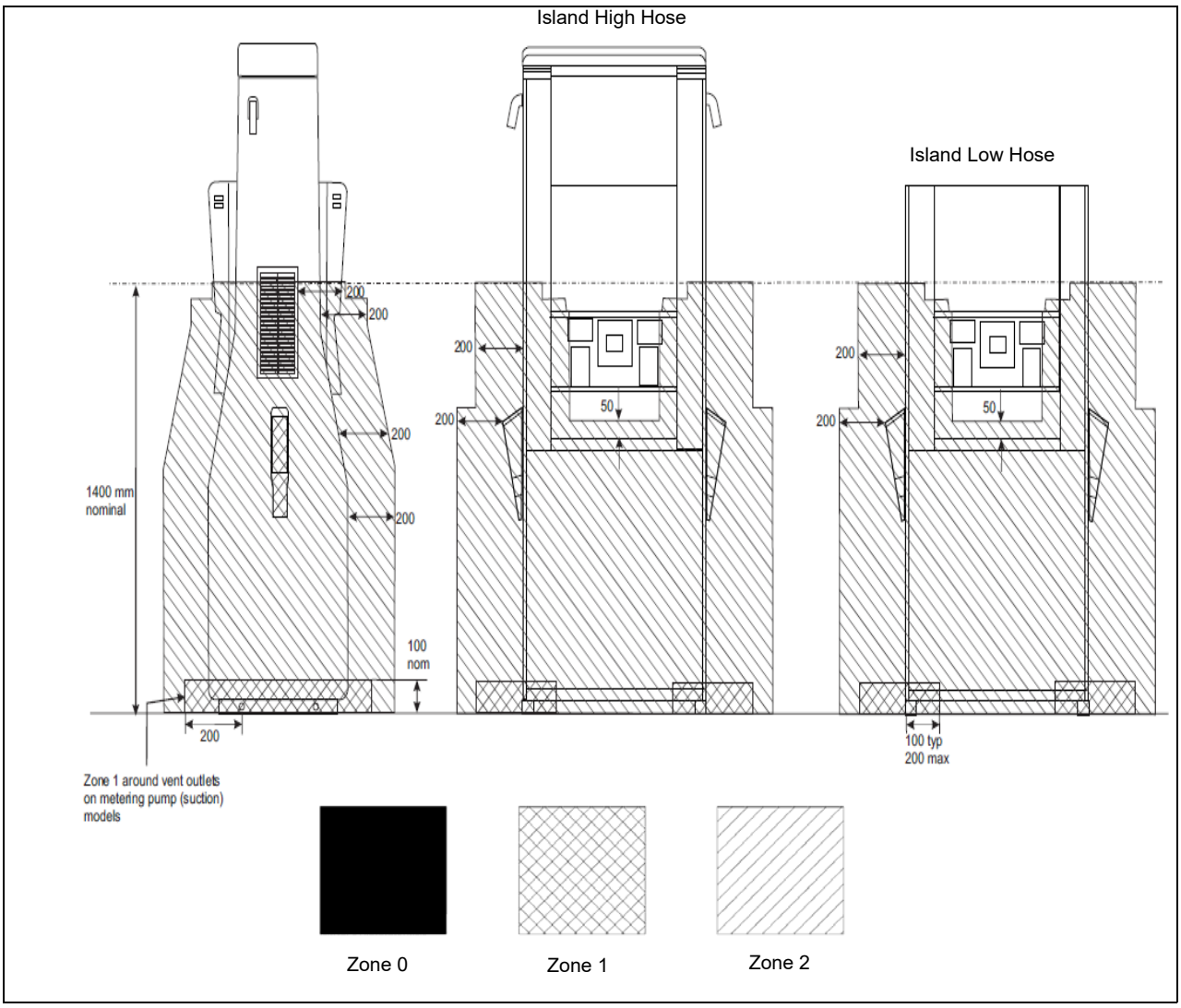


Figure 3-3: Zoning Diagram for LS-300 Configuration

Material Compatibility

IMPORTANT INFORMATION

GVR dispensers are suitable for temporary external and internal exposure to petrol and associated vapors, ethanol-blended fuels, diesel, biodiesels, LPG and associated vapors, water with minimal salt content, mild cleaning agents, AdBlue® (DEF), anticipated vehicle exhaust emissions, and small traces of engine oil, lubricants or vehicle screenwash which could be transferred by hand contact.

The equipment is not suitable for use where external surfaces might come in contact with substances which are incompatible with any of the following materials:
Painted steel, stainless steel, aluminium, neoprene, polyester, nylon, and glass.

The equipment is not suitable for use where internal surfaces and components may come into contact with substances which are incompatible with any of the following materials:
Painted steel, stainless steel, aluminium and alloys, zinc and alloys, iron, brass, copper, neoprene, nylon, viton, and cork.

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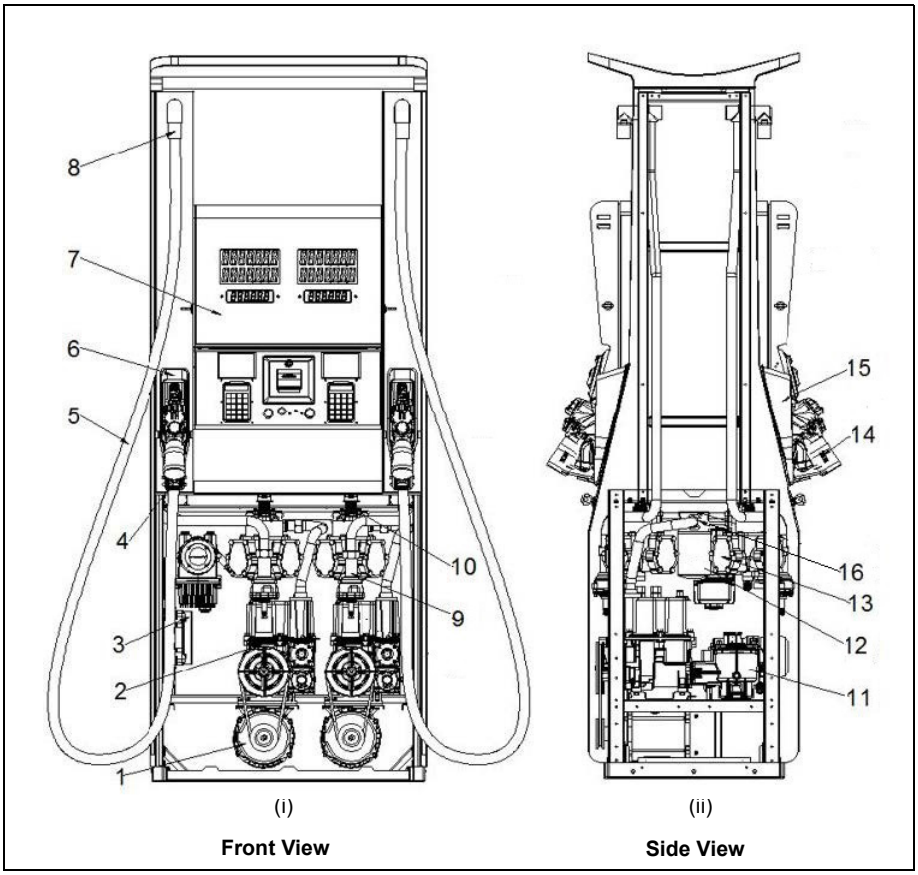
4 – Latitude Components

Dispenser Overview

This chapter provides a description of the Latitude unit and its components.

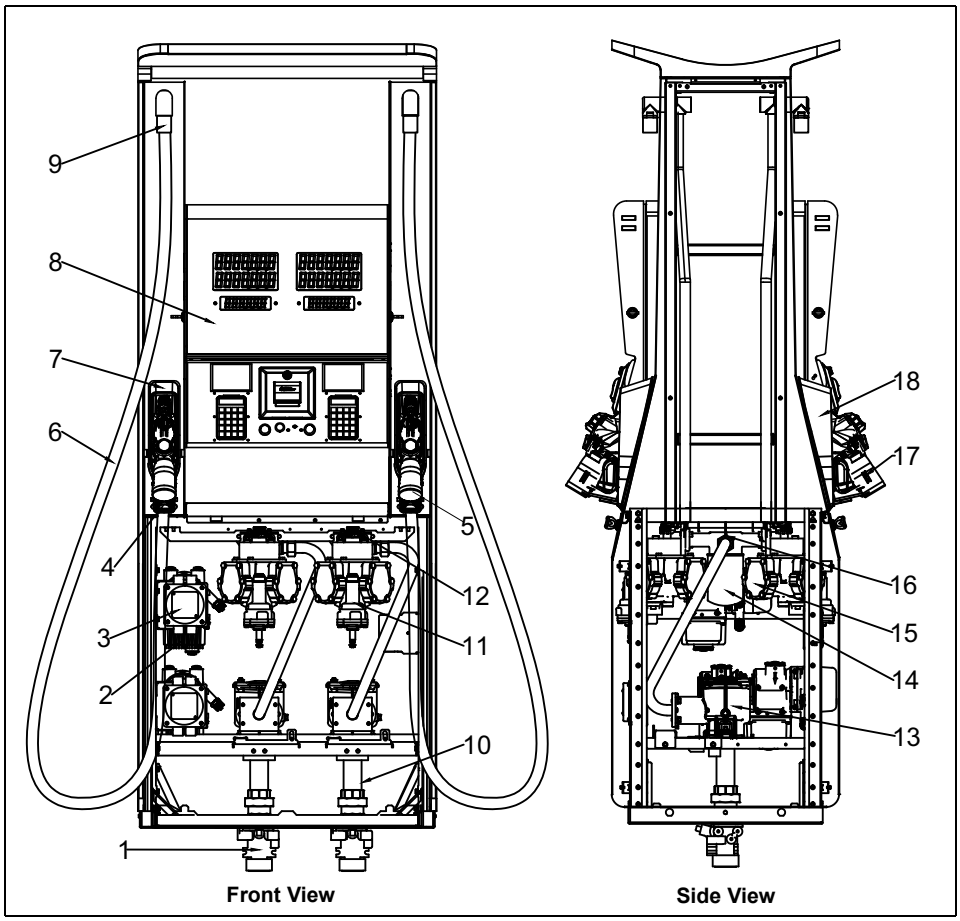
Figure 4-1: Latitude Pump



Sl. No.	Menu
1	Motor
2	Suction Unit
3	Junction Box (J-Box)
4	Side Flow Indicator
5	Hose
6	Reed Sensor
7	Electronics Zone
8	Pump Breakaway
9	Valve

Sl. No.	Menu
10	Pulser
11	Inlet Filter
12	Spin on Filter
13	Meter
14	Nozzle
15	Nozzle Boot
16	Meter Manifold

Figure 4-2: Latitude Dispenser



Sl. No.	Menu
1	Shear Valve
2	Vapor Recovery Pump
3	Junction Box
4	Swivel
5	Side Flow Indicator
6	Hose
7	Reed Sensor
8	Electronics Zone
9	Pump Breakaway

Sl. No.	Menu
10	Inlet Pipe
11	Valve
12	Pulser
13	Inlet Filter
14	Spin on Filter
15	Meter
16	Meter Manifold
17	Nozzle
18	Nozzle Boot

Common Functions

This section provides information on the common functions of the Latitude unit.

Keypad

The Latitude dispenser keypad has a total of 20 keys that include alphanumeric, functional, and hot preset keys.

Figure 4-3: Alphanumeric Keypad

Using Keypad

The following functions can be performed using the keypad:

- Customer Preset
- Preset Delivery - Sale/Volume
- Configuration Parameters
- View Electronic Totals - Sale/Volume
- Perform Electronic Calibration (activated through secure switch)

Keypad LCD

The Latitude dispenser uses a 16 X 2 Liquid Crystal Display (LCD) that displays all pump parameters and fault information.

PIN of each Level Command

Parameters are set using the keypad. Enter a four-digit PIN code to use all programming functions and levels. The PIN can be changed from the respective menu or from menus with higher rights.

The users must make their own rule on how to manage different levels of PIN.

The following table lists the different command levels and their respective PIN:

Level Command	PIN
Level 0 Command PIN	0000
Level 1 Command PIN	XXXX
Level 2 Command PIN	XXXX

*For PIN numbers, contact Gilbarco-authorized Service Contractor (ASC).

Premium Features

This section provides an overview of the premium features that are offered with Latitude dispensers.

Premium Canopy

The premium canopy comprises of the following:

- **Perimeter LED Strips**
  - This is used for traffic management.
  - The status options available for FP are: Available and Busy.
  - The customer can select from any of the following color options to indicate the FP status

Color	Color Swatch
Red	
Orange	
Yellow	
Green	
Blue	
Purple	

Color	Color Swatch
White	

- **Skylight LED Strips**
  The Skylight LED Strips are used for image enhancements. These strips can be configured have single static color as they do not change color based on FP status. The strip color is configured, from the above stated color options, at factory.

Figure 4-4: Premium Canopy

Vapor Recovery and Monitoring

The Vapor Recovery System (VRS) is a separate subsystem installed on the dispenser. This system consists of a special nozzle and hose arrangement that collects fuel vapors at the time of fueling. These vapors are returned to the Underground Storage Tank (UST) through a series of pipelines. The VRS is controlled through a vapor recovery controller that gets integrated with the dispenser controller. For the system to function efficiently, it is required to maintain Air to Liquid (fuel) ratio to 100%.

The Vapor Monitoring System is a closed loop system in which vapor flow and liquid flow both are measured and vapor flow is regulated by maintaining Air to Liquid (A/L) ratio within the range.

The advantage of this feature is that it reduces the fugitive emissions in to the environment. For more information on this feature, refer to *MDE-5551 Latitude Vapor Recovery and Monitoring System Operational Manual*.

Hose Retraction

With this feature, minimal effort is required to pull the hose from the retraction system, thereby enabling the attendant to perform hassle-free fuel deliveries. A typical hose reach ranges between 3-3.5 meters. However, with this feature the hose reach can extend up to 4.5 meters. The hose retractor keeps excess hose off the ground.

Figure 4-5: Dispenser with Hose Retraction Feature

Multimedia

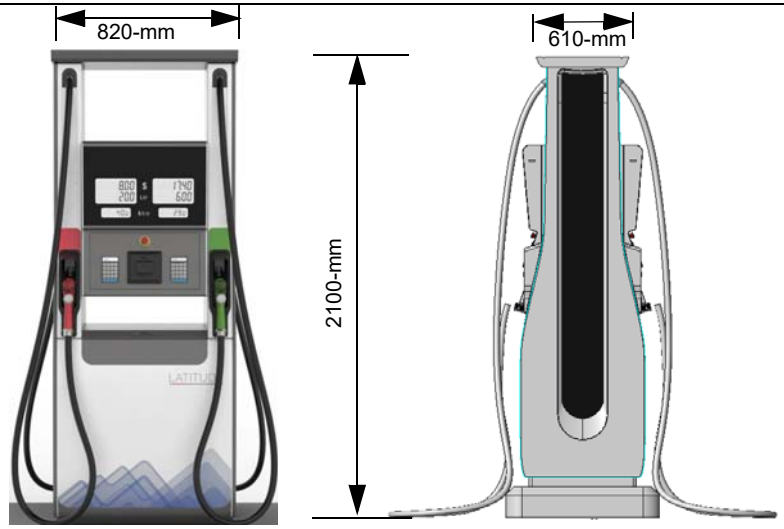
The Latitude Multimedia dispenser comes with a 15.6-inch color display to show pump details and promotional multimedia content. The pixel pitch is 0.253 x 0.252 wide. For more information on the Multimedia feature, refer to *MDE-5512 Latitude Multimedia Programming and Service Manual with Applause™ Media System*.

Dimensions of Latitude Models

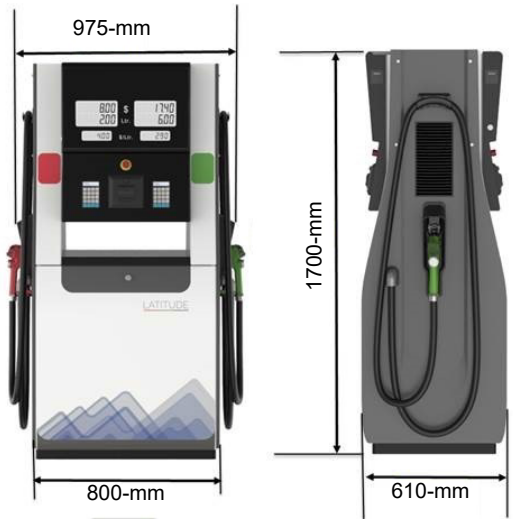
The following table lists the dimensions details for various Latitude pumps/dispensers:

		LS-100			LS-200					LS-300			
Type	**Weight**	**1P Mono**	**1P Twin**	**2P Duo**	**1P**	**2P**	**Quad**	**Mono**	**Duo**	**1P**	**2P**	**3P MPD**	**4P MPD**
Suction	Net Weight (kg)	201	206	245	230	300	300	235	272	289	332	375	420
	Gross Weight (kg)	217	222	261	250	320	320	255	292	324	367	410	450
	Dimension (cm)	103 x 73 x 185	103 x 73 x 185	103 x 73 x 185	90 x 73 x 225	90 x 73 x 225	90 x 73 x 225	102 x 73 x 225	102 x 73 x 225	130 x 73 x 225	130 x 73 x 225	130 x 73 x 225	130 x 73 x 225
Pressure	Net Weight (kg)	163	168	175	192	230	230	192	204	251	262	300	320
	Gross Weight (kg)	179	184	191	212	250	250	212	224	386	297	330	350
	Dimension (cm)	103 x 73 x 185	103 x 73 x 185	103 x 73 x 185	90 x 73 x 225	90 x 73 x 225	90 x 73 x 225	102 x 73 x 225	102 x 73 x 225	130 x 73 x 225	130 x 73 x 225	130 x 73 x 225	130 x 73 x 225
	Suction pressure net weight (kg)	38	38	70	38	70	70	43	68	38	70	75	100

