



MITHRA FUELING



USER AND INSTALLATION MANUAL

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EFSC⁺ PUMP COMPUTER TECHNICAL MANUAL

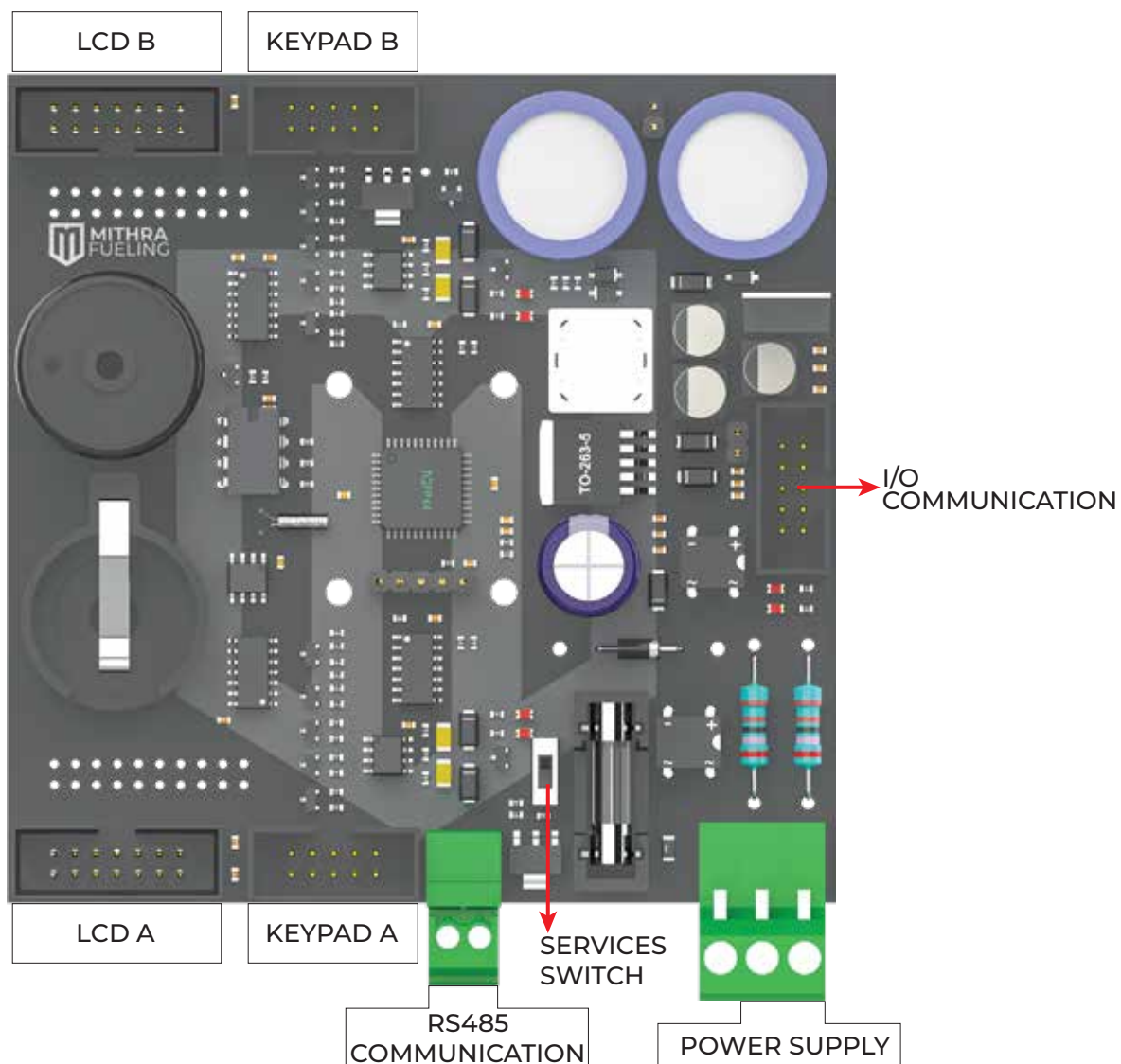
Doc No: IC-ELK-0002

Date:15.08.2022

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HARDWARE BLOCK DIAGRAM



EFSC⁺ MAIN BOARD

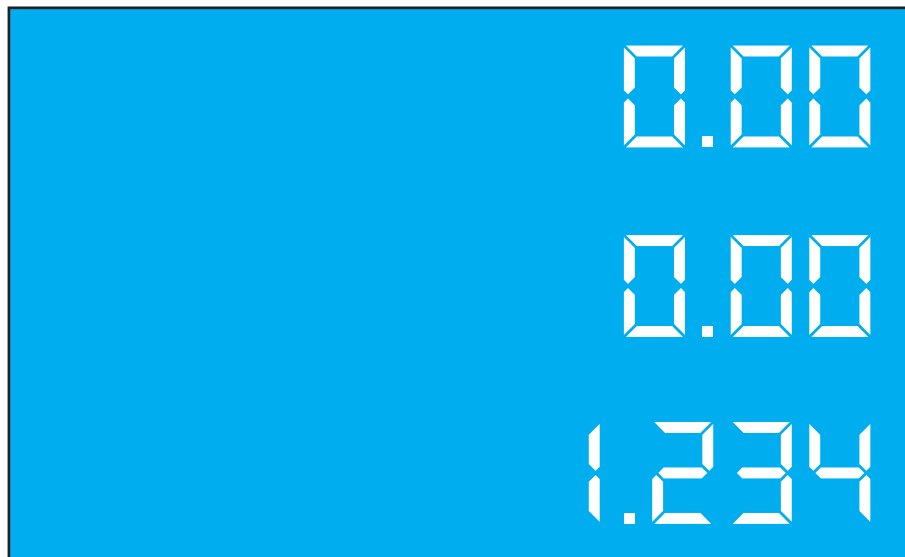
TECHNICAL DATA

VOLTAGE	150V ~ 240 V
POWER	45W
NOZZLE QUANTITY	MAX. 10
AMOUNT DIGIT QUANTITY	8
VOLUMA DIGIT QUANTITY	8
UNIT PRICE DIGIT QUANTITY	6
DISPLAY BACKLIGHT	LED
TWIN DIPLAY SUPPORT	AVAILABLE
TWIN KEYPAD SUPPORT	AVAILABLE
COMMUNICATION	RS485 9600 Baud Rate odd parity
COMMUNICATION PROTOCOL	WAYNE DART
WORKING TEMPRATURE	-30 ~ +70

