

Sem)

Programming Guide

SMART MONEY SYSTEMS!

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Introduction

Thank you for purchasing the W25B Water Controller.

The W25B Water Controller encompasses all the latest features of the vending industries such as the DEX port and dual cashless MDB port allowing connecting both a credit/debit card reader and a proprietary prepaid card system in addition to a bill reader and recycler, and of course a coin changer. This allows as well to revalue the prepaid card using credit card, coins, or bills. It can also work in a coin acceptor -only configuration when giving back change is not required.

The W25B is easy to install and program. This manual covers uniquely the programming aspect of the W25B. The large 2x20 LCD display is capable of displaying in English or French. The entire programming of the W25B is achieved by using the lighted selection buttons on the selection panel of the machine or the buttons directly on the circuit board.

The next pages will guide you step-by-step through the many features of the W25B. An illustrated flow chart makes navigating through the different parameters a very easy thing.

Operating principle

The W25B Controller delivers a liquid based on volume. To ease the reading of this manual, we will use water as the liquid. The only way to ensure you pay the exact amount for the exact volume is by using a flow meter.

The W25B allows the use of the following payment peripherals: Coin acceptor only (no change given back) or coin changer (from a 3-tube up to a 6-tube of change), bill acceptor combined or not with a bill recycler, one or two cashless devices (credit/debit, prepaid, RFID, on-line-off-line, etc.).

The W25B controls the water valve. When sufficient credit is present, the customer presses on Start and water flows. It flows until one the following happens:

- 1. The W25B runs out of credit.
- 2. Customer presses on the Stop button
- 3. The credit card 18-minute time-out (*) reaches the end, in which case the customer will have to start a second transaction session with the credit card to continue filling.
- 4. The maximum allowed for a card transaction has been reached, in which case the customer will have to start a second cashless transaction session.

The large LCD display prompts a multitude of messages to the customer such as the vend price, low-change situation, and much more.



* The credit card reader time-out is built-in into the reader itself and cannot be extended longer than 18 minutes.

Component identification

The image below shows a typical water filling station equipped with our W25B Controller. <u>Yours may differ.</u> The control panel shows:

- A: 2x20 giant LCD display (smaller size display available)
- B: Coin insertion slot & coin return button (escrow)
- C: Combined bill acceptor & credit/debit card reader (cashless 1)
- D: Start & Stop buttons
- E: Proprietary prepaid magnetic card reader with its own display (cashless 2)



Circuit description

The circuit W25B is the brain of the machine. It controls the volume of water sold, the vend price, the different payment peripherals, and keeps track of the sales done. The W25B is actually two circuit boards mounted on each other. Most of the wiring of the machine goes to or comes from the W25B.

The lower board is part number A09860. The piggyback expansion board is part number A09870.

One cannot work without the other.



Wiring Diagram



Wiring Diagram

Standard wiring of the W25B Selection buttons. Note that the only difference between the Start and Stop buttons is the color of the LED inside.



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Navigating in the program

Navigating in the program, be it the different settings or the audit, is done using the buttons on the circuit board itself.



Note: The display is visible outside the machine. The circuit board is inside. It is possible to program the W25B using only the two buttons outside the machine. However, if you can have access to both the display and the W25B circuit board, it will be easier to program using the buttons on the circuit board itself.

There are two different menus which are: Operator menu Technician menu

If you are the owner of the machine and do not want your employees to access the Technician menu, keep this manual in an inaccessible place as the following pages indicates how to access this menu.

The Operator menu divides in three sub-sections which are:

Audit:	Gives you the entire monetary activities of the
	the machine.
Currency Settings:	This is where you will decide what are the coins
	and bills you accept.
Vend Price Settings:	This is where you will set the vend price.

The Technician menu offers only one sub-section which is:

System settings:	Allows for setting the multiple parameters of
	the machine.

The Operator Menu

Accessing the Operator Menu is done by pressing once on the **Black** button of the W25B circuit board.

Follow the chart below to visualize the path to follow. A full description will follow. The entire flow chart is based on the two selection buttons in front of the machine.



The Audit

The W25B offers a full audit of the transactions done by the machine plus the current level of the tubes inventory. The information available <u>varies substantially</u> depending on the payment peripherals present in the machine. For example, if your machine does not have any card reader, there will be no mention at all of cashless sales or revalues. The description below is based on a machine having all potential payment peripherals installed, including two cashless devices.

