



343000
343000-1

Alemite FCS Fluid Control System

Installation and Operation Guide





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DISCLAIMER

The user/purchaser is expected to read and understand the information provided in this manual, follow any listed Safety Precautions and Instructions and keep this manual with the equipment for future reference.

The information in this manual has been carefully checked and is believed to be entirely reliable and consistent with the product described. However, no responsibility is assumed for inaccuracies, nor does Alemite LLC assume any liability arising out of the application and use of the equipment described.

Should the equipment be used in a manner not specified by Alemite LLC, the protection provided by the equipment may be impaired.

Questions or Service Assistance

If you have questions regarding the product or this document contact:

Alemite LLC
1057 521 Corporate Center Dr.
Fort Mill, SC 29707
Tel: (803) 802-0155 ext. 6232
Fax: (803) 802-0198
On the Web: www.alemite.com

Product Identification Information

Record the product identification numbers from the nameplate here.

Alemite FCS Unit without printer: Product number 343000

Alemite FCS Unit with inbuilt printer: Product number 343000-I

Model Number: _____

Serial Number: _____



BEFORE YOU BEGIN

Product Unpacking and Inspection

NOTE: If damage to the shipping container is evident upon receipt, request the carrier to be present when the products are unpacked.

Upon receipt of the products, perform the following unpacking and inspection procedures:

- Follow any instructions that may be marked on the exterior. Carefully open the shipping package.
- Remove all cushioning material surrounding the products and carefully lift the products from the package.
- Retain the package and all packing material for possible use in reshipment or storage.
- Visually inspect the products and applicable accessories for any physical damage such as scratches, loose or broken parts, or any other sign of damage that may have occurred during shipment.

NOTE: If damage is found, request an inspection by the carrier's agent within 48 hours of delivery and file a claim with the carrier. A claim for equipment damage in transit is the sole responsibility of the purchaser.

NOTE: A pressure relief valve is required or warranty is invalid. Please refer to Section 7.0, Typical Configuration Schematic. For further questions, call Alemite Customer Service at 1-800 Technical Service

For installation, service or technical questions, call:
800-628-9069 (US & Canada)

1.0 DESCRIPTION

The Alemite FC Fluid Controller is designed to accommodate up to twelve reels, 6 different fluids, and up to six air valves depending on the configuration. The Alemite FC represents the state-of-the-art in automated fluid control and dispensing technology, providing a simple and cost effective fluid use management and reporting, using an intuitive PLC controller. Two controller models are available, one using a remote printer and the other featuring an inbuilt printer.



Alemite FC with inbuilt printer option.

2.0 LOCATION AND INSTALLATION

The Alemite FC Fluid Control System should be mounted in a central location, near a 120VAC electrical outlet. Mounting feet are provided on the back of the unit, which can be turned to a suitable angle for the mounting position.



3.0 ELECTRICAL WIRING

Cables to be wired as follows:

White: Connect to Pulse Counter (Either Wire)

Green: Connect to Pulse Counter (Either Wire)

Red: Connect to Valve 24v (+)

Black: Connect to Valve 0V (-)

NOTE: Ensure that wire gage is appropriate to the length of run.



