



FuelMaster FMU 4500 & 5000 Front Panel Operations Manual

4/17/2024

Document Version: 8.0

© Syntech Systems, Inc. 2022 - 2024. All Rights Reserved.

Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means — electronic, mechanical, photocopying, recording or otherwise — without the prior written permission of Syntech Systems, Inc.

www.myfuelmaster.com

Syntech Systems, Inc.
100 Four Points Way
Tallahassee, Florida 32305

Phone: (850) 878-2558
FAX: (850) 877-9327
Support: (800) 888-9136 Ext. 2

Trademark Acknowledgements

FuelMaster®, FMLink®, FMLive® Prokee®, AIMTi®, AIM2® and AIM2.4® are trademarks of Syntech Systems, Inc.

Trademarks of other products mentioned in this manual are held by the companies producing them. Use of a term in this manual should not be regarded as affecting the validity of any trademark. All other trademarks are acknowledged.

Certifications

Certifications have been awarded by the following organizations:

- US and Canadian equipment certifications through the following:
 - FCC (Federal Communications Commission),
 - Intertek (ETL, cETL),
 - CAN/CSA (Canadian Standards Association),
 - National Conference on Weights and Measures (National Type Evaluation Program: NTEP),
 - Payment Card Industry (PCI) Security Standards Council (PA-DSS compliance),
- European equipment certification through the following:
 - TUV SUD, FM Approvals
 - ATEC Certification
- Microsoft Gold Partner

Document Version History

Version	Date	Description
1.0	9/26/2022	Initial draft.
2.0	11/21/2022	Added EMV (E) section. Updated Dispensing section.
3.0	4/13/2023	Updated the following: Dispensing - View Config System - Peripherals Magstripe
4.0	5/10/2023	Compatible with FMLive 10.4 Added PROKEE section under Diagnostics. Added 3LD (3) section under Diagnostics
5.0	5/25/2023	Compatible with FMLive 10.5 Added Access Management section under Management
6.0	9/29/2023	Compatible with FMLive 10.5 Added PROX (P) section under Diagnostics.
7.0	1/15/2024	Compatible with FMLive 10.8 Added Facility PROKEE prompts under PROKEE (K)
7.1	3/1/2024	Updated title to include FMU 4500. Note: Differences between FMU 4500 and FMU 5000 are located in the appendix: Front Panel Menu Changes: FMLive v9.x - FMLive v10.x Updated AIM access in the appendix.
8.0	4/17/2024	Compatible with FMLive v10.9 Updated to include <ul style="list-style-type: none"> • Barcode Scanner (B) • Electric Vehicle Authorization

Table of Contents

Chapter 1	Preface	7
Chapter 2	Timeouts	8
Chapter 3	Management Menu	11
	AIM (A)	12
	Program (P)	12
	Clean (C)	13
	Dispensing (F).....	14
	Manage (M)	14
	Audit Log (A)	15
	View Config (C).....	15
	Status (S)	21
	Access Management (G)	22
	System (S).....	23
	Version (V)	23
	Peripherals (P)	24
	Wide Area Network (WAN) (W).....	25
	Status (S)	25
	Config (C)	26
	Ping (P).....	26
Chapter 4	Function Menu	28
	AIM User (A).....	29
Chapter 5	Products	30
Chapter 6	Diagnostics	31
	AIM (A)	32
	AIMs (A).....	32
	Radio (R).....	32
	Firmware (F).....	33
	Barcode Scanner (B).....	34
	Scanning at the Unit as Part of a Unit Workflow.....	34

3LD (3).....	35
Counts (C).....	37
EMV (E).....	38
Keypad (Y).....	39
LCD (L).....	40
Magstripe (M).....	41
Outs (O).....	42
PROX (P).....	43
26 BITS.....	43
37 BITS.....	44
PROKEE (K).....	45
Receipt (R).....	52
Status (S).....	52
Print Receipt (P).....	52
Supercap (U).....	53
Switch (S).....	54
Chapter 7 Electric Vehicle Authorization	55
Invalid Authorization Media Entry.....	55
Valid Authorization Media and Valid Charging Position Entry	55
Valid Authorization Media and Invalid Charging Position Entry	55
Valid Authorization Media and Valid Charging Position Entry - ‘Charging’ or ‘Plugged In and Idle’.....	56
Valid Authorization Media and Valid Charging Position Entry - Unplugged Vehicle.....	56
Valid Authorization Media and Valid Charging Position Entry - Failure to Communicate	57
Valid Authorization Media and Valid Charging Position Entry - ‘Misconfigured’ Status.....	57
Valid Authorization Media and Valid Charging Position Entry - ‘Error’ Status.....	58
Valid Authorization Media and Valid Charging Position Entry - ‘Unavailable’ Status	58
Appendix A Front Panel Menu Changes: FMLive v9.x - FMLive v10.x	59

Conventions

To help you find important information, this guide uses the following conventions:

Convention	Indicates
Bold text	The names of elements of the user interface, such as menus, buttons, and options; In tutorials, clickable items
Monospaced text	Code, file names, directory paths, and on-screen computer output.
Bold monospaced text	Text that you should type exactly as shown, such as: Type ABC at the prompt.
<i>Italic text</i>	Command-line placeholders that you should replace with a real name or value. Also, book titles, new words or terms, or words to be emphasized.

NOTE Notes that contain additional explanation.

TIP Tips that contain shortcuts or special information.

CAUTION Cautions that contain information to avoid equipment damage or data loss.

WARNING Warnings that contain information about potentially damaging actions. Read them carefully to prevent personal injury and health hazards.

FUELMASTER FUEL MANAGEMENT SYSTEM

PROMPT INFORMATION

Chapter 1 Preface

The FMU 5000 Front Panel Operations Manual is provided with each FuelMaster Fuel Management Unit (FMU Series 5000). It should be used as a guideline when training end users on the FMU's Front Panel Operations. In addition, it is recommended that the users be given explanations regarding options to expect at the Facility's FMU(s) for timeouts, FMU messages, etc.

Some FuelMaster features have certain requirements of firmware, software, or hardware, and may not be available to every customer without modifications to their existing manufactured system. Other features require activation by Syntech Product Support personnel. Still others may be determined by the Admin and Facility Manager when configuring the system. In this manual, each of these options will be identified with the description of the feature.