KEYPAD UNITS



DISPLAY UNITS



PULSER UNITS

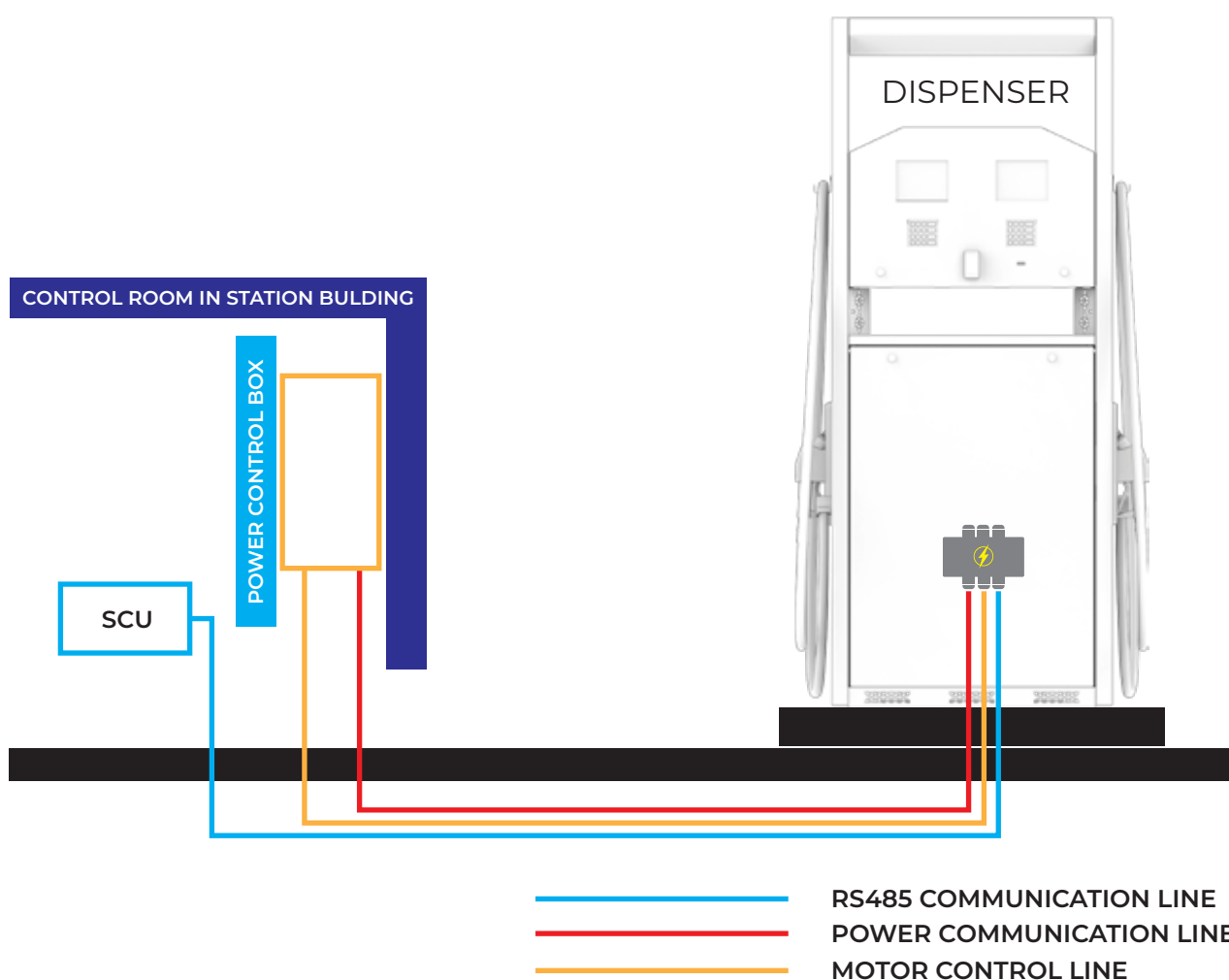


VALVE UNIT



ELECTRICAL CONNECTION AND INSTALLATION

Electrical connection cables must be fitted between dispenser's islands and power control box before the surface of petrol station is coated with concrete. Cables can be buried in sand under the concrete or a plastic pipe can be used for guiding cables. If plastic pipes are used for cable guide, the ends of pipes must be closed with foam to prevent flammable fuel vapour reach to control room.



PRESET SETTINGS

Quick PRESET entry

P1, P2 and P3 are quick preset entries.
PRESET values can be changed at
user menu(Pr4/Pr5/Pr6).
(See photo If P1 key is pressed.)

NOTES:

- * If pressed STOP key , PRESET entry is cancelled.
- * If there is no key press , preset entry is cancelled in 2 minutes



LT:Liter PRESET
Default P1=1 P2=5 P3= 10

Manuel PRESET entry

Press any numeric key (1,2,3,4,5,6,7,8,9)
you can enter the PRESET value, by numeric keys.

ENTER' KEY CHANGE PRESET TYPE
LITER OR MONEY



NOTES:

- * If pressed STOP key , PRESET entry is cancelled.
- * If there is no key press , preset entry is cancelled in 2 minutes



USER MENU

To enter user menu press P2 for 3 seconds.
Enter user password.
Default user password is «1111».

NOTES:

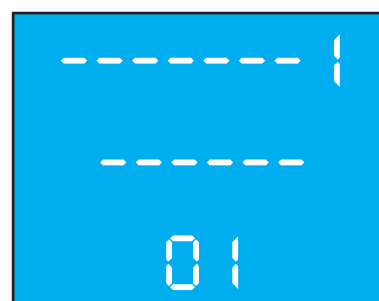
Access to the user menu is blocked while the dispenser is filling or the any nozzle is in hand

Referance number it changes every menu entry for level 2 (technician entry)



If the user password is correct.
Enter menu number by numeric keys
then press **ENTER** key.

For exit the menu press **STOP** key.