Figure 4-6: Model Configuration



High-hose Dual Configuration



Low-hose Configuration

Premium Canopy

Figure 4-7: Model Configuration

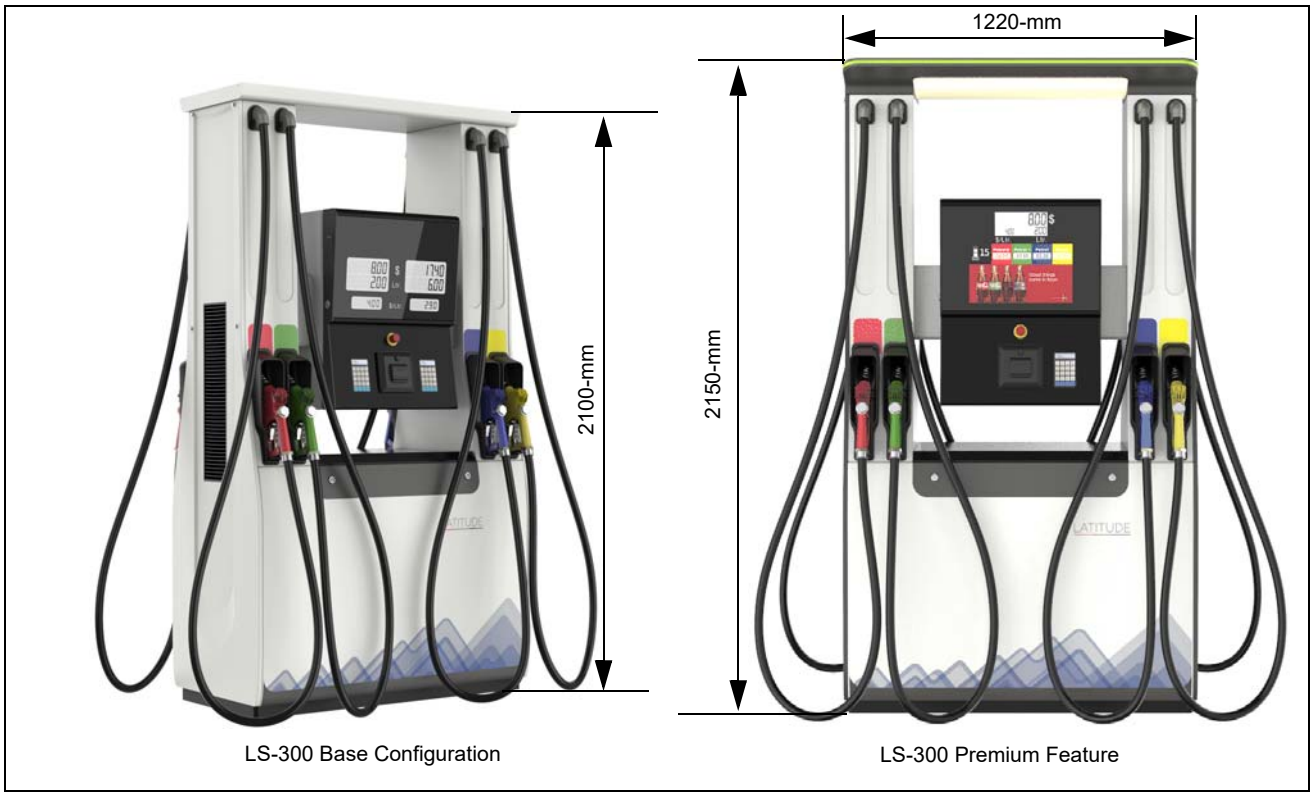
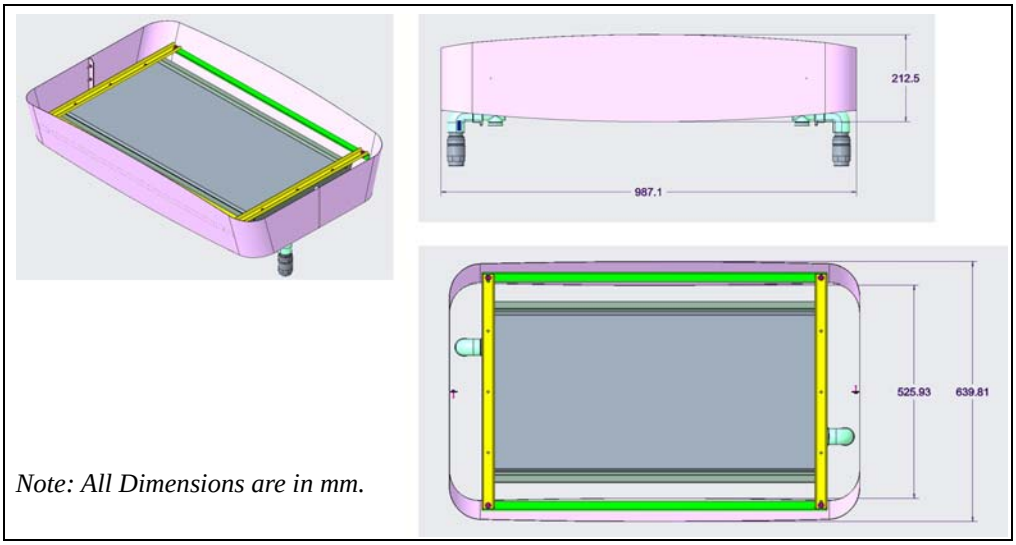
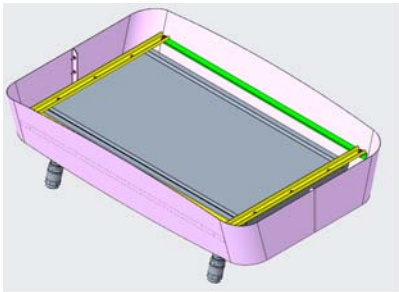


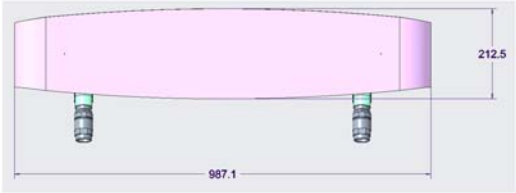
Figure 4-8: LS-200 2P Island Configuration - Addon Canopy Dimension

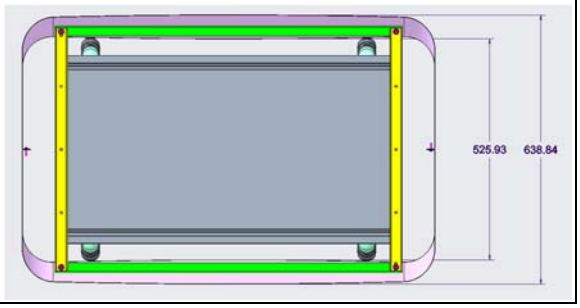


Note: All Dimensions are in mm.

Figure 4-9: LS-200 2P Lane Configuration - Addon Canopy Dimension

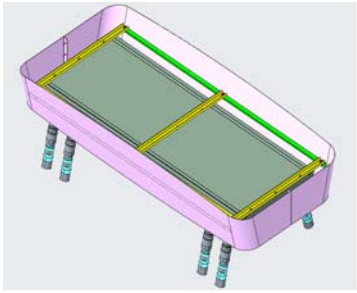


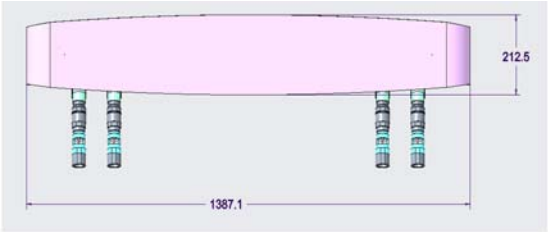


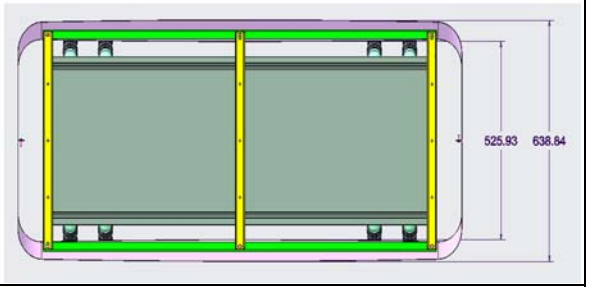


Note: All Dimensions are in mm.

Figure 4-10: LS-300 4P Configuration - Addon Canopy Dimension







Note: All Dimensions are in mm.

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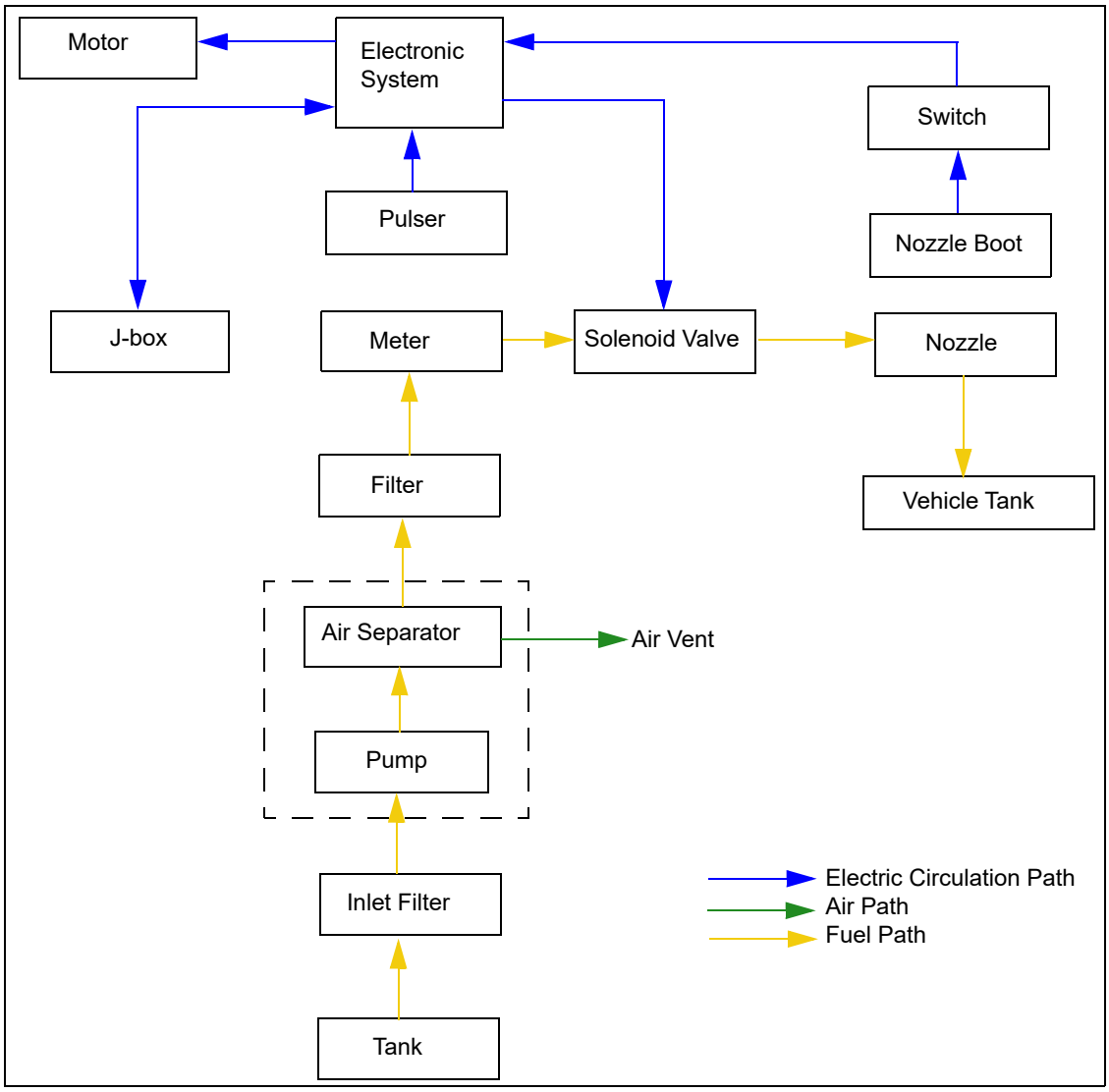
5 – Latitude Operation

Working Principle

Figure 5-1 illustrates the working principle of the Latitude pump. Pump operates on standalone or console-controlled mode.

Figure 5-1: Work Flow Diagram of Latitude Pump



Self-contained Pump

The following steps describe the functioning of a self-contained pump:

1. Fuel enters through the pump inlet pipe passing through a strainer.
2. If the pressure is too high, the fuel flows through a bypass valve and recirculates.
3. The pump has an air separation system. Air-separated fuel flows back to the pump.
4. Air-free fuel flows out of the pump discharge line and through a filter.
5. The meter measures fuel flow.
6. On single and dual two-product units, fuel flows through a solenoid valve.
   Note: Dual one-product units use two solenoid valves in parallel.
7. Fuel discharges through the nozzle.

Handling the Nozzle

This section provides information about handling the nozzle when fueling and placing it back in to the nozzle.

- **Before Fueling**

To handle the nozzle when the user is about to start fueling, proceed as follows:

1. Lift the nozzle to clear the padlock support.

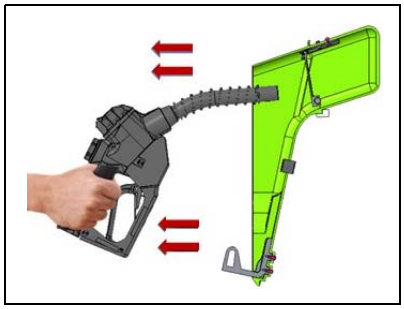
Figure 5-2: Clearing Padlock Support

2. Tilt the nozzle as shown in the following figure:

Figure 5-3: Tilting Nozzle

3 Pull out the nozzle horizontally and dispense the fuel.

Figure 5-4: Pulling Out Nozzle

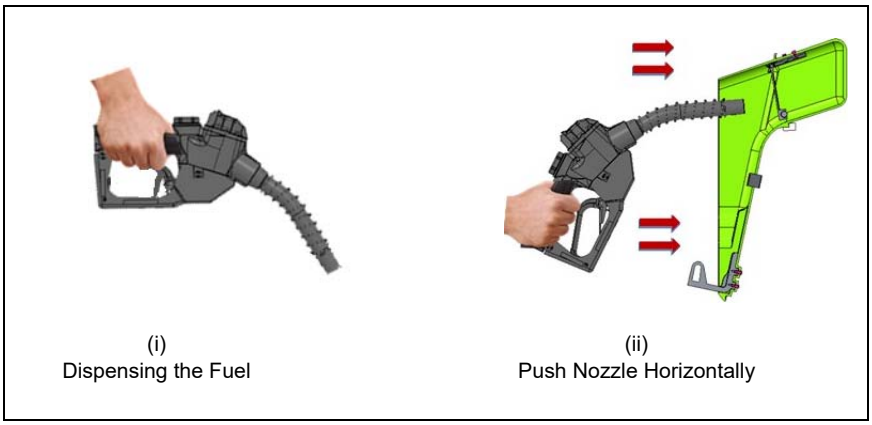


- **After Fueling**

To place back the nozzle in to the nozzle boot after dispensing the fuel, proceed as follows:

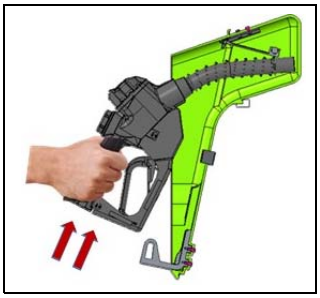
1 Push the nozzle horizontally into the nozzle boot after dispensing the fuel.

Figure 5-5: Pushing Nozzle Horizontally



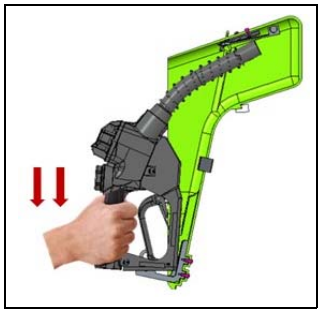
2 Lift the nozzle as shown in the following figure:

Figure 5-6: Lifting the Nozzle



3 Rest the nozzle on the cradle and release.

Figure 5-7: Resting Nozzle on Cradle



Operating Pump/Dispenser

To operate the pump/dispenser, proceed as follows:

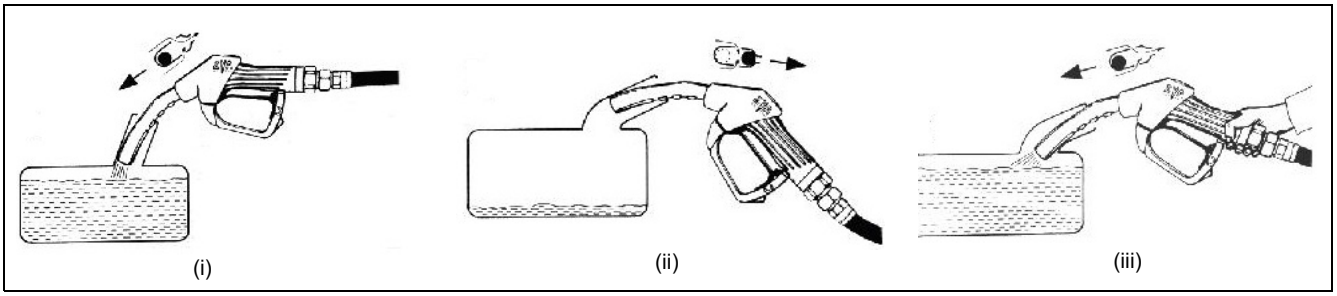
1 Fill the tank.

a Insert the nozzle pipe deep into the car filler and position the nozzle so that it does not slip out [see Figure 5-8 (i)].

b Squeeze the trigger of the nozzle. DO NOT remove the nozzle spout from the filler. If the nozzle is positioned horizontally, the safety mechanism might prevent the nozzle from opening [see Figure 5-8 (ii)]. In this case, the nozzle must be tilted slightly [see Figure 5-8 (iii)].

Note: Tanks with incorrectly positioned filler or poor ventilation can cause the nozzle to shut off prematurely, or may cause fuel to be spilled. In these cases, the filling speed must be reduced by squeezing the nozzle trigger partially. In case of an attended service operation, the nozzle may include a hold-open latch. This must be removed at self-service sites.

Figure 5-8: Filling Tank



c Terminate filling by releasing the nozzle trigger.

Note: Automatic nozzles close as soon as the maximum fuel level of the tank is reached.

2 Draw the nozzle out of the car filler neck. Ensure not to touch the trigger and return it to the support on the nozzle boot.

Dispenser Start-up

The following section describes the procedure to start a dispenser:

Initializing the Dispenser

Power on the dispenser to enter the initialization state. Total Sale, Volume, and Price Per Unit (PPU) displays indicate the software version. The text on the keypad LCD indicates the version of the system.
Note: It takes about 25 seconds for the text to get displayed on the screen.

Dispenser in Idle Status

After initialization, the system enters the IDLE state. The main display shows the last transaction information, including Total Sale, Volume, and PPU. The string “READY” is displayed on the keypad display.

Fueling

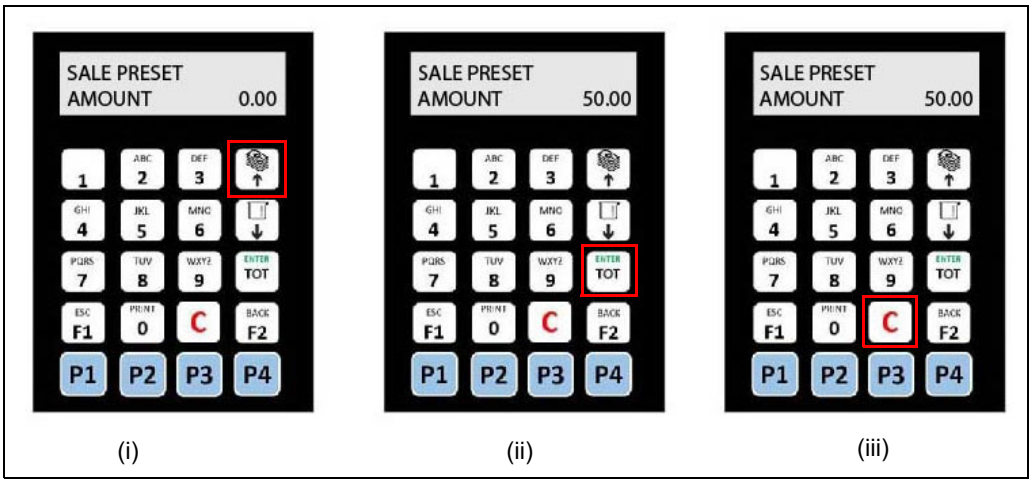
To start fueling, proceed as follows:

Set Sale Preset

Dispenser is in the IDLE state. Nozzles for that side are in the boot.

1. Press **Sale** and then press the number key to set the amount. You can also use a fixed preset key (P1, P2, P3 or P4) and then press **ENTER**.
   Notes: 1) The Fixed Preset Value can be changed from the menu with Level 0.
   *2) In case the sale preset needs a modification, press **Clear**. The home screen opens showing the “READY” string.*
2. Remove and activate the nozzle to start dispensing.

Figure 5-9: Setting the Sale Preset



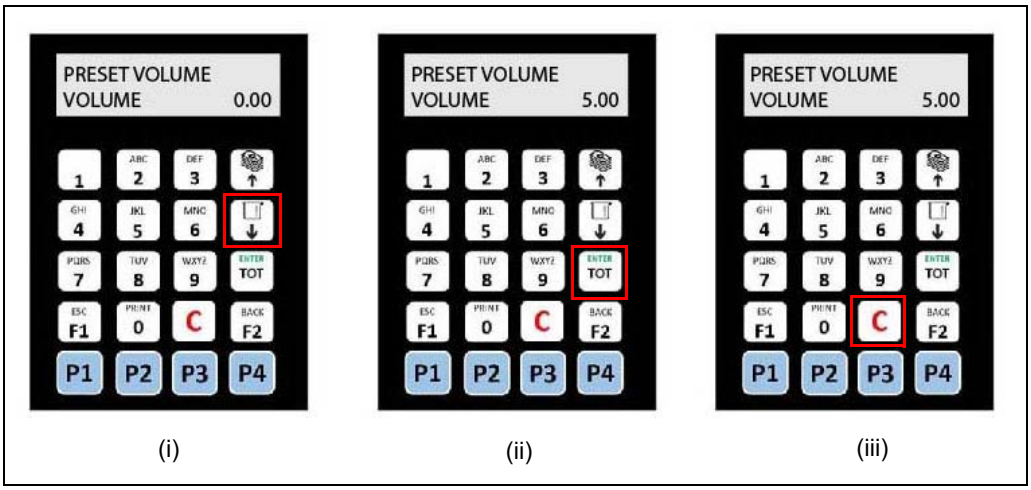
Set Volume Preset

Dispenser is in the IDLE state. Nozzles for that side are in the boot.

