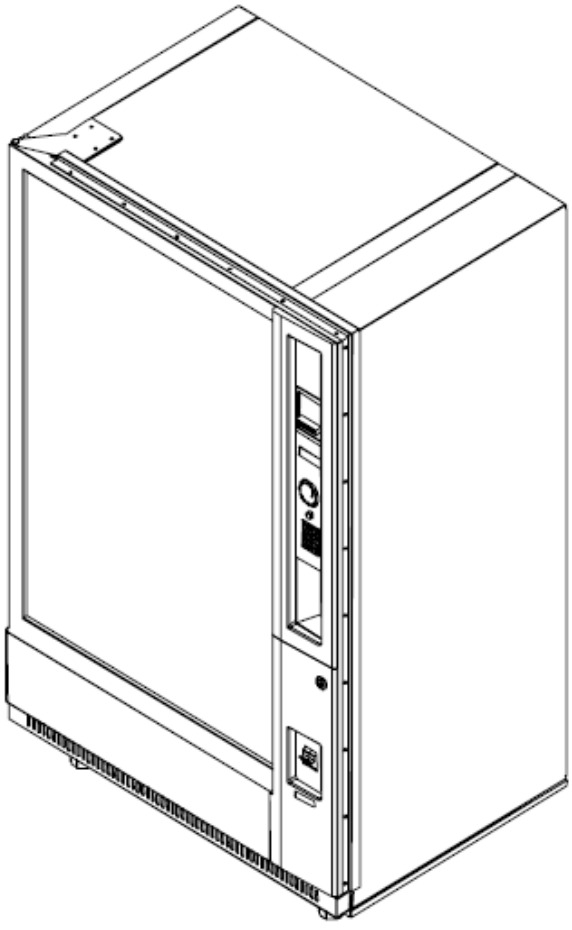
GLASSFRONT
VENDING MACHINES

G-DRINK GF 6 / GF 9 – DR 6 / DR 9

PROGRAMMING MANUAL



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Vendo SANDEN

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1 SPECIFICATION FOR ELECTRONIC BOARD SF01

HARDWARE FEATURE

Power supply: 24 VDC
14 motor outputs 24 VDC 1 A
14 motor micro-switches
14 sold-out micro-switches
14 sold-out leds
26 selections switches
1 Door switch
3 Analogics inputs (for temperature control)
1 Real time clock
1 Jack plug for DEX/UCS audit output.
1 Serial TTL output.

The board uses an XA 16 bit microcontroller with up to 4096 Kbit of program EPROM and 256 Kbit of EPROM memory used to store settings and audit.
External slave board (placed on the box transformer) used to control refrigerant system, fluorescent tube.
External slave board (placed near main board) used to drive 64 vending motor with current control and limitation.
External slave Optical detector board used to check the product fall down.
External slave fluorescent display 2 lines 20 characters
Master and Slave optically isolated serial link for MDB

SOFTWARE FEATURE

Service programming routine (standard languages ENG, ITA, FR, GERM, SPA)
Possible to have customized programming & vend messages using WinDEX
Credit accumulation
Payment system interface
Consumer manipulation and vend process
Multi pricing
Escrow
Correct change indicator
Manual tube payout
Manual tube filling
Saved rrror listing - Audit
Cooling unit control by separate electronic control unit
MDB 5 different tubes values
Possible to link selections in up to 10 groups
Slave MDB board controlling the lift and bucket part

1.1 DESCRIPTION OF FUNCTIONS AND FEATURES

INITIALISATION

Each time the door is open and closed, the lift and catcher system will perform an initialisation in order to detect the shelves position. In order to avoid not needed initialisations, if the door is open for less than 60 secondes, the initialisation is not performed assuming nothing has changed rearding the shelf configuration during this short time. During initialisation the machine will automatically detect the position and the number of shelves. Only setting the number of trays (2 or 3 trays) is required.
Selection counting starts at the left side of the upper shelf with number 11 to 16 (or 19), next shelf starts with 21 to 26 (or 29) and then going to the bottom shelf.
Maximum number of shelves is 7.

2 Trays means 6 columns/selections per shelf
3 Trays means 9 columns/selections per shelf

From version software V1.29, at power ON the lift will proceed first to the delivery bucket in order to download remaining product in the hand bucket.

LOADING FACILITY

In order to allow easier loading of the bottom shelf, pushing the delivery flap will move the bucket to the right side, pushing the flap again will move the bucket to the left side.

DRUM FEATURE

When a product is detected inside the drum, the LED light is switched on in the drum, and the drum is unlock and goes in position open. If the product is not removed after 2 minutes the light is switched off, while the message “REMOVE THE PRODUCT**“** alternatively with arrows pointing in downwards is displayed. When the product is removed, the lights will blink a short time before closing the drum

SOLD-OUT FEATURE

A magnetic sensor included in the delivery door flap allows the detection of the product falling down the drum, if a selection is done with no product inside the columns, the machine will put this selection in soldout until the door is open-close assuming the selection has been reloaded.

GRAPHIC DISPLAY

During standby, in normal condition the machine will scroll a message in graphic 16x8 bits higher character alternatively with correct change status message if any.
Also when the product have been detected the display will scroll the message “REMOVE THE PRODUCT**“** alternatively with arrows pointing in downwards.

SPACE TO SALE FACILLITY

It is possible to group selections of the same product to one group.

- Up to 10 groups of 63 selections
- Price per group to avoid mistakes
- Copy function for quick set up

DOOR SWITCHES

For security purposes two door switches are used, one for the lift control board and cooling unit and one for the main control board. If one of the door switches is not actuated by the door (contacts closed) the lift will not move and the cooling will not start.

VEND CONDITIONS MODE

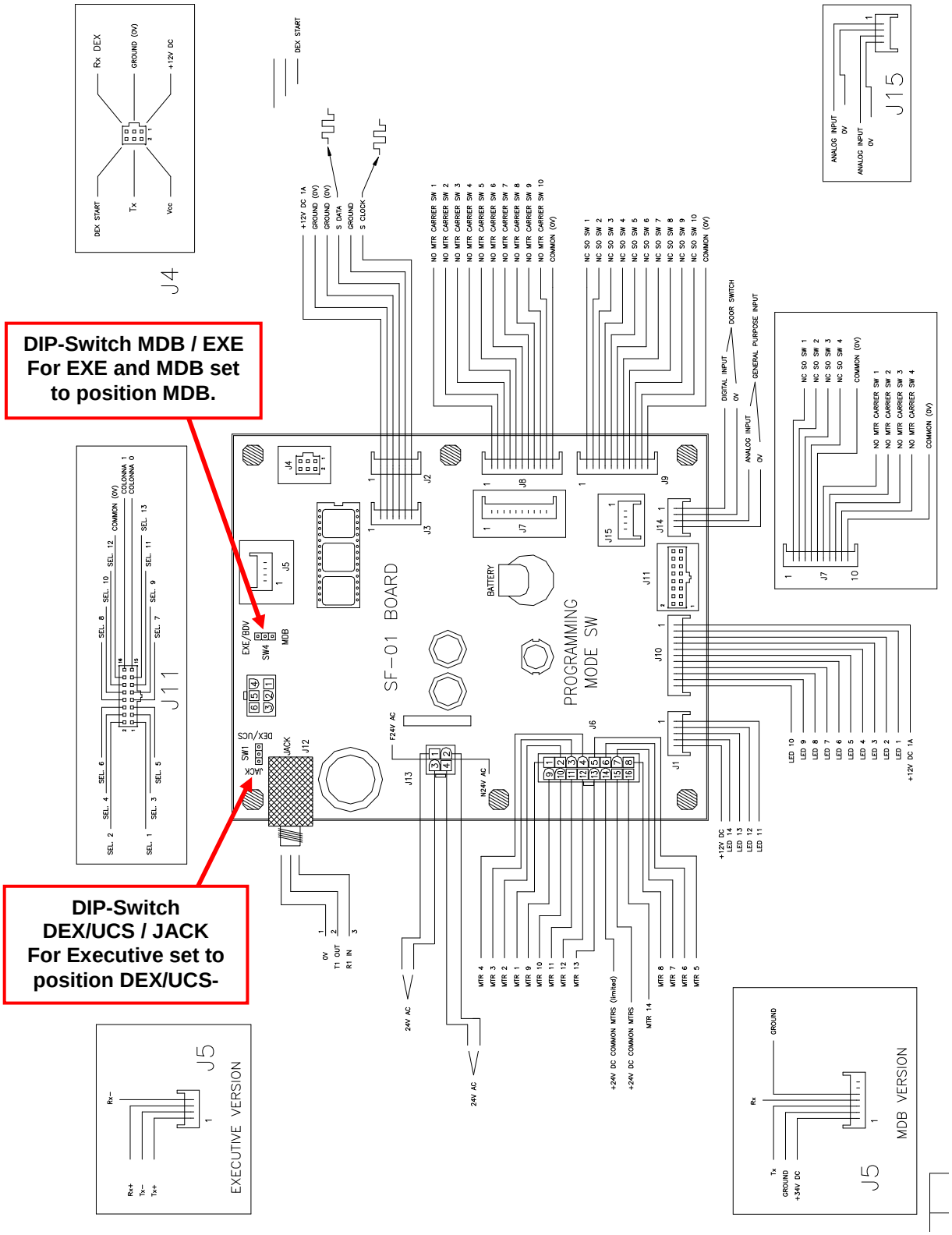
Conditions are:

- Doors switches are closed
- Delivery flap is closed
- Drum is in closed position with not product inside and no errors reported
- Initialisation of the slave memory and shelves report has been properly done
- No error in the lift and bucket are reported (see lift error list). If an error is continuously reported by the slave controller, any movement or initialisation will be performed by the master until no error is reported. (see section ERROR ROUTINE)
- MDB communication is working correctly

VEND DETECTION PROCESS

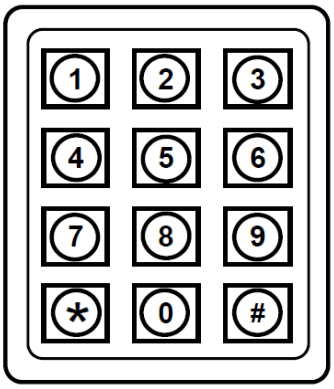
The product is detected when crossing the inner delivery flap by a magnetic sensor which have the contact open when the door is open for more than 15 mm.
This detection will cause the vend price deduction from the established credit, if not the selection will be in soldout and the credit can be returned or an other selection is possible.
As the product drop in the drum, another infrared sensor will detect the product and opens the drum. As soon as the product is removed the light will flash and the drum is closing.
If the product is not detected in the drum, but seen crossing the inner delivery flap door gate, the drum is opening and stays open for a fixed time (independent whether the product is removed or not). If the product is detected while the drum is turning or during the product is removed the previous mode function is cancelled and timer is reset.