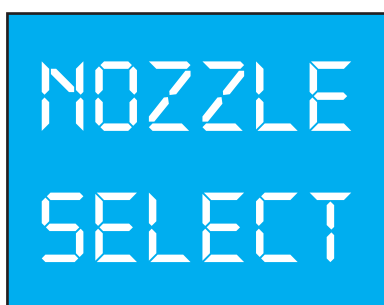


USER SUB-MENUS (ALLOWED FOR PUMP ATTENDANT)	
MENU NO	MENU NO
1	Liter totalizor
2	Money totalizor
3	Last 10 sales
4	Quick PRESET 1 values
5	Quick PRESET 2 values
6	Quick PRESET 3 values
7	Lock the dispenser
8	Error records
9	Software version (and Date/Time)

1-LITER TOTALIZER

Electronic totalizer value is 212565,62 Lt.
For exit press **STOP** key.

If nozzle quantity is more than 1 nozzle,
before current menu you have to select
nozzle number.

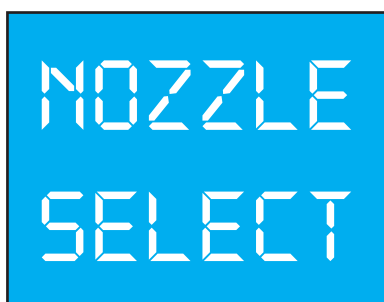


UCLT means Uncleanable
Liter Total

2-MONEY TOTALIZER

Electronic totalizer value is 212565,62 \$.
For exit press **STOP** key.

If nozzle quantity is more than 1 nozzle,
before current menu you have to select
nozzle number.



UCTL means Unclearable
Money Total

3- LAST 10 SALES

For selecting last filling sales use numeric keys. '1' means last ... '0' key for 10th sale
To exit the menu, press **STOP** key.

	YEAR	MONTH	DAY		
DATE	22	07	10	AMOUNT	500
TIME	17	-31		LITRE	4.06
LAST FIRST SALE	LF51			UNIT PRICE	123

4- QUICK PRESET 1 VALUE

Enter the **PRESET 1** value by using numeric keys.
To exit the menu, press **STOP** key.



Current PR1 value is 1 Lt.

5- QUICK PRESET 2 VALUE

Enter the **PRESET 2** value by using numeric keys.
To exit the menu, press **STOP** key.



Default PR2 value is 5 Lt

6- QUICK PRESET 2 VALUE

Enter the **PRESET 3** value by using numeric keys.
To exit the menu, press **STOP** key.

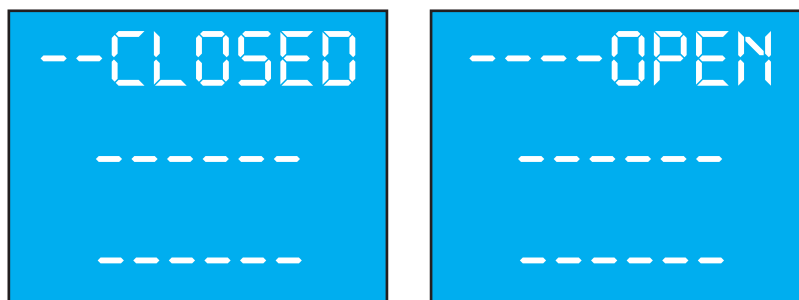


Default PR3 value is 10 Lt

7-LOCK THE DISPENSER

When enter to the lock dispenser menu (PR7)
 If the dispenser was close, dispenser will open.
 If the dispenser was open, dispenser will close.

Dispenser will Show **CLOSE**

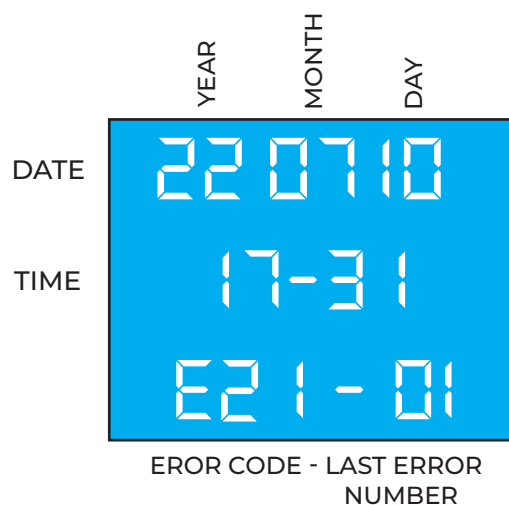


8-LAST 10 ERROR REPORT

For selecting Error Records use numeric keys. '1' means last error, '0' key for 10th error
 To exit the menu, press **STOP** key.