1 Press **Volume** and then press the number key to set the value. You can also use a fixed preset key (P1, P2, P3 or P4) and then press **ENTER**.
Notes: 1) The Fixed Preset Value can be changed from the menu with Level 0.
*2) In case the sale preset needs a modification, press **Clear**. The home screen opens showing the "READY" string.*

2 Remove and activate the nozzle to start dispensing.

Figure 5-10: Setting the Volume Preset



Set Non-preset

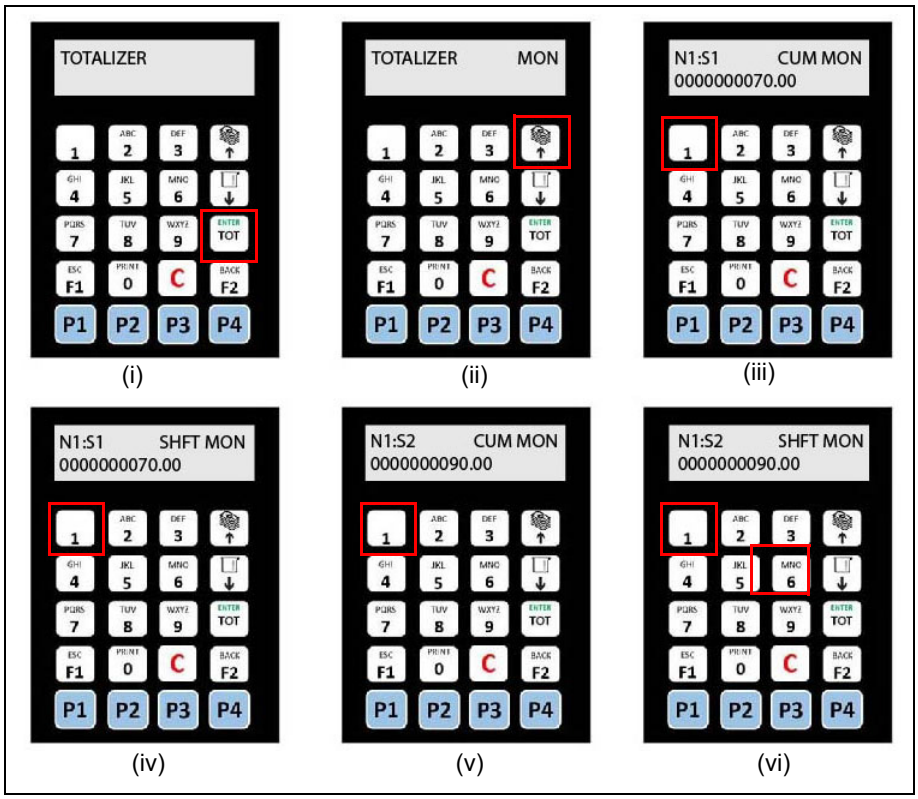
Dispenser is in IDLE state. Nozzles for that side are in the boot. Lift the nozzle and the "NON-PRESET" string is displayed on the keypad display.

View Sale Totalizer

To view the Sale Totalizer, proceed as follows:

1. Ensure that the nozzles for that side are in the boot.
2. Press **TOT** to see the TOTALIZER string on the 16 X 2 Liquid Crystal Display (LCD) display [see Figure 5-11 (i)].
3. Press **Sale** to see the sale totalizer. By default TOTAILZER MON is displayed [see Figure 5-11 (ii)].
4. Press **1** to see the cumulative sale totalizer of Nozzle 1 Side 1 [see Figure 5-11 (iii)].
5. Press **1** again to see the shift-wise sale totalizer of Nozzle 1 Side 1 [see Figure 5-11 (iv)].
6. Repeat step 5 to see the cumulative and shift-wise sale totalizer of Nozzle 1 for Sides 2, 3, and 4 [see Figure 5-11 (v), (vii)].
7. Press **2** to see the sale totalizer of Nozzle 2 Side 1.
8. Press **2** again to see the shift-wise sale totalizer of Nozzle 2 Side 1.
9. Repeat step 8 to see the cumulative and shift-wise sale totalizer of Nozzle 2 for Sides 2, 3, and 4.
10. Repeat steps 5 and 8 for the remaining nozzles and press the corresponding key to view the sale totalizer.
11. To exit the Totalizer menu, press **F1**.
12. To exit the Keypad menu, press **F2**. When F2 is pressed, the keypad displays the string “READY”. To access other parameters, the user must enter the password again.

Figure 5-11: Setting the Sale Totalizer



View Volume Totalizer

To view the Volume Totalizer, proceed as follows:

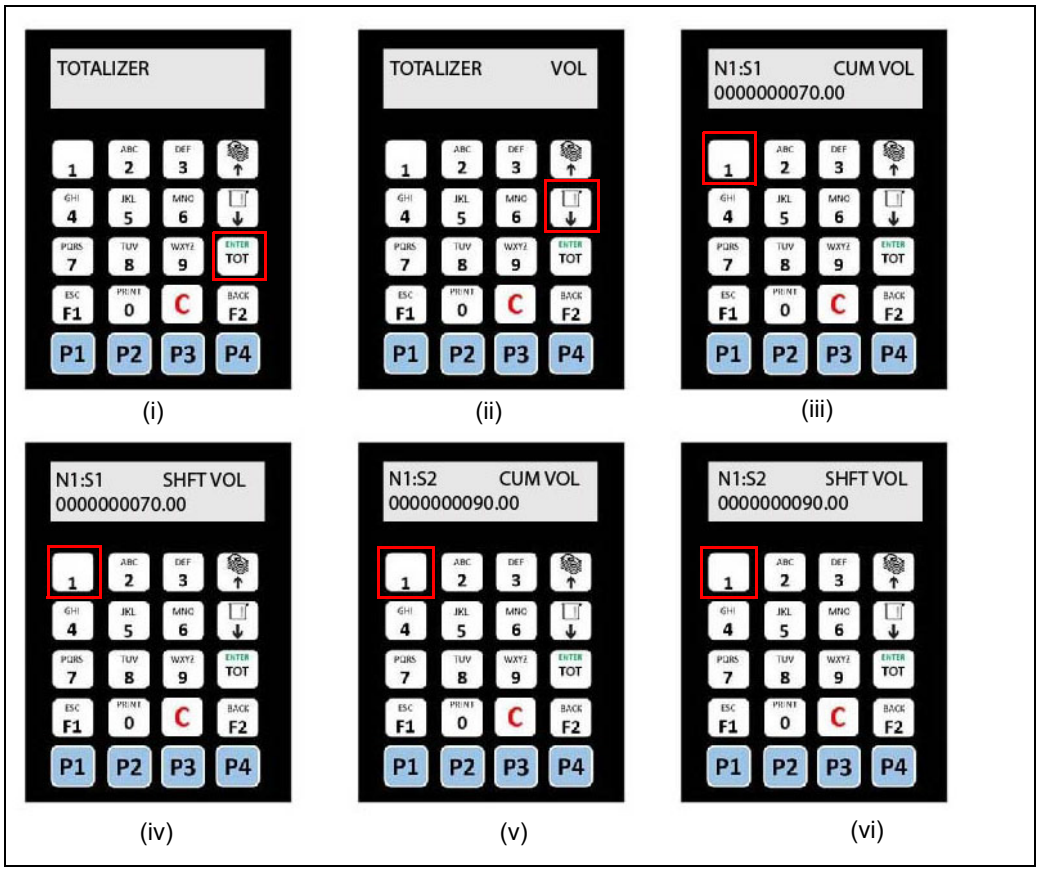
1. Ensure that the nozzles for that side are in the boot.
2. Press **TOT** to see the TOTALIZER string on the 16 X 2 LCD display [see Figure 5-12 (i) on page 5-9].
3. Press **Volume** to see the volume totalizer. By default TOTALIZER VOL is displayed [see Figure 5-12 (ii) on page 5-9].
4. Press **1** to see the cumulative sale totalizer of Nozzle 1 Side 1 [see Figure 5-12 (iii) on page 5-9].
5. Press **1** again to see the shift-wise volume totalizer of Nozzle 1 Side 1 [see Figure 5-12 (iv) on page 5-9].
6. Repeat step 5 to see the cumulative and shift-wise volume totalizer of Nozzle 1 for Sides 2, 3, and 4 [see Figure 5-12 (v), (vi) on page 5-9].
7. Press **2** to see the volume totalizer of Nozzle 2 Side 1.
8. Press **2** again to see the shift-wise volume totalizer of Nozzle 2 Side 1.
9. Repeat step 8 to see the cumulative and shift-wise volume totalizer of Nozzle 2 for Sides 2, 3, and 4.

10 Repeat steps 5 and 8 for the remaining nozzles and press the corresponding key to view the volume totalizer.

11 To exit the Totalizer menu, press **F1**.

12 To exit the Keypad menu, press **F2**. When **F2** is pressed, the keypad displays the string "READY". To access other parameters, the user must enter the password again.

Figure 5-12: Setting the Volume Totalizer



Starting up the dispenser is now complete.

Setting Parameters

IMPORTANT INFORMATION
A parameter or option determines the settings selected for that function. A default option will usually be programmed into the unit but these options can be modified as per the requirements.

Note: Ensure that the dispenser is in the IDLE state and all the nozzles are in the boot. The measurement system must be metric.

The keypad display has two modes:

- User Menu
- Command Code (CC)

Some parameters can be viewed and edited using the User Menu mode. The remaining parameters can be viewed and edited using the Command Code menu. To enter any of the modes, enter the 4-digit password (which is listed in keypad command levels and PINs section) and then press **ENTER**.

User Menu Mode

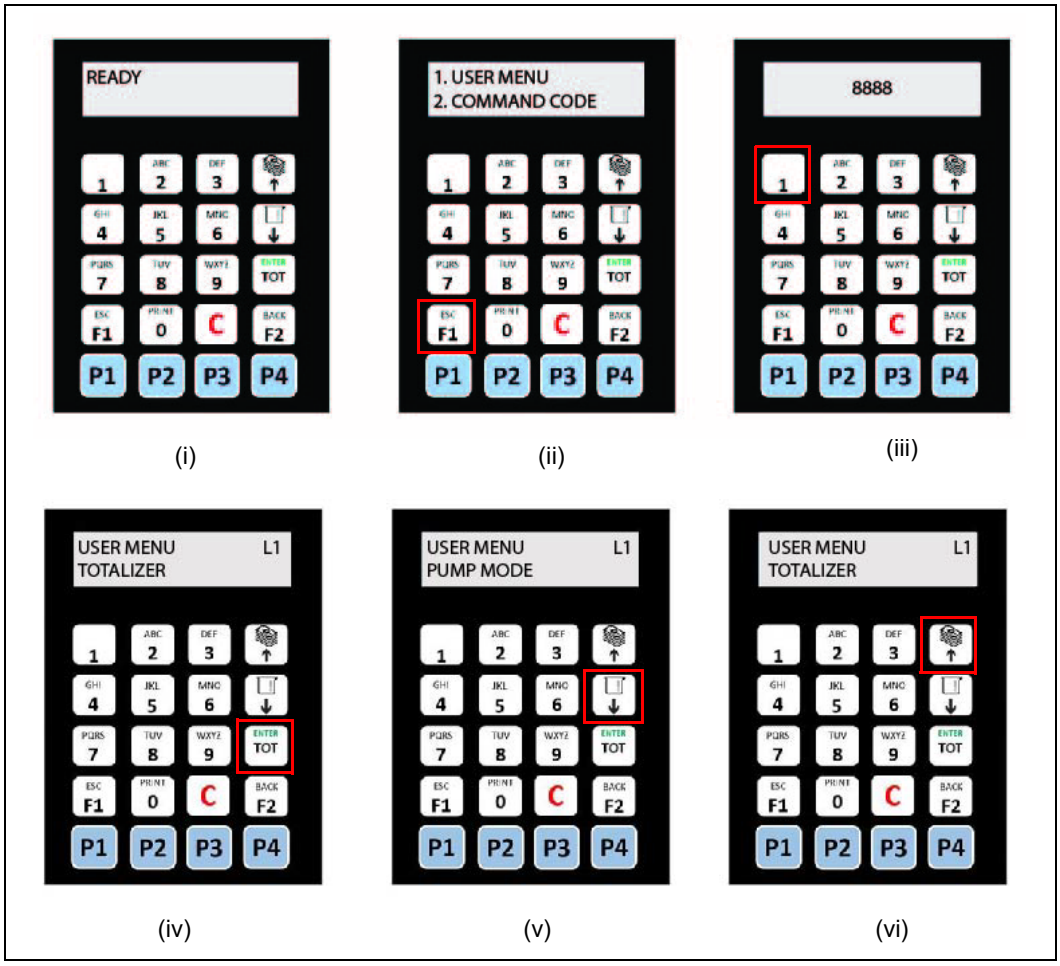
The following diagram shows the procedure for entering User Menu mode and viewing the menu and sub-menu:

1 Press F1 followed by key 1 to enter in to the User Menu mode.

2 Enter the four-digit password and press **ENTER**. The DATE&TIME menu is displayed.

3 Press **up** or **down arrow** keys to **scroll** through the **menus** [see Figure 5-13 (v) and (vi)].

Figure 5-13: Entering User Menu Mode



To open a sub-menu, proceed as follows:

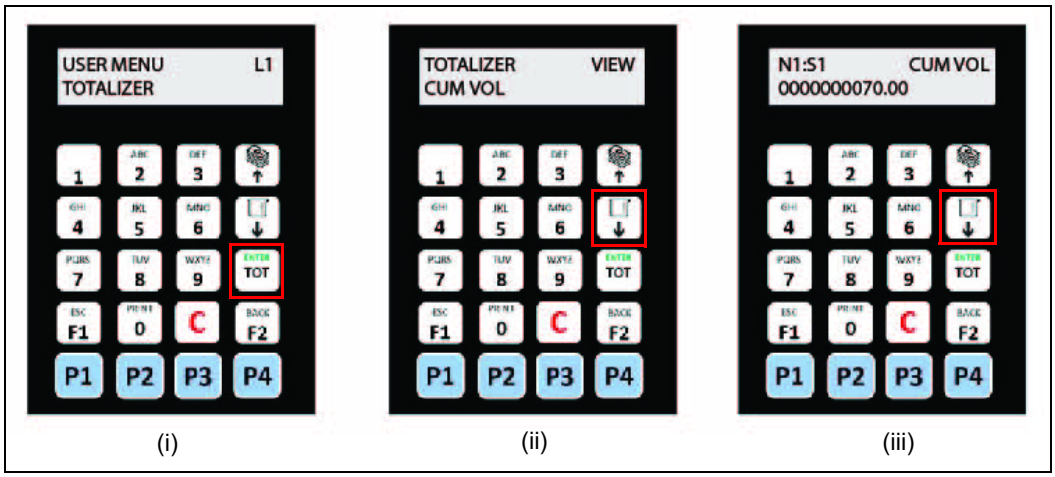
a Press the **ENTER** key [see Figure 5-14 (i)on page 5-12].

b Select the TOTALIZER menu and press the **ENTER** key. The TOTALIZER sub-menu CUM VOL is displayed [see Figure 5-14 (ii) on page 5-12].

c Press the **down arrow** key to view other available sub-menu.

d Select the CUM VOL sub-menu by pressing the **ENTER** key. On first line of the LCD display, N1 is Nozzle 1 and S1 is Side 1. The second line shows cumulative volume dispensed [see Figure 5-14 (iii)]. Press the **down arrow** key to view the rest of the totalizer values.

Figure 5-14: Entering from Menu to Sub-menu



4 To exit from the menu or sub-menu, press the **F2** key and you will see the string “READY” on the first line of the LCD display.

User Menu Mode for Setting the Price

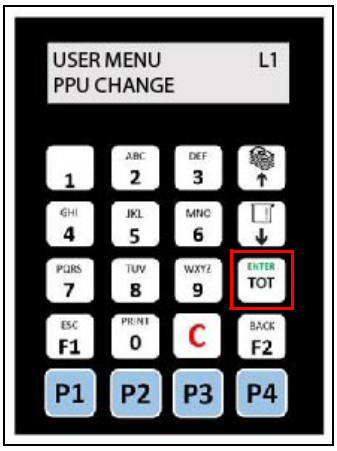
To set the price in User Menu mode, proceed as follows:

1 Press **F1** followed by key **1** to enter the User Menu mode.

2 Enter the four-digit password and then press **ENTER**.
The DATE&TIME menu is displayed.

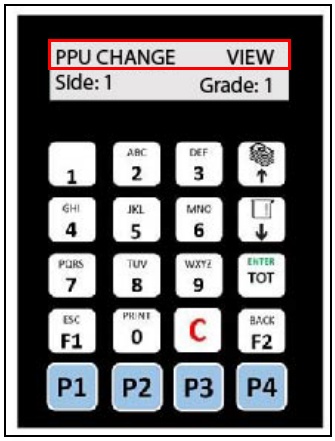
3 Press the arrow keys to select **TOTALIZER** > **PPU CHANGE**.

Figure 5-15: User Menu Mode



4 Press **ENTER** to see PPU CHANGE VIEW mode.

Figure 5-16: PPU CHANGE VIEW Mode

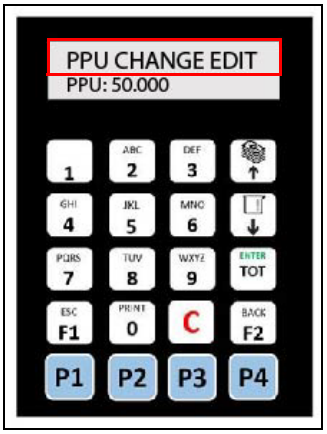


5 Select Side and press **ENTER**.

6 Select Grade and press **ENTER**. The user can now see the current PPU value.

7 Press **ENTER** to see PPU CHANGE EDIT mode.

Figure 5-17: PPU CHANGE EDIT Mode



8 After pressing the **ENTER** key, the current PPU value will start blinking. Enter the price using keys 0 to 9 and press **ENTER** to see **PPU CHANGE SET** (see Figure 5-18 on page 5-14).

Figure 5-18: PPU CHANGE SET Mode

9 Press the **F1** key to enter the PPU CHANGE menu. Repeat steps 4 on page 5-13 to 8 on page 5-13 to enter the prices for other nozzles or grades.

10 Upon completing any menu editing process, press **F2** to reboot the pump. The pump returns to the IDLE state after the reboot.

Command Code Mode

Level 1 Commands

Level 1 commands are most commonly performed on the site by the station owner/operator. The programming level is accessed as shown in the following example.

Keypad: **F1** > **2** - Signal programming mode to the dispenser.

Sale			8	8	8	8
Volume						

PPU				

Keypad: **XXXX** - Security code for Level 1.

Sale			-	-	-	-
Volume						

PPU				

Keypad: **ENTER**

Sale			0	0	0	0
Volume						

PPU				

Parameter 20: Set PPU Values

Command code 20 is entered in Level 1 programming to set or change the PPU values. The following is the layout and description of the digit position for this programming feature:

Keypad: **ENTER**

Sale	2	0				Side
Volume				Grade		Level

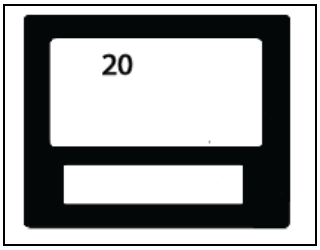
PPU	Price	Price	Price	Price

Note: The second PPU level is not used and the value used for the parameter level is always 1 (only valid at self-sufficient).

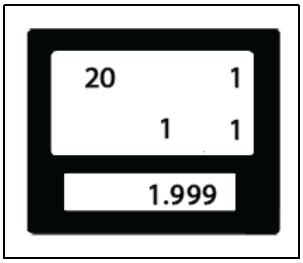
The following is the sequence and displayed values for changing the Side 2, grade 2 PPU:

Note: Ensure that the decimal points are configured (CC85 FC3 and CC85 FC4) before setting the PPU value. And, the value set for CC85 FC3 and CC85 FC4 must always be the same. This implies that every time the user changes the value for CC85 FC3, they need to set the value for CC85 FC4 as well.