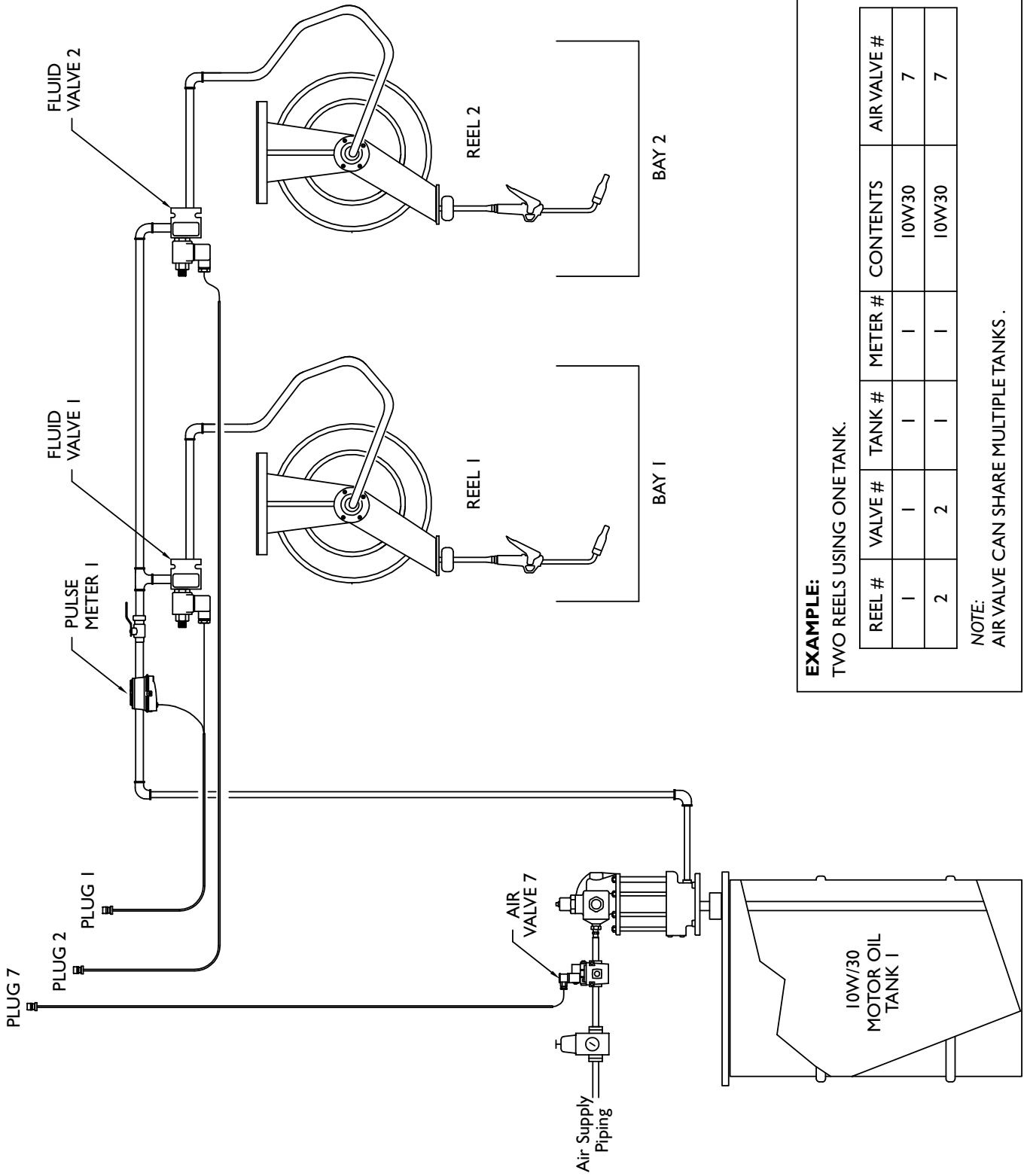


Plug valve/meter combo wire into plug 1-6.

For additional fluid solenoid utilizing an already wired flow meter, plug into 7-12.

For air solenoid, plug into 7-12.

Refer to following page for example.



EXAMPLE:

TWO REELS USING ONE TANK.

REEL #	VALVE #	TANK #	METER #	CONTENTS	AIR VALVE #
1	1	1	1	10W/30	7
2	2	1	1	10W/30	7

NOTE:
AIR VALVE CAN SHARE MULTIPLE TANKS .

4.0 PLC KEYPAD

The controller keypad is your interface to all unit programming and operating functions. Using intuitive commands accessed via the control, numeric, and toggle keys, all functions can be accessed, programmed, and controlled.