NOTES:

ERROR Codes
 E10 - Power Down Error
 E80 - Automation Error
 E2X - Pulser Error (X : Nozzle Number)
 E3X - Total Error (X : Nozzle Number)
 E7X - IO Communication Error (X : Nozzle Number)



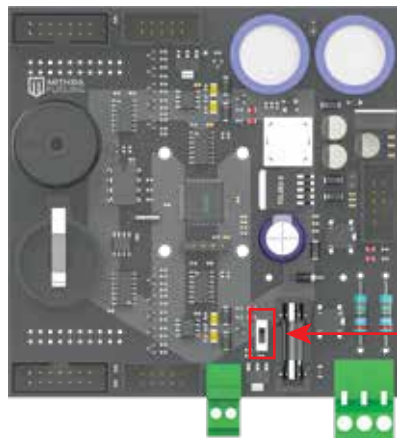
9-SOFTWARE VERSION (AND DATE/TIME)

Software version and date-time will Show at display 1 second

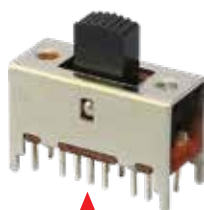


9-SERVICE TECHNICIAN MENU

To enter user menu press P2 for 3 seconds.
Enter service password by using mobile password calculator software



Services Switch



Reference number it changes every menu entry for level 2 (technician entry) For calculated code please use mithracalculator APK (just for android)

Step 1 -Open MithraCalculator APK



Step 2 – Enter Reference Number press calculate button



Step3 – Enter Calculated number press enter



Please enter value

06023380

965666

06023380

CALCULATE

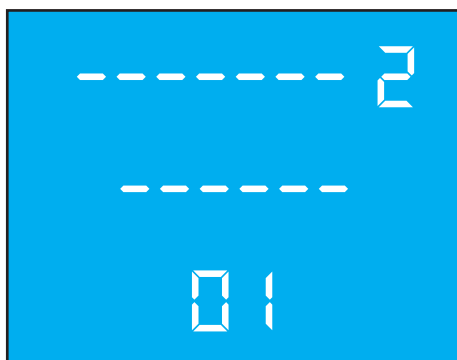
CALCULATE

CALCULATE

III O <

III O <

III O <



If the user password is correct.

Enter menu number by numeric keys then press **ENTER** key.

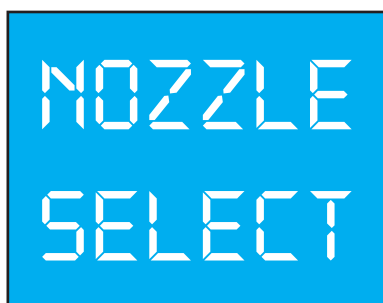
For exit the menu press **STOP** key. CPU will be reboot.

TECHNICIAN SUB-MENUS	
MENU NO	FUNCTION OF MENU
1	Unit price enter
2	Calibration mode
3	Decimal point adjustment
4	Maximum PRESET adjustment
5	Date adjustment
6	Time adjustment
7	Automation address entry
8	Adjustment of initial volume not displayed on the screen
9	Adjustment of high flow solenoid valve entry value
10	Adjustment of slow delivery for end of the PRESET sales
11	Adjustment of solenoid valves and motor close value at the end of the PRESET sales
12	No filling wait time value
13	Nozzle quantity
14	Side quantity
15	Pulser settings
16	User password
17	Preset type
18	Density Value
19	Minimum Flow Rate Value

1-UNIT PRICE ENTER

Enter the unit price by using the numeric keys and press **ENTER** key.
To exit the menu, press **STOP** key.

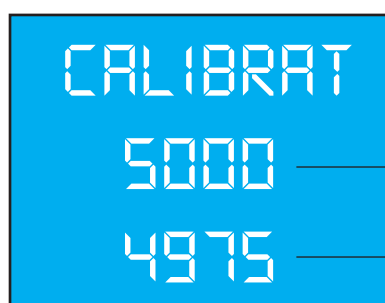
If nozzle quantity is more than 1 nozzle, before current menu you have to select nozzle number.