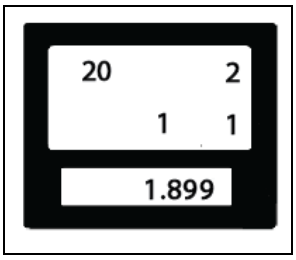
Keypad: **20** - Set PPU values command code.



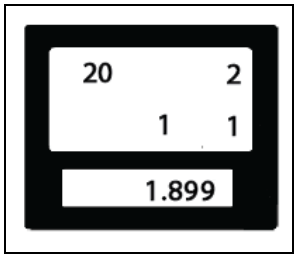
Keypad: **ENTER**



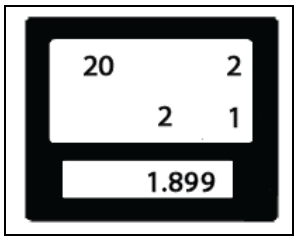
Keypad: **2** - Select Side 2



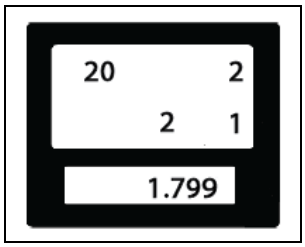
Keypad: **ENTER**



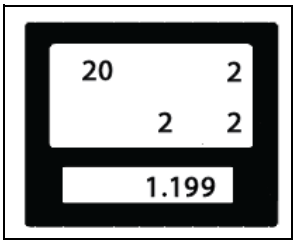
Keypad: **2** - Select Grade 2



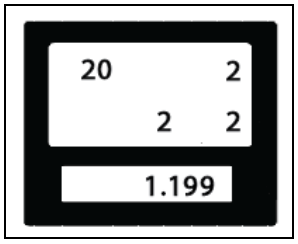
Keypad: **ENTER**



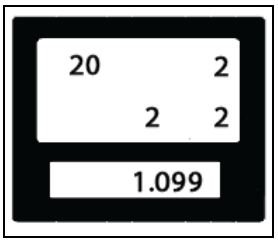
Keypad: **2** - Select Level 2



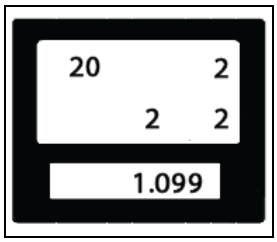
Keypad: **ENTER**



Keypad: **1099** - New PPU Value



Keypad: **ENTER**



Press **F1** for additional programming or **F2** to exit programming.

Parameter 24: Set Mode of the Operation Security Code - 2222 (for Level 1 programming)
Command code 24 is entered in Level 1 programming to set dispenser operating mode. The operation mode setting determines how the dispenser is controlled remotely or if it operates without external control. The following are the available options for operation mode settings (default is Standalone mode):

Keypad: **ENTER**

Sale	2	4				Operation
Volume						

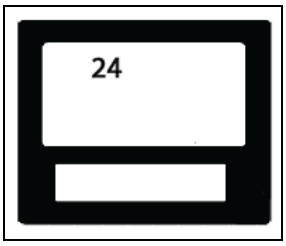
PPU				

The available options for this command code are listed in the following table:

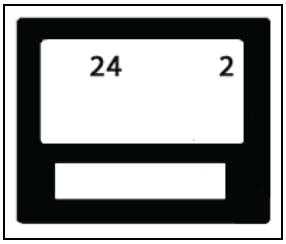
Sr.No	Operation Mode	Protocol or Standalone Settings
1	Two-wire Loop	Gilbarco Standard Protocol
2	Standalone	

The following is the sequence and displayed values for setting the dispenser for standalone operation:

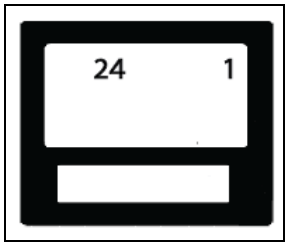
Keypad: **24** - Set Mode of Operation



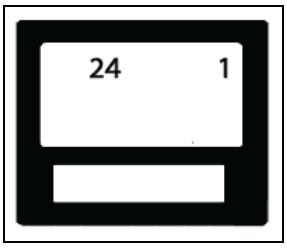
Keypad: **ENTER**



Keypad: **2** - Select Two-wire Mode



Keypad: **ENTER**



Press **F1** key for additional programming or **F2** key to exit programming.

Flow rate (key 5)

When in standalone mode (CC24=2), press **5** to see the flow rate in the money display and the current dispensed volume in the volume display.

Parameter 25: Set the Allocation Volume

Command code 25 is entered in level 1 programming to set grade allocation volume. The following is the layout and description of the allocation programming display:

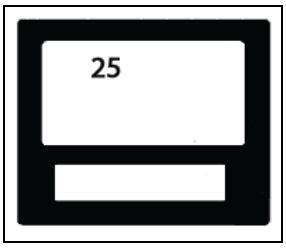
Note: The decimal point position may change in the main volume display depending on its location from the display decimal point programming. The default allocation setting is none or all zeros.

Sale	2	5				Grade
Volume	Volume	Volume	Volume	Volume	Volume	Volume

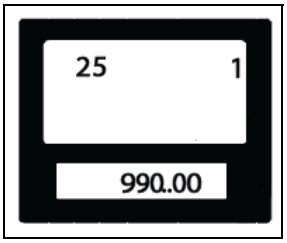
PPU				

The following is the sequence and displayed values for setting Grade 2 allocation volume to 100.00 volume units:

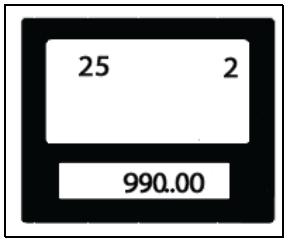
Keypad: **25** - Set Allocation Volume



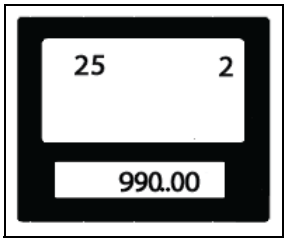
Keypad: **ENTER**



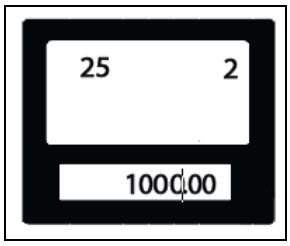
Keypad: **2** - Select Grade 2



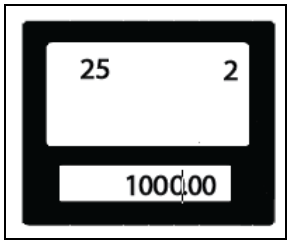
Keypad: **ENTER**



Keypad: **10000 -** Allocation Amount



Keypad: **ENTER**



Press **F1** for additional programming or **F2** to exit programming.

Parameter 31: Set the Amount Limits

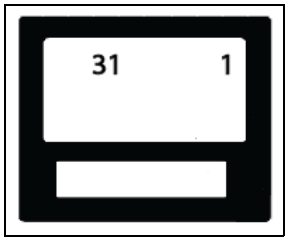
Command Code 31 is entered in Level 1 programming to set side and grade allocation amount. The following is the layout and description of the allocation programming display:

Note: The decimal point position may change in the main volume display depending on its location from the display decimal point programming. The default allocation setting is 950,00.

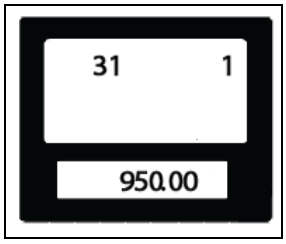
Sale	3	1				Grade
Volume	Amount	Amount	Amount	Amount	Amount	Amount
PPU						

The following is the sequence and displayed values for setting the Side 2 Grade 2 allocation amount to 950,00 units:

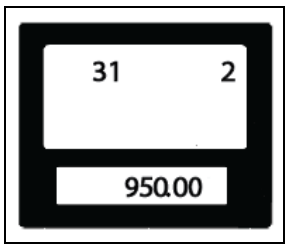
Keypad: **31** - Set Allocation Limit Command



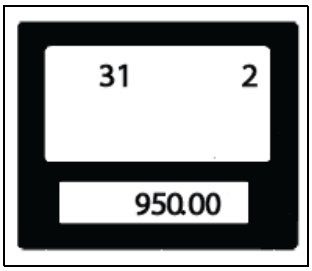
Keypad: **ENTER**



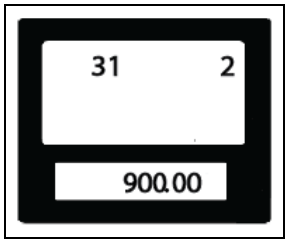
Keypad: **2** - Select Grade 2



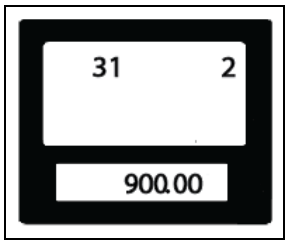
Keypad: **ENTER**



Keypad: **90000 -** Allocation Amount



Keypad: **ENTER**



Press **F1** key for additional programming or **F2** key to exit programming.

Level 2 Commands

Parameter 40: Set Communication Parameters for Security Code - XXXX (for Level 2 programming)
Command code 40 is entered in Level 2 programming to access two-wire parameters. The following is the layout and description of the allocation programming display:

Keypad: **ENTER**

Sale	4	0				Function code
Volume						

PPU				

The available options for this command code are listed in the following table:

Function Code	Two-wire Parameters
1 - Default	Two-wire ID
2	Two-wire Baud Rate

Parameter 40.1: Set Two-Wire ID

Function Code 1 is entered to set the dispenser ID number. The address range is from 1 to 16 for two-wire and 1 to 8 for Automatic Transfer Control Logic (ATCL). The dispenser ID values are Side A=7 and B=11.

The following is the layout and description of this programming feature:

Sale	4	0				1
Volume				Dispenser Side	Dispenser ID	Dispenser ID

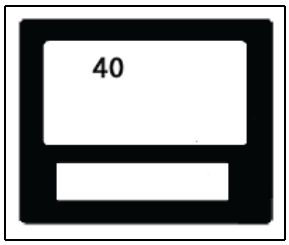
PPU				

The available options for this command code are listed in the following table:

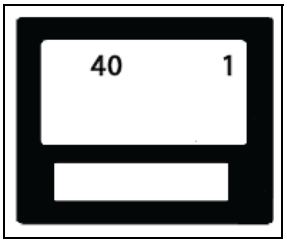
Function Code	Side Code	ID
1	1	XX
1	2	XX

The following example assigns pump Side B address:

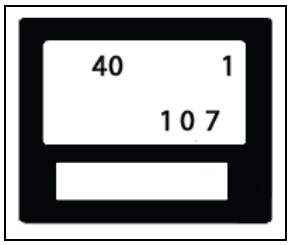
Keypad: **40** - Set Two-Wire Communication Parameters



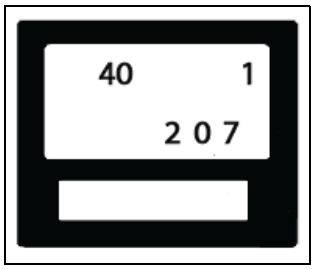
Keypad: **ENTER**



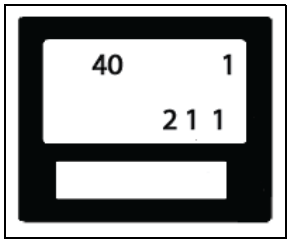
Keypad: **ENTER -** Set Two-Wire ID



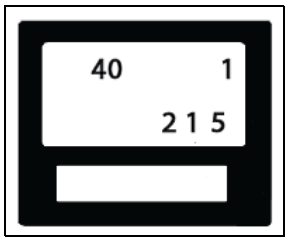
Keypad: **ENTER -** Select Side B



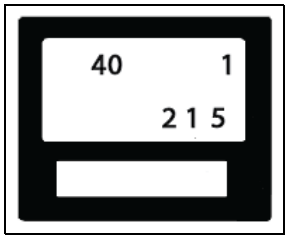
Keypad: **ENTER**



Keypad: **15 -** Enter Address 15



Keypad: **ENTER**



Press **F1** for additional programming or **F2** to exit programming.

Parameter 40.2: Set Two-wire Baud Rate

The following is the layout and description of this programming feature:

Sale	4	0				2
Volume						Code

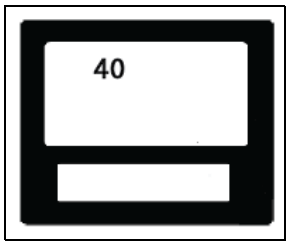
PPU				

The available options for this command code are listed in the following table:

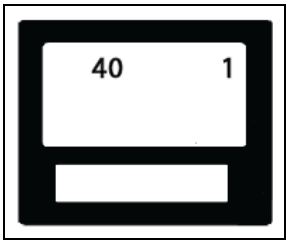
Code	Baud Rate
1 - Default	5787 bps (two-wire)
2	4800 bps (two-wire/ATCL)
3	1200 bps (ATCL)

The following example assigns baud rate to 4800 bps:

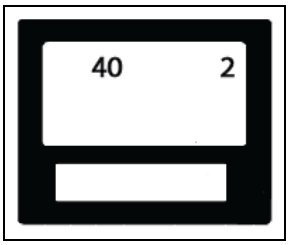
Keypad: **40 -** Set Two-Wire Command



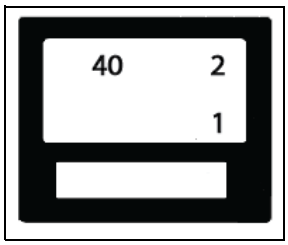
Keypad: **ENTER**



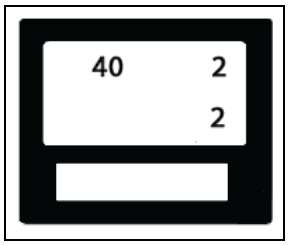
Keypad: **2 -** Select Function Code 2



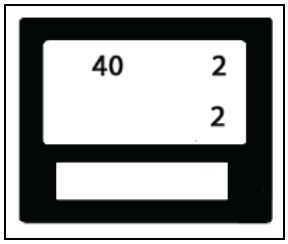
Keypad: **ENTER**



Keypad: **2 -** Select Baud Rate 2



Keypad: **ENTER**



Press **F1** for additional programming or **F2** to exit programming.

Parameter 42: Lighted Canopy Settings

Command Code 42 provides functions to configure the canopy features. The following is the layout and description of the allocation programming display:

Sale	4	2				Function code
Volume						Code

The available options for configuring the canopy features are:

Function Code	Description
5	Set the color to indicate that Fueling Point is available for fueling.
6	Set the color to indicate that Fueling Point is busy.
7	Enable or disable the Fueling Point color.
8	Turn OFF all perimeter LED.
9	Turn OFF both Skylight LEDs.
10	Configure Skylight color.

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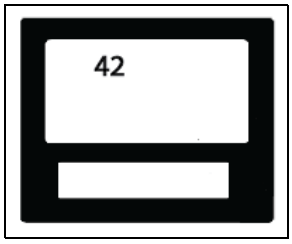
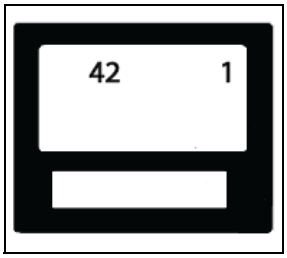
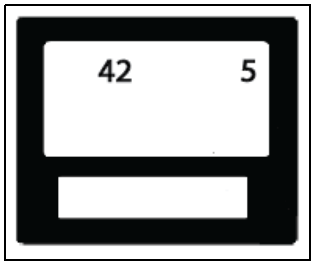
Keypad: 42 - Configure lighted canopy settings.



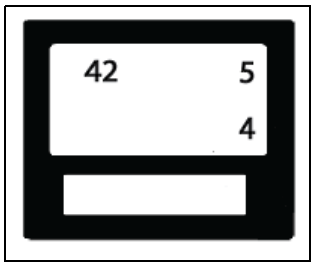
Keypad: **ENTER**



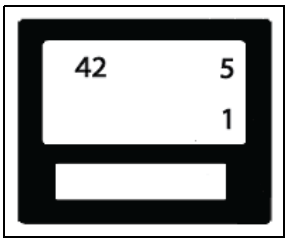
Keypad: **5** - Configure the canopy color to indicate that Fueling Point is available for fueling



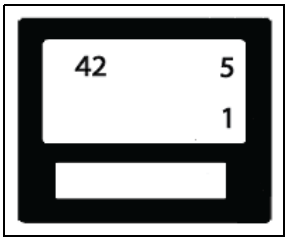
Keypad: **ENTER**



Keypad: **1** - Configure the color to Red.



Keypad: **ENTER**



The canopy color can be configured as follows:

Value	Color
1	Red
2	Orange
3	Yellow
4	Green (Default)
5	Blue
6	Purple
7	White
8	White 5000K

Press **F1** key for additional programming or **F2** key to exit programming.

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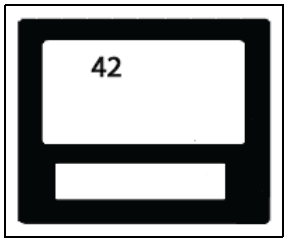
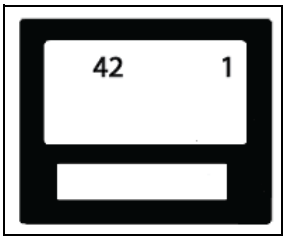
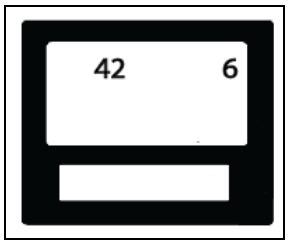
Keypad: 42 - Configure lighted canopy settings



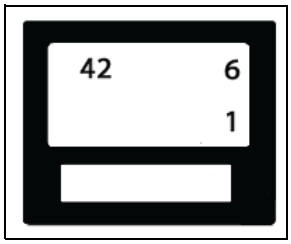
Keypad: **ENTER**



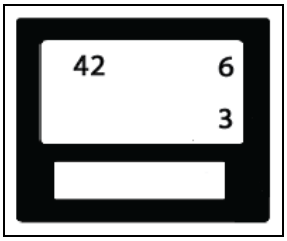
Keypad: **6** - Configure the canopy color to indicate that Fueling Point is busy



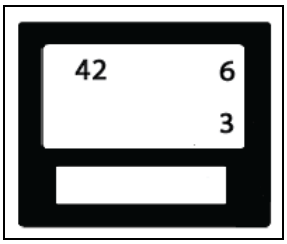
Keypad: **ENTER**



Keypad: **3** - Configure the color to Yellow



Keypad: **ENTER**



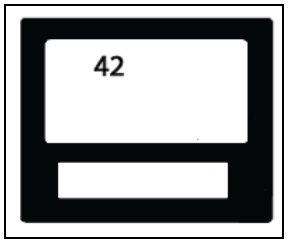
The canopy color can be configured as follows:

Value	Color
1	Red (Default)
2	Orange
3	Yellow
4	Green
5	Blue
6	Purple
7	White
8	White 5000K

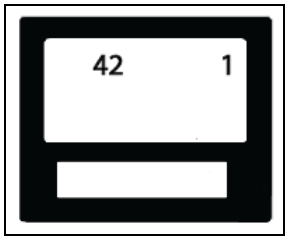
Press **F1** key for additional programming or **F2** key to exit programming.

CC42FC7

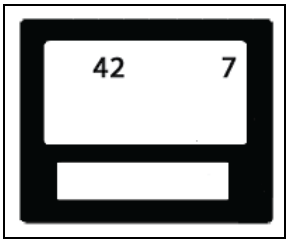
Keypad: **42** - Configure lighted canopy settings



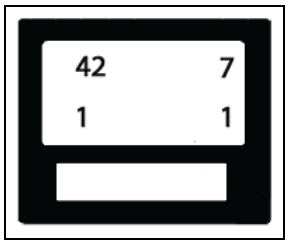
Keypad: **ENTER**



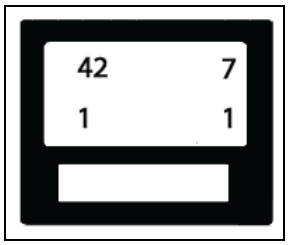
Keypad: **7** - Enable or disable the Fueling Point.