To adjust the detection level refer to the instruction in chapter 3 - DRUM SENSOR ADJUSTMENT.


DIP-Switch MDB / EXE
For EXE and MDB set
to position MDB.
DIP-Switch
DEX/UCS / JACK
For Executive set to
position DEX/UCS-
SF-01 BOARD
PROGRAMMING
MODE SW
BATTERY
EXE/BDV
MDB
DEX/UCS
JACK
J4
J5
J11
J15
EXECUTIVE VERSION
MDB VERSION
DEX START
Rx DEX
GROUND (0V)
+12V DC
Tx
Vcc
+12V DC 1A
S DATA
S CLOCK
ANALOG INPUT
DIGITAL INPUT
DOOR SWITCH
GENERAL PURPOSE INPUT
24V AC
+24V DC COMMON MTRS
LED 1
LED 2
LED 3
LED 4
LED 5
LED 6
LED 7
LED 8
LED 9
LED 10
LED 11
LED 12
LED 13
LED 14

2 SERVICE MODE

FUNCTION OF SELECTION BUTTONS IN THE SERVICE MODE



Selection Nr. 1	back ⌫	Abort or escape a programming point
Selection Nr. 2	up ⇧	Increase or next programming point by pushing selection button2
Selection Nr. 3	down ⇩	Decrease or previous programming point by pushing selection button 3
Selection Nr. 4	Enter / Save ↵	Call or save a programming point by pushing selection button 4
Selection Nr. 0	Price set to zero	
Selection Nr. 5	Fast up	Fast increase of price or selection
Selection Nr. 6	Fast down	Fast decrease of price or selection
Selection Nr. #	Copy function	Copy price on next selection

Password: 4 - 2 - 3 - 1 - 4

Entry by selection buttons:

4 = key 4
2 = key 2
3 = key 3
1 = key 1
4 = key 4

2 SERVICE MODE (cont'd)

In the service mode, information such as sales by selection, total sales, total cash flow through the machine, and diagnostic error codes can be accessed by using the selection buttons and the electronic display. In addition, storage column assignments and vend pricing can be set in this mode using the same techniques. The service mode can only be entered when the vendor door is open and when the service mode switch is activated (placed in the center of the electronic control board).
To step through the various programming functions each of the selection switches is given a specific function (see previous page).

After entry into the service mode the operator can select one of several routines to read data registers or to program machine configuration information. This level is called the code level. Each of these paths is identified by a service code. The codes for the various paths are as follows.

ERROR ROUTINE	Error routine
TUBES PAYOUT	Coin payout routine (work only MDB)
TUBES FILLING	Tube fill routine (work only MDB)
VEND TEST	Test vend routine
PASS	Password required to access the protected menues

PROTECTED MENUES

CASH COUNTER	Cash counter routine
SALE COUNTER	Sales counter routine
CASH PRICES SETTING	Prices setting routine
KEY PRICES SETTING	Prices setting cashless MDB (from V 0.21)
SPACE TO SALE	Spaces to sales setting routine
OPTION SETTING	Machine configuration setting routine
MDB SETTING	MDB related setting
LANGUAGE SETTING	Language selection
TIME SETTING	Time and data routine
LIGHT SETTING	Light control routine
REFRIGERATION	Refrigeration control routine (not used)
PAYMENT SETTING	Payment system
VEND INHIBITION	Daily vending inhibit period
AGE CONTROL	Daily age control period
DISCOUNT SETTING	Discount feature
RETURN TO VEND	Return to unprotected menu

The password is the sequence of selection buttons 4 - 2 - 3 - 1 (followed by 4). The purpose of this password is to prevent accidental reprogramming by the operator.

2.1 ERROR ROUTINE

If the ENTER button is activated at the **"ERROR"** prompt the VMC will enter in the error routine. If no errors have occurred since the last error reset the display will show a **"NONE"** message. If an error has been detected since the last error reset the display will show the first summary level error code that has occurred, such as **"LIFT",** which would indicate a lift jam error. Using the UP or DOWN buttons will cycle through the various summary level error. On the appendix A (map of internal menu) you find all the error that the machine can generate.
Activation of the HOME button while summary level error code is displayed will return the VMC to the **"ERROR"** prompt.
Activation of the HOME button at **"ERROR"** prompt returns the VMC to the normal mode door open state.

LIFT ERROR ROUTINE

If the ENTER button is activated at the **"LIFT"** prompt the VMC will display a **"ERRxx"** message where XX indicates the kind of error that have been detected as being jammed.
Using the UP and DOWN buttons will cycle through all jammed columns. If the ENTER button is pressed and held for two seconds during the display of any error code, that code will be cleared.
After clearing, VMC will display the next existing column jam error, or **"NONE"** if no other error. Activation of HOME button will return the VMC to the code level at the **"ERROR"** message.

LIFT ERROR LIST

ERR01 Jamming or speed error on the Y vertical motor
ERR02 Home switch Y not found or connected
ERR03 Optical Y sensor doesn't found shelves position
ERR04 Jamming or speed error on the X horizontal motor
ERR05 Home switch X not found or connected
ERR06 Optical X sensor doesn't found columns position
ERR07 Slave unit error or initialisation missing
ERR08 Slave unit Memory error or initialisation corrupted
ERR09 Vend error
ERR10 Initialisation error or wrong shelves setting
ERR11 Bucket jammimg or missing signal
ERR12 Lock error ,missing contact on the slave board
ERR13 Slave door switch contact missing
ERR14 Hopper switch error contact missing
ERR15 Slave error power supply 24Vdc
ERR16 Delivery Flap door remaining open or switch missing
ERR17 Wrong shelves number detected

These potential errors will be automatically cleared at the door closing, then a new initialisation will be performed to check if the failure (error) is remaining or not.

DRUM ERROR LIST

OPEN	Open position missing,motor or switch close position missing
CLOSE	Close position missing,motor or switch close position missing
LOCK	locking error ,motor or detection switch missing
UNLOC	Unlocking error ,motor or detect switch missing
DETEC	Product detection error

These potential errors will be NOT automatically cleared at the door closing, manual clearing is required.

DOOR SWITCH ERROR ROUTINE

If the ENTER button is activated at the **"DOOR"** prompt the VMC will display a **"DS"** message indicating a door switch error was detected (door open for more than one hour). If the ENTER button is pressed and held for two seconds during the display of any error code, that code will be cleared.
After clearing VMC will display the next existing error or **"NONE"** if no other error.
Activation of HOME button will return the VMC to the code level at the **"ERROR"** message.

Be careful if door switch doesn't work the cooling system is disabled!

SELECTION SWITCH ERROR ROUTINE

If the ENTER button is activated at the **"SEL"** prompt the VMC will display a **"SLXX"** message where **"XX**" indicates the first selection switch error (switch always close). Using the UP and DOWN buttons will cycle through all selection switch error. If the ENTER button is pressed and held for two seconds during the display of any error code , that code will be cleared.
After clearing VMC will display the next existing error, or **"NONE"** if no other error.
Activation of HOME button will return the VMC to the code level at the **"ERROR"** message.

CHANGER ERROR ROUTINE

If the ENTER button is activated at the "**CHAR**" prompt the VMC will display a "**CC**" message indicating a changer communication error a **"TS**" message indicating a tube sensor error, an "IC" message indicating an Inlet chute blocked error (no coins sensed in the acceptor for a supplier pre-determined number of hours, a "**TJ"** message indicating a tube jam error, or a "**CRCH"** message indicating a changer ROM checksum error. Using the UP and DOWN buttons will cycle through all changer error. If the ENTER button is pressed and held for two seconds during the display of any error code, that code will be cleared.
After clearing VMC will display the next existing error, or "**NONE**" if no other error.
Activation of HOME button will return the VMC to the code level at the "**ERROR**" message.

ACCEPTOR ERROR ROUTINE

If the ENTER button is activated at the "**ACCE**" prompt the VMC will display a "**EE**" message indicating excessive escrow attempts (escrow to vends greater than a pre-determined supplier standard), and "**NJ**" message indicating a coin jam (sensed and reported by coin mechanism), or a "**LA"** message indicating a low acceptance rate. Using the UP or DOWN buttons will cycle through all acceptor errors. If the ENTER button is pressed and held for two seconds during the display of any error code , that code will be cleared.
After clearing VMC will display the next existing error, or "**NONE**" if no other error.
Activation of HOME button will return the VMC to the code level at the "**ERROR**" message.