For information regarding changes from FMU Series 45xx to FMU Series 5000, please see [Front Panel Menu Changes: FMU Series 45xx - FMLive v9.x to FMU Series 45xx-5000 FMLive v10.x](#).

Chapter 2 Timeouts

The Prompt Timeout (`promptTimeout`), Keypress Idle Timeout (`inactivityTimeout`), and Message Duration are used together to reset front panel displays and end sessions. All are set on a by-unit basis in *FMLive*.

- *Message Duration* is the amount of time a non-prompting message will be displayed, before the operator is returned to a previous menu, prompt, or main prompt.
- The *Keypress Idle* and *Prompt Timeouts* are used with messages requesting input, generally through the front panel, from the Operator. These are prompt messages.
- The Keypress Idle Timeout is triggered after X seconds since the last key was pressed on the keypad, where X is the timeout value set in *FMLive* for the unit. The timeout countdown is reset on each keypress made. If the time lapses with no keypress, the session is ended. In *FMLive*, the Keypress Idle Timeout cannot be set to a value greater than the Prompt Timeout.
- The Prompt Timeout is triggered after Y seconds since the prompt was initially displayed, where Y is the timeout value set in *FMLive* for the unit. The Prompt Timeout takes precedence over the Keypress Idle Timeout and is not reset when keys are pressed. Thus, front panel sessions will end when the Prompt Timeout time is up, even if keys are still being actively pressed. The Prompt Timeout is reset upon the display of any new prompt.

There are various messages and prompts which are exceptions, and do not use one or another of the 3 main timeouts.

The table below lists articles related to the configuration and management of the Unit's front panel information and more.

Related Articles	Notes
<p> FMLive Online Help >> FMLive User Manual >> Configure Facility Units >> Configure a Unit </p>	<p>Learn to configure the following:</p> <ul style="list-style-type: none"> ● Prompt Timeout ● Keypress Idle Timeout ● Message Duration ● Zero Quantity Shutdown ● Main Prompt Line #1 ● Main Prompt Line #2
<p> FMLive Online Help >> FMLive Admin Guide >> Managing Unit Workflows </p>	<p>Learn the following:</p> <ul style="list-style-type: none"> ● What is a Unit Workflow? ● Unit Workflow Constraints ● Authorization Media Support ● Supported Unit Workflows ● View Available Unit Workflows ● Add Unit Workflow (Edit; Delete) ● Add Unit Workflow to Defaults ● Remove Unit Workflow from Defaults
<p> FMLive Online Help >> FMLive User Manual >> Configure Facility Units >> Assign Unit Workflows to a Unit </p>	<p>Learn to assign a Unit Workflow to a Unit</p>
<p> FMLive Online Help >> FMLive Admin Guide >> Managing System Settings </p>	<p>Learn to identify the following:</p> <ul style="list-style-type: none"> ● When FMU Transaction Storage is enabled ● When the Hose Prompt for Solo Hoses is enforced
<p> FMLive Online Help >> FMLive User Manual >> Managing Facilities </p>	<p>Learn to:</p> <ul style="list-style-type: none"> ● View Facility - Unit Pricing ● View Active - Unit Workflows
<p> FMLive Online Help >> FMLive User Manual >> Configure Facility Units </p>	<p>Learn the following:</p> <ul style="list-style-type: none"> ● Add a Unit to a Facility ● Configure a Facility ● Add Tank Monitoring to a Unit ● Add Fueling to a Unit ● Add Payment Card Processing to a Unit

	<ul style="list-style-type: none"> ● Add AIM to a Unit ● Resync Prices with a Unit
<p> FMLive Online Help >> FMLive User Manual >> Managing Facilities >> Reviewing Facility Status </p>	<p>Learn to Review the Status of a Unit:</p> <ul style="list-style-type: none"> ● Connectivity State ● Synchronization State ● Unit Synchronization Status ● Sever Synchronization Status
<p> FMLive Online Help >> FMLive Reports Guide >> Ad Hoc Domains >> Unit Domain </p>	<p>Learn the fields available for creating an Ad Hoc report related to your Facility's Unit(s)</p>

Chapter 3 Management Menu

The Management Menu may be accessed via Supervisor/Utility Prokee. Once a Prokee has been successfully entered, the following menu will appear.

```
MANAGEMENT                                N=NEXT, X=EXIT
                                           A=AIM, D=DIAGNOSTICS, F=DISPENSING
```

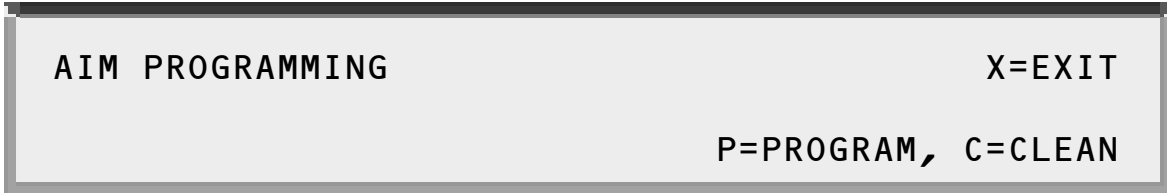
```
MANAGEMENT                                N=NEXT, X=EXIT
                                           P=PRODUCTS, S=SYSTEM, W=WAN
```

From the Management Menu, Supervisors may access submenus for

- [AIM \(A\)](#)
- [Diagnostics \(D\)](#)
- [Dispensing \(F\)](#)
- [Access Management](#)
- [Products \(P\)](#)
- [System \(S\)](#)
- [WAN \(W\)](#)

AIM (A)

Access the *AIM* Submenu by selecting **A** from the Management Menu.