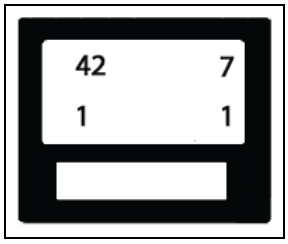
Keypad: **ENTER**



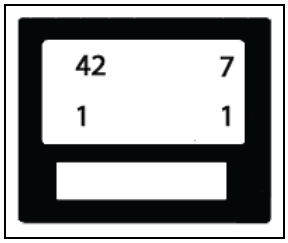
Keypad: **1** - Enter the Strip Number or FP Number to be enabled or disabled. This value ranges from 1 to 4.



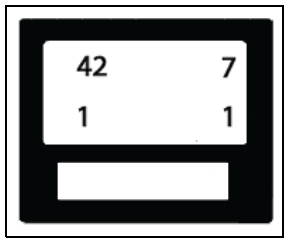
Keypad: **ENTER**



Keypad: **1** - Enable FP. When enabled, it is set to the same color that is configured to indicate that the Fueling Point is busy. When disabled (0), it is set to red by default.



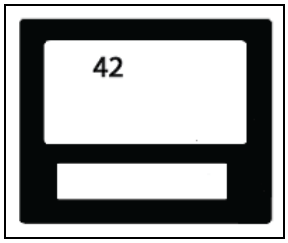
Keypad: **ENTER**



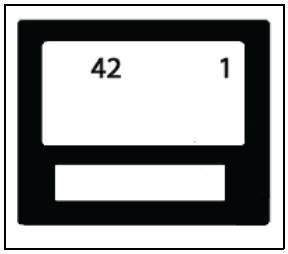
Press **F1** key for additional programming or **F2** key to exit programming.

CC42FC8

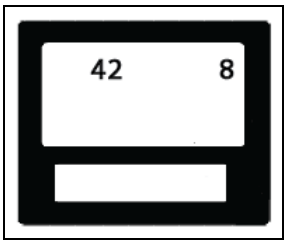
Keypad: 42 - Configure lighted canopy settings



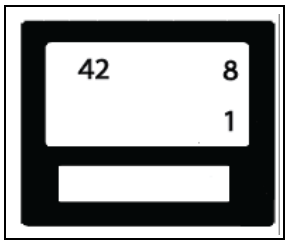
Keypad: **ENTER**



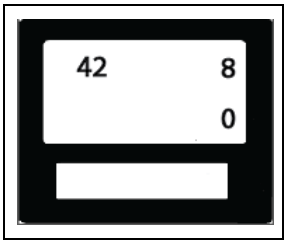
Keypad: **8** - Turn OFF all perimeter LEDs



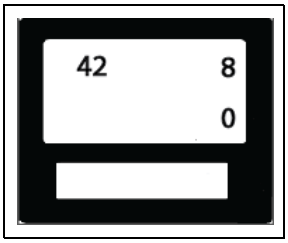
Keypad: **ENTER**



Keypad: **0** - To turn OFF all the perimeter LEDs. To turn ON the perimeter LEDs, value is set to 1.



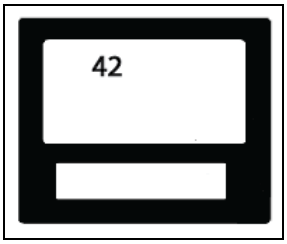
Keypad: **ENTER**



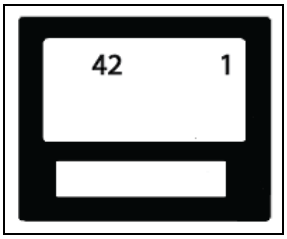
Press **F1** key for additional programming or **F2** key to exit programming.

CC42FC9

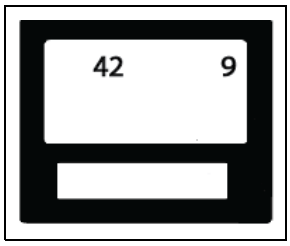
Keypad: 42 - Configure lighted canopy settings



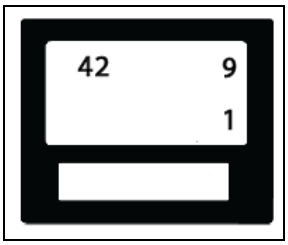
Keypad: **ENTER**



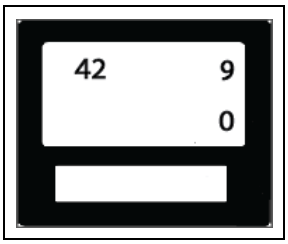
Keypad: **9** - Turn OFF both Skylight LEDs



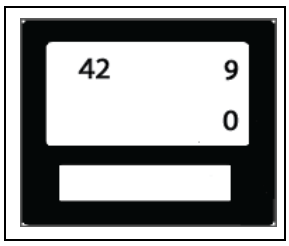
Keypad: **ENTER**



Keypad: **0** - To turn OFF both Skylight LEDs. To turn ON both Skylight LEDs, value is set to 1.



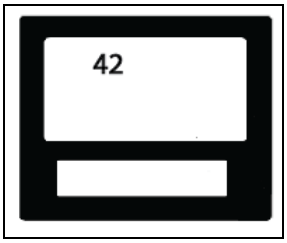
Keypad: **ENTER**



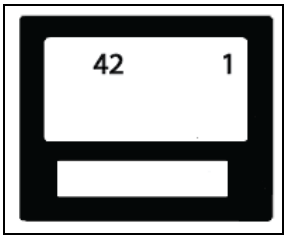
Press **F1** key for additional programming or **F2** key to exit programming.

CC42FC10

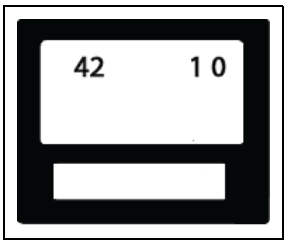
Keypad: **42** - Configure lighted canopy settings



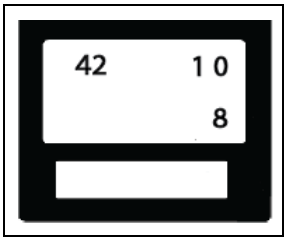
Keypad: **ENTER**



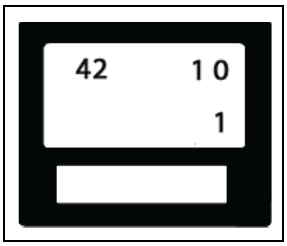
Keypad: **10** - Configure Skylight color



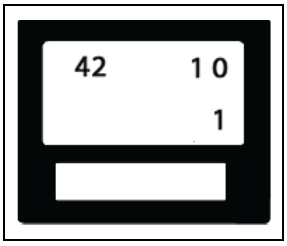
Keypad: **ENTER**



Keypad: **1** - To configure the color to Red.



Keypad: **ENTER**



The Skylight color can be configured as follows:

Value	Color
1	Red
2	Orange
3	Yellow
4	Green
5	Blue
6	Purple
7	White
8	White 5000K

Press **F1** key for additional programming or **F2** key to exit programming.

Parameter 83 Function Code 14: Enable EVR LED Component

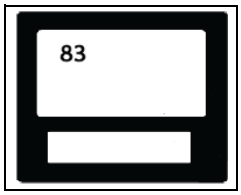
Command Code 83 Function Code 14 is entered to enable EVR LED component. The following is the layout and description of the allocation programming display:

Sale	8	3			1	4
Volume						Value

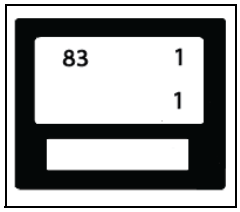
The available options for EVR LED component on Combi Display are as follows:

Value	Description
1	Disabled
2	Enabled (LED show state of VRM)
3	Enabled (LED show state of VR Italy)

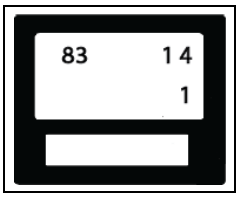
Keypad: **83** - To enable EVR LED component



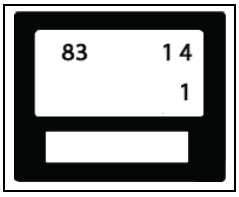
Keypad: **ENTER**



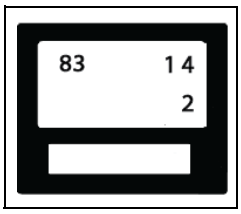
Keypad: **14** - Enable Indicator LED on Combi Display



Keypad: **ENTER**



Keypad: **2** - Enable EVR LED component



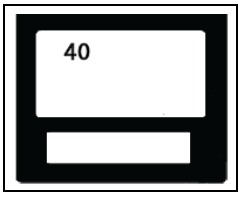
Press **F1** key for additional programming or **F2** key to exit programming.

Parameter 40 Function Code 20: Configure IP address for communication

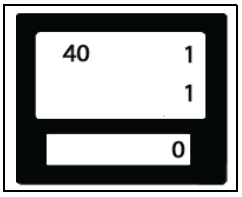
Command Code 40 Function Code 20 is used to configure IP address for communication.

Consider the example of configuring IP address for communication.

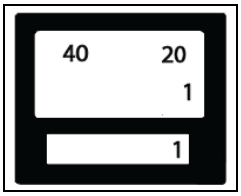
Keypad: **40** - Configure Communication Parameters



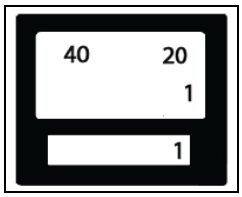
Keypad: **ENTER**



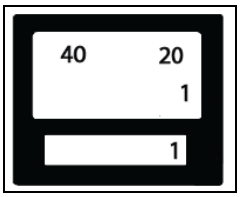
Keypad: **20** - Configure IP address for communication



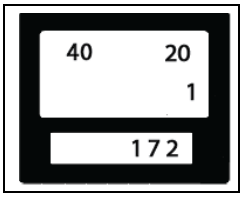
Keypad: **ENTER**



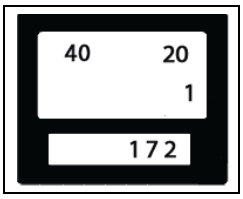
Keypad: **ENTER**



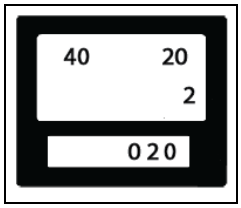
Keypad: **172 -** Configure first part of IP address for communication



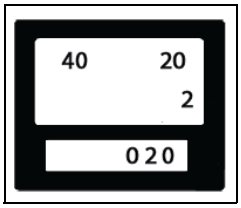
Keypad: **ENTER**



Keypad: **2 -** Configure second part of IP address for communication



Keypad: **ENTER**



Similarly, third and fourth part of the IP address can be configured as 100 and 005, respectively.

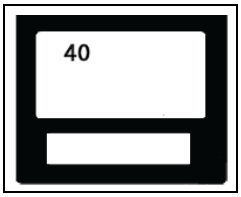
Press **F1** key for additional programming or **F2** key to exit programming.

Parameter 40 Function Code 21: Configure Subnet Mask

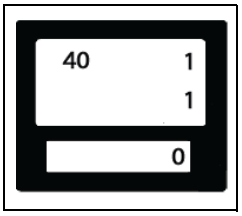
Command Code 40 Function Code 21 is used to configure the subnet mask.

Consider the example of configuring the subnet mask.

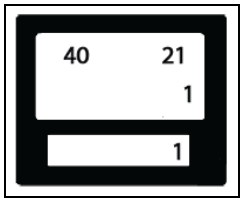
Keypad: **40** - Configure Communication Parameters



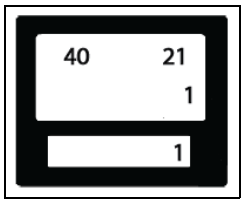
Keypad: **ENTER**



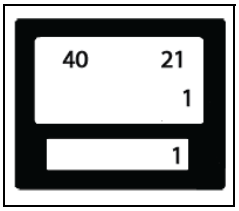
Keypad: **21** - Configure Subnet Mask



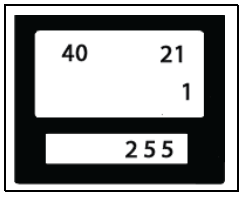
Keypad: **ENTER**



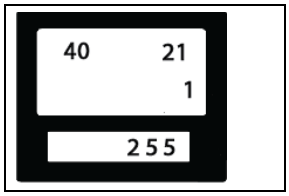
Keypad: **ENTER**



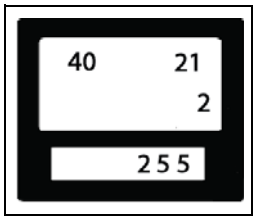
Keypad: **255 -** First part of Subnet Mask



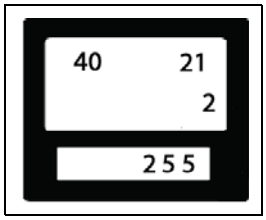
Keypad: **ENTER**



Keypad: **2 -** Configure second part of the Subnet Mask.



Keypad: **ENTER**

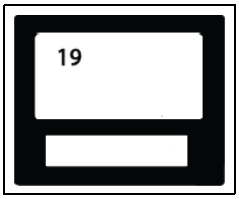


Similarly, third and fourth part of the Subnet Mask can be configured as 255 and 000, respectively.

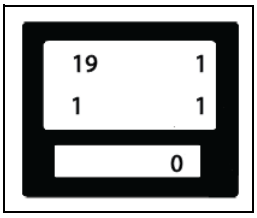
Press **F1** key for additional programming or **F2** key to exit programming.

Parameter 19 Function Code 1: Configure Grade ID per Fueling Point

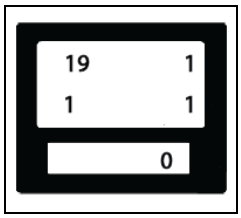
Keypad: **19 -** Configure Multimedia Parameters



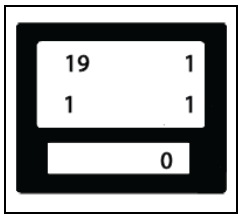
Keypad: **ENTER**



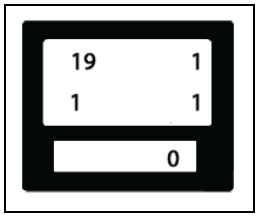
Keypad: **ENTER**



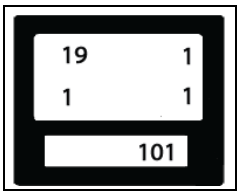
Keypad: **ENTER**



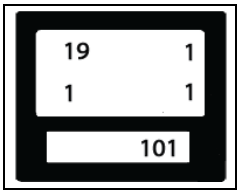
Keypad: **ENTER**



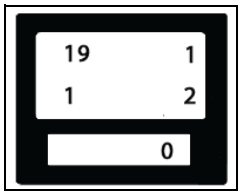
Keypad: **101** - Grade ID for FP 1 Grade 1



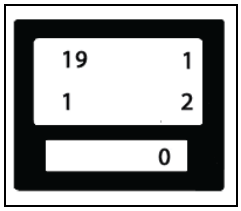
Keypad: **ENTER**



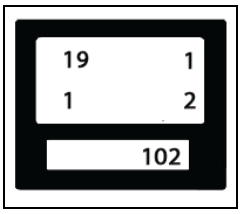
Keypad: **2** - Configure FP 1 for Grade 2



Keypad: **ENTER**

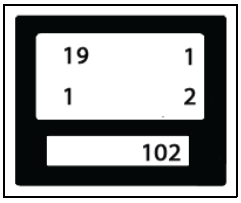


Keypad: **102** - Grade ID for FP 1 Grade 2

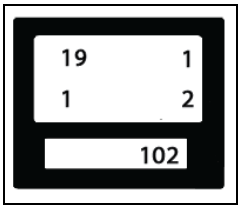


Similarly, Grade ID for remaining grades for FP 1 can be configured. Now, consider the example of configuring Grade ID for FP 2

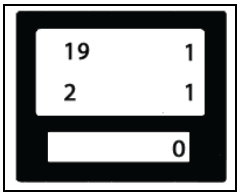
Keypad: **ENTER**



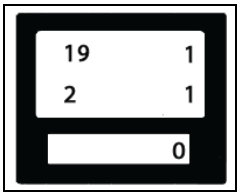
Keypad: **ENTER**



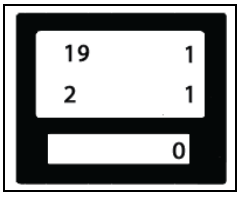
Keypad: **2** - Configure Grade ID for FP 2 Grades



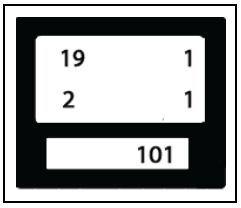
Keypad: **ENTER**



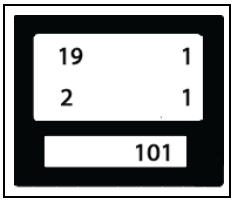
Keypad: **ENTER**



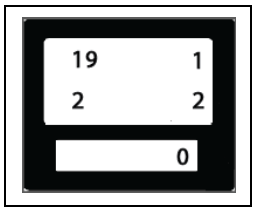
Keypad: **101** - Grade ID for FP 2 Grade 1



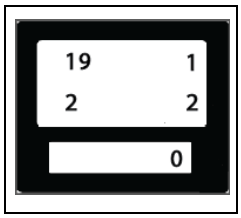
Keypad: **ENTER**



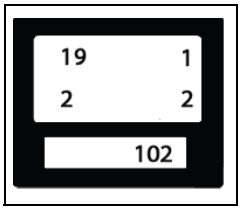
Keypad: **2 -** Configure Grade ID for FP 2 Grade 2



Keypad: **ENTER**



Keypad: **102** - Grade ID for FP 2



Similarly, Grade Id for remaining grades for each FP can be configured.

Press **F1** key for additional programming or **F2** key to exit programming.

Parameter 19 Function Code 2: Configure Multimedia Pump ID per Fueling Point

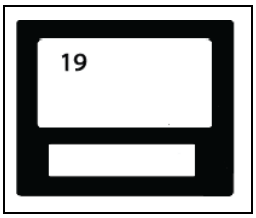
Command Code 19 Function Code 2 is entered to configure Multimedia (MM) Pump ID for each Fueling Point (FP). The range for Pump ID is 1-255. The following is the layout and description of the allocation programming display:

Sale	1	9				Function Code
Volume						FP No

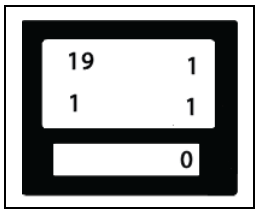
PPU				Pump ID

Consider the example of configuring Pump ID for FP 1, FP 2, FP 3 and FP 4.

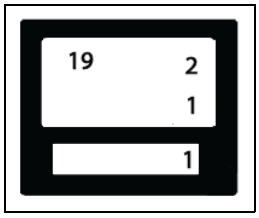
Keypad: **19** - Configure Multimedia Parameters



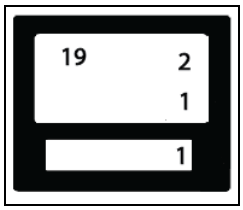
Keypad: **ENTER**



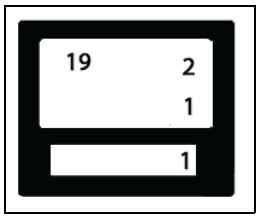
Keypad: **2** - Configure MM Pump ID



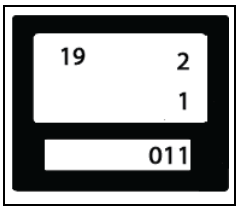
Keypad: **ENTER**



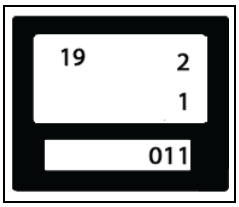
Keypad: **ENTER**



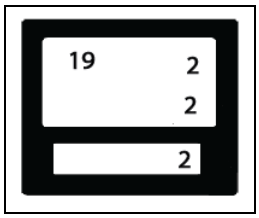
Keypad: **011** - Pump ID for FP 1



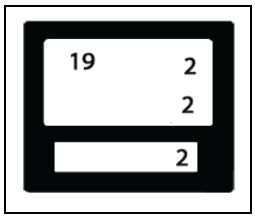
Keypad: **ENTER**



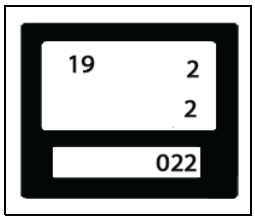
Keypad: **2** - Configure Pump ID for FP 2



Keypad: **ENTER**



Keypad: **022** - Pump ID for FP 2



Similarly, Pump ID for FP 3 and FP 4 can be configured as 203 and 044, respectively.