BILL VALIDATOR ERROR ROUTINE

If the ENTER button is activated at the **"BVAL"** prompt the VMC will display a **"BC"** message indicating a bill validator communication error, a **"BFUL"** message indicating that the bill stacker is full, a **"BILL"** message indicating a defective motor, a **"BJ"** message indicating that there is a bill jammed in the bill validator, a **"BRCH"** message indicating a checksum error, a **"BOPN"** message indicating an open cash box, or a **"BS"** message indicating a bill sensor error. The first column that has been detected with a home sense error. Using the UP or DOWN buttons will cycle through all bill validators errors. If the ENTER button is pressed and held for two seconds during the display of any error code that code will be cleared.
After clearing VMC will display the next existing error, or **"NONE"** if no other error.
Activation of HOME button will return the VMC to the code level at the **"ERROR"** message.

INDEPENDENT COOLING UNIT SETTING

The cooling unit is managed by an independent control unit, including LED display and buttons.

If a different temperature is required inside the refrigerated cell, it is sufficient to change the set-point on the electronic control unit, always keeping present the small variation of temperature caused by the starting and stop cycles.

Example:

If an average product temperature of 8°C is needed,
program the “set-point” at 7°C

Please refer to the instruction at the end of this manual.

2.2 PROGRAMMING

COIN PAYOUT ROUTINE (only In MDB)

If the ENTER button is activated at the **"CPO"** prompt the VMC will enter the coin payout routine. Upon entry into this routine the display will show the lowest coin value dispensable. Pressing the UP button will increase the display to the next highest coin value, the DOWN will decrease to the next lowest coin values. When the changer has only 3 tubes, the fourth value will display to 0, means don 't exist the fourth tube.

Push button number 5 to the corresponding coin value and the display will show the number of coins in the tube reported by the changer .

Pressing the ENTER button will pay out the displayed coin type. Activation of the HOME button while a coin value is displayed will return the VMC to the **"CPO"** prompt.

Activation of the HOME button at the **"CPO"** prompt returns the VMC to the " normal mode door open state.

TUBE FILL ROUTINE (only In MDB)

If the ENTER button is activated at the **"TUFL**" prompt the VMC will enter the tube fill routine.

The purpose of this routine is to allow the operator to fill the tubes by entering them through the acceptor and thus have total coin accountability, if they so choose.

Upon entry into this routine the VMC will enable acceptance of any coin type that will be routed to an inventory tube and disable all others.

The VMC will count and display all inventoried coins and will not disable the acceptor from taking coins when the highest price setting is reached.

Activation of HOME button while a coin inventory is displayed will return the VMC to the **"TUFL**" prompt. Activation of the HOME button at the **"TUFL"** prompt returns the VMC to the normal mode door open state

TEST VEND ROUTINE

If ENTER button is pressed at the "**TEST**" prompt the VMC will enter the test routine. Upon entry into this routine the display will show the first test "**SELE**" the description of the test routines available are the follows:

”SELE”	Test of selection switch
“DRUM“	Delivery drum test
“POWER”	Power on off time &date
"VEND"	Test vends
“FAIL”	Historical of lift errors

”SELE”

Activation of the ENTER button (at the” **SELE**” routine) will show the last selection button pressed “**SE***Y*” where *Y* is the number of the selection. Use this routine to test all the selection switch. From software version 0.08 there is the possibility to test the delivery eyelet switch, when you open the delivery flap the display show “**DELIV**”. To come back to the “**TEST**” menu, keep pressed the first selection for two seconds.

“DRUM”

Drum test allows to test and drive separatefunctions

"LOCK"	Put the drum in lock postion
"UNLOCK"	Put the drum in unlock postion
"OPEN"	Put the drum in open postion

Be careful to proceed the unlock position before using open and close test!

"CLOSE"	Put the drum in locked position

Be careful to proceed the unlock position before using open and close test!

“POWER” Show the power-on / off and date&time of the vendor

"VEND"

This function allows to make free test vends with outer door closed. Set the number of test vends (1 to 5) i.e. VEND = 5. After outer door is closed, five test vends are possible without inserting credit. Test vends are not recorded.

“FAIL”

Displays the historical data of the lift failures during vend process.
Press ENTER button to display the last 10 failures - Snn Hour / Minute/ Day
Press UP button to visualize the next failure. Press button 5 to clear all failures
(Failure clearing must be performed after software update from version 1.35d)

Press escape button to return to the “**TEST**” main menu.

PASS ROUTINE

This routine is used to access at the protected menues.
At the "**PASS**" prompt press enter button, the display will be blank, press the following sequence of selection button 4 - 2 - 3 - 1 (password must be entered in 10 seconds) press enter to confirm (selection key 4) now you can see the first protected menu "**CASH**" (use up and down button to cycle on the available menu).

CASH COUNTER & MONEY COUNTER ROUTINE (protected menu)

If the ENTER button is activated at the "**CASH**" prompt the VMC will enter the cash counter routine. It is possible to display **MONEY COUNTER** and **CASH COUNTER**

MONEY COUNTER (protected menu)

If the ENTER button is activated at the "**MONEY**" prompt, the VMC will enter the money counter routine.
Upon entry into this routine the display will show a "**C BOX**" / "**XXXX**" / "**XXXX**" message where "**XXXX**" characters are the total money entered into the cashbox. Use up button to see the money counter submenu:

- "**C BOX**" / "**XXXX**" "**XXXX**" total money to cashbox
- "**C TUB**" / "**XXXX**" "**XXXX**" total money to the coinage tube
- "**C RET**" / "**XXXX**" "**XXXX**" total money returned as change.
- "**C MAN**" / "**XXXX**" "**XXXX**" total money returned via manual payout submenu.
- "**C CAR**" / "**XXXX**" "**XXXX**" money paid using a card.
- "**C BIL**" / "**XXXX**" "**XXXX**" total money introduced in bill validator

- **MONEY COUNTER RESET (from software V1.43)**
  Money counters can be reset as follows: Press button 0 at the "MONEY" prompt, the display will show "CLEAR", press the selection buttons 2 - 3 - 1 - 4 in sequence within 10 seconds.

- **Reset of Money counters can also be performed in the same way as MIS counter reset using parameter C5 Reset Counter Mode in menu "CONFIGURATION".**

CASH COUNTER (protected menu)

Upon entry into this routine the display will show a **"CASH"** / "**XXXX**" / "**XXXX**" message where "**XXXX**" characters are the historical total cash counters due to vends that have been recorded by the VMC.
The first quartet "**XXXX-**" are the highest digits and the 2nd "**XXXX**" is the lowest.
Using the UP and DOWN button at this point will change the display to "**CA n**" / "**XXXX-**" / "**XXXX**" where **n** is the selection number followed by the cash counter for that selection.
Use the UP and DOWN buttons to display the individual cash counters.
Activation of the HOME button while a selection counter is displayed will return the VMC to the "**CASH**" prompt. Activation of the HOME button at the "**CASH**" prompt will return the VMC to the unprotected area.

SALES COUNTER (protected menu)

If the ENTER button is activated at the "**SALE**" prompt the VMC will enter the sales counter routine.
Upon entry into this routine the display will show a "**SALE**" "**XXXX-**", "**XXXX-**" message where "**XXXX**" characters is the historical total sales counter.
The first quartet "**XXXX-"** are the highest digits and the 2nd "**XXXX**" are the lowest.
Using the UP and DOWN button will change the display to "**SL n**" / "**XXXX-**" / **"XXXX**" where **n** is the selection number followed by the sales counter for that selection.
Use the UP and DOWN buttons to display the individual selection sales counters.
Activation of the HOME button while a selection counter is displayed will return the VMC to the "**SALE**" prompt. Activation of the HOME button at the "**SALE**" prompt will return the VMC to the unprotected area.

- **CASH & SALES COUNTER RESET (from software V1.43)**
  Individual selection Cash and Sale counters can be reset as follows: At the "CASH" or "SALE" prompt press button 0, the display will show "CLEAR", press buttons 2 - 3 - 1 - 4 in sequence within 10 seconds.

- **Reset of individual selection Cash and Sale counters can also be performed in the same way as MIS counter reset using parameter C5 Reset Counter Mode in menu "CONFIGURATION".**

PRICE SETTING ROUTINE FOR CASH PAYMENTS FOR SELECTIONS AND GROUPS. (protected menu)

If the ENTER button is activated at the "**PRIC**" prompt the VMC will enter the price setting routine. The display will show a "**Pr 11**" price on upper left column. Up to **GRP10**
An "*" symbol near the column means that this one is not installed.

In multi-price mode you can choose different price for each selection; using UP and DOWN buttons will cycle through available column (**11 – 79**) or "**ALL**", "**ALL**" is used to change the price for all selection **(excluding group 1 to 10**). Activation of the ENTER button will show the actual price using UP and DOWN button will increase or decrease the price by one lowest coin value respectively.
On this menu the buttons 5 and 6 (fast up, fast down) are active to increase or decrease selections by 8 positions (change tray) and to to fast increase or decrease price value.

Is possible to copy current price to next selection pressing "**#**" button.
To clear price (set price = 0) press selection "**0**".

Activation of the ENTER button while the desired price is displayed will save that price. Activation of the HOME button while a selection price is displayed, without doing an ENTER before will return the VMC to the selection display without saving the displayed selection price.

Activation of the HOME button while a selection is displayed will return the VMC to the "**PRIC**" prompt. Activation of the HOME button returns the VMC to unprotected area.