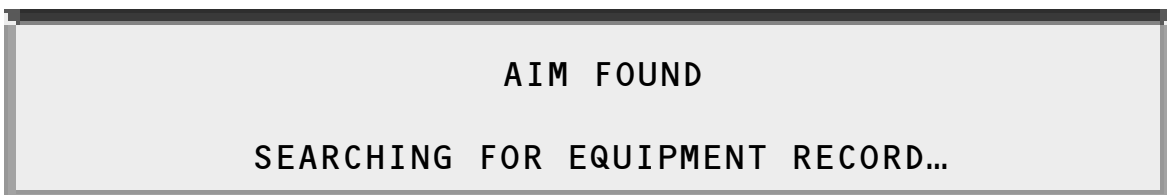
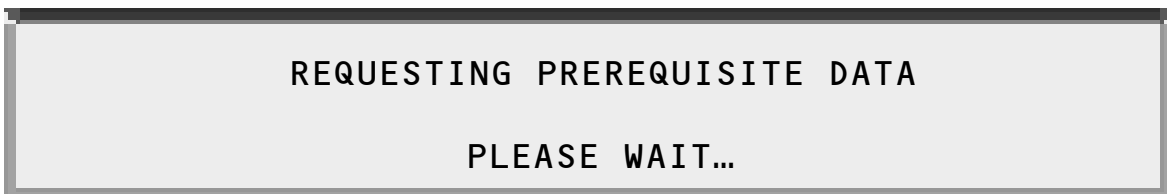
From the AIM Submenu, Supervisors may access options to

- [Program \(P\)](#)
- [Clean \(C\)](#)

Program (P)

Access the *Program* option by selecting **P** from the AIM Submenu. From here, the Manager may program and/or calibrate an AIM using the FMU's configured Programming Hose Tag (PHT).

Depending on the state and presence of AIM and PHT, the Manager may encounter any of the following options.



EQUIPMENT ID: FML-2400A

IS THIS CORRECT (Y/N)?

Clean (C)

Access the *Clean* option by selecting C from the AIM Submenu. From here, the Manager may clean an AIM identified by the Unit's configured Programming Hose Tag (PHT).

STARTED CLEANING AIM 00001834CD11

PROCESS MAY TAKE UP TO 5 MINUTES

Dispensing (F)

Access the *Dispensing* Submenu by selecting F from the Management Menu.

```
DISPENSING                                N=NEXT, X=EXIT
                                           F=MANAGE, L=AUDIT LOG, C=VIEW
```

From the Dispensing Submenu, Supervisors may access options for

- [Manage \(M\)](#)
- [Audit Log \(A\)](#)
- [View Config \(C\)](#)
- [Status \(S\)](#)

Manage (M)

Access the *Manage* option by selecting M from the Dispensing Submenu. From here, the Manager can configure a position as enabled/disabled and clear a Shutdown.

```
DISPENSER MANAGEMENT                      X=EXIT
                                           S=CLEAR SHUTDOWN
```

```
SELECT POSITION TO CLEAR SHUTDOWN          N=NEXT
→ _                                       56, 57, 58
```

```
SELECT POSITION                             N=NEXT
→ 56                                       F=MANAGE, L=AUDIT LOG, C=VIEW
```

Audit Log (A)

Access the *Audit Log* option by selecting **A** from the Dispensing Submenu. From here, the Manager can designate the number of events the Manager would like to print from the current Dispenser Configuration Audit Log. Upon doing so, the Receipt Printer status will display.

HOW MANY EVENTS?

→ 9__

NOTE

Events are printed from the most to the least recent. The first event is #0.

View Config (C)

Access the *View Config* option by selecting **C** from the Dispensing Submenu. From here, the Manager can view the configuration for each defined Fueling Point.

TIP

Select **N=NEXT** to scroll through the various settings.

No Fueling Positions Available

NO FUELING POSITIONS AVAILABLE

For Mechanical Dispenser

SELECT POSITION

X=EXIT

→ __

56, 57, 58

SELECT POSITION

X=EXIT

→ 57

56, 57, 58

FUELING POSITION 57 CONFIG

N=NEXT

ADDRESS: D (4)

X=EXIT

FUELING POSITION 57 CONFIG

N=NEXT

FUELING POINT 57

X=EXIT

FUELING POSITION 57 CONFIG

N=NEXT

FUELING POINT TYPE: MECHANICAL

X=EXIT

FUELING POSITION 57 CONFIG

N=NEXT

AIM NOZZLE IDS:

X=EXIT

FUELING POSITION 57 CONFIG

N=NEXT

PROD 1: UNL

X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
UNIT OF ISSUE: GALLONS	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
DIVIDE RATE: 100.000000	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
NO-PULSE TIMEOUT: 20	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
PUMP START TIMEOUT: 20	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
PUMP HANDLE: START_END	X=EXIT

For Electronic Dispenser

SELECT POSITION	X=EXIT
→ ___	56, 57, 58

SELECT POSITION	X=EXIT
→ 56	56, 57, 58

AIM NOZZLE IDS: 15	X=EXIT
PROD: (UNL 1)	56, 57, 58

SELECT POSITION	N=NEXT
→ 56	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
FUELING POINT NUMBER: 56	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
FUELING POINT TYPE: ELECTRONIC	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
AIM NOZZLE IDES: 15	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
PROD 2 NAME: DIE	X=EXIT

PROD 2 NAME: DIE	N=NEXT
PROD 2 GRADE ADDRESS: 1	X=EXIT

PROD 6 NAME: UNL PLS	N=NEXT
PROD 6 GRADE ADDRESS: 2	X=EXIT

NOTE If an electronic dispenser has more than one grade defined, the product and product grade address information for each is listed out here until all have been displayed. Then the unit of issue is displayed.

FUELING POSITION 57 CONFIG	N=NEXT
UNIT OF ISSUE: GALLONS	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
DIVIDE RATE: 0.000000	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
NO-PULSE TIMEOUT: 60	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
PUMP START TIMEOUT: 20	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
PUMP FINISH TIMEOUT: 20	X=EXIT

For High/Low Flow

High/Low Flow information is included in addition to the normal information for a fueling position.

FUELING POSITION 57 CONFIG	N=NEXT
HIGH FLOW POS: C (3)	X=EXIT

FUELING POSITION 57 CONFIG	N=NEXT
LOW FLOW POS: A (1)	X=EXIT

Status (S)

Access the *Status* option by selecting S from the Dispensing Submenu. From here, the Manager can view the status of the selected Fueling Position (i.e., ENABLED, DISABLED, or SHUTDOWN).

```
SELECT POSITION                                X=EXIT  
→ _____                                56, 57, 58
```

```
SELECT POSITION                                X=EXIT  
→ 57                                          56, 57, 58
```

```
POSITION: 57  
ENABLED                                       X=EXIT
```

NOTE A status of SHUTDOWN will be accompanied by a reason for said SHUTDOWN as shown below.

```
POSITION: 57  
DISABLED: SHUTDOWN BY FMLIVE                 X=EXIT
```

Access Management (G)

Access the *Access Management* Submenu by selecting G from the Management Menu.