Press **F1** key for additional programming or **F2** key to exit programming.

Level 3 Commands: Security Code XXXX

Parameter 85: Comma/Decimal Point Digit Settings

Sale	8	5				Function Code
Volume						Digits After Decimal Point

PPU				

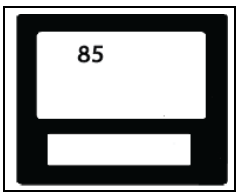
The following table lists the function codes for Command Code 85:

Function Code	Description
1	Set Money Decimal Point for Display
2	Set Volume Decimal Point for Display
3	Set PPU Decimal Point for Calculation
4	Set PPU Decimal Position for Display

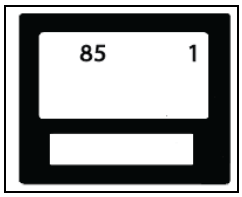
Option	Description
1	0 digits after decimal point
2	1 digits after decimal point
3	2 digits after decimal point
4	3 digits after decimal point

CC85 FC1

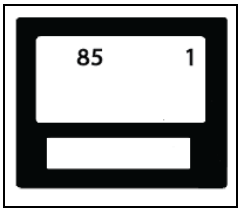
Keypad: **85 -** Set Decimal Points



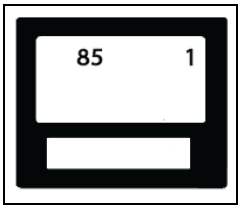
Keypad: **ENTER**



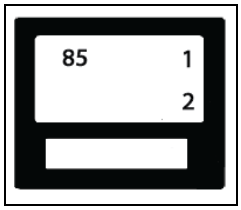
Keypad: **1 -** Select Function Code 1 (Setting Money Decimal Point for Display)



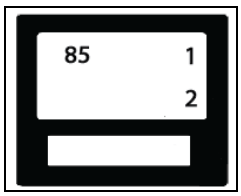
Keypad: **ENTER**



Keypad: **2 -** One Digit after Decimal

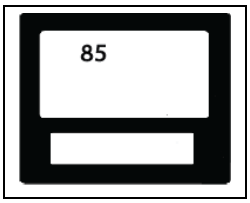


Keypad: **ENTER**

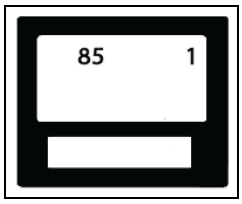


CC85 FC2

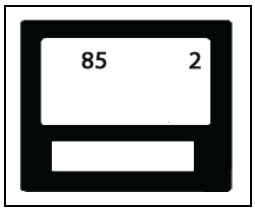
Keypad: **85 -** Set Decimal Points



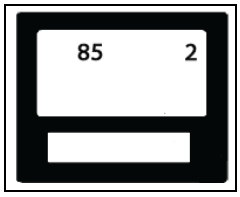
Keypad: **ENTER**



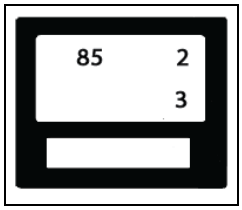
Keypad: **2 -** Select Function Code 2 (Setting Volume Decimal Point for Display)



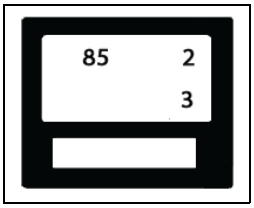
Keypad: **ENTER**



Keypad: **3 -** Two Digits after Decimal



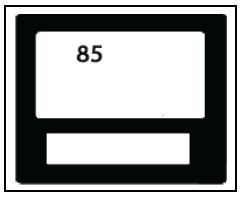
Keypad: **ENTER**



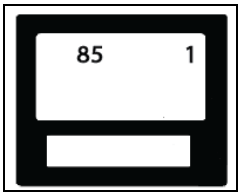
CC85FC3

Note: The value set for CC85 FC3 and CC85 FC4 must always be the same. This implies that every time the user changes the value for CC85 FC3, they need to set the value for CC85 FC4 as well.

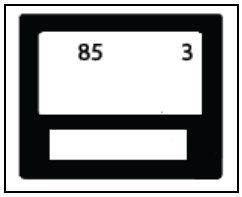
Keypad: **85 -** Set Decimal Points



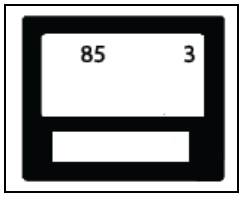
Keypad: **ENTER**



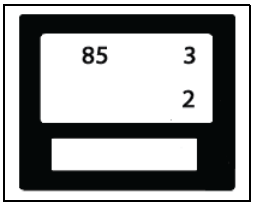
Keypad: **3 -** Select Function Code 3 (Setting PPU Decimal Point for Calculation)



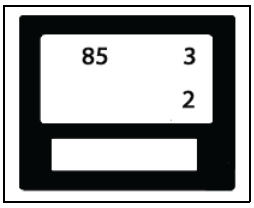
Keypad: **ENTER**



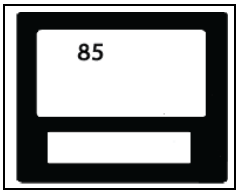
Keypad: **2 -** One Digit after Decimal



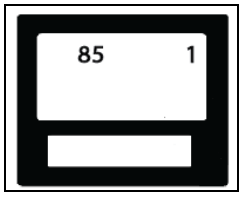
Keypad: **ENTER**



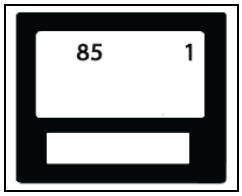
CC85 FC4
Keypad: **85 -** Set Decimal Points



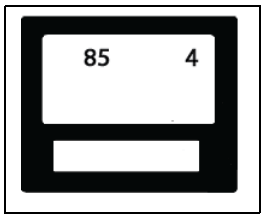
Keypad: **ENTER**



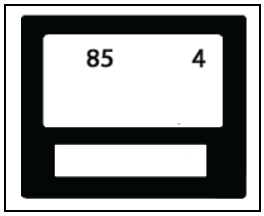
Keypad: **ENTER**



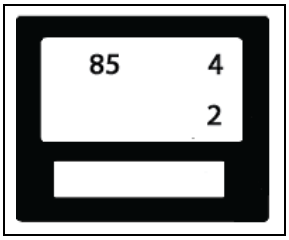
Keypad: **4 -** Select Function Code 4 (Setting PPU Decimal Point for Display)



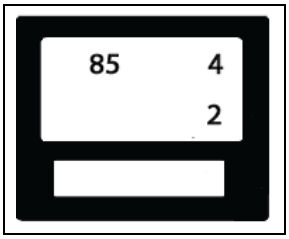
Keypad: **ENTER**



Keypad: **2 -** One Digit after Decimal



Keypad: **ENTER**



Press **F1** for additional programming or **F2** to exit programming.

*Notes: 1) After changing any parameter, press **F2** to set that value in the database and the pump will reboot.*
*2) If the parameters are not changed, then press **F2**; the home screen opens and "READY" string is displayed on the keypad display.*

Parameter 75: Configure Fuel Density

Command Code 75 provides functions to configure fuel density of each grade. The following is the layout and description of the allocation programming display:

Sale	7	5				Grade
Volume						Fuel Density

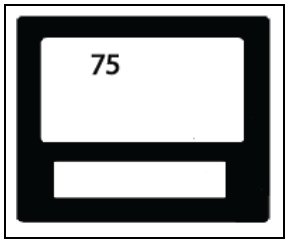
PPU				Value

The available options for configuring fuel density for each grade are as follows:

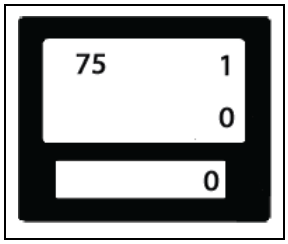
Function Code	Description
1	Configure fuel density for grade 1.
2	Configure fuel density for grade 2.
3	Configure fuel density for grade 3.
4	Configure fuel density for grade 4.
5	Configure fuel density for grade 5.
6	.Configure fuel density for grade 6.

Consider the example of configuring fuel density for three grades.

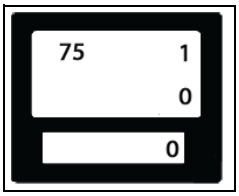
Keypad: **75** - Configure Fuel Density.



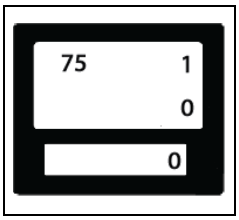
Keypad: **ENTER**



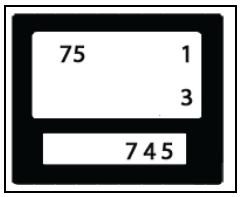
Keypad: **1 -** Configure the fuel density for Grade 1. The grade value ranges from 1- 6.



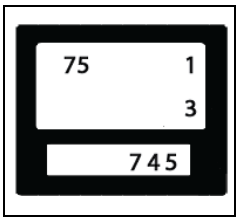
Keypad: **ENTER**



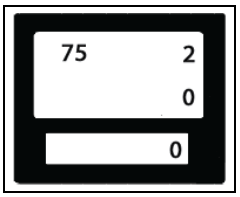
Keypad: **3** - Enter the Fuel Density



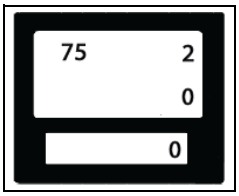
Keypad: **ENTER**



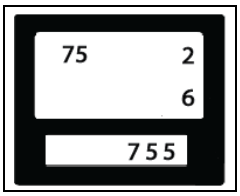
Keypad: **2 -** To configure the fuel density for Grade 2.



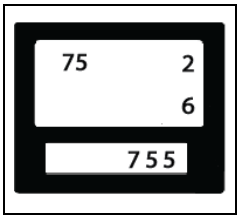
Keypad: **ENTER**



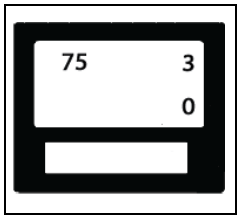
Keypad: **6** - Enter the Fuel Density



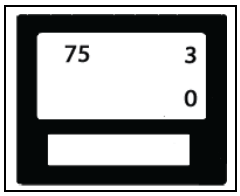
Keypad: **ENTER**



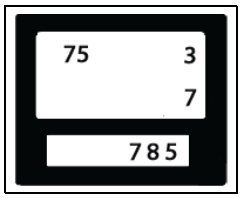
Keypad: **3 -** Configure the fuel density for Grade 3



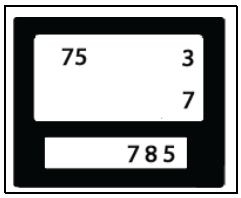
Keypad: **ENTER**



Keypad: **7** - Enter the Fuel Density



Keypad: **ENTER**



Press **F1** key for additional programming or **F2** key to exit programming.

Parameter 80: Configure Maximum Fuel Flow Rate

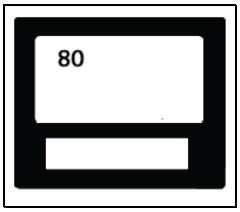
Command Code 80 provides functions to configure maximum fuel flow rate for each grade. The default value for flow rate is 70 lpm. The following is the layout and description of the allocation programming display:

Sale	8	0				Side
Volume						Nozzle

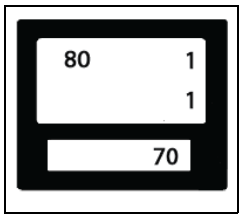
PPU				Flow Rate Value

Consider the example of configuring fuel flow rate for Side 1 Nozzle 1 and Side 2 Nozzle 1.

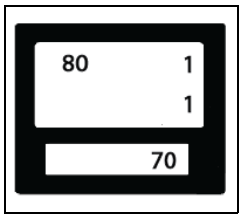
Keypad: **80** - Configure maximum Fuel Flow Rate



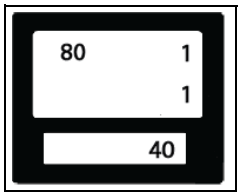
Keypad: **ENTER**



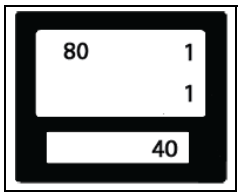
Keypad: **ENTER**



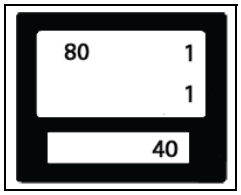
Keypad: **40 -** Configure maximum Fuel Flow Rate



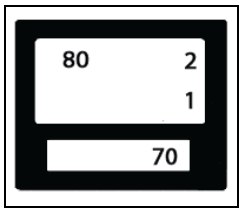
Keypad: **ENTER**



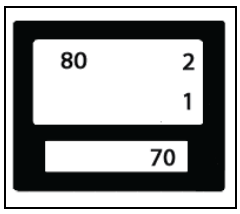
Keypad: **ENTER**



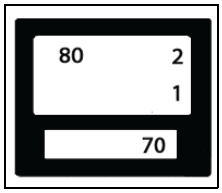
Keypad: **2** - Configure maximum Fuel Flow Rate for Side 2 Nozzle 1



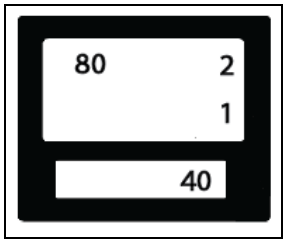
Keypad: **ENTER**



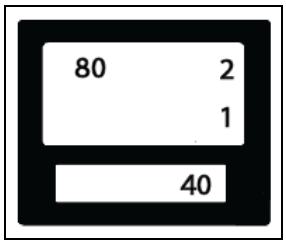
Keypad: **ENTER**



Keypad: **40 -** Configure maximum Fuel Flow Rate



Keypad: **ENTER**



Press **F1** key for additional programming or **F2** key to exit programming.

Level 4

Parameter 91 Function Code 14: Enable Vapor Recovery and Monitoring Feature

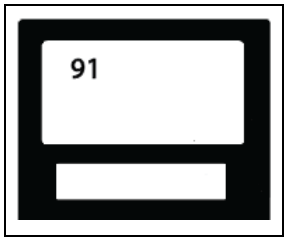
Command Code 91 Function Code 14 is entered to enable Vapor Recovery and Monitoring (VRM) feature. The following is the layout and description of the allocation programming display:

Sale	9	1				Function Code
Volume						Value

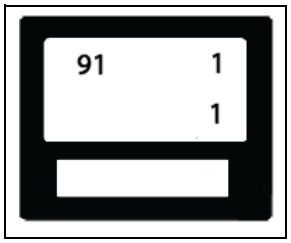
The available options for enabling vapor recovery and monitoring feature are as follows:

Value	Description
1	Without Vapor Recovery Control (VRC)
2	With VRC
3	With VRM
4	With VRC and Re-regulation
5	VR Motor Control

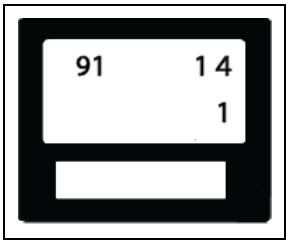
Keypad: **91** - Enable Vapor Recovery feature



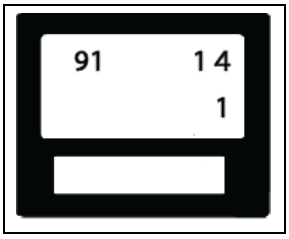
Keypad: **ENTER**



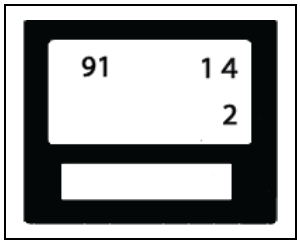
Keypad: **14** - Enable Vapor Recovery feature



Keypad: **ENTER**



Keypad: **2** - Enable VRC



Note: To enable VRM, enter 3 instead of 2.

Press **F1** key for additional programming or **F2** key to exit programming.

Parameter 91 Function Code 43: Enable VRM Configurable Duration

Command Code 91 Function Code 43 is entered to enable VRM configurable duration. The following is the layout and description of the allocation programming display:

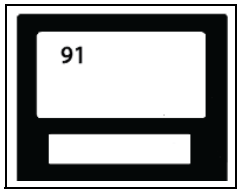
Sale	9	1				Function Code
Volume						Value

PPU				Duration

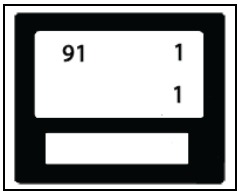
The available options for VRM configurable duration are as follows:

Value	Duration
1	168 hours
2	72 hours

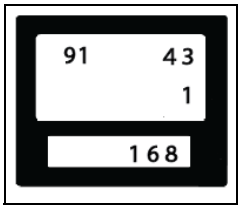
Keypad: **91** - Enable Vapor Recovery feature



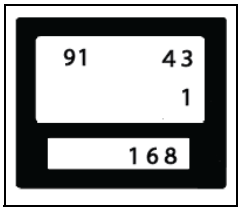
Keypad: **ENTER**



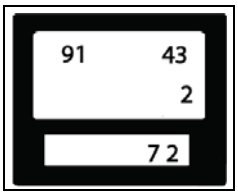
Keypad: **43** - VRM configurable duration



Keypad: **ENTER**



Keypad: **2** - Enable VRM configurable duration



Parameter 91 Function Code 47: Enable Multimedia Client over Ethernet

Command Code 91 Function Code 47 is entered to enable Multimedia (MM) Client over Ethernet. The following is the layout and description of the allocation programming display:

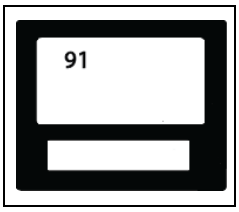
Sale	9	1			4	7
Volume						Value

The available options for configuring flow rate for each grade are as follows:

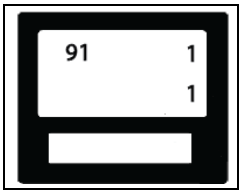
Value	Description
1	Disable MM
2	NOT USED
3	NOT USED
4	Enable MM over Ethernet

Consider the example of enabling MM Client over Ethernet.

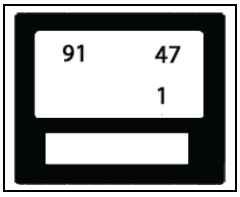
Keypad: **91** - Enable MM Client over Ethernet



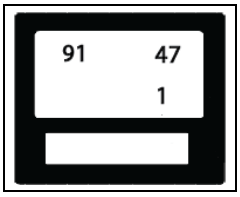
Keypad: **ENTER**



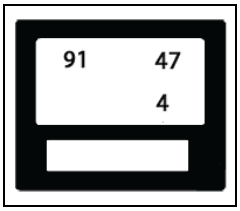
Keypad: **47** - Enable or disable MM



Keypad: **ENTER**



Keypad: **4** - Enable MM over Ethernet



Press **F1** key for additional programming or **F2** key to exit programming.

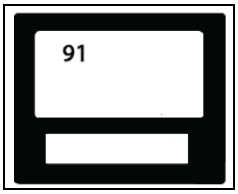
Parameter 91 Function Code 50: Configure Ping Timeout for MM Client

Command Code 91 Function Code 50 is entered to configure ping timeout for multimedia connection. The value for timeout ranges from 1-200 and is multiple of 100 ms. The following is the layout and description of the allocation programming display:

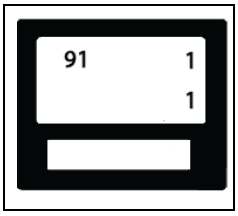
Sale	9	1				Function Code
Volume						Duration (multiples of 100 ms)

Consider the example of configuring ping timeout for MM connection.