5.0 SYSTEM SETUP AND PROGRAMMING

The relationships between reels, flow meters, and tanks must be programmed as part of system setup, per the configuration of your specific installation. Note that installations vary, and the following setup instructions are an example of a typical system.

5.1 Reel Relationship Setup

Step 1: Log in as manager (Default Admin code is 1111. This manager code can be deleted later.)



Step 2: In main menu, scroll to (3) System Setup.

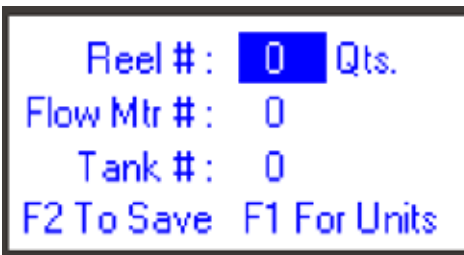


Step 3: Scroll to submenu item (1) Reel/Tank/FM.



Step 4: Enter reel relationships as follows:

- A. Enter Reel number.
- B. Enter related Flow Meter number.
- C. Enter related Tank number.
- D. Press F1 to change units associated with reel.
- E. Press F2 to save.
- F. Repeat with remaining reels.



NOTE: If two or more reels share the same flow meter, the software is designed to recognize this and will not allow those reels to operate at the same time.

After all Reels are entered, press ESC to exit to previous menu.

5.2 Tank Setup

Step 1: From main menu, choose (3) System Setup, (2) Tanks.



Step 2: Scroll to submenu item (4) Tank Fluid Setup.



Step 3: Enter tank fluid parameters as follows:

- A. Enter Tank Number.
- B. Enter Content Label.
- C. Enter Air Valve controlling the pump on that tank (if connected).
- D. Press F1 to choose the units (Liters, Gal, etc.) associated with this tank.
- E. Press F2 to save.
- F. Repeat with remaining tanks.

After all tanks are entered, press ESC to exit to previous menu.

5.3 Setting Tank Level Alerts

Step 1: From main menu, choose (3) System Setup, (2) Tanks



and scroll to (5) Set Tank Level Alerts.



Step 2: Enter level alert parameters as follows:

- A. Enter Tank Number
- B. Enter the MAX capacity of the tank (in units selected in tank setup).
- C. Enter the Low Warning Level (in % of tank maximum).
- D. Enter the Stop Level (in % of tank maximum).
- E. Press F2 to save.
- F. Repeat with remaining tanks

After all tanks are entered, press ESC to exit to previous menu

5.4 Tank Refill Parameters

Step 1: From main menu, choose (3) System Setup, (2) Tanks and scroll to (2) Tank Refill Input.



Step 2: Enter refill parameters as follows:

- A. Enter Tank Number
- B. Enter the level to reset the tank. (defaults to Max, but can be set to any value less than max).
- C. Press F2 to save.
- D. Repeat with remaining tanks

After all tanks are entered, press ESC to exit to previous menu

The System should now be able to dispense. The remaining setup selections can be used to customize the system.

5.5 Waste Tank Level Alerts

This menu displays item displays the level of the waste tank. The system will warn you when the waste tank is full. The level is calculated based on the amount of fluid dispensed by all of the meters. By default the use of the waste tank is turned off. If use of the waste tank is desired, proceed as follows:

Step 1: From main menu, choose (3) System Setup, (2) Tanks and scroll to (5) Set Tank Level Alerts.



Step 2: Enter Tank Number 7 (waste tank) and proceed as follows:

- Enter the MAX capacity of the waste tank in the units previously selected).
- Press F1 to change units associated with waste tank.

NOTE: Entering a MAX capacity of 0 will deactivate the waste tank feature.

- Enter the Warning Level (% of tank maximum).
- Enter the Stop Level (% of tank maximum).
- Press F2 to save.