MANAGEMENT

N=NEXT, X=EXIT

P=PRODUCTS, G=ACCESS, D=DIAGNOSTICS

From the Access Submenu, Supervisors may View the Config (C).

ACCESS

N=NEXT, X=EXIT

C=VIEW CONFIG

The configuration will appear as follows:

ACCESS POSITION: 1 CFG

N=NEXT

ACCESS POINT NAME: GRB01

X=EXIT

ACCESS POINT TYPE: GATE

N=NEXT

ACTIVATION DURATION: 20

X=EXIT

NOTE

To test if relays are functioning properly for an Access Unit, navigate to the Diagnostics Menu and perform an [OUTs](#) test.

System (S)

Access the *System* Submenu by selecting S from the Management Menu.

```
SYSTEM                                X=EXIT
                                       V=VERSIONS
```

From the System Submenu, Supervisors may access the Version (V) option or the (P) Peripherals option.

Version (V)

Access the *Version* option by selecting V from the System Submenu. From here, the Manager can display the current version or build information for the mainboard (if present), embedded java (aka felix), and Syntux.

NOTE On a system using Bluefin hardware, the version submenu may take up to 10 seconds to display.

```
SYSTEM                                X=EXIT
                                       F=FELIX, O=OPERATING
```

```
22.2153.5 2022-07-28-165438-0400
```

```
FELIX                                X=EXIT
```

Peripherals (P)

Access the *Peripherals* option by selecting P from the System Submenu. From here, the Manager can display the Firmware version and serial number of any Bluefin devices, Receipt printer status, ERM status, Card reader serial number, Mainboard version number, or TMU model.

```
SELECT PERIPHERAL                                N=NEXT, X=EXIT  
→ __                                             A=ERM, C=MAGSTRIPE, E=EMV
```

```
SELECT PERIPHERAL                                N=NEXT, X=EXIT  
→ __                                             K=PROKEE, M=MPC, P=PROX
```

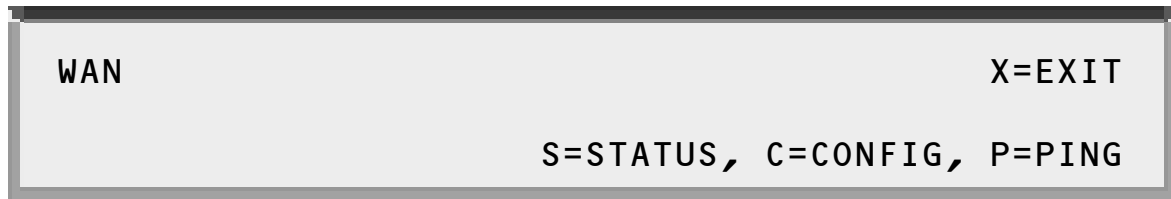
```
SELECT PERIPHERAL                                N=NEXT, X=EXIT  
→ __                                             R=RECEIPT PRINTER, T=TMU
```

```
SELECT PERIPHERAL                                N=NEXT, X=EXIT  
→ __                                             O!=ELEC DISP CONTROLLER
```

```
SELECT PERIPHERAL                                N=NEXT, X=EXIT  
→ __                                             3=3LD, S=USB PROX
```


Wide Area Network (WAN) (W)

Access the *WAN* Submenu by selecting **W** from the Management Menu.

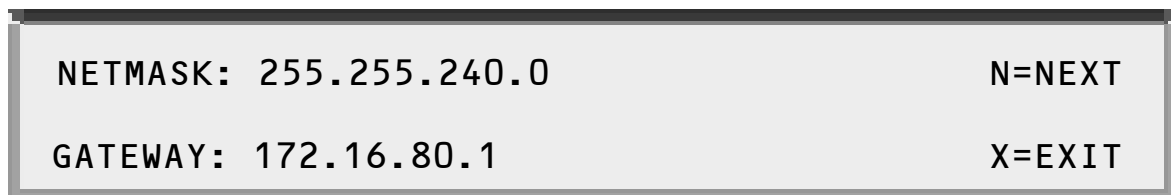
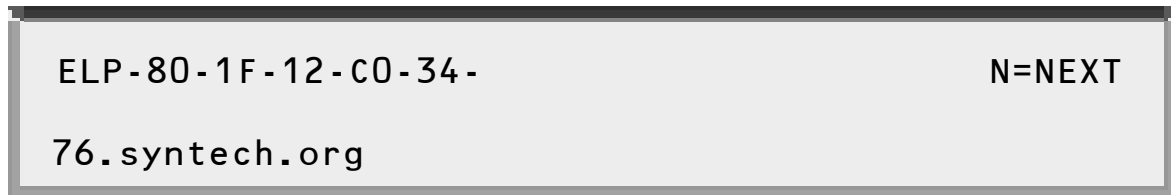
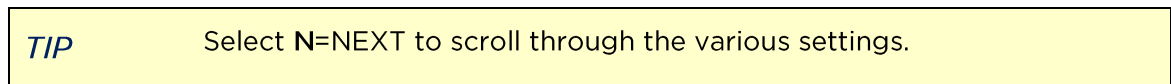


From the WAN Submenu, Supervisors may access the

- [Status \(S\)](#)
- [Config \(C\)](#)
- [Ping \(P\)](#)

Status (S)

Access the *Status* option by selecting **S** from the WAN Submenu. From here, the Manager can view a basic summary of the Unit's current networking configuration.



```
INTERFACE: eth0                N=NEXT
GATEWAY: 172.16.80.1          X=EXIT
```

```
CN: Syntech Client            N=NEXT
EXPIRES: 12/12/2026          X=EXIT
```

Config (C)

Access the *Config* option by selecting C from the WAN Submenu. From here, the Manager can view the message “NOT IMPLEMENTED” and return to the previous prompt after 5 seconds.

```
NOT IMPLEMENTED
```

Ping (P)

Access the *Ping* option by selecting P from the WAN Submenu. From here, the Manager can enter an IP address of hostname and upon hitting enter receive feedback that indicates whether a ping attempt is successful.