If the VMC is working in Executive price holding mode (menue CONFY C2 = 2), the price menu is used to set the line of price holding (from software version 0.10).

NOTE FOR CASH & CASHLESS PRICE SETTING

Price setting includes a price setting for Group1 to Group10, if a selection is connected to a group, the selection price is disregarded, but the price set in the corresponding group is used

PRICE SETTING ROUTINE FOR CASHLESS SYSTEMS (only in MDB)

This menu allows to set different vend prices for payments via cashless systems.

If the ENTER button is activated at the **"KEY PRICE**" prompt the VMC will enter the cashless vend price setting routine.

The method to program cashless prices is the some as for cash price setting routine.

SPACE TO SALES SETTING ROUTINE (protected menu)

TRAY & GROUP CONFIGURATION

TRAY

This menue is used to set the configuration of the machine, you have to do it only when you change the control board.
Choice available is 2 Trays or 3 Trays

GF 6 / DR 6 = 2 trays per shelf (6 columns/selections)
GF 9 / DR 9 = 3 trays per shelf (9 columns/selections)

GROUP

The Group menue allows to assign selections to groups of selections (purpose is to dispense the same products placed in different shelves first in first out to prevent fro ageing).
Sel xx will let to choose the selection number 11 to 79 to be connected to one of the 10 groups using the up and down button (NO means no connection to group) and GRP1 to GRP10 means connection to Group 1 to Group10.
When selections are connected to a group, these selections are dispensing alternatively, independent from the selected selection number.
If a selection is assigned to a group, the vend price is not the selection price but the price set for the group (see group price setting)

V-POS

Parameter to adjust the bucket height (product delivery position) at the delivery flap.
V-pos value can be set in steps of 1mm from 0 to 5 mm

MACHINE CONFIGURATION SETTING ROUTINE (protected menu)

If the ENTER button is activated at the "**CON**" prompt the VMC will enter the machine configuration setting routine. The display will show a "**C1**" message where the "**1**" indicates configuration setting number 1. Using UP and DOWN button will cycle through the available configuration setting numbers. Activation of the ENTER button while a configuration setting number is displayed will allow access to the current setting number of the displayed configuration setting.

Activation of the ENTER button will save the displayed configuration.

Activation of the HOME button while configuration is displayed, without doing an ENTER before, will return the VMC to the "**CON**" display without saving the displayed configuration. Activation of the HOME button returns to unprotected area.

C1 RESERVED FOR FUTURE USE

C2 SLAVE UNIT ENABLE (only with Master & Snack Slave software)

This parameter enables or disables the slave unit and related programming menu:

C2 = 0 Slave machine not installed, normal menu.

C2 = 1 Slave machine installed, extended menu aktiv.

C3 EXTRA ROTATION FOR SNACK SLAVE UNIT (only with Master & Snack Slave software)

This parameter is used to activate an extra rotation of the spiral if the product is not detected by the optical barrier:

C3 = 0 Extra rotation disable.

C3 = 1 Extra rotation enable.

C4 OPEN DOOR DISPLAY MODE

This parameter is used to change the MIS data information that you can read when the door of VMC is open:

C4 = 0 Display only the Existing Error or nonE

C4 = 1 Display total Sales, total Cash and Existing Error or none (default).

C5 RESET COUNTER MODE

This parameter determines the MIS internal counter reset methode:

C5 = 0 All resettable counter will be reset only using a reset command on MIS communication mode (default).

C5 = 1 All resettable counter will be reset when you open the door, read one of the resettable counter and close the door.

C5 RESET COUNTER MODE (from software V 1.40)

C5 = 0 All resettable counter will be reset only using a reset command on MIS communication mode (default).

C5 = 1 All resettable counters will be reset after each DEX reading.

C6 SOLD-OUT MODE FOR SNACK SLAVE UNIT

This parameter is used to enable sold-out status of a selection when the optical barrier does not detect a product.
The sold-out status is reset when the door switch of the master is actuated.

C6 = 0 selection always available

C6 = 1 selection inhibited if "empty" was detected by the previous vend

C7 SAVE CREDIT MODE

This parameter determines how the VMC have to manage the credit:

C7 = 0 Clear the credit if nothing happens in the last five minutes (default).

C7 = 1 Keep the credit indefinitely.

C8 FORCED VEND

This parameter is used to prevent the use of the machine as a coin changer. When forced vend is enabled you can obtain escrow only in the following cases:

- If coins are inserted and a selection is made (full or empty selection is the same).
- If you insert a coin that you can obtained through escrow (coins that go to the tube of the coinage) and you don’t reach the maximum price.

C8 = 0 Forced vend disabled (default)
C8 = 1 Forced vend enabled.

Note: If a cashless system with reload facility is used Forced Vend is automatically disabled.

C8 FORCE VEND (from software V1.40)

This parameter is used to prevent the use of the machine as a coin changer. When forced vend is enabled you can obtain escrow only in the following cases:

- If coins are inserted and a selection is made (full or empty selection is the same).
- If you insert a coin that you can obtained through escrow (coins that go to the tube of the coinage) and you don't reach the maximum price.

C8 = 0 Forced vend disabled (default).

C8 = 1 Forced vend enabled.

Note: If a cashless system with reload facility is used, Forced vend can be enabled.

C9 MULTI VEND

This parameter enables or disables automatic change process:

C9 = 0 Multi Vend disabled (change dispensed automatically after vend) (default)

If C9 is set to 0, the max coin acceptance = maximum selection price

C9 = 1 Multi Vend enabled (you can use your change to make another selection, or to press the coin return button to get your change)

If C9 is set to 1, the max. coin acceptance level must be set in CCOC>>>ACC

C10 BILL ESCROW MODE

This parameters allows the escrow of bill. If enabled and the last bill inserted takes the credit over the maximum price, the bill be held in the escrow position, and can be returned as escrow. If the function is disabled, bills go always to the stacker. The valid values are:

C10 = 0 Bill escrow enabled (default)
C10 = 1 Bill escrow disabled.

C11 EVENT REPORTING MODE (from software V1.40)

C11 = 0 The Events (EA1&EA2) are reported during a normal DEX readout session.

C11 = 1 As an Event occurs, the VMC will send ENQ to advise a new EVENT is available, the ENQ will be send every second until DL 0 is received or a DEX readout session has been performed.

Refer to chapter 2.4 Event Table on page 36

C12 RESERVED FOR FUTURE USE

CORRECT CHANGE ONLY CONTROL CCOC (protected menu)

CORRECT CHANGE RULE

If in CCOC CON = 0 (means the VMC automatically manages the changer settings)
If changer is able to give the change back (CCU (correct change value) + Maximum Price) correct change LED is OFF. Otherwise correct change LED is ON
If correct change LED is ON or OFF the VMC automatically accepts only coins than can be returned or can return the equivalent credit with other coins.
ACC (Unconditional acceptance value) is automatically managed equal to the Maximum price.

If in CCOC CON = 1 (means the VMC manages the changer setting according to CONFY setting)
Correct change LED is set regarding the C2 (Low change equation) and C3 (minimum coins Tube level).

If correct change LED is OFF VMC accept coins set in C06 and C07
If correct change LED is ON VMC accept coins set in C08 and C09

ACC (Unconditional acceptance value) is automatically managed equal to the Maximum price.

If the ENTER button is activated at the "**CCOC**" prompt the VMC will show the actual overpay status ""**CONX**" where X is:

0 = overpay not allowed or
1 = overpay allowed

Use up or down button to select the other submenu available ("**CCU**", "**ACC**" and "**CONFY**"), or press enter button to change X value.

"**CCU**" if you press enter at the "**CCU**" prompt, the display show the actual maximum value used by VMC to work in correct change situation, you can change the value using up or down button.

"**ACC**" if you press enter at the "**ACC**" prompt, the display show the actual maximum value accepted, even if the VMC doesn't know if it has the change, you can change the value using up or down button (see CON>>>C9)

"**MCARD**" If enter is pressed at the "**MCARD**" prompt, the display show the actual maximum revalue amount accepted. Parameter MCARD is used to limit the credit accepted with cashless systems.
Maximum credit on cashless systems is managed as follows:

Revalue

If amount of inserted cash + actual cashless credit > MCARD value
Revalue is prohibited.

If amount of inserted cash + actual cashless credit < MCARD value
Revalue is allowed.

Cashless Vend

If cashless credit > MCARD value Vend is prohibited.

If cashless credit < MCARD value Vend is allowed.

If **MCARD** is set to 0 control on revalue or cashless vend is disabled.

"**CONFY**"

This menu and submenu are used by VMC only if overpay is allowed CCOC CON = 1.
If enter is pressed at the "**CONFY**" prompt, the display show "**C1**".