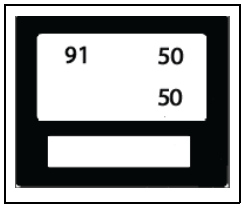
Keypad: **91** - Configure Ping Timeout for MM connection



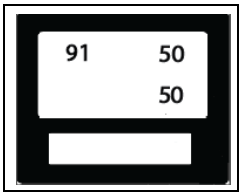
Keypad: **ENTER**



Keypad: **50** - Configure Ping Timeout Duration



Keypad: **ENTER**



Note: The Ping Timeout Duration can be configured based on the requirement. The default value is 50.

Press **F1** key for additional programming or **F2** key to exit programming.

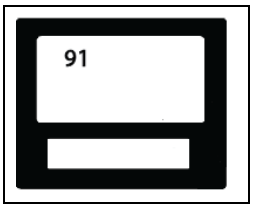
Parameter 91 Function Code 51: Configure Port Number for Socket Connection

Command Code 91 Function Code 51 is entered to configure Port Number for Socket Connection. The value ranges from 0-65535. The default value is 51001. The following is the layout and description of the allocation programming display:

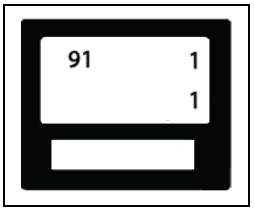
Sale	9	1				Function Code
Volume						Port Number

Consider the example of configuring Port Number for Socket Connection.

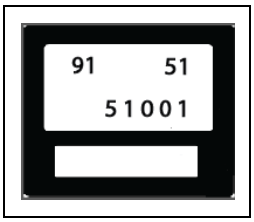
Keypad: **91** - Configure Port Number for Socket Connection



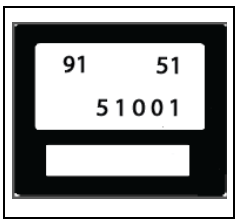
Keypad: **ENTER**



Keypad: **51** - Configure Port Number for Socket Connection



Keypad: **ENTER**



Note: The Port Number for Socket Connection can be configured based on the requirement.

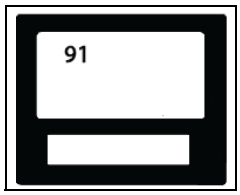
Parameter 91 Function Code 52: Configure Number of Clients to Connect

Command Code 91 Function Code 52 is entered to configure the number of clients to connect. The value ranges from 0-10. The default value is 0. The following is the layout and description of the allocation programming display:

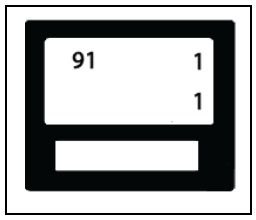
Sale	9	1				Function Code
Volume						Number of Clients to Connect

Consider the example of configuring the number of clients to connect.

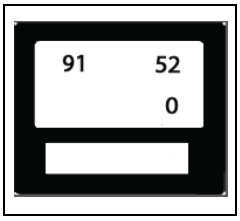
Keypad: **91** - Configure Number of Clients to Connect



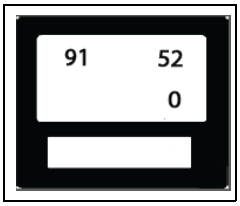
Keypad: **ENTER**



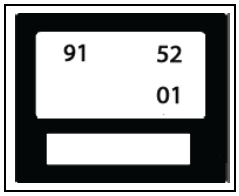
Keypad: **52** - Configure Number of Clients to Connect



Keypad: **ENTER**



Keypad: **1** - Number of Client to Connect



Note: The Number of Clients to Connect can be configured based on the requirement.

Press **F1** key for additional programming or **F2** key to exit programming.

Parameter Settings Menu

The following table provides information about the three levels of operation:

Operation Level	Description
Level 1	Indicates the basic operational level, which includes all features that are typically handled during day-to-day usage of the pump/dispenser.
Level 2	Incorporates the entire menu that is available in Level 1 and offers some additional menus to handle the operation of the pump, which is normally controlled by the management team of the oil company or the service management team authorized to maintain the pump/dispenser.
Level 3	The highest level under which all parameters to be set at the factory level are clustered together. This level is typically not required for operating or maintaining the pump/dispenser in the field.

The following User Menu table provides the information on various parameters that can be set under three different levels of operations:

					Edit Access		
Sr. #	Menu	Sub Menu	Sub Menu	Sub Menu	Level 0 (Site)	Level 1 (Service)	Level 2 (Engineer)
1	DATE & TIME	DD:MM:YY HH:MM			N	N	Y
2	PPU CHANGE	Side:X Grade:X			N	Y	Y
3	TOTALIZER	CUM VOL	NX:SX		N	N	N
		CUM MON	NX:SX				
		SHFT VOL	NX:SX				
		SHFT MON	NX:SX				
		CLR SHIFT TOTS	CL SHF TOTS EDIT CONFIRM?		N	Y	Y
4	HOTKEY SET	HOTKEY P1 MONEY: _.__			Y	Y	Y
		HOTKEY P2 MONEY: _.__					
		HOTKEY P3 MONEY: _.__					
		HOTKEY P4 MONEY: _.__					
		HOTKEY P1 VOLUME: _.__					
		HOTKEY P2 VOLUME: _.__					
		HOTKEY P3 VOLUME: _.__					
		HOTKEY P4 VOLUME: _.__					

Sr. #	Menu	Sub Menu	Sub Menu	Sub Menu	Edit Access Level 0 (Site)	Edit Access Level 1 (Service)	Edit Access Level 2 (Engineer)
5	LOGS	Transaction	NZ:x Sidex DD.MM.YY HH:MM Volume : xx Amount : xx Rate:xxxx Pr Type:x Pr Vol:x Err:xxxx		N	N	N
		PPUChange	Grade:x	Grade:x SeqNo:xxx Sidex DD.MM.YY HH:MM OldValue:xxxx NewValue:xxxx UsrL:x KeypadL:x Vol:xxxxxxxxxx	N	N	N
		CalibChange	Meter:xx	Mtr:xx SeqNo:xxx Sidex DD.MM.YY HH:MM Old Calib:xxxx New Calib:xxxx Vol:xxxxxxxxxxxxx Amt:xxxxxxxxxxxx	N	N	N
		Event	AlPmp SeqNo:xxx DD.MM.YY HH:MM ErrNo:xxxx		N	N	N
		Prog Access	SeqNo:xxx x DD.MM.YY HH:MM Level:x Success		N	N	N
6	PUMP MODE	STANDALONE			N	Y	Y
7	NOZZLE STATE	S1:N1 UNLOCKED			N	Y	Y
		S1:N2 UNLOCKED					
		S1:N3 UNLOCKED					
		S1:N4 UNLOCKED					
		S1:N5 UNLOCKED					
		S1:N6 UNLOCKED					
		Same sequence for Side 2, 3, and 4					

Sr. #	Menu	Sub Menu	Sub Menu	Sub Menu	Edit Access		
					Level 0 (Site)	Level 1 (Service)	Level 2 (Engineer)
8	SERIAL NUMBER	Pump SN			N	N	N
		CPU SN					
		BB SN					
		Disp1 SN					
		Disp2 SN					
		Disp3 SN					
		Disp4 SN					
		KP1 SN					
		KP2 SN					
		KP3 SN					
		KP4 SN					
		HIB1 SN					
		HIB2 SN					
		Canopy SN					
9	PW CHG	LX CHG	8888		N	Y	Y
10	TRAN PRINT	NZ:x Sidex DD.MM.YY HH:MM Volume: xx Amount: xx Rate:xxxx			Y	Y	Y

Note: TRAN PRINT menu operates only if the printer menu is enabled.

Sr. #	Menu	Sub Menu	Sub Menu	Sub Menu	Edit Access		
					Level 0 (Site)	Level 1 (Service)	Level 2 (Engineer)
11	CONFIG RECEIPT	HL01:					
		HL02:					
		HL03:					
		HL04:					
		HL05:					
		HL06:					
		HL07:					
		HL08:					
		HL09:					
		HL10:			N	N	Y
		FL1:					
		FL2:					
		FL3:					
		FL4:					
		FL5:					
		FT1:					
		FT2:					
		FT3:					
		FT4:					

Note: This menu supports 24 characters only.

Pump Configuration

The pump can be configured in two ways:

- Universal Serial Bus (USB)
- Manually using CC

Configuring the Pump using USB

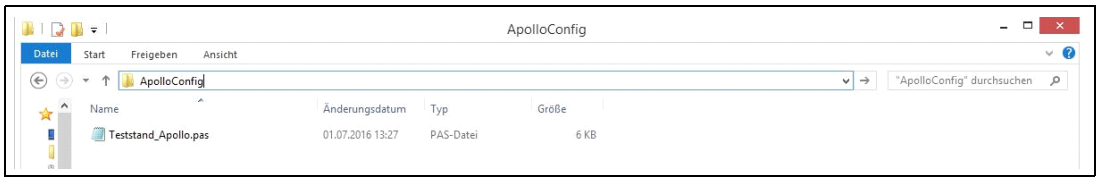
To configure the pump using USB, proceed as follows:

Note: Ensure that the USB/Pen Drive being used has following specifications when using it on Latitude:

Brand	Toshiba, Sony, Kingston, Transcend
Hardware Interface	USB 2.0
Memory Storage	16 GB or less
File System	FAT32
USB Body	Plastic or Non-Metallic body

1 Create a folder “ApolloConfig” in the USB drive and place the *.pas file in it. This will be used by the system to configure itself.
*Note: The *.pas file is provided by the engineer to the service technician.*

Figure 5-19: ApolloConfig Folder



2 Plug the USB into the slot P4004.
Note: Ensure that the dispenser is in idle state.

3 Open the Security Switch (SW1) to **ON** position.

4 Press **F2** > **2** on the keypad and observe as the Light Emitting Diodes (LEDs) glow in the following sequence:
- D10 (Red): ON
- D11 (Green): OFF

Store Config is displayed.

5 The dispenser restarts once the Config change is completed.

6 Set the Security Switch (SW1) back to OFF.

Note: .pas file will be different for different pump configuration types. For example, if the configuration is duo island oriented then nozzle, motor, pulser, price configurations will be different.

Configuring Pump Manually Using CC

Setting Up Pump Configuration Type

To set up pump configuration type, proceed as follows:

1. Press **F1** to open the CC menu and press **1** to enter the CC.
2. Enter the password and press **ENTER**.
3. Enter **CC 90** and press **ENTER**.
4. Enter the desired value based on the pump configuration type and then press **ENTER**.
   Note: The following are the values for setting up the pump configuration type:

Pump Configuration Type	Function Code
1P MPD	1
2P MPD	2
3P MPD	3
4P MPD	4
2P Quad	90
Duo Island	80

Retrieving Configuration and Logs from Dispenser in to USB

To retrieve configuration and logs from dispenser in to USB, proceed as follows:

1. Create the folder “ApolloConfig” in to the Pen Drive.
   Note: Ensure that USB Drive is empty.
2. Copy the “WhoAreYou.pag” file in to the folder. This will be used to retrieve the configuration and Log information.
   *Note: The *.pag file is provided by the engineer to the service technician.*
3. Plug the USB into the slot P4004.
   Note: Ensure that the dispenser is in idle state.
4. Press **F2 > 8** on the keypad and observe as the Light Emitting Diodes (LEDs) glow in the following sequence:
   - D10 (Red): ON
   - D11 (Green): OFF
5. Wait for the configuration and log information to download. The progress of download will be visible on Keypad Display.
   Note: Ensure that “Get config” is displayed on both Keypad and Main Display.

Date and Time

To set date and time, proceed as follows:

1. Press **F1** to open the CC menu and press **2** to enter the CC. Enter Level 4 password “XXXX” and press **ENTER**.

2. (CC60FC1=HHMM): Press **F1** > Enter **CC 60** > **ENTER** > **1** > **ENTER** > Enter **2-digit hours and 2-digit minutes** > **ENTER**.

3. (CC60FC2=MMDDYY): Press **F1** > Enter **CC 60** > **ENTER** > **2** > **ENTER** > Enter **2-digit month, 2-digit date and 2-digit year** > **ENTER**.

   Press the **F2** key to reboot the pump.

6 – Preliminary Steps for Service

This section provides instructions for collecting information on any unit-related problems that a Gilbarco-trained ASC or Customer Specified Contractor (CSC) will require for servicing. Providing complete information can shorten the time that the ASCs/CSCs spend in troubleshooting and enable them to have the correct parts required for service.

⚠ WARNING

Do not attempt to service a Latitude pump/dispenser on your own, without special, qualified training. Servicing a Latitude pump/dispenser incorrectly could result in severe injury or death. Only Gilbarco-trained ASCs/CSCs must service a Latitude pump/dispenser.

⚠ WARNING

Do not make unapproved modifications to Gilbarco equipment. Doing so could result in improper equipment operation and violation of state and local codes and could also create a safety hazard. Consult your ASC/CSC, distributor, or Gilbarco for approved modifications and kits.

Preparing for Service

Appoint an ASC/CSC to efficiently service and maintain your Latitude unit. Gilbarco trains and certifies ASCs/CSCs to service and maintain the Latitude unit in a safe manner. Warranty service must be performed by an ASC/CSC only.

Before Making Service Call

Perform the following tasks, before placing a service call:

- Obtain complete information from the station personnel about the problem. Provide any history that might help (whether the unit has a recurring problem, or the problem has been observed for the first time, and so on).
- Mention the associated hose number(s) along with the problem.
- Confirm if the tank contains fuel.
- Confirm if the power, pump lights, and circuit breakers are on.
- For electronic units, write down and report any Error Codes (ECs) displayed.

Describing Problem

Provide the ASC/CSC with a complete and accurate description of the problem, including all symptoms and ECs. Ensure that you give the service personnel complete and accurate information. It will ensure faster and potentially inexpensive repairs and keep downtime costs to a minimum.

Replacing Parts

Use only genuine Gilbarco replacement parts and retrofit kits on your unit.

⚠ WARNING

Use only Gilbarco replacement parts and retrofit kits. Non-Gilbarco replacement parts may create safety hazards and violate local regulations.

Gilbarco replacement parts are required to maintain warranty.

Specialized Training

For safety reasons, do not attempt to service a Latitude unit on your own, unless you have been trained and certified to do so.

⚠ WARNING

Do not attempt to service a Latitude pump/dispenser yourself. Only a Gilbarco-trained ASC/CSC must service a Latitude pump/dispenser. Servicing a Latitude pump/dispenser incorrectly could result in severe injury or death.

7 – Latitude Pump/Dispenser Maintenance

This chapter provides information on the following aspects of pump/dispenser maintenance:

- "Inspecting Pump/Dispenser Periodically"
- "Periodic Maintenance Requirements" on page 7-10
- "Special Maintenance Instructions" on page 7-10

CAUTION

Do not open the electronics cabinet to change paper, to remove cash acceptor cassettes, or to perform any other tasks when it is raining. The moisture from the rain can damage the pump/dispenser.

General Safety Considerations

Safe operation of the equipment is very important. The following recommendations are in addition to those found in the sections that follow and in "Important Safety Information" on page 2-1.

- Do not allow the customer to use damaged units or broken components with sharp edges.
- Do not allow the customer to use units with missing doors or panels or with doors open.
- Ensure that adequate and readable instructions are clearly given on the units or nearby areas for potential safety hazards such as static electricity fueling hazards, use of unapproved containers, and so on. Place signs where fueling customers will notice and can read them.
- Do not use long hoses beyond recommendations that may present a trip hazard. Use hose retrievers in good operating condition, when long hoses are used.
- Do not allow the customer to use units that do not have breakaway installed on them.
- Do not allow the customer to use units with hoses and/or nozzles removed from either side.
- Do not allow the customer to use units that are leaking fuel.

Inspecting Pump/Dispenser Periodically

Performing General and Component Maintenance Inspections

This section provides instructions for scheduling two types of maintenance inspections:

- "General Inspections" on page 7-2
- "Component Inspections" on page 7-2

Note: This section does not include special inspections such as those required when changing fuel types. For those requirements, refer to "Important Safety Information" on page 2-1.

Safety Warnings

You are performing inspections and maintenance in a potentially dangerous environment of flammable fuels/vapors and high voltage. Follow all safety precautions in "Important Safety Information" on page 2-1 to prevent injury when inspecting a unit at the islands.

⚠ WARNING

You are performing inspections and maintenance in a potentially dangerous environment of flammable fuels/vapors and high voltage. Failure to adhere to the safety precautions in this manual may cause fire or explosion, resulting in severe injury or death. Read and adhere to all safety precautions before performing any maintenance activity.

General Inspections

Perform a general inspection of each unit as follows:

- Every week, to ensure that all units are operating properly
- Whenever you receive a complaint about potential unit problems
- External damage
- Leaks
- Exposed sharp or similar edges that may cause cuts
- Missing parts, doors, and so on
- Safety hazards when fueling, such as slippery surfaces, trip hazards, missing warning signs, and so on
- When abnormal noise is heard from the dispenser during fueling operation

⚠ WARNING

If you find any leaks or damage, stop using the pump/dispenser, and contact your local ASC/CSC. Fire, explosion, or electrical shock could result, if you continue to use leaking or damaged pumps/dispensers.

⚠ WARNING

To prevent injury to customers or yourself, block customer access to the pump/dispenser with cones or similar equipment, when inspecting.

Component Inspections

Refer to the following table to schedule component inspections. Generally, the station owner must only inspect for damage or problems with the units. For safety reasons, several tasks in the following table, including all repairs, must be performed only by an ASC/CSC. Refer to the column titled "Who Performs the Inspection/Repair" on page 7-3 in the following table to determine if an ASC/CSC must perform a task.

⚠ WARNING

Do not attempt to perform any task that is noted “ASC/CSC only” in the “Who Performs the Inspection/Repair” column on page 7-3. Performing those tasks incorrectly could result in severe injury or death.

⚠ WARNING

If you find a leak during an inspection, stop using the pump/dispenser, and contact your local ASC/CSC. Fire, explosion, or electrical shock could result, if you continue to use a leaking or damaged pump/dispenser.

Recommended Frequency	Components	Recommended Maintenance	Who Performs the Inspection/Repair
Once a week	Displays	1 Inspect displays for proper reading of all digits. 2 Verify if the displays are properly backlit.	• Owner-inspect • ASC/CSC only-repair and test
At least once a week or if a customer complaint arises	Hoses	1 Inspect each hose for leaks and damage. **⚠ WARNING** If you find a leak, stop using the pump/dispenser, and contact your local ASC/CSC. Fire, explosion, or electrical shock could result, if you continue to use a damaged pump/dispenser. 2 Inspect each hose for the following wear or damage: • Bulges • Cracks • Cuts • Flattened spots • Reinforcement showing • Soft spots • Splits • Weaknesses • Tears 3 Consult the hose manufacturer for any additional inspections required. *Note: If repair is required, call an ASC/CSC to make the repairs.* **⚠ WARNING** Do not attempt to make these repairs yourself. Doing so could result in severe injury or death.	