NOTE The hostname defaults to the configured Enterprise hostname if the Unit is registered or has an Enterprise hostname configured.

```
ENTER ADDRESS
                                     → MAYBERRYDOT.GOV/FUEL_
```

```
PINGING MAYBERRYDOT.GOV/FUEL
STAND BY...
```

FELIX

N=NEXT

AIM NOZZLE IDS: 15

X=EXIT

PING SUCCEEDED IN 18ms

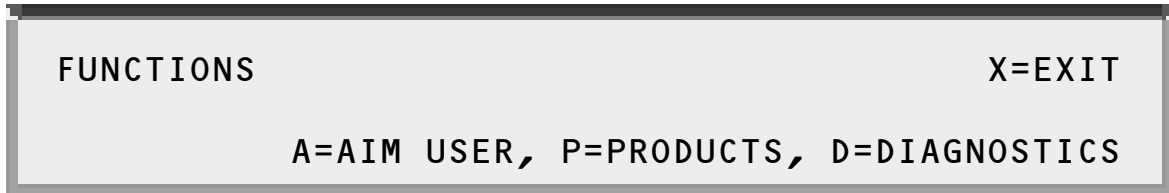
X=EXIT

HIGH FLOW POS: C (3)

R=RETRY

Chapter 4 Function Menu

The *Functions* Menu may be accessed by pressing the Enter key from the main prompt. No credentials are required.



From the Functions Menu, Operators may access submenus for

- [AIM User \(A\)](#)
- [Products \(P\)](#)
- [Diagnostics \(D\)](#)

AIM User (A)

Access the *AIM User* Submenu by selecting **A** from the Functions Menu.

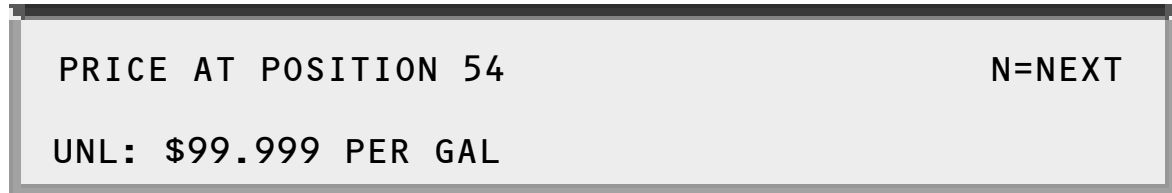


PLEASE INSERT [AUTHORIZATION MEDIA] TO CONTINUE

When the FMU has a Unit Workflow that includes both an AIM and an Operator-based authorization media (Prokee, Prox Card, Operator Keypad entry), the **AIM User ID** is visible and allows the Operator to provide the given authorization media type.

Chapter 5 Products

Access the *Products* Submenu by selecting P from the Management or Functions Menu.



This option provides the Operator access to view the current Products and Price at each Position.

AIM (A)

Access the *AIM* option by selecting **A** from the Diagnostics Submenu.

```
AIM DIAGNOSTICS                                X=EXIT
                                             A=AIMS, R=RADIO, F=FIRMWARE
```

From the *AIM Diagnostics* submenu, Operators may access options for

- [AIMs \(A\)](#)
- [Radio \(R\)](#)
- [Firmware \(F\)](#)

AIMs (A)

Access the *AIMs* submenu by selecting **A** from AIM Diagnostics submenu.

```
AIMS ALL (3) PHT(0) INVALID(0)
CONNECTING(1) READY(2) FUELING(0)
```

This provides Operators a live view of the current enumerated AIMs and relevant states for diagnostics (PHT, INVALID, CONNECTING, READY, FUELING).

NOTE The AIMs display continues for length of the prompt timeout or until the Operator presses cancel.

Radio (R)

Access *Radio* submenu by selecting **R** from AIM Diagnostics submenu.

```
ERM:OK PAN:0030 CHNL:9 PWR:HIGHEST
PHT:00 CUST:B81C AUTOPAIR:N X=EXIT
```


This provides Operators status and information for the radio (ERM); status, panID, channel, power level, programming hose tag (PHT), customer signature, auto-pairing enabled.

NOTE PHT, customer signature, and auto-pairing status are read from system config. ERM status, panID, channel, and power level are read directly from the ERM.

Firmware (F)

Access *Firmware* submenu by selecting F from AIM Diagnostics submenu.

AIM2 FW Version	N=NEXT
Version: 00224 Beta: 000	X=EXIT

AIM3 FW Version	N=NEXT
Version: 00328 Beta: 000	X=EXIT

FW UPDATE	N=NEXT
ENABLED	X=EXIT

This view provides Operators information about the current AIM firmware and whether automatic firmware updating is enabled.

TIP Select N=NEXT to scroll through the various settings.

Barcode Scanner (B)

Access the *Barcode Scanner* option by selecting B from the Diagnostics Submenu to test the device. The following prompt will appear.

PLEASE SCAN BARCODE

Scanning at the Unit as Part of a Unit Workflow

Upon being prompted to provide ID or Number, the user may scan their associated barcode. A brief beep will sound, and the front panel will display the ID or Number. Example prompts appear below.

FUELMASTER FUEL MANAGEMENT SYSTEM
ENTER EQUIPMENT ID KEYPAD/BARCODE

FUELMASTER FUEL MANAGEMENT SYSTEM
ENTER OPERATOR ID KEYPAD/BARCODE

FUELMASTER FUEL MANAGEMENT SYSTEM
ENTER [TRANSACTION CUSTOM FIELD]ID KEYPAD/BARCODE

3LD (3)

Access the *3LD* option by selecting **3** from the Diagnostics Submenu.

```
3LD MGMT                                N=NEXT, X=EXIT
→_                                       S=SOLAR, T=TEST, C=CLEAR
```

```
3LD MGMT                                N=NEXT, X=EXIT
→_                                       D=DIM TEST, R=DIM RESET
```

If no display is selected, the following screen appears:

```
NO K&K 3LD CONNECTED
```

Upon running Test (T), the following screen appears:

```
THREE LINE DISPLAY
NOW DISPLAYING TEST PATTERN
```

The test pattern appears with all lights lit, followed by capital letters, A-V.