Using up or down button you can choose the other submenu ("**C1**"-"**C10**"), which have this function:

"**C1**" **KEYPAD ACTIVATION (COINAGE)**

C1 = 0 Coinage key pad disabled
C1 = 1 Coinage key pad enabled

"**C2**" **LOW CHANGE EQUATION (MDB MODE)**

This parameter defines the exact change equation. The combination of the empty states assume the exact change state

A is the lowest coin value reported in the tubes

D is the highest coin value reported in the tubes

<u>If tubes are empty according to these equations the CORRECT CHANGE LED is ON</u>

0 : TUBE A and TUBE B and TUBE C and TUBE D
1 : TUBE A or TUBE B or TUBE C
2 : TUBE A only
3 : TUBE B only
4 : TUBE C only
5 : TUBE D only
6 : TUBE B or TUBE C or TUBE D
7 : TUBE A and TUBE B or TUBE C
8 : TUBE A and TUBE B or TUBE D
9 : TUBE A and TUBE C or TUBE D
10 : TUBE B and TUBE C or TUBE D
11 : TUBE A and TUBE D or TUBE C
12 : TUBE B and TUBE D or TUBE A
13 : TUBE A or TUBE C
14 : TUBE A or TUBE B and TUBE C
15 : TUBE A or TUBE B

ATTENTION:
When using **EXECUTIVE**:

C2 = 0 Normal Executive mode
C2 = 1 **"Price holding"**
(see next page)

"C2" PRICE HOLDING (EXECUTIVE MODE)

If you set C2 = 1 and payment system is set to executive, the machine works in price holding mode; it means that the price is stored on payment system. In this mode each time you press a selection the machine sends to the payment system the n.° of selection pressed in this way:

Sel 11 pressed – send 1 to payment system
Sel 18 pressed – send 8 to payment system
Sel 21 pressed – send 9 to payment system
...
Sel 46 pressed – send 30 to payment system
...
Sel 88 pressed – send 64 to payment system

If C2 = 0 the prices are stored on vending machine, and they are sent to payment system.

If C2 = 2 (from version 0.10) the machine works in price holding and the line of the price must be programmed on the "PRICE" menu the machine show the price stored on the payment system if it's support the price show feature.

"C3" LOW CHANGE LEVEL (MDB MODE)

This number will be deducted to the coins tubes number reported by the changer in order to calculate according to the low change equation the CORRECT CHANGE status

"C3" WAITING TIME AFTER VEND REQUEST (EXECUTIVE MODE)

This parameter is used to add extra time after vend request for long answers from Executive cashless systems. Setting range: 0 up to 250 sec.

From Software Version 1.41 not used. Waiting time is fixed to 250 sec.

"C4" BILLS ACCEPTED (EQUAL TO "C6" AND "C7")

Accepted bills when "CORRECT CHANGE" LED is OFF

"C5" BILLS ACCEPTED IN LOW CHANGE CONDITION (EQUAL TO "C7" AND "C8")

Accepted bills when "CORRECT CHANGE" LED is ON

“C6” + “C7”

PARAMETERS ARE USED TO DETERMINE UP TO 16 COINS TO BE ACCEPTED.

C6 = coins 1 to 8 - C7 = coins 9 to 16

Coin 1 is assumed to be the smallest coin, and coin 16 the highest in value.

Each coin has a binary value as:

C6:	coin	1	=	1	**C7**:	coin	9	=	1
	coin	2	=	2		coin	10	=	2
	coin	3	=	4		coin	11	=	4
	coin	4	=	8		coin	12	=	8
	coin	5	=	16		coin	13	=	16
	coin	6	=	32		coin	14	=	32
	coin	7	=	64		coin	15	=	64
	coin	8	=	128		coin	16	=	128

EXAMPLE: If you want to accept coin 1 – 2 – 3 – 4 –13 – 15 you must add the correspondent values:

C6 = 1 + 2 + 4 + 8 = **15**
C7 = 16 + 64 = **80**

“C8” + “C9”

PARAMETERS ARE USED TO DETERMINE COINS TO BE ACCEPTED WHEN THE VMC IS IN LOW CHANGE CONDITION.

The values of these submenus are calculated in the same way as “C6” + “C7” submenu.

"C10" RESET TO THE FACTORY SETTING (DEFAULT VALUES)

Be careful when using this option; All parameters are reset to factory setting, all counters (also the total counter) are reset to 0 and you also loose the configuration of the vending trays, therefore it is necessary to make an auto configuration (see “STOS” menu).

C10 = 18 Reset value

Put value **option** on the **ConFY** "C10" submenu and press button 4 to confirm.
Turn off the machine: Press and keep pressed the button on the board and turn on the machine and wait until the end of initialisation of the board (when you read message "RESET" on the display). Release the button on the board.
Now you have to reprogram all parameters.

"C11" MARKETING FEATURE "PRODUCT HAND MOVEMENT"

This feature is only enabled when no credit is inserted and the machine is not in out of order status.
An interval time in minutes between the movements can be set:

C11 = 0 Feature disabled
C11 = 1 to 256 minutes: Lift / Product hand moving every C11 value in minutes.

ASSET NUMBER ID 106

If enter is pressed at the **"ID106"** prompt, the display show the actual Asset number

- Use button 2 & 3 to change the value at the prompted number
- Use button 4 & 5 to change the prompted number

TOKEN

If enter is pressed at the "TOKEN" prompt, the display show the actual Token value for 1 Bill, this value will increment the credit when a special bill is accepted from the validator.

- Use button 2 & 3 to change the value at the prompted number
- Use button 4 to Confirm

LANGUAGE CONFIGURATION (protected menu)

If ENTER button is activated at the "**LANG**" prompt the VMC will show:

VEND: For setting the language for customer information
PROG: **For setting the language for the service program**

For both can be choosen the the actual language used by VMC. Use up or down buttons to toggle through the available languages:

"**CUSTO**"	Customized language to be set with WinDEX
"**ENGL**"	English
"**ITAL**"	Italian
"**FREN**"	French
"**SPAN**"	Spanish
"**GERM**"	German
"**DUTC**"	Dutch

Press enter to confirm the new language or escape to return to the "**LANG**" prompt.

NOTE: To remove customized messages automatically in case of wrong prgramming proceed as follows:

- Switch off the power supply to the machine.
- Press button 0 and keep it pressed while you switch on the power supply.
- Wait a few seconds until you release button 0.
- All programming message will be restored in English.
- It is possible to set different languages for customer information and service program.

TIME CONFIGURATION (protected menu)

If ENTER button is activated at the "**TIME**" prompt the VMC will enter the machine on the time setting routine with the follow submenu:

"**ENb***X*" Time status (X = 0 time menu disabled, X = 1 time menu enabled), press enter to modify X value,

"**YEAR**" Press enter show actual year, use up down buttons to modify value, press enter to confirm, or press home to return to "**ENB**X" message,

"MONTH" Press enter show actual month, use up down buttons to modify value, press enter to confirm, or press home to return to "**ENB**X" message

"**DATE**" Press enter to show actual date, use up down buttons to modify value, press enter to confirm, or press home to return to "**ENB**X" message

"**HOUR**" Press enter to show actual hours - minutes,
use up and down buttons to modify hours and minutes,
press enter to confirm, or press home to return to "**ENB**X" message

"**DST** " Daylight saving time, press enter to modify the country,
available values are:

- "**AUS** " Australian rules
- "**EU** " European rules
- "**NA**" North America rules
- "**OFF**" No daylight saving time

LIGHT CONTROL (protected menu)

If ENTER button is activated at the "**LIT**" prompt the VMC will enter the machine on the light control routine with the follow submenu:

"**ENB** *X* "	Used to enable (X = 1) or disable (X = 0) the light control,
"**STRT**"	Set the start time using the follow submenu:
"**DAY**"	Select the days, press enter to change the status of the day (0 =not selected, 1= selected)
"**HOUR**"	Press enter to change the start hour and minute for selected day.
"**STOP**"	Set the stop time using the follow submenu:
"**DAY**"	Select the days of the week for stop function, press enter to cycle through the days, press enter to change the status of the day (0 = not selected, 1 = selected)
"**HOUR**"	Press enter to change the stop hour and minute for selected day.

PAYMENT SYSTEM (extended menu)

Pressing button 4 at the "**PAY-S**" prompt the VMC will enter the payment system configuration routine. The display will show "**MDB**" for multi drop bus or "**EXE**" for Executive protocol. Choose the payment system using up or down, and confirm by pressing enter; the machine will restart.

When you change this parameter to Executive, do not move the DIP-switch on the control board placed between the "MDB" and "EXE" connector.
These DIP-switch must stay all the time in MDB position.

For Executive payment systems an interface (P/N 141216) is required. The power supply on the 15 pin Molex1991 connector is 24VDC (not anymore 24VAC)

In Executive the DEX/UCS data exchange protocol is not supported. However, the DIP-switch DEX/UCS- JACK must be in position DEX/UCS

DAILY VEND INHIBITED PERIOD (extended menu)

It is used to inhibit the vend on certain trays, for up to 6 periods each day.
If ENTER button is activated at the "**VDSTP**" prompt the VMC will enter the daily vend inhibit period control routine with the follow submenu:

- "**ENB** *X* " Used to enable (X = 1) or disable (X = 0) the inhibited period function,
- "**START1**" Set the start time (HH mm) of the first inhibited period of the day
- "**STOP1**" Set the STOP time (HH mm) of the first inhibited period of the day
- "**START2**" Set the start time (HH mm) of the second inhibited period of the day
- "**STOP2**" Set the STOP time (HH mm) of the second inhibited period of the day
- "**START3**" Set the start time (HH mm) of the third inhibited period of the day
- "**STOP3**" Set the STOP time (HH mm) of the third inhibited period of the day
- "**START4**" Set the start time (HH mm) of the fourth inhibited period of the day
- "**STOP4**" Set the STOP time (HH mm) of the fourth inhibited period of the day
- "**START5"** Set the start time (HH mm) of the fifth inhibited period of the day
- "**STOP5**" Set the STOP time (HH mm) of the fifth inhibited period of the day
- "**START6**" Set the start time (HH mm) of the 6th inhibited period of the day
- "**STOP6**" Set the STOP time (HH mm) of the 6th inhibited period of the day
- "**TRAY**" Choose the tray to be inhibited
- "**LIT** X" 1 to turn off the light during inhibit period, 0 to leave the light on

If a customer wants to purchase from an inhibited selection the message "NO VEND UNTIL hh:mm" is displayed.