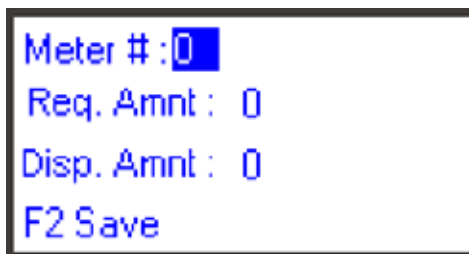
6.0 FLOW METER CALIBRATION

The Flow meter Calibration function allows the user to correct discrepancies in the amount dispensed as calculated by the system vs. the actual amount dispensed. Each Meter should be calibrated prior to using the system. To calibrate a meter, proceed as below:

Step 1: Go to (1) Dispense in main menu.

Step 2: Set a reel that uses the flowmeter to dispense X units of fluid and proceed as follows:

- A. Measure the actual amount dispensed using an electronic flowmeter or a container of known volume.
- B. From Main Menu, return to (3) System Setup.
- C. Scroll to menu item (3) Flow Meter Cal.



- D. Enter the Amount that was requested.
- E. Enter the actual amount dispensed as measured by the electronic meter or container.
- F. Press F2 to save.

Press ESC to exit

The system has calculated a new calibration factor which is now active.

Repeat these steps to check the new calibration and further refine the accuracy.

NOTE: If multiple reels use one flow meter, the Flow Meter Calibration needs to be done only once.

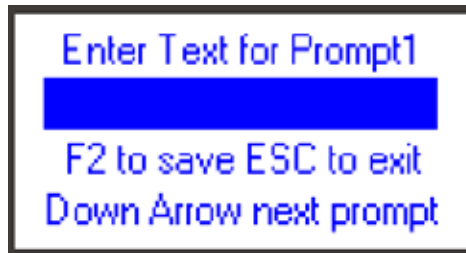
7.0 OPERATIONAL SETTING

7.1 Prompts

The software allows up to five custom prompts which can be displayed when entering information for a dispense. These can be used to request specific information such as Vehicle ID, License Plate #, or work order #.

To enter prompts, proceed as follows:

- A. Go to (3) System Setup on main menu.

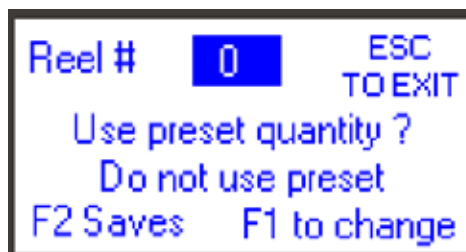


- B. Scroll to (4) Prompts
- C. Enter prompt text as desired
- D. Press F2 to save entry
- E. Scroll with DOWN arrow to move to next Prompt entry
- F. After all prompts have been entered and saved, hit ESC to exit this function.

7.2 Preset Quantity

The software allows each reel to be setup to dispense a user preset amount of fluid, or a freeflow amount up to the defined maximum dispense. By default the system is set up to use a preset amount. The preset amount may be set as follows:

- A. Go to (3) System Setup in main menu.
- B. Scroll to (5) Preset Quantity.

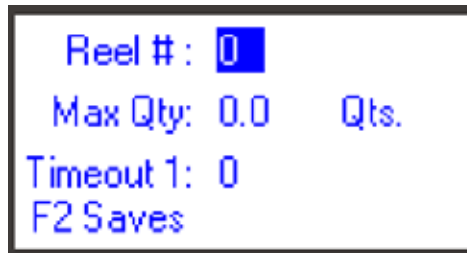


- C. Enter Reel Number
- D. F1 switches between Preset option and Freeflow option.
- E. Press F2 to save
- F. Repeat with remaining reels, pressing F2 to save each change.
- G. After all prompts have been entered, hit ESC to exit to previous menu.