2-CALIBRATION

*Enter the Calibration value, by numeric keys.

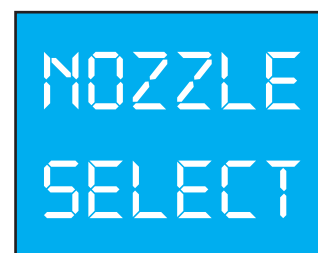
NOTE: FOR ENTERING THIS MENU SERVICE SWITCH MUST BE OPEN



→ Current calibration value

→ New calibration value

If nozzle quantity is more than 1 nozzle, before current menu you have to select nozzle number.



Calculation method of coefficient:

New coefficient value= (actual value/ display value) *original coefficient.

Example:

5L for any gas addition, the actual value is 5.02, then the new coefficient = $(5.02/5) * 5000 = 5020$. Enter the new coefficient 5020, the actual value will be corrected to 5.00 when refilling.

If you add 5L, the actual value is 4.98, then the new coefficient = $(4.98/5) * 5000 = 4980$, enter the new coefficient 4980, the actual value will be corrected to 5.00 when refilling.

NOTE: MAX. 5250 - MIN. 4750 ACCEPTABLE

3-DECIMAL POINT ADJUSTMENT

Enter the decimal point value by using the numeric keys and press **ENTER** key.

Supported decimal points ;

*020

*223

*222

To exit the menu, press **STOP** key.

NOTE: DEFAULT FACTORY SETTING IS 223



Current decimal point is 223.

1: Amount decimal point

2: Liter decimal point

3: Unit price decimal point

4-MAXIMUM PRESET ADJUSTMENT

Enter the maximum **PRESET** value by using the numeric keys and press **ENTER** key.

To exit the menu, press **STOP** key.

Current maximum liter PRESET
value is 2500 liters.

NOTE: DEFAULT FACTORY SETTING IS 2500



5-DATE ADJUSTMENT

Enter the date values by using the numeric keys and press **ENTER** key.

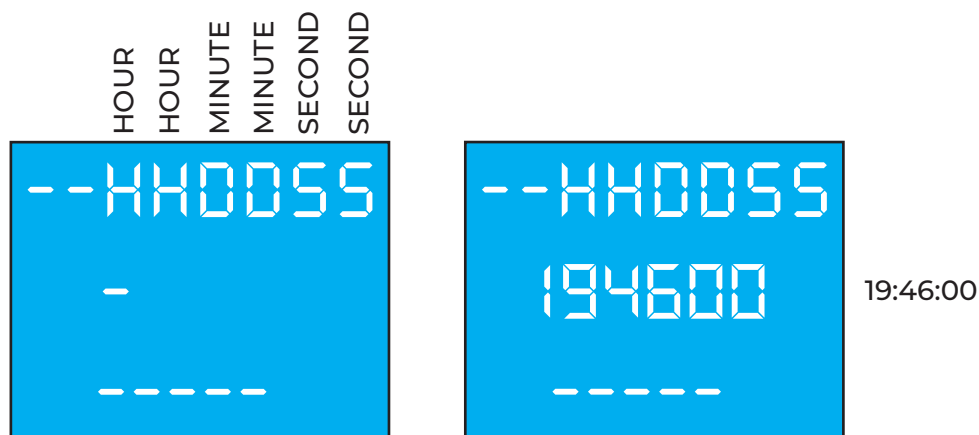
To exit the menu, press **STOP** key.



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6-TIME ADJUSTMENT

Enter the time values by using the numeric keys and press **ENTER** key.
To exit the menu, press **STOP** key.



7-AUTOMATION ADDRESS ENTRY

Enter the automation address by using the numeric keys and press **ENTER** key.

If the automation address is «0», pump works in manuel mode.
To exit the menu, press **STOP** key.

NOTE: DEFAULT FACTORY SETTING IS 0



8-ADJUSTMENT OF INITIAL VOLUME NOT DISPLAYED ON THE SCREEN

Enter the hidden volume by using the numeric keys and press **ENTER** key.
To exit the menu, press **STOP** key.