DISCOUNT SETTING (from software V1.45)

This function is used to permit discount sales from some selections.
Discount period can be enabled only on some days of the week.
The programming functions are:

- "**ENB** *X* " Used to enable (X = 1) or disable (X = 0) Discount.
- "**START**" Start date and time of discount.
- "**DAY**" Select the days of the week to start discount period, press enter to cycle through the days, press enter to change the status of the day (0 = not selected, 1 = selected).
  Pressing Enter it is possible to select a day.

MON	=	Monday	FRI	=	Friday
TUE	=	Tuesday	SAT	=	Saturday
WED	=	Wednesday	SUN	=	Sunday
THU	=	Thursday	ALL	=	All days

  In addition to the days (abbreviated in English) there is a submenu "**ALL**" that selects and changes all the days of the week.
- "**HOUR**" Press enter to change the start hour and minute for selected day.
- "**STOP**" Set the end date and time of discount period.
- "**DAY**" Select the days of the week for stop function, press enter to cycle through the days, press enter to change the status of the day (0 =not selected, 1= selected), pressing Enter again it is possible to select a day. In addition to the days (abbreviated in English) there is a submenu "**ALL**" that selects and changes all the days of the week.
- "**HOUR**" Press Enter to change the stop hour and minute for selected day.
- **"DISC CA**" Discount Amount if paid by cash
- "**DISC KE**" Discount Amount if paid by key or cashless payment system
- "**TRAY X**" Choose the tray on the Master to be controlled, press enter:
- "**ALL**" To assign all selections of this tray (OFF = not assigned, ON = assigned)
- "**CO XY**" To assign single selections (OFF = not selected, ON = selected)

RETURN TO OPEN DOOR MODE

If the ENTER button is activated at the **"RTN**" prompt the VMC will exit to normal open door routine.

2.3 MENU DIAGRAM

MAIN MENU	1 st SUB MENU	2 nd SUB MENU	3 rd SUB MENU	4 th SUB MENU	DESCRIPTION
ERROR ROUTINE					Error routine
	NONE				No errors exits
	LIFT				Lift mechanism summary error
		ERRXX			See corresponding error
	CTRL				Control system summary error
		DS			Door switch
		RAN			RAM check sum of service mode settings
		ACLO			AC supply low
		SF			Scaling factor incompatibility
	SEL				Selection switch summary error
		SLXX			Selection switch error in switch XX (01 - 12)
	CHAR				Changer summary error
		CC			Changer communication error
		TS			Tube sense error
		IC			Changer inlet chute blocked
		TJXX			Tube pay out jam in coin type XX
		CRCH			Changer ROM check sum
		EE			Excessive escrow attempts
		NJ			Coin jam
		LA			Low acceptance rate
		DIS			Disconnected acceptor
		ROUT			Coin routing error
	BVAL				Bill validator summary error
		BC			Bill validator communication error
		BFUL			Bill validator stacker full
		BILL			Defective bill validator motor
		BJ			Bill validator jammed
		BRCH			Bill validator ROM check sum error
		BOPn			Bill validator stacker is open or out of position
		BS			Bill validator sensor error
	CRDR				Card reader summary error
		CRC			Card reader communication error
		CRXY			Card reader non-transient error; code X, sub-code Y
	DRUM				Drum summary error
		LOCK			Fail to lock
		UNLOCK			Fail to unlock
		OPEN			Fail to open
		CLOSE			Fail to close

MAIN MENU	1 st SUB MENU	2 nd SUB MENU	3 rd SUB MENU	4 th SUB MENU	DESCRIPTION
TUBE PAYOUT					Coin Pay Out routine (only MDB)
	Tube 1-4 value				Display coin value
	Tube 1-4 value				Dispense coin while showing value
TUBE FILLING					Tube Fill routine (only MDB)
	Value on tube				Display tube count
TEST					Test routine
	SELE				Selection switch test
		SL X			Where X is the selection number
	DRUM				Drum Test functions
	POWER				Counter of power interruptions
	VEND				Vend test 1 to 5 test vends with door closed
	FAIL				Historical counter of lift failures
PASS					Password entry 10 seconds to enter 4-2-3-1-ENTER
	CASH COUNTER				
		MONEY			Money counter
			C-BOX		Money introduced in cash box
			C-TUB		Money introduced in tubes
			C-RET		Money returned
			C-MAN		Money manually payout
			C-CAR		Money paid with cashless
			C-BIL		Money introduced in banknote reader
		MONEY		Clear	Press 0 + 2-3-1-4 to clear all Money counters
		CASH			Cash counter display
			XXXX		Machine historical total cash
		CA X			
			XXXX		Individual selection counters (resettable)
		CASH		Clear	Press 0 + 2-3-1-4 to clear selection Cash counters
	SALE COUNTER				Sales counter display
		SALE			
			XXXX		Machine historical total sales
		COL X			
			XXXX		Individual selection counters (resettable)
		SALE		Clear	Press 0 + 2-3-1-4 to clear selection Sales counters
	CASH PRICE SETTING				Price used for cash payed vends
		PR 11			Price selection 11
		…			until
		PR 88			Price selection 88
		ALL			Same price for all selections
		GROUP 1			
		GROUP 10	dd.cc		Edit price (00.00 - 99.99)

MAIN MENU	1 st SUB MENU	2 nd SUB MENU	3 rd SUB MENU	4 th SUB MENU	DESCRIPTION
	KEY PRICE SETTING 1				Price list 1 for cashless (only MDB)
		PR 11			Price selection 11
		…			until
		PR 88			Price selection 88
		ALL			Same price for all selections
		GROUP 1			
		GROUP 10	dd.cc		Edit price (00.00 - 99.99)
	SPACE TO SALES				Space to sales routine
		TRAY			Number of tray (2or3) per shelf
		GROUP			Group setting
		V-POS			Delivery position adjustment
	OPTION SETTING				Configuration menu
		C 1			Not used
		C 2 *			Snack slave unit 0=not connected 1=connected
		C 3 *			Snack slave unit Extra rotation of spiral
		C 4			Open door message 0=Error 1=counter & error
		C 5			Counter reset mode
		C 6 *			Snack slave unit Sold-out 0=disable 1=enable
		C 7			Save credit 0=clear after 5 min. 1= no clearing
		C 8			Forced vend 0=disable 1=enable
		C 9			Multi vend 0=disable 1=enable
		C 10			Bill Escrow 0= enable 1= disable
		C 11			Event reporting mode
		C 12			Not used
	MDB SETTING				Correct change only control
		CONx			Allow consumer overpay routine
			CONx		Edit mode (0/1)
		CCU			Correct change Value
		ACC			Unconditional acceptance value
		MCARD			Maximum cashless credit
		CONFY			Custom coinage configuration
			C 01		Changer Keypad 0-disable 1-enable
			C 02		Low change equation 0 to 14
			C 03		Low change level
			C 04		Accepted bills
			C 05		Accepted bills in low change condition
			C 06		Accepted coins 1 - 8
			C 07		Accepted coins 9 – 16

***** Parameter only available when Master & Snack Slave software is installed.

MAIN MENU	1 st SUB MENU	2 nd SUB MENU	3 rd SUB MENU	4 th SUB MENU	DESCRIPTION
			C 08		Accepted coins in low change 1 - 8
			C 09		Accepted coins in low change 9 - 16
			C 10		Factory reset
			C 11		Mktg feature Lift / Hand movement
		ID 106			Asset number
		TOKEN			Value for bill used as "token"
	LANGUAGE SETTNG				Language selection routine
		CUST0			Language for customer information
		PROG			Language for programing menu
	TIME SETTING				Time and date routine
		ENBX			Current setting
			Enbx		Edit mode (0/1)
		YEAR			Year setting
			yy		Edit year, 00 - 99 (Y2K)
		MTH			Month setting
			mm		Edit month, 01 - 12
		DATE			Date setting
			dd		Edit date, 01 - 31
		HOUR			Hour and minute setting
			hhmm		Edit hour (00 - 24)
			hhmm		Edit minute (00 - 59)
		DST			Daylight saving time code
			OFF		No daylight saving used
			AUS – EU -NA		Australian, European, North American rule
	LIGHT SETTING				Lighting control routine
		ENBX			Enable Light time manage
			ENBx		X current setting (0 disable/1 enable)
		STRT			Start light off period
			DAY		Start day setting
				NONX	
				…	Mon, Tue, Wed, Thu, Fri, Sat, Sun, or ALL
				ALLX	Edit mode (0/1)
			HOUR		Start hour and minute setting
				hhmm	Edit hour (00 - 24)
				hhmm	Edit minute (00 – 59)
		STOP			Stop light off period
			DAY		Stop day setting
				NONX	
				…	Mon, Tue, Wed, Thu, Fri, Sat, Sun, or ALL
				ALLX	Edit mode (0/1)
			HOUR		Stop hour and minute setting
				hhmm	Edit hour (00 - 24)
				hhmm	Edit minute (00 – 59)