7.3 Maximum Dispense Settings

Each reel can have a specified Maximum delivery amount and a timeout feature to determine when a job is completed. If the maximum delivery amount is reached the valve will be shut off and the job will be closed out. Also, if “Timeout” minutes of inactivity occur on the active reel, the valves will be shut off and the job will be closed out. These may be set as below:

- A. Go to (3) System Setup in main menu.
- B. Scroll to (6) Maximum Dispense.

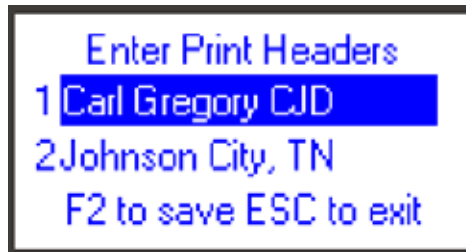


- C. Enter Reel Number
- D. Enter Max Quantity (In units defined for each reel).
- E. Enter Timeout (in minutes).
- F. Press F2 to save
- G. Repeat with remaining reels.
- H. After all prompts are entered, press ESC to exit to previous menu.

7.4 Print Headers

The software allows up to two lines of text to be printed at the top of the printed ticket.

- A. Go to (3) System Setup in main menu.
- B. Scroll to (7) Print Headers.

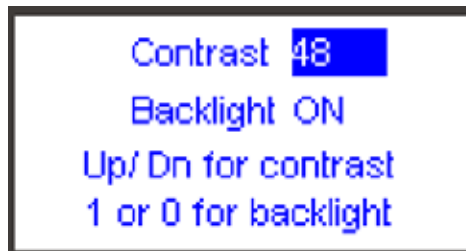


- C. Enter up to two lines of text (business name, etc).
- D. Press F2 to save.
- E. Press ESC to exit to previous menu.

7.5 Display Adjustment

The software allows users to set the screen contrast and backlight to suit the operating conditions.

- A. Go to (3) System Setup in main menu.
- B. Scroll to (8) Screen Adjust



- C. Set the Contrast and Backlight options as desired.
- D. Press F2 to save.
- E. Press ESC to exit to previous menu

8.0 USER SETTINGS

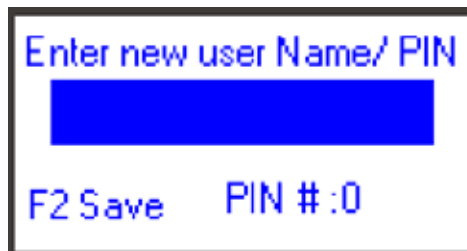
8.1 Add User

All users must be entered into the system. Users may be added as follows:

- A. Go to (4) User Setup in main menu.



- B. Scroll to (1) Add User

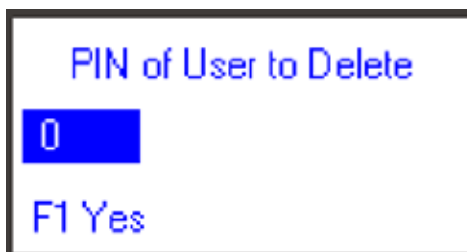


- C. Enter User Name
D. Enter PIN for User
E. Press F2 to save
F. Repeat with remaining users, pressing F2 to save each entry.
G. After all users have been entered, press ESC to exit to previous menu.

8.2 Delete User

To delete a user from the system, proceed as follows:

- A. Go to (4) User Setup in main menu.
- B. Scroll to (2) Delete User



- C. Enter the PIN number of the User to delete. User name will display.
- D. Press F1 to confirm delete.
- E. Press ESC to exit to previous menu

NOTE: A manager cannot delete themselves from the system.

8.3 View/Print Users

A list of system users may be viewed and printed out as follows:

- A. Go to (4) User Setup in main menu.
- B. Scroll to (3) View/Print Users.



- C. Use the Up/Down arrows to scroll through the list of active users and managers.
- D. Press F2 to print the entire list.
- E. Press ESC to exit to previous menu

8.4 Make Manager

Operators may be converted to Manager status as follows:

- A. Go to (4) User Setup in main menu.
- B. Scroll to (4) Make Manager.