Upon running Clear (C), the following screen appears:

```
THREE LINE DISPLAY
CLEARED
```

Upon selecting Dim Test (D), the prompt allows for adjustment of the Dim level:

ENTER DIM LEVEL (1 - 200)

→

THREE LINE DISPLAY

DIM SET TO 30

Upon selecting Dim Reset (D), the Dim Level is restored to baseline.

THREE LINE DISPLAY

DIM RESET

Upon selecting Solar (S), the current solar voltage value generated by the solar panel appears.

THREE LINE DISPLAY: 4.2v

Counts (C)

Access the *Counts* option by selecting C from the Diagnostics Submenu. From here, if a mechanical dispenser is present, the Operator may run a Counts test.

CNT TEST 1-00298 3-00298 5-00298 7-00298
2-00298 4-00298 6-00298 8-00298

The Counts view displays all 8 positions and shows the number of pulses counted since the test began. This option does NOT authorize a position.

NOTE

The test ends when the prompt timeout expires, or the Operator presses CANCEL.

EMV (E)

Access the *EMV* option by selecting E from the Diagnostics Submenu. From here, if a Payment Card reader is present, the Operator may view configuration, run various EMV reports related to the Certificate Authority Public Key, or view statistics.

EMV

X=EXIT

O=CONFIGS, C=CAPK, S=STATISTICS

CAPK

N=NEXT, X=EXIT

A=AMEX, D=DISCOVER, M=MASTERCARD

CAPK

X=EXIT

V=VISA

Keypad (Y)

Access the Keypad option by selecting **K** from the Diagnostics Submenu.

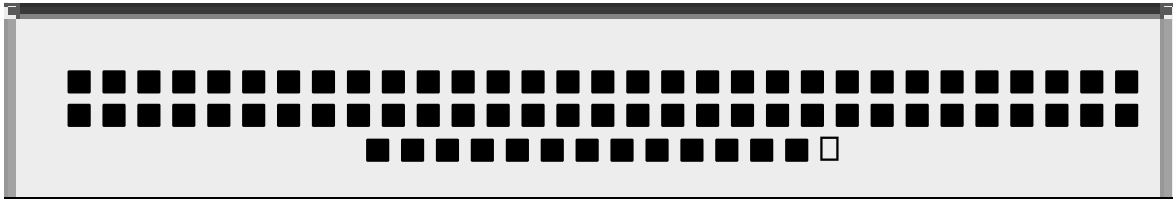


This presents a prompt that allows any character to be pressed and either echoes it on the display or performs the expected action.

Button	Output
Enter	Submits input; ends test
Backspace	Moves cursor back; deletes last character
Cancel	Prompts Operator to confirm cancellation. Otherwise, the test will end when the prompt timeout expires.

LCD (L)

Access the *LCD* option by selecting L from the Diagnostics Submenu.



From here, the Operator may view a 'box' symbol at every position on the Front Panel LCD.

NOTE

The test ends when the prompt timeout expires, or the Operator presses any key.

Magstripe (M)

Access the *Magstripe* (MSR) test option by selecting **M** from the Diagnostics Submenu.



PLEASE SWIPE CARD


If the card successfully authorizes the transaction, the display updates.



CARD READ SUCCESS

PAN: NULL

If no action is taken, the display will time out.



MAGSTRIPE READER TEST CANCELLED

BY USER

Outs (O)

Access the *Outs* Submenu by selecting O from the Management Menu > Diagnostics Submenu.



This provides Operators a mechanism to run an Output Test on a mechanical dispenser. The feature cycles through each position turning the relay on for 250 ms. and then off.

NOTE

The test ends when the prompt timeout expires, or the operator presses CANCEL.

PROX (P)

Access the PROX Diagnostics by pressing P from the Diagnostics submenu to read a swiped PROX card. If the card matches the PROX format configured, data from the card will appear on the display.

26 BITS

PLEASE SCAN PROX CARD

AUTHORIZED
Operator Prox Card

PROX READ SUCCESS
LENGTH: 26 BITS M=MORE, X=EXIT

Keypad Input
SUBMITTED (M)

PROX CARD NO: 1066 N=NEXT
FACILITY CODE: 141 X=EXIT

Keypad Input
SUBMITTED (N)

SITE IDE: NOT AVAILABLE

N=NEXT

X=EXIT

37 BITS

PROX READ SUCCESS

LENGTH: 37 BITS

M=MORE, X=EXIT

Keypad Input

SUBMITTED (M)

PROX CARD NO: NOT AVAILABLE

N=NEXT

FACILITY CODE: NOT AVAILABLE

X=EXIT

PROKEE (K)

Access the PROKEE Diagnostics by pressing K from the Management > Diagnostics submenu.

```
PLEASE INSERT PROKEE

...
```

Inserting various PROKEE types and pressing N will allow you to navigate through the available information.

Upon entering an Operator PROKEE, the following will appear.

```
UNAUTHORIZED Operator Prokee[843] - CUSTOMER
SIGNATURE DOES NOT MATCH
```

```
PROKEE ID: 843                                N=NEXT
DISPLAY ID:                                     X=EXIT
```

```
PROKEE TYPE: OPERATOR                          N=NEXT
CUSTOMER SIGNATURE: B81C                        X=EXIT
```

```
EXPIRY:                                         N=NEXT
NOT AVAILABLE                                   X=EXIT
```

Upon entering an Equipment PROKEE, the following will appear.

PROKEE ID: 841	N=NEXT
DISPLAY ID:	X=EXIT

PROKEE TYPE: EQUIPMENT	N=NEXT
CUSTOMER SIGNATURE: B81C	X=EXIT

EXPIRY:	N=NEXT
NOT AVAILABLE	X=EXIT

Upon entering a Fixed Facility or Mobile Platform PROKEE, the following will appear:

INVENTORY	x=EXIT
→	T=TRANSFER

SELECT SOURCE POSITION	
→	3=UNLEADED, 4=DIESEL

SELECT DESTINATION TANK	
→	2=UNLEADED, 3=DIESEL

YOU CHOSE: 3=UNLEADED

TANK: 1=UNLEADED

Y=YES, N=NO

Upon entering a Legacy Equipment PROKEE, the following will appear.