MAIN MENU	1 st SUB MENU	2 nd SUB MENU	3 rd SUB MENU	4 th SUB MENU	DESCRIPTION
	PAYMENT SETTING				Payment system
		MDB			MDB
		EXE			Executive
	VEND INHIBITION				Vend inhibit period (daily)
		ENB x			0 = disable – 1 = enable
		START1			Start 1° period
			hhmm		Hours:minutes
		STOP1			Stop 1° period
			hhmm		Hours:minutes
		START2			Start 2° period
			hhmm		Hours:minutes
		STOP2			Stop 2° period
			hhmm		Hours:minutes
		START3			Start 3° period
			hhmm		Hours:minutes
		STOP3			Stop 3° period
			hhmm		Hours:minutes
		START4			Start 4° period
			hhmm		Hours:minutes
		STOP4			Stop 4° period
			hhmm		Hours:minutes
		START5			Start 5° period
			hhmm		Hours:minutes
		STOP5			Stop 5° period
			hhmm		Hours:minutes
		START6			Start 6° period
			hhmm		Hours:minutes
		STOP6			Stop 6° period
			hhmm		Hours:minutes
		TRAY			Tray to be inhibited
			Tr.1 x-Tr.8 x		Set to 1 to chose the inhibit tray
		LIT X			0 leave the light on 1 turn off the light during inhibit

MAIN MENU	1 st SUB MENU	2 nd SUB MENU	3 rd SUB MENU	4 th SUB MENU	DESCRIPTION
	AGE CONTROL				Age control routine
		ENBX			Enable Age control
			ENBx		X current setting (0 disable / 1 enable)
		START			Start age control period
			DAY		Start day setting
				NONX	
				…	Mon, Tue, Wed, Thu, Fri, Sat, Sun, or ALL
				ALLX	Edit mode (0/1)
			HOUR		Start hour and minute setting
				hhmm	Edit hour (00 - 24)
				hhmm	Edit minute (00 – 59)
		STOP			Stop age period
			DAY		Stop day setting
				NONX	
				…	Mon, Tue, Wed, Thu, Fri, Sat, Sun, or ALL
				ALLX	Edit mode (0/1)
			HOUR		Stop hour and minute setting
				hhmm	Edit hour (00 - 24)
				hhmm	Edit minute (00 – 59)
		TRAY			Connect the tray to Age control
			CO xx		Connect the columns xx of the tray to age control
		AGE			In MDB age control to set age 16 or 18 years

MAIN MENU	1 st SUB MENU	2 nd SUB MENU	3 rd SUB MENU	4 th SUB MENU	DESCRIPTION
	DISCOUNT SETTING				Discount control routine
		ENBX			Enable discount control
			ENBx		X current setting (0 disable / 1 enable)
		START			Start discount control period
			DAY		Start day setting
				NONX	
				…	Mon, Tue, Wed, Thu, Fri, Sat, Sun, or ALL
				ALLX	Edit mode (0/1)
			HOUR		Start hour and minute setting
				hhmm	Edit hour (00 - 24)
				hhmm	Edit minute (00 – 59)
		STOP			Stop discoint period
			DAY		Stop day setting
				NONX	
				…	Mon, Tue, Wed, Thu, Fri, Sat, Sun, or ALL
				ALLX	Edit mode (0/1)
			HOUR		Stop hour and minute setting
				hhmm	Edit hour (00 - 24)
				hhmm	Edit minute (00 – 59)
		DISC CA			Discount amount for cash
		DISC KE			Discount amount for cashless
		TRAY			Connect the tray to discount control
			CO xx		Connect the columns xx of the tray to discount control
	RETURN				Return to vend mode

2.4 EVENT TABLE - EVADTS 6.1 (FROM VERSION V1.40)

PA7*CA For Cash
PA7*DA*1 For Cashless price 1
PA7*DA*2 For Cashless price 2
PA7*DA*3 For Cashless price 3
PA7*TA*1 Token

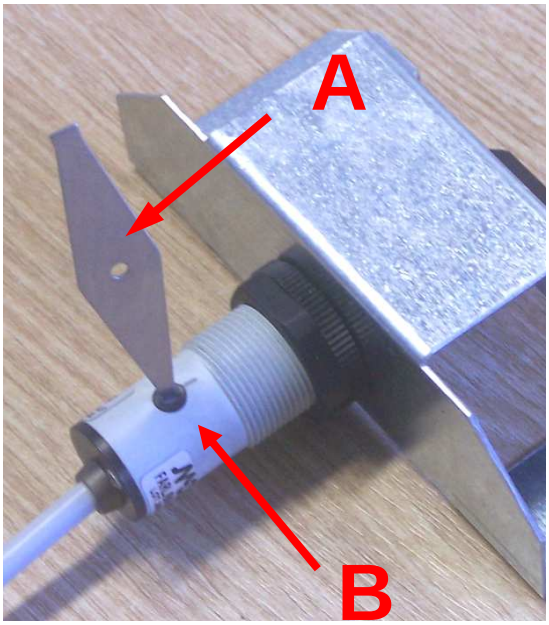
Event Reporting EA1 & EA2 (EVADTS 6,1)
Event List reported DATE & TIME ,State active not active , Event Counter

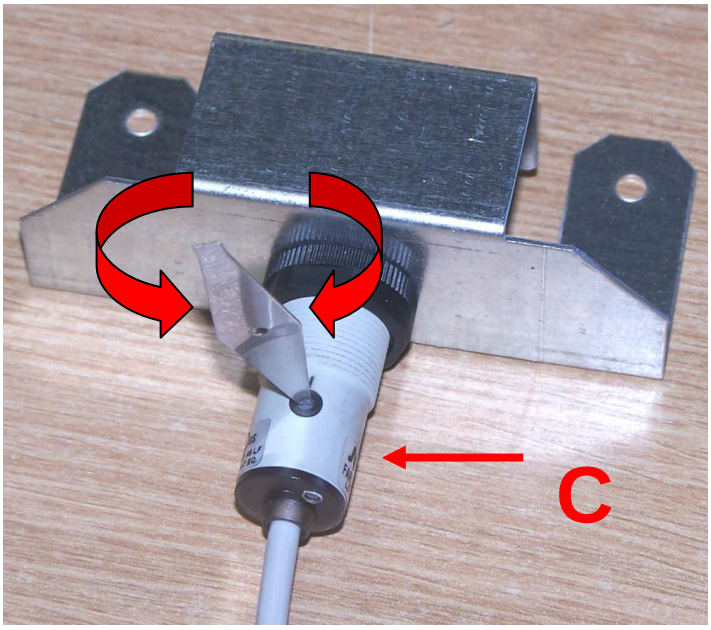
LIFT ERROR	DRUM ERROR	SOLDOUT STATUS
EA1*EJM_1*111216*17095	EA1*EJE_1*111216*170957	EA1*ELB_1*111216*170957
EA2*EJM_1*7*7**0	EA2*EJE_1*7*7**0	EA2*ELB_1*7*7**0
EA1*EJM_2*111216*170957	EA1*EJE_2*111216*170957	until
EA2*EJM_2*13*13**0	EA2*EJE_2*7*7**0	EA1*ELB_64*111216*170957
EA1*EJM_3*111216*170957	EA1*EJE_3*111216*170957	EA2*ELB_64*7*7**0
EA2*EJM_3*7*7**0	EA2*EJE_3*7*7**0	
EA1*EJM_4*111216*170957	EA1*EJE_4*111216*170957	**DOOR OPEN STATUS**
EA2*EJM_4*7*7**0	EA2*EJE_4*9*9**0	EA1*EGS*111216*170957
EA1*EJM_5*111216*170957	EA1*EJE_5*111216*170957	EA2*EGS*7*7**0
EA2*EJM_5*13*13**0	EA2*EJE_5*7*7**0	
EA1*EJM_6*111216*170957	EA1*EJE_6*111216*170957	**DOOR CLOSE STATUS**
EA2*EJM_6*7*7**0	EA2*EJE_6*7*7**0	EA1*EGT*111216*170957
EA1*EJM_7*111216*170957		EA2*EGT*7*7**0
EA2*EJM_7*9*9**0	**PAYMENT SYSTEM**	
EA1*EJM_8*111216*170957	EA1*EGN*111216*170957	
EA2*EJM_8*7*7**0	EA2*EGN*7*7**0	
EA1*EJM_9*111216*170957	EA1*EAF*111216*170957	
EA2*EJM_9*7*7**0	EA2*EAF*7*7**0	
EA1*EJM_10*111216*170957	EA1*EAD*111216*170957	
EA2*EJM_10*10*10**0	EA2*EAD*7*7**0	
EA1*EJM_11*111216*170957	EA1*EAO*111216*170957	
EA2*EJM_11*13*13**0	EA2*EAO*7*7**0	
EA1*EJM_12*111216*170957	EA1*EAM*111216*170957	
EA2*EJM_12*7*7**0	EA2*EAM*7*7**0	
EA1*EJM_13*111216*170957	EA1*EAN*111216*170957	
EA2*EJM_13*7*7**0	EA2*EAN*7*7**0	
EA1*EJM_14*111216*170957	EA1*ENH*111216*170957	
EA2*EJM_14*7*7**0	EA2*ENH*7*7**0	
EA1*EJM_15*111216*170957	EA1*ENG*111216*170957	
EA2*EJM_15*7*7**0	EA2*ENG*7*7**0	
EA1*EJM_16*111216*170957	EA1*ENI*111216*170957	
EA2*EJM_16*9*9**0	EA2*ENI*7*7**0	
EA1*EJM_17*111216*170957		
EA2*EJM_17*7*7**0		

3 DRUM SENSOR ADJUSTMENT

If the product is not detected in the drum, but seems to be detected by the delivery flap sensor, the drum will open for a fixed time (independent whether the product is removed). If the product is detected while the drum is turning or the product is removed, the previous mode function is cancelled and the timer is reset.

Instruction for adjusting the photocell:





1. Insert the adjusting key “A”, supplied with the photocell, in the cut "B" on the front side.
2. Turn the adjusting key until led “C” positioned on the lower side of the photocell is on.
3. Turn the adjusting key in the opposite direction until the led is off.
4. Turn in the opposite direction and stop the adjustment immediately after the led is on.
5. Check the change of the led from on (product not present) to off (product present) by passing an object between the photocell and the reflector.