- C. Enter the PIN number of the User to promote to manager. User name will show once PIN is entered.
- D. Press Up/Down arrow keys to change between Operator and Manager status.
- E. Press F2 to save the setting.
- F. Press ESC to exit to previous menu.

9.0 OPERATION

9.1 Dispensing

Product may be dispensed using the FC system as follows:

- A. Log into the system using PIN code.
- B. Go to (I) Dispense in main menu.



- C. Enter Reel Number to dispense from.



- D. Enter Quantity to Dispense (if using Preset mode).
- E. If additional Prompts are in use, scroll down to view and enter as needed.
- F. When all information has been entered, press F2 to save.
- G. Confirmation Screen will appear. Press F2 to accept.
- H. Valves and meter are now active and ready to dispense.
- I. When dispense is complete, valves will turn off and dispense data will be stored in the log.
- J. If ticket printer is connected and active, a job ticket will be printed.

9.2 Display Tank Levels

This menu item shows the current tank levels and amount dispensed.

Step 1: From main menu, select (3) System Setup, (2) Tanks and scroll to (1) Display Tank Levels.



Step 2: Pressing the L and R arrow keys will scroll through the current tank levels and the amount dispensed.

Step 3: Pressing F2 will print a Tank Level Summary ticket.

9.3 Entering Tank Refill Information

Enter tank refill information as follows:

A. Log in to system using PIN code.

NOTE: Only Managers may access this function.

B. Go to (3) System Setup in main menu.

C. Scroll to (2) Tanks

D. Scroll to (2) Tank Refill Input



E. Enter the tank number you wish to refill

F. Enter the new quantity in the tank.

G. Press F2 to save.

H. Repeat for any additional tanks.

I. Press ESC to return to previous menu.

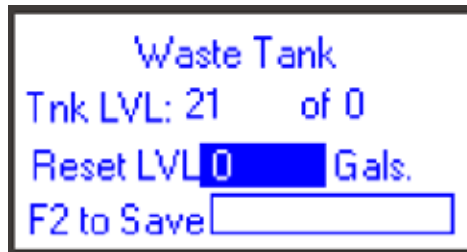
9.4 Emptying Waste Tank

To empty a waste tank, proceed as follows:

- A. Log in to system using PIN code.

NOTE: Only Managers may access this function.

- B. Go to (3) System Setup in main menu.
- C. Scroll to (2) Tanks.
- D. Scroll to (3) Waste Tank Level.



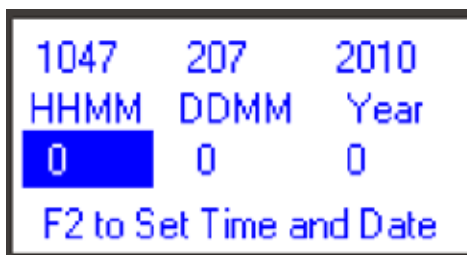
- E. Enter new waste tank level [defaults to 0 (empty)] but any quantity can be entered.
- F. Press ESC to return to previous menu.

10.0 ADDITIONAL DEVICE SETTINGS

10.1 Set Date and Time

To set the device date and time proceed as follows:

- A. From main menu, scroll down and choose 5) Set Clock

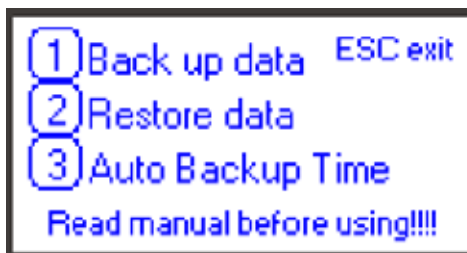


- B. Enter the time in an Hour Minute (HHMM) format (The FCS system uses a 24 hour clock)
- C. Enter the Date in a Day Month format (DDMM)
- D. Enter the year (four digits)
- E. Press F2 to save the new values.