NOTE: DEFAULT FACTORY SETTING IS 003

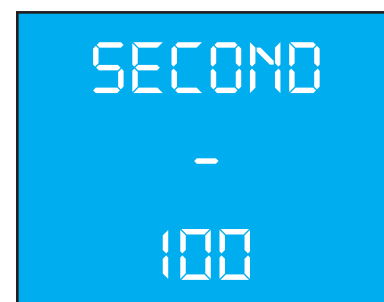


Current value is 0.06 liter.

9-ADJUSTMENT OF HIGH FLOW SELENOID VALVE ENTRY VALUE

Enter the high flow selenoid valve entry value by using the numeric keys and press **ENTER** key.

To exit the menu, press **STOP** key.



Current value is 100 pulses

NOTE: DEFAULT FACTORY SETTING IS 100

10-ADJUSTMENT OF SLOW DELIVERY FOR END OF THE PRESET SALES

Enter the slow delivery for end of the **PRESET** sales by using the numeric keys and press **ENTER** key.

To exit the menu, press **STOP** key.



Current value is 100 ml.

NOTE: DEFAULT FACTORY SETTING IS 100

11-ADJUSTMENT OF SELENOID VALVES AND MOTOR CLOSE VALUE END OF THE PRESET SALES

Enter the selenoid valves and motor close value end of the **PRESET** sales by using the numeric keys and press **ENTER** key.

To exit the menu, press **STOP** key.



Current value is 6 ml.

NOTE: DEFAULT FACTORY SETTING IS 003

12-NO FILLING WAIT TIME VALUE

Enter the no filling wait time value (seconds) by using the numeric keys and press **ENTER** key.

To exit the menu, press **STOP** key.



Current value is 1 second

NOTE: MAX 250 second can acceptable.

13-NOZZLE QUANTITY

Enter the nozzle quantity (IO quantity)
by using the numeric keys and press **ENTER** key.
To exit the menu, press **STOP** key.

NOTE: DEFAULT FACTORY SETTING IS 1



14-SIDE QUANTITY

Enter the side quantity
by using the numeric keys and press **ENTER** key.
To exit the menu, press **STOP** key.

NOTE: DEFAULT FACTORY SETTING IS 2. (DOUBLE SIDE)



15-PULSER TYPE CHANGE

Enter pulser type by using the numeric keys and
press **ENTER** key.
To exit the menu, press **STOP** key.

- * **NOTE:**
- * For 250ml per pulser turn press '0'
- * For 500ml per pulser turn press '1'
- * For 1000ml per pulser turn press '2'
- * For 2000ml per pulser turn press '3'

**NOTE: FOR ENTERING THIS MENU
SERVICE SWITCH MUST BE OPEN**



16-USER PASSWORD CHANGE

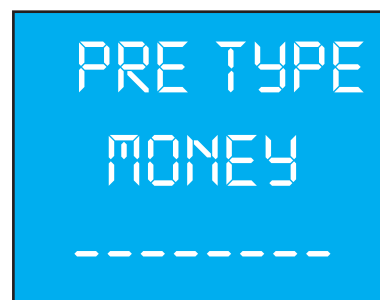
Enter the user password change
by using the numeric keys and press **ENTER** key.
To exit the menu, press **STOP** key.

NOTE: DEFAULT FACTORY SETTING IS 1111



17-PRESET TYPE

When enter to the lock dispenser menu (PR17)
If the preset type was Liter, preset type will money.
If the preset type was Money, preset type will Liter.



18-DENSITY VALUE

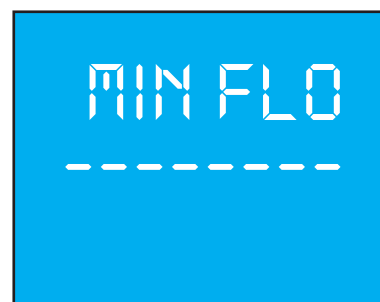
Enter the LPG density at 15C
by using the numeric keys and press ENTER key.
To exit the menu, press STOP key.



NOTE: DEFAULT FACTORY SETTING IS 520

19-MINIMUM FLOW RATE VALUE

Enter the minimum flowrate value
by using the numeric keys and press ENTER key.
To exit the menu, press STOP key.