4 TEMPERATURE ADJUSTMENT

4.1 COOLING UNIT CONTROL SERETEC DSM 5030 USED UNTIL FEBRUARY 2010

The temperature adjustment can be done in a very simple and direct way through the electronic control unit. Please proceed as follows:

To visualize the set temperature, press and release 

key, the set temperature appears on display with blinking mode for approx. 10 seconds.

If you wish to modify this value, while it is blinking, press 

key to increase, or press 

key to decrease it. Wait till the controller exits from the programming mode and return to the operating mode (showing the internal temperature of the cell), which is registered automatically.

The so-called set-point is the temperature, which makes the compressor stop, because it reaches the ideal temperature to maintain the products loaded in the vending machine. The compressor will re-start when it exceeds the set-point temperature + parameter tDIF (delta temperature).

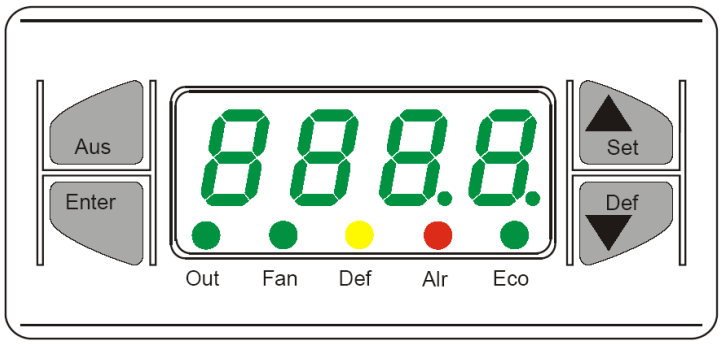


Photo 1

Description and function of the SERETEC electronic cooling unit control.

The electronic control unit operates and commands the cooling system, it checks all the related components, compressor, fans and defrosting system and it is independent from the electronics that commands all the vending machine.
As shown in photo 1, the electronic control unit has a 4 digit 7-segment LED display, 5 colored signal LEDs and 4 command keys.
For this vending machine model, the keys normally used are on the right side, ”set” arrow up and “def” arrow down.
The “set” key is used to show the set-point and to increase the set value, the “def” key is used to decrease the set-point value (as described in the previous paragraph) and also to do a forced defrosting, sometimes useful when inconveniences arise.
Example: an object remains jammed (a piece of paper, an empty product or other different objects) between the delivery chute and the door, causing a strange entry of air inside the refrigerated cell, which, depositing on the evaporator, freezes and blocks the air passage causing a malfunction.
To do a forced defrosting and not a programmed one, push the “Def” key for at least 5 seconds, and the defrosting cycle will start immediately.
The 5 colored LEDs, situated under the temperature display, indicate the operating status of the cooling system’s components, as follows :

- Green LED light “out” indicates the status of compressors,
  - If the light is fixed, the compressor is on.
  - If the light blinks, the compressor is stand-by to start.
  - If the light is off, the compressor is off.

- Green LED light “fan” indicates the status of internal fans,
  - If the light is fixed, the fans are on.
  - If the light blinks, the fans are stand-by to start.
  - If the light is off, the fans are off.

- Yellow LED light “def” indicates the status of defrosting cycle,
  - If the light is fixed, the defrost cycle is on.
  - If the light blinks, it is stand-by to start defrost cycle.
  - If the light is off, the defrost is not activated.

- Red LED light “alr” indicates, that the door of the vending machine is open.
  - In this case, if the compressor and the fans were working when the door is opened, the electronic control unit will be turned off and put them in stand-by. To reactivate them just after the door closure, in order to avoid the cooling system to work in abnormal way, the display alternately shows the temperature and “A-di”.
  - In this case, the LEDs “out” and “fan” are blinking.

- Green LED light “eco” is not used for this model.

Moreover, the electronic control unit is able to show a malfunction of temperature sensors, by indicating the following messages on the display :

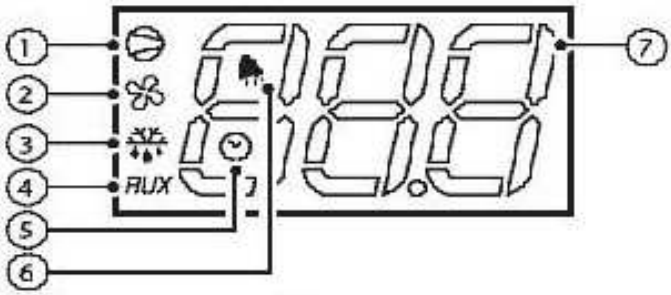
- “E-P1” probe for ambient temperature is down or disconnected.
- “E-P2” probe for evaporator is down or disconnected.

The cooling system is controlled by various parameters inserted in the software of the electronic control unit and cannot be modified by the users. This is to avoid any possible and unintentional modifications to the parameters, that may cause some malfunctions to the cooling system. In any case, for a special request, it is always possible to contact the technical assistance who may support you for various problems.

4.2 ELECTRONIC COOLING UNIT CONTROL CAREL USED FROM MARCH 2010

Display

1. Compressor led
2. Fan led
3. Defrost led
4. Auxiliary exit
5. Clock
6. Alarm
7. 7-LED Segment

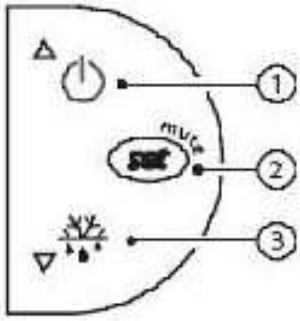


Key board

Key 1 UP, in normal function if pushed for more than 1 second, it visualizes the temperature of probe 2 (evaporator). If pushed during the visualization of the set point it increases the set value.

Key 2 pushed more that 1 second allows the visualization and setting of the set point.

Key 3 DOWN, pushed for more than 3 seconds starts or stops the defrost, and if it is pushed during the visualization of the set point it decreases the set value.



To check and adjust the temperature.

- Push for more than 1 second SET, to visualize the temperature of the set point;
- Increase or decrease the value with UP or DOWN;
- Push SET to confirm the new value.

Description and function of the CAREL Electronic cooling unit control.

When switching on the control unit for the first times there will be a delay of three minutes in the compressor and evaporator fan starting .
During normal working, the compressor will stop only after reaching the set point temperature and the evaporator fans will work always.
When opening the door (if there is a door switch) both the compressor (if working) and fans will stop.
When closing the door, the fans will start immediately, while the compressor will have a delay of three minutes from the last switching off, even if the door is closed before.

Description of the main signals and alarms

Code	Description
LED flashing	Inserting a function or a delay in timing
ES	The compressor has a timing delay when starting, therefore the LED of the compressor on the display starts to flash
E0 still or flashing	Temperature probe error. - The probe signal is interrupted or in short circuit. - Probe is not compatible with the instrument.
E0 alarm signal is stable	It is the only alarm present (the temperature value is no longer shown). It flashes if there are other alarms.
E1 flashes	Evaporator probe error. - The probe signal is interrupted or in short circuit. - Probe is not compatible with the instrument.
EE visualized during functioning or activation	Error in reading of the machine parameters. See memorised data errors
EF visualized during functioning or activation	Error in reading of the working parameters. See memorised data errors.
Ed flashing	The last defrosting finishes when exceeding the maximum time. The indication disappears if the next defrost is finished correctly.
dF flashing	Defrosting in progress: It is not an alarm signal but an indication that the cooling unit is doing a defrosting.
The control unit display and all the LED's are flashing:	- The door is open. - The door switch is not working correctly. - The door remains open for more than one hour.

The cooling unit is controlled by various parameters inserted in the software of the control unit and unchangeable by the user to avoid unwanted modifications to the same parameters, that could cause a malfunctioning of the cooling unit. In any case, for any particular needs it is possible to contact the technical assistance service that will assist you in various problems

PROGRAMMING MANUAL EN

GLASSFRONT VENDING MACHINE

G-DRINK SVE GF 6 / GF 9 – DR 6 / DR 9

REVISION	DATE	TYPE OF REVISION
1.0	30th Mar. 2009	
1.1	04th May 2009	
1.2	18th May 2009	
1.3	11th June 2009	
1.4	18th June 2009	Group of selections implemented
1.5	11th Nov 2009	Age control – Money Counters implemented
1.6	05th May 2010	MDB Age control - New Reset
1.7	22th Sep 2010	Bucket position adjustment - Fail Historic
1.8	12th Dec 2010	CONFY - C3 used in Executive
1.9	02nd Feb 2011	CONFY - C11 used for marketing feature "Product hand movement"
1.11	May 2012	Modifications introduced with Software Version 1.40: - CON - C 8 Forced vend rule for cashless systems implemented. - CCOC New parameter MCARD in order to limit the credit accepted with cashless. - CCOC New menu ID106 to setup Asset number on the machine reported in ID106. - 2 additional cashless price lists (total 3) implemented. - CON - C 11 Event reporting mode implemented. - CON - C 5 Counter reset mode modified to be in line with EVADTS. - German menu-names corrected.
1.12	24th May 2012	Modifications introduced with Software Version 1.41: - CCOC New parameter "Token" value for 1 bill i.e. 1 USD
1.13		For internal use only, not distributed
1.14	18.02.2013	Modifications introduced with Software Version 1.43: - Money counter and individual Cash and Sales counter reset - Vend test description modified
1.15		For internal use only, not distributed
1.16	03.04.2013	- Discount feature introduced with software version 1.45