Tube inventory *:	Current value of the coins present in each tube. (5¢ - 10		
	-25c - 100c - 200c m canada)		
Coin box:	Current value of the coins in the box since last reset.		
Bill box:	Current value of the bills in the bill box since last reset.		
Cash sales:	Sales done using cash since last reset.		
Cash sales cum.:	Sales done using cash since day one (not resettable).		
Cashless 1 sales:	Sales done using the first card reader since last reset.		
Cashless 1 cum.:	Sales done using the first card reader since day one.		
Cashless 2 sales:	Sales done using the second card reader since last reset.		
Cashless 2 cum.:	Sales done using the second card reader since day one.		
Total sales:	Total sales, cash + card 1 + card 2 since last reset.		
Total sales cum.:	Total sales, cash + card 1 + card 2 since last day one.		
Sales with token:	Value of sales done with a token since last reset.		
Sales with token cum.:	Value of sales done with a token since day one.		
Revalue from cash:	Money added to cards using cash since last reset.		
Revalue f cash cum.:	Money added to cards using cash since last day one.		
Revalue from card:	Money added to cards using card since last reset.		
Revalue f card cum.:	Money added to cards using card since last day one.		
Bulk sales:	Total of gallons sold since last reset.		
Bulk sales cum.:	Total of gallons sold since day one.		

Again, the information above will vary depending the payment peripherals connected into your machine.

* If your machine is equipped with a bill acceptor and recycler, the bills in the recycler will be seen as a tube by the audit (i.e. \$1 bill recycler = tube \$1; \$5 bill recycler = tube \$5). If your coin changer already has a \$1 tube, the audit will then show two \$1 tubes, one being the tube in the coin changer, the other being the bill recycler.

If you have a serial printer attached to the W25B, pressing and holding the green button for about 3 seconds at any time in the audit will send the entire audit to the printer.

Once you have gone through the entire audit description (or printed it), the display will prompt you the following message: **Reset meters? Hold RED button**. By pressing the red button for at least 2 seconds, all non-cumulative meters will be erased. There is no way to erase the cumulative meters.

DEX transfer

The DEX transfer is still under construction at the time of printing this manual.

Currency Settings

The W25B Water Controller uses the universal and international MDB protocol used in the entire vending machine industry and one of the features of that protocol is allowing what currency you wish to accept and those you wish to reject.

The description of different currencies will vary depending the peripherals connected to the W25B and the country of origin of the peripherals. On power up, the different peripherals connected will signal to the W25B their presence obviously plus their internal configuration.

When you see Currency Setting on the display, press on Start button. The first currency will most likely be \$0.05 with the mention YES beside it. Press the Stop button to toggle between YES and NO and confirm with Start. You will have confirmation of the new setting on the display before it passes to the next currency.



In Canada, the usual currencies will be: 5¢, 10¢, 25¢ 100¢, 200¢, 5\$, 10\$, and 20\$. In USA it will be 5¢, 10¢, 25¢, 100¢, 1\$, 5\$, 10\$, and 20\$. In Mexico it will be 50¢, 100¢, 200¢, 500¢, 1000¢, 20\$, 50\$, and 100\$.

If you do not see a currency on the display it is because the peripheral simply does not accept it (i.e. 50\$ & 100\$ US or CAD).

Vend Price Setting

The W25B Water Controller offers a single vend price. This single price is the price per US gallon. Note that there are three digits after the dot. It means that you can charge tenth of cents. For example, you can set a $11 \frac{1}{2}$ ¢ (\$0.115) price.

When Vend Price Setting is visible on the display, press on the Start button. The display will show Bulk Price. Press green again and the current price will come to screen and the first digit will blink. Press on the red button to increase the digit. It wraps around. Once the proper digit value reached, press on Start button to move to the next digit. Pressing and holding the Start button will take you back to the previous digit. Repeat for all four digits and confirm the new price with the same Start button.



Once all this done, the display will prompt: Exit Menu Press Start.

The Technician Menu

<u>Accessing the Technician Menu cannot be accidental.</u> We don't want anyone to access this section without knowing what they do. If you do not want this to be accessible to your employees, keep this manual in a safe place. You access the Technician Menu by pressing AND holding the blue and red buttons on the W25B circuit for about 3 seconds.



The technician menu is more exhaustive than the operator menu. Therefore, it is preferable to use the square buttons on the circuit board itself. Using the only two buttons on the front is also possible but it can be a longer process, especially in the Welcome and Out-of-order messages.



However, there are no equivalent for the black and blue buttons.