Recommended Frequency	Components	Recommended Maintenance	Who Performs the Inspection/Repair
Once a week or if a customer complaint arises	Hose retrievers	1 Inspect hose retrievers for frayed or broken cables. 2 Inspect hose retrievers for cables wrapped around hoses. *Notes: 1) If repair is required, call an ASC/CSC to make the repairs.* *2) When hose retrievers are used, the breakaway whip hose must be attached to the nozzle, and the breakaway coupling attached to the whip hose, with the retriever clamp positioned between the breakaway coupling and the dispenser outlet casting. When retrievers are not used, the breakaway whip hose is attached to the dispenser outlet casting and the breakaway coupling is attached to the other end of the breakaway whip hose.* **WARNING** Do not attempt to make these repairs yourself. Doing so could result in severe injury or death.	• Owner-inspect • ASC/CSC only-repair and test
Once a week or as notified about a potential problem	Nozzles and boot area	1 Inspect nozzles for the following: • Damage • Leaks • Loose nozzle spouts • Missing parts, such as retainer springs and splash guards **WARNING** If you find a leak, stop using the pump/dispenser, and contact your local ASC/CSC. Fire, explosion, or electrical shock could result, if you continue to use a damaged pump/dispenser. 2 Inspect vapor recovery boots (bellows) for proper seal and signs of damage. 3 Consult the nozzle manufacturer for any additional required inspections. *Note: If repair is required, call an ASC/CSC to make the repairs.* **WARNING** Do not attempt to make these repairs yourself. Doing so could result in severe injury or death.	• Owner-inspect • ASC/CSC only-repair and test

Recommended Frequency	Components	Recommended Maintenance	Who Performs the Inspection/Repair
Once a week, or as notified about a potential leak	Leaks outside the unit	1 Inspect the following for leaks or signs of leakage: • Breakaway • Couplings • Hose outlet castings • Hoses • Nozzles • Swivels 2 Look for any signs of fuel or fuel staining around the base of the dispenser, especially at the side columns and at the upper housing. 3 Review all documentation provided by each component's manufacturer for additional inspection information. 4 If a leak is found, stop using the unit, and make arrangements to repair the leak. **WARNING** If you find a leak, stop using the pump/dispenser, and contact your local ASC/CSC. Fire, explosion or electrical shock could result, if you continue to use a damaged pump/dispenser. **WARNING** Do not attempt to make these repairs yourself. Doing so could result in severe injury or death.	• Owner-inspect • ASC/CSC only-repair and test

Recommended Frequency	Components	Recommended Maintenance	Who Performs the Inspection/Repair
Once a week or after drive-offs	Breakaway	1 Inspect the breakaway for secure connection to hose and for any leaks. **⚠ WARNING** If you find a leak, stop using the pump/dispenser, and contact your local ASC/CSC. Fire, explosion or electrical shock could result, if you continue to use a damaged pump/dispenser. 2 Consult the breakaway manufacturer for any additional required inspections. *Notes: 1) If repair is required, call an ASC/CSC to make the repairs.* *2) Some breakaways are not repairable. Check with the ASC/CSC whether the breakaway is repairable before the ASC/CSC attempts to reassemble the breakaway.* *3) A leak inspection within the hydraulics cabinet is also required. See the relevant section, later in this chapter.* **⚠ WARNING** Do not attempt to make these repairs yourself. Doing so could result in severe injury or death.	• Owner-inspect • ASC/CSC only-repair and test
Once a week or as required	Wash Unit	Clean with Simple Green® all purpose cleaner (or equivalent). **CAUTION** Do not wash with a high pressure hose. **⚠ WARNING** Do not clean plastic parts with a dry cloth. Use a wet cloth only. Refer to "Performing General and Component Maintenance Inspections" on page 7-1.	Owner

Recommended Frequency	Components	Recommended Maintenance	Who Performs the Inspection/Repair
Once a month, after drive-offs, or as notified about a potential leak	Leaks, within the lower hydraulics cabinet	1 Whenever possible, Gilbarco recommends cutting off power to the unit before performing these inspections. 2 Block the unit area to prevent customers from operating the unit during inspection. 3 Remove the lower panels slowly and carefully to avoid any fuel being sprayed in the cabinet (especially if a drive-off has occurred). Wear eye protection. 4 Inspect all hydraulic connections and seals, including the following: • Meter • Piping • Pump • Valves 5 If wetness or dripping fuel is found, stop using the unit, and make arrangements to repair the leak. *Note: Some staining of parts around seals is normal and does not indicate a problem. Look for dripping or wet surfaces.* 6 Monitor repaired places closely. **WARNING** To prevent injury when inspecting self-contained units (equipped with pumps and electric motors), do not place your hands near the belts, pulleys, or motors. Do not allow anyone to use either side of the pump when inspecting. Block the pump/dispenser off or lock the nozzle to the nozzle hook. **WARNING** If you find a leak, stop using the pump/dispenser, and contact your local ASC/CSC. Fire, explosion or electrical shock could result, if you continue to use a damaged pump/dispenser. **CAUTION** To prevent potential injury, wear eye protection when performing these inspections and hand gloves to avoid fuel contact with skin.	• Owner-inspect • ASC/CSC only-repair and test
New installations - After 200,000 liters (50,000 gallons), or after one month	Filter change and strainer cleaning	Replace filters and clean strainers regularly. *Note: Water alert filters may fail prematurely if water passes through them.*	Only an ASC/CSC must perform these tasks.

Recommended Frequency	Components	Recommended Maintenance	Who Performs the Inspection/Repair
After first filter change - Every 1.1 million liters (300,000 gallons), every six months, or when fuel delivery rate significantly slows.	Filter	**WARNING** Do not attempt to perform any of these tasks yourself. Performing these tasks incorrectly could result in severe injury or death. *Note: Most complaints regarding continual slow flow rate from the dispenser are caused by clogged filters.*	Only ASC/CSC only can perform this task.
Every six months	Inspect and lubricate shear valves	To check valve operation, proceed as follows: 1 Trip the valve. 2 Authorize the hose at the console, if required. 3 Lift the operating handle. 4 Place the discharge nozzle in an approved container. 5 Squeeze the nozzle operating lever. If flow continues after several seconds, the valve is defective and must be serviced or replaced. 6 Place a few drops of SAE10 oil on shear valve body shaft. 7 Open and close valve with a wrench several times. 8 Place valve back in service. *Note: If repair is required, call an ASC/CSC to make the repairs.* **CAUTION** If you are not sure which device is the shear valve or have not been trained regarding its use or service, have the ASC/CSC inspect and lubricate this device for you. **WARNING** Do not attempt to make these repairs yourself. Doing so could result in severe injury or death.	• Owner-inspect • ASC/CSC only-repair

Recommended Frequency	Components	Recommended Maintenance	Who Performs the Inspection/Repair
Every six months	Pump pulleys, belts, and belt tension	1 Remove power to the unit. **⚠ WARNING** To prevent an injury, remove power to the pump/dispenser before you start the maintenance activity. **CAUTION** To avoid injury, avoid getting your fingers in a pinch point between the pulley and belt during an inspection. 2 Inspect belts for fraying/cracks. 3 Inspect pulleys for excessive wear in grooves and excessive bearing play. 4 Ensure, by pressing the belt midway between the two pulleys, that there is no more than one inch of play on either side of the belt. *Note: If repair is required, call an ASC/CSC to make the repairs.* **⚠ WARNING** Do not attempt to make these repairs yourself. Doing so could result in severe injury or death.	• Owner-inspect • ASC/CSC only-repair and test
Every six months	Nozzle hooks and shafts	1 Lubricate with silicone grease, if required. 2 Check for damage. 3 Ensure that the locking tab locator is not broken. The locking tab locator helps hold the nozzle in the nozzle boot and enables the station owner to lock the nozzle boot with a clasp padlock. *Note: If repair is required, call an ASC/CSC to make the repairs.* **⚠ WARNING** Do not attempt to make these repairs yourself. Doing so could result in severe injury or death.	• Owner-inspect • ASC/CSC only-repair and test
Every six months	Door locks	Lubricate with a graphite lubricant or lock oil. Follow manufacturer's instructions. Do not over-lubricate.	Owner
Every 12 months or as required in harsh climate	Polish unit	Polish metal parts with high-quality car polish. Do not use automobile wax. Refer to "Performing General and Component Maintenance Inspections" on page 7-1.	Owner
Every six months or if fuel inventory discrepancies exist.	Meter calibration	Have the unit meters checked for proper calibration and corrected as required. High volume stations may require more frequent calibration checks when compared to the low volume stations.	• Owner - arranges for service • ASC/CSC - tests and recalibrates, if required.
For Units with Ecometer™			
Yearly	Ecometer calibration	Have the unit meters checked for proper calibration and corrected as required. Ecometers with proper air purging during installation will not generally vary from initial calibration settings.	• Owner - arranges for service. • ASC/CSC - tests and recalibrates, if required.

Periodic Maintenance Requirements

Cleaning Filter

Cleaning the filter regularly will prevent it from clogging and improves flow rate. For more information, refer to “Special Maintenance Instructions”.

Cleaning the Printer

Cleaning the printer regularly may help print quality and increase the life-span of the printer.

Special Maintenance Instructions

Cleaning and Detailing Unit

To clean and detail the unit, use the following items:

- Safety glasses
- Flexible rubber gloves
- Concentrated Simple Green all purpose cleaner
- Soft bristle nylon brush
- Spray bottle filled with water
- Empty spray bottle (to use with prepared cleaning mixture)
- White cotton cloths
- High-quality car polish
- Safety cones or barricades

IMPORTANT INFORMATION

- Do not use waxes, harsh abrasives, or ammonia-containing cleaners on the textured door surfaces.
- Always use a soft bristle nylon brush and rinse after cleaning.
- Simple Green cleaner is recommended for all surfaces.
- Do not spray the cleaner or rinse water onto or into the card reader, receipt printer, cash acceptor, or electronic display areas of the unit.
- High-quality car polish is recommended. Do not use wax-based polishes.
- Do not apply the high-quality car polish to electronic displays or nozzle boots.
- Do not use pressure washers or high pressure hoses. Rinse water must be applied as a gentle spray.
- Do not use high pressure hoses.

Routine Cleaning

To clean the unit, proceed as follows:
Note: Perform routine cleaning weekly or as required.

1. Place safety cones or other devices to barricade the units being cleaned.
2. Wear safety glasses and flexible rubber gloves.
3. In the empty spray bottle, prepare a mixture of one part concentrated Simple Green cleaner to 10 parts water.

CAUTION

Do not spray the cleaning mixture and water in or onto the card reader, receipt printer, cash acceptor, or electronic display area, as it may damage the equipment and will not be covered by warranty.

4. Spray the prepared cleaning mixture on the unit from bottom to the top. Streaking may occur if sprayed from the top down.
5. Scrub the unit with a soft bristle nylon brush in a circular motion from bottom to top. Scrub long enough to cause the cleaning solution to foam. For best results, two scrubbing cycles are recommended.
6. Rinse the unit thoroughly from the top to the bottom. Ensure that the cleaner is removed. For best results, brush the unit when rinsing. Cleaner that dries on the unit will attract dirt.
7. Dry the unit with a clean white cloth.
8. Remove barricade(s) and cleaning supplies from the unit area.

Deep Cleaning and Detailing

To deep clean and detail the unit, proceed as follows:
Note: Deep clean and detail as required or at least once a year. This helps to restore the original color to the painted surfaces.

1. Prepare a mixture of one part concentrated Simple Green® cleaner to one part water.
2. Use a new clean white cloth, apply the high-quality car polish to the cloth, and then apply the polish to the painted or metal surfaces of the unit.
   Note: For ground-in dirt, apply high-quality car polish to the soft bristle nylon brush and rub the surface.
3. Wipe the surface of the unit with a clean white cloth.
4. Remove barricade(s) and cleaning supplies from the unit area.

Deep cleaning and detailing the dispenser is now complete.

Changing the Receipt

Paper loading

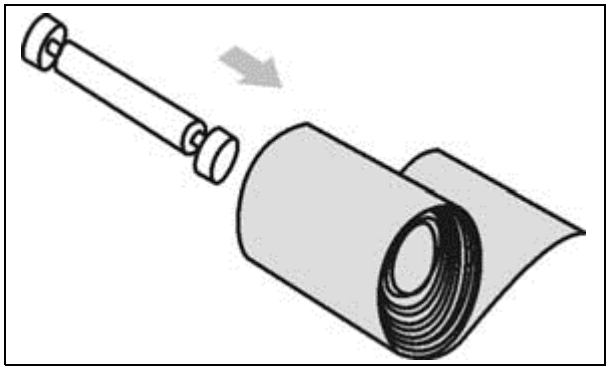
To load the paper in the printer, at the time of installation or refilling the paper, proceed as follows:

Note: To get the best quality print, ensure that thermal paper used is as per recommended specifications.

1 Open the front panel of the system by unlocking it, while ensuring that the printer is not receiving any data; otherwise, data will be lost.

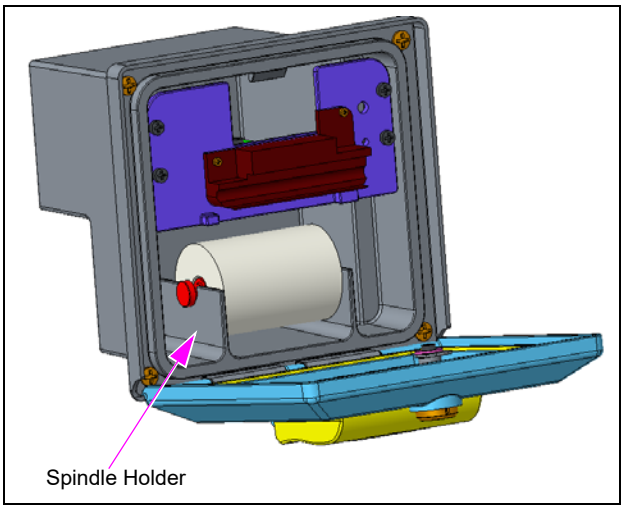
2 Insert the spindle provided in the front panel flap into the paper roll.

Figure 8: Inserting the Spindle into the Paper Roll



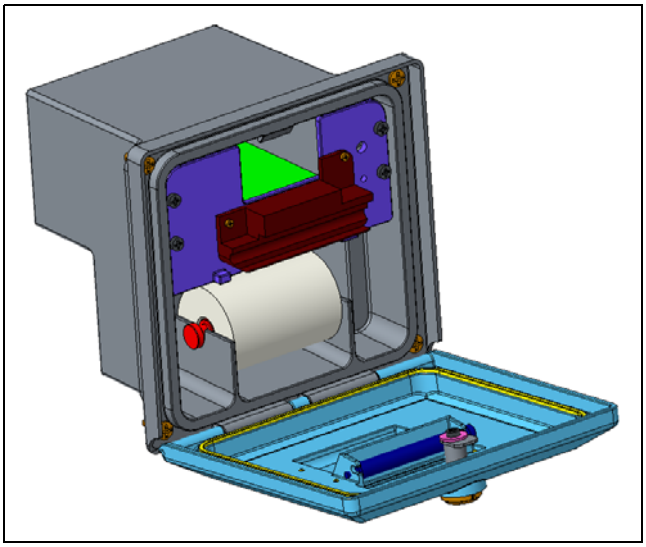
3 Place back the spindle in its spindle holder.

Figure 9: Placing Spindle in Spindle Holder



4 Unlock the printer head by pulling it out and then insert the paper in the space provided between the printer head and the paper roller.
Note: PAPER FEED command will not work if the printer head is not locked properly and in the absence of the paper.

Figure 10: Unlocking the Printer Head and Inserting Paper



5 After proper insertion of the paper, ensure to lock the printer head. This can be ensured by a lock sound.
Note: The ERROR LED will glow as long as the printer head is unlocked.

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8 – Troubleshooting

Error	Possible Causes	Recommended Actions
Pump does not start after nozzle lift	Pump is in an error state	Check if the keypad shows any errors. To resolve the error, contact the Gilbarco ASC.
	Mains power failure	Confirm mains cable is connected according to the connection diagram provided in the manual and mains is **ON**.
	Power switch malfunctioning	Repair or replace the switch as required.
	Low power supply	Check if the supplied power has dipped below the specified level in the manual.
	Motor not operating, Hydraulics Interface Board (HIB) relays malfunction	Check if the relay Light Emitting Diodes (LEDs) are glowing. If not, replace the HIB board.
	Nozzle switch cable disconnected	Open the lower panel and check if the nozzle boot switch cable is connected.
	Nozzle boot activation lever malfunction	Check if the spring loaded activation lever in the nozzle boot is functioning and the spring tension is adequate.
	Burnt motor or thermostat stuck open	Repair or replace the motor as required.
Slow or No Delivery	Clogged filter, nozzle, or crushed hose	Inlet and meter filters are not clogged. Nozzle and hose are in good condition.
	Proportional valve not operating	Check the D56 and D55 LEDs. If LEDs are glowing, F1 and F2 fuses are blown. Replace the fuses.
	Dirty pump strainer	Clean the strainer thoroughly.
	Air leak on suction side of pumping unit	Check leak-proof functioning of suction union (flexible inlet) and the strainer bowl.
	Global Pumping Unit (GPU) check valve malfunction	Check the valve. Replace if found to be damaged/faulty.
	Insufficient product in storage tank	Check the underground tank. Pump should not be allowed to run dry.
	Reduced speed of motor due to low voltage	Motor will pick-up rated speed as soon as the normal voltage is restored.
	Distributed fuel line (for 2-grade dual)	Check if the inlet pipe is directly connected to underground tank. It should not be shared.
	Reduced pump speed-belt tension (belt is too loose)	Adjust the belt tension.
	Underground piping trouble (It should be a minimum of one foot below the ground surface)	To check the underground piping, refer to *MDE-5427 Latitude Installation Manual*. Check valve, filter, and leakage in the pipeline.
Meter is not dispensing fuel as per Metrology Guidelines	Improper calibration	Re-calibrate the meter according to the procedure.
	Worn out meter parts	Replace the meter.
	Inaccurate calibration measure CAN	Check if the calibration measuring CAN is free from dent or defect. It is calibrated.

Error	Possible Causes	Recommended Actions
Noisy Operation	Crate not bolted down properly	Check that all nuts are properly tightened and the bolts are properly grouted as specified in the manual.
	Too much belt tension or misalignment of pulleys	Ensure proper adjustment of belt tension and alignment of pulleys.
	Worn out suction unit	If the suction unit has been in operation for a long time, check if the parts are worn out.
Fuel Leaks Out of GPU Vent Plug	Float is sticking to guide rod or partially filled with liquid	• Repair the float and the guide rod. • Replace these if found damaged. The float must operate freely on its guide. • Seek a GVR Authorized Technical Support guidance.
	Expansion of air and vapor traps in underground suction line. Expansion of fuel in a rather long hose may also contribute to the trouble.	No action is needed since it is quite normal during hot summer days.
	Improper pipe sealing/damaged sealing.	
Meter Leaking from Joints	Gaskets and/or O-Ring may not be fitting tightly. Loose bolting on end caps.	• Check the gaskets and O-Rings. • Tighten the end cap bolts. • Replace the meter if too old. • Report to GVR Authorized Technical Support if observed in new meter. • Dispense minimum 100 litre fuel upon repairs carried out to
Meter Does Not Move	Broken meter rotary valve inside	• Open the dome cover and look for a broken valve. • Report to GVR Technical Support if observed on a new meter. • Replace the meter if the meter is too old.
Fast/Slow Delivery Variation	Worn or scratched meter valve or valve seat	Replace the meter.
	Liquid escaping through meter covers and adjusting screw	Tighten the bolts. If the leak continues, replace the meter.
	Valve Malfunctioning	
Error Code Displayed on Preset Keypad Display	Electronics self diagnostics test feature.	Check “Error Codes” section of the *MDE-5445 Latitude Service manual*. Refer to an authorized GVR Technical Support for more information.
Pump Not Able to Communicate with the Automation System (FCC/POS)	Check if Tx & Rx communication wires are interchanged	Rectify the connections.
	FCC/POS may be sending queries for special functions not implemented yet on Latitude two-wire.	Check special function implementation status with an authorized GVR Technical Support by giving FCC and POS make and version details.
	FCC may not have the right driver to communicate with GVR two-wire protocol.	Check with an authorized GVR Technical Support by giving FCC make and version details. Inquire for support from FCC provider.
PPU display appears less brighter than the SALE/Volume displays	Viewing angle characteristics of LCD	This is normal to have minor differences among different LCD’s. This can be caused because of different sources of LCD’s used on one board.
VRC Board not detected but option enabled	Loose connection with VaporTEK-3 Board	• Check RS-422 adapter cable connections. • Identify if there is any cable breakage.

Error	Possible Causes	Recommended Actions
Vapor Recovery Monitoring System stops (Vaporix stops)	Loose connection with Vaporix2 Board ~OR~ System stops to prevent leakage	• Check RS-422 adapter cable connections. • Identify if there is any cable breakage. • Repair Vapor Recovery with Service Terminal and Gas Meter.
VaporTEK3 - VR Motor temperature too high	VR Motor temperature more than 120°C	• Perform power recycle. • Check VR Motor and Sensor Assembly

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© 2022 Gilbarco Veeder-Root India Pvt. Ltd.
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Phoenix Marketcity · L.B.S. Marg · Mumbai 400070
Phone (91) 22 6637 9000 · http://www.gilbarco.com · Printed in India.
MDE-5422D Latitude™ Owner's Manual · July 2022