UNAUTHORIZED legacy Equipment Prokee - CUSTOMER
SIGNATURE DOES NOT MATCH

PROKEE ID: NOT AVAILABLE N=NEXT
DISPLAY ID: 2HWC3HTR X=EXIT

PROKEE TYPE: EQUIPMENT N=NEXT
CUSTOMER SIGNATURE: B81C X=EXIT

EXPIRY: N=NEXT
NOT AVAILABLE X=EXIT

Upon entering an Equipment PROKEE with non-matching Customer Sig, the following will appear.

UNAUTHORIZED Equipment Prokee - CUSTOMER
SIGNATURE DOES NOT MATCH

PROKEE ID: 169	N=NEXT
DISPLAY ID:	X=EXIT

PROKEE TYPE: EQUIPMENT	N=NEXT
CUSTOMER SIGNATURE: ABAB	X=EXIT

EXPIRY:	N=NEXT
NOT AVAILABLE	X=EXIT

Upon entering an AIM Utility PROKEE, the following will appear.

AUTHORIZED AIM PROGRAMMING PROKEE

PROKEE ID: 850	N=NEXT
DISPLAY ID: AIM	X=EXIT

PROKEE TYPE: UTILITY	N=NEXT
CUSTOMER SIGNATURE: B81C	X=EXIT

EXPIRY:	N=NEXT
TUE APR 01 00:00:00 EDT 2025	X=EXIT

Upon entering a Supervisor Utility PROKEE, the following will appear.

AUTHORIZED Configuration Prokee[851] - CUSTOMER
SIGNATURE DOES NOT MATCH

PROKEE ID: 851	N=NEXT
DISPLAY ID: JEFE2	X=EXIT

PROKEE TYPE: UTILITY	N=NEXT
CUSTOMER SIGNATURE: B81C	X=EXIT

EXPIRY:	N=NEXT
FRI AUG 15 00:00:00 EDT 2025	X=EXIT

Upon entering an Expired Utility PROKEE, the following will appear.

UNAUTHORIZED CONFIGURATOR PROKEE

PROKEE ID: 857	N=NEXT
DISPLAY ID: RN01	X=EXIT

PROKEE TYPE: UTILITY	N=NEXT
CUSTOMER SIGNATURE: B81C	X=EXIT

EXPIRY:	N=NEXT
MON APR 17 00:00:00 EDT 2023	X=EXIT

Upon entering a Supervisor Utility PROKEE with non-matching Customer Sig, the following will appear.

AUTHORIZED CONFIGURATOR PROKEE

PROKEE ID: 83182

N=NEXT

DISPLAY ID: CDAASUP

X=EXIT

PROKEE TYPE: UTILITY

N=NEXT

CUSTOMER SIGNATURE: CDAA

X=EXIT

EXPIRY:

N=NEXT

SAT APR 30 00:00:00 EDT 2033

X=EXIT

Receipt (R)

Access the *Receipt* option by selecting R from the Diagnostics Submenu.



From here, the Operator may select options for

- [Status \(S\)](#)
- [Print Receipt \(P\)](#)

Status (S)

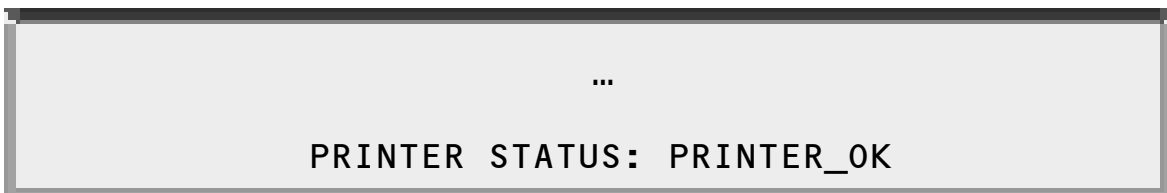
Access the *Status* option by selecting S from the Receipt Submenu.



From here, Operators may view the printer status for the length of the Message Duration value.

Print Receipt (P)

Access the *Print Receipt* option by selecting P from the Receipt Submenu.



From here, Operators may print a test receipt and display the current printer status.

NOTE The printer status is displayed for the length of the Message Duration Value.

Supercap (U)

Access the *Supercap* option by selecting P from the Diagnostics Submenu.

SUPERCAP STATUS

X=EXIT

STARTING...

From here, Operators may view the state of the Supercap (e.g., Starting, Bad_Supercap, Powerfail, Charging, Charged, Service_Failed).

Switch (S)

Access the *Switch* option by selecting S from the Diagnostics Submenu.

SWITCH TEST: PH-12345678 MM-12345678

01010010

00100100

From here, if a mechanical dispenser is present, the Operator may view the Manual/Auto and Pump Handle status for each position, whether configured or not. Output refreshes once a second.

NOTE

The test ends when the prompt timeout expires, or the Operator presses any key.

Chapter 7 Electric Vehicle Authorization

Invalid Authorization Media Entry

Upon presenting invalid authorization media, the following appears:

NOT AUTHORIZED FOR LEVEL 2 240V
TRANSACTION FAILED

Valid Authorization Media and Valid Charging Position Entry

Upon presenting authorization media successfully, a prompt will appear to enter the charging position. If a valid position is entered, the following appears:

POSITION 1000: LEVEL 2 240V
ACTIVATING, PLEASE WAIT

POSITION 1000: LEVEL 2 240V
CHARGER ACTIVATION REQUESTED

POSITION 1000: LEVEL 2 240V
ACTIVATION SUCCESSFUL

Valid Authorization Media and Invalid Charging Position Entry

Upon presenting authorization media successfully, a prompt will appear to enter the charging position. If an invalid position is entered for the first or second attempt, the following appears:

POSITION 1000 DOES NOT EXIST
PLEASE TRY A DIFFERENT CHARGING POSITION

If the invalid position is entered for a third attempt, the following appears:

POSITION 1000 DOES NOT EXIST
TRANSACTION FAILED

Valid Authorization Media and Valid Charging Position Entry - 'Charging' or 'Plugged In and Idle'

Upon presenting authorization media successfully, a prompt will appear to enter the charging position. If a valid position is entered but it is charging or plugged in and idle for the first or second attempt, the following appears:

POSITION 1000 IN USE
PLEASE TRY A DIFFERENT CHARGING POSITION

If a valid position is entered but it is charging or plugged in and idle for the third attempt, the following appears:

POSITION 1000 IN USE
TRANSACTION FAILED

NOTE

The above also occurs when a valid charging position is entered and the connector in the vehicle is on the same EVSE where the second connector is already in use.