System Settings

Below is an explanation of each parameters.

In all cases, pressing on the Green button when a parameter is on the display will allow you to enter it and see the current setting. Pressing on the Red button will modify the setting. Pressing on Green again will confirm the new setting, or move to the next digit when the setting has letters or numbers to modify.

Language

The W25B can display in English or in French but not in both simultaneously.

Machine ID

You can assign a specific Alpha-Numeric ID to your machine. You can set something like **Vendor 1** or **Machine B-2**. This ID will figure at the top of all print out from the machine or at the top of the DEX transfer. You can use either the Red or Blue button to reach your choice of character. Almost the entire ASCII set of characters is available.

Beeper loudness

There is a setting for the beep level between 1 and 10. Take into consideration that normally, the door of the machine is closed so you may set it at a proper level so that it can be heard clearly by a customer in front of the machine.

Cashless message

If you are using a cashless system on your W25B, you can adapt the message on the display to match the style of reader you have. It can be **Insertion**, **Swipe**, or **Proximity**. The message will then be *Insert*, *Swipe*, or *Present your card* on the display.

Cashless 1 (with cashless 1 licence activated)

The W25B can have two cashless devices: Credit card and a Proprietary prepaid system.

If you have both systems, Cashless 1 must be set to Credit and Cashless 2 set to prepaid. If you only have a proprietary prepaid system, set Cashless 1 to prepaid.

In both cases, a sub-parameter will appear later depending what you set here.

Cashless 2 (with cashless 1 & 2 licence activated)

Cashless 2 is the second cashless address. If you have two cashless devices attached to your W25B, the credit card reader must be set at cashless 1. For any proprietary cashless system, set this parameter to **Prepaid**. Your proprietary cashless system must allow changing the cashless address it uses. If you cannot set your cashless system to use cashless address #2, it will automatically use address #1. If you have a credit card system connected to the address #1, you will have an address conflict resulting in both systems not working.

If you set it to Prepaid, a sub-parameter will become available. It is called Reserve Amount.

Reserve amount

This parameter defines the amount taken from a stored value card as a deposit. It will deduct it from the card at the beginning of the session and it should cover the value of up to 30 seconds of water dispensed. We suggest to take such a deposit as most readers actually debit the card every 30 seconds. The unused portion of this deposit is returned to the card when the session ends. If the card is ripped off from the reader before the end of the transaction, a portion of this reserve could be lost by the card owner. The user should always press on STOP or Eject to recover the card.

Flow meter type

This is an important parameter. This is where you define the type of flow meter. There are three choices available.

The choices are:

- Contact (use this setting for bulk or large volume of water)
- Source (do not use; usually for retail volume of water)
- Sink (do not use; usually for retail volume of water)

Contact

This type of signal uses a flow meter giving between 1 to 10 pulses per gallon (dry contact Com/NO or pulse with 12vdc input voltage from the W25B). This setting is followed by the parameter "Unit per contact".

Unit per contact

You define here the volume of water the flow meter calculates for each pulse. For example, if you program 0.25 gallon as the volume delivered for one pulse, it means one gallon will generate 4 pulses. Normally, this information is provided with the flow meter specifications. Consult the specs sheet of your flow meter. It

is important that you enter the correct information otherwise you will charging erroneous price to your customer, either too high or too low.

CC session timeout

This is a critical setting. If you have a credit card reader in your machine (set at Cashless 1 of course), you must enter here a maximum time a credit card transaction session will last. As the W25B does not know what will be the final amount for a transaction prior to opening a credit card session, the CC reader must then be set to ask for a pre-authorization (consult the credit card reader manual). Once the pre-authorized amount received, the filling process can start. At the end, the W25B informs the CC reader of the real transaction amount. However, all credit card readers on a self-service equipment do have an automatic timeout. The length of the session varies from one make of reader to another. It is important that you set here a value that is LOWER than the actual value in the CC reader. We know that for a NAYAX reader, CC session timeout MUST be set to 18 minutes or lower. If you set a timeout value longer than the actual timeout set into the CC reader, the reader will get out of session unaware of the final amount of the transaction and will send back to the gateway processor the entire pre-authorized amount resulting in a **FREE TRANSACTION**.

Note: Maximum setting is 18 minutes.

...continue on next pages.