10.2 SD Card Backup Settings

The FCS is capable of storing and loading system setup and dispense data on an internal microSD memory card. In case of a system failure, this backup can be used to quickly setup a new replacement system without losing any of the dispense data. The system backup can occur on demand and it can also be set to automatically backup daily at a specified time.

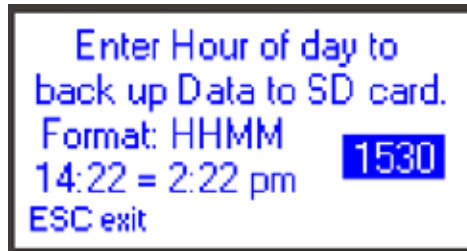
- A. From main menu, choose 3) System Setup, Scroll to 9) Back Up Data



- B. Press 1 to back up the data in the FCS to the SD card. It is recommended that you do this following the initial system setup and anytime a change is made to the system setup.



- C. Press 2 to Restore data from the SD card to the FCS. This will overwrite any existing data in the FCS with that contained on the SD card.
- D. Press 3 to setup a time for the system to perform a daily backup.





11.0 ACCESSORIES

Product #	Description	Information
339005	Pulse Meter (Oil)	1/2" NPTF(f) inlet/outlet, max operating pressure 1,500 psi, 0.25 - 8 gpm
340080	Pulse Meter (Antifreeze, Coolant)	1/2" NPTF(f) inlet/outlet, max operating pressure 1,500 psi, 1 to 6 gpm
339006	Air Solenoid Valve	1/2" NPTF(f) inlet/outlet, 30 - 150 psi operating pressure, 0.12 amps
338315	Fluid Solenoid Valve with connector	with connector 1/2" NPTF(f) inlet/outlet, max operating pressure 3,000 psi, up to 6gpm; includes manual override and screen
338978	Fluid Solenoid Valve	1/2" NPTF(f) inlet/outlet, max operating pressure 3,000 psi, up to 6 gpm; includes manual override and screen
343025	Connector, Solenoid Valve, Prewired	Prewired with 3' pigtail
339277-1	Pressure Relief Valve	900 psi max, 1 per pump
339277-2		1,400 psi max, 1 per pump
339672-1	External Printer	Requires Cable, 343027
343027	Printer Adapter Cable	30'
339318	Station Ready Lamp	24VDC power
339007	Junction Box	Optional
339276	Pressure Relief Valve Installation Kit	Includes 3' connecting hose and 2 tee reducing branches
343030-4	4' Cable with Plug	
343030-25	25' Cable with Plug	
343030-50	50' Cable with Plug	
343030-100	100' Cable with Plug	
343030-250	250' Cable with Plug	
343030-500	500' Cable with Plug	



CONTACT INFORMATION

If you have questions regarding the product or this document contact:

At Alemite, we pride ourselves on providing valuable support to our customers. Our experienced team of service representatives has the knowledge you depend on to address whatever issue you might have. Whether your question deals with installation, service or standard maintenance, our service team is just a phone call away.

Customer Service

To place an order or to check the status of an order, call:

United States:
866-4-Alemite (866-425-3648)

Canada:
800-267-8022

Technical Service

For installation, service or technical questions, call:

United States & Canada:
800-628-9069

Alemite LLC

1057 521 Corporate Center Dr.
Fort Mill, SC 29707

Tel: (803) 802-0155 ext. 6232
Fax: (803) 802-0198

On the Web: www.alemite.com



Alemite LLC
1057 521 Corporate Center Dr.
Fort Mill, SC 29707

Tel: (803) 802-0155 ext. 6232
Fax: (803) 802-0198

Toll Free US: 1-866-4-Alemite (1-866-425-3648)
Toll Free Canada: 1-800-267-8022

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