Valid Authorization Media and Valid Charging Position Entry - Unplugged Vehicle

Upon presenting authorization media successfully, a prompt will appear to enter the charging position. If a valid position is entered but the vehicle is not plugged in and the position status is not "Plugged in and Pending Auth" for the first or second attempt, the following appears:

VEHICLE NOT DETECTED AT POSITION 1000
PLEASE PLUG IN VEHICLE AND TRY AGAIN

If a valid position is entered but the vehicle is not plugged in and the position status is not “Plugged in and Pending Auth” for the third attempt, the following appears:

VEHICLE NOT DETECTED AT POSITION 1000

TRANSACTION FAILED

NOTE The above also occurs when a valid charging position is entered and the connector plugged into the vehicle is faulty, and the position status is available in *FMLive*.

Valid Authorization Media and Valid Charging Position Entry – Failure to Communicate

Upon presenting authorization media successfully, a prompt will appear to enter the charging position. If a valid position is entered, but the Unit cannot communicate with *FMLive*, the following appears:

FAILED TO COMMUNICATE WITH FMLIVE

TRANSACTION FAILED

NOTE In the event the unit or charger loses communication with *FMLive*, charging is not allowed. However, CSC admins may use the EV Support tool to set the charger up for free charging should Fleet Managers request this functionality.

Valid Authorization Media and Valid Charging Position Entry – ‘Misconfigured’ Status

Upon presenting authorization media successfully, a prompt will appear to enter the charging position. If a valid position is entered, but the position status is ‘misconfigured’ and this is the first or second attempt, the following appears:

POSITION 1000 DOES NOT EXIST

PLEASE TRY A DIFFERENT CHARGING POSITION

If a valid position is entered, but the position status is ‘misconfigured’ and this is the third attempt, the following appears:

POSITION 1000 DOES NOT EXIST

TRANSACTION FAILED

Valid Authorization Media and Valid Charging Position Entry – ‘Error’ Status

Upon presenting authorization media successfully, a prompt will appear to enter the charging position. If a valid position is entered, but the position status is ‘error’ and this is the first or second attempt, the following appears:

POSITION 1000 IN AN ERROR STATE

PLEASE TRY A DIFFERENT CHARGING POSITION

If a valid position is entered, but the position status is ‘error’ and this is the third attempt, the following appears:

POSITION 1000 IN AN ERROR STATE

TRANSACTION FAILED

Valid Authorization Media and Valid Charging Position Entry – ‘Unavailable’ Status

Upon presenting authorization media successfully, a prompt will appear to enter the charging position. If a valid position is entered, but the position status is ‘unavailable and this is the first or second attempt, the following appears:

POSITION 1000 IS UNAVAILABLE

PLEASE TRY A DIFFERENT CHARGING POSITION

If a valid position is entered, but the position status is ‘unavailable and this is the third attempt, the following appears:

POSITION 1000 IS UNAVAILABLE

TRANSACTION FAILED

Appendix A Front Panel Menu Changes: FMLive v9.x - FMLive v10.x

FMLive v9.x Menu	FMLive v10.x Menu	Notes
SUPV MENU	MANAGEMENT	
<SPECIAL MENU>	FUNCTION	Previously, there was no label on the LCD. Now, there is.
SUPV MENU > 1 = SYSTEM > B = EAPRO > B = INFO Kernel Release Kernel Version	Removed	Derived from the Syntux version
SUPV MENU > 1 = SYSTEM > B = EAPRO > 1 = COMMANDS > REBOOT RESTART NETWORK	Removed	
SUPV MENU > 1 = SYSTEM > A = FLASH	Removed	

FMLive v9.x Menu	FMLive v10.x Menu	Notes
<p>SUPV MENU > 3 = TX EXPORT</p>	<p>Removed</p>	<p>This was part of the Transaction Import/Perpetual Transactions feature that has been removed from FMU 5000.</p>
<p>SUPV MENU > A = CONFIG > B = TESTS > 2 = COMMS, and <ENTER> > 2 = DIAGNOSTICS > 2 = COMMS</p>	<p>MANAGEMENT > W = WAN > S = STATUS</p>	<p>WAN menu and sub-menus are available only from the Management menu to mitigate security risks in FMU 5000.</p>
<p>SUPV MENU > A = CONFIG > A = VIEW > 1 = NIC MAC ADDRESS DOMAIN NAME DOMAIN NAME SERVER 1 DOMAIN NAME SERVER 2</p>	<p>Removed</p>	
<p>SUPV MENU > A = CONFIG > A = VIEW, A = FUELING POINTS</p>	<p>MANAGEMENT > F = DISPENSING > C = VIEW CONFIG</p>	
<p>SUPV MENU > A = CONFIG > A = VIEW > B = SYSTEM</p>	<p>Removed</p>	

FMLive v9.x Menu	FMLive v10.x Menu	Notes
SUPV MENU > A = CONFIG > A = VIEW > C = TMU	MANAGEMENT > S = SYSTEM > P = PERIPHERALS	Not present in FMU 5000 yet.
SUPV MENU > A = CONFIG > A = VIEW > 1 = NIC	MANAGEMENT > W = WAN > S = STATUS	
SUPV MENU > A = CONFIG > C = FUELING POINTS > TOTALIZERS	Removed	
SUPV MENU > A = CONFIG > C = FUELING POINTS > A = SHUTDOWN	Removed	Functionality is controlled from FMLive.
SUPV MENU > A = CONFIG > C = FUELING POINTS > B = REENABLE	MANAGEMENT > F = DISPENSING > F = MANAGE	

FMLive v9.x Menu	FMLive v10.x Menu	Notes
<ENTER> > E = EAPRO	Removed as a separate menu option. Moved to the Diagnostics submenu and collapsed to A = AIM.	
<ENTER> > P = PRICING	<ENTER> FUNCTION > P = PRODUCT	
OUTPUTS	MANAGEMENT > D = DIAGNOSTICS > O = OUTS	
<ENTER> > 1 = AIM	<ENTER> > A = AIM	