Bulk card 1 max. (not visible if no cashless device)

This is where you can set a maximum amount for a transaction using a cashless device, either credit or prepaid at the address Cashless 1. Note that the credit card reader itself has some sort of maximum amount when it was set-up. It is the preauthorized amount (i.e. \$100). This means that the system will stop if either the amount programmed here or the pre-authorized amount has been reach in a transaction. A \$000 value means no maximum, in which case, the pre-authorized amount set into the credit card reader will apply if the transaction is done using a credit card.

Bulk card 2 max. (not visible if no cashless device)

Same thing as the previous but applies to cashless 2.

Message Welcome

Welcome Message is a parameter allowing you to create your own message on the display that will alternate between *Insert coins, bills, card* and your own two-line message. Two lines of 20 characters are at your disposal. That includes the spaces. Here is an example of message:

** Welcome to ***	- The Water Depot -		
= 18 characters	= 19 characters		

The message will NOT self-centre. Therefore, you need to calculate the characters adequately. The list of characters includes different signs, lower-case and higher-case letters as well as letters with foreign accent like à and é.

Use the buttons to select the letters you need. To enter a space, press and hold Red & Blue together for about 2 seconds.

Message Out-of-Order

The Out-of-Order messages gives you 4 lines of 20 characters. Two lines already have a default message. Two lines are available for your own message. However, the first two lines can also be modified to your own message if you wish. Use the same buttons to create your own message.

*** PLEASE CALL ***	** 1-888-123-4567 **
= 19 characters	= 20 characters

Print parameters

If you have the small optional portable serial printer connected to the W25B, you can print all the parameters you just programmed for reviewing. Very useful feature is you have many machines to program with the same parameters.

This concludes the different settings you have to do at the time of printing (November 2018) of this manual. Future firmware version may contain added or modified features and even additional pages.

Servicing

The W25B is designed and manufactured with the utmost care and attention. However, a problem can eventually require a circuit change. If this happens, you will greatly appreciate the fact that the entire memory of the W25B, including the entire audit and all the different settings are stored in a removable chip you can move to the new W25B circuit. No need to reprogram all the settings in the new circuit board and no loss of information on sales.

> A09870 C-GR
>
>
> Removable

Upper section of the W25T / W25B

Removable Memory Chip

It is important to insert the chip carefully in the proper position. There is a halfmoon guide on the chip itself as seen below. This guide must face the square blue LCD adjustment potentiometer. This must be achieved WITHOUT POWER on the circuit.





Tube inventory

The tube inventory visible on the display comes from the information sent by the coin changer. This may vary depending the coin changer you have.

If you have an MDB Level 2 coin changer (3-tube or 4-tube), the inventory sent by the coin changer to the 9900X is very limited. There are only two coin level sensors in each tube: Low & High. Between that, the coin changer does not know how much coins there are in the tube. It is then important to fill up the coin tube the proper manner. If you need, you can adjust this inventory manually. When you see a tube value on the display, press on the green button. First digit will start flashing. Adjust the number using either the red or blue button. Press green to switch digit. Once done, press green to confirm the new value.

If you have an MDB Level 3 coin changer (MEI 5-tube or Coinco 6-tube), the tube inventory is managed in real-time. The coin changer knows exactly how much money there is in the tubes, no matter their respective level. When you have such a coin changer, you cannot adjust the inventory manually like described in the previous paragraph.

Filling up the coin tubes... And the bill recycler

The easiest way to fill up the coin tubes of your changer and the recycler is to do as follow:

1. Go in the audit and select the proper tube.

2. Insert coins and \$1 bills matching the tube on the display into the machine just like you would do to buy water. The money will go in the proper place and adjust the inventory. It will not affect the sales counter.

3. Once all tubes done, press and hold the black button for about 3 seconds to step out.

All coin changers and bill recyclers give full priority to filling up their float. Only what is in excess will be diverted to either the coin or bill box. Note that some types of coin changers allow you to preset a value or a coin level in the tubes. The same for the bill recycler. Please consult the instruction manual of the coin changer or bill recycler to set such a value or level. The W25B has no control on the inventory of coins or bills.

Personal notes:		
Currency setting:		
Vend price:	_ Machine ID:	
Beeper loudness:	_ Cashless message:	
Cashless 1:	Cashless 2:	
Reserve amount: \$	Flow meter type:	
Unit per contact:	CC session timeout:	
Bulk card 1 max.:	Bulk card 2 Max.:	
Message Welcome:		
Message Out-of-Order:		

This manual was written by our technical department. Even though the utmost attention was given to writing this manual, errors may have slipped by unnoticed. Any comments, suggestions, or errors should be sent directly to: gilbert.guinard@sem.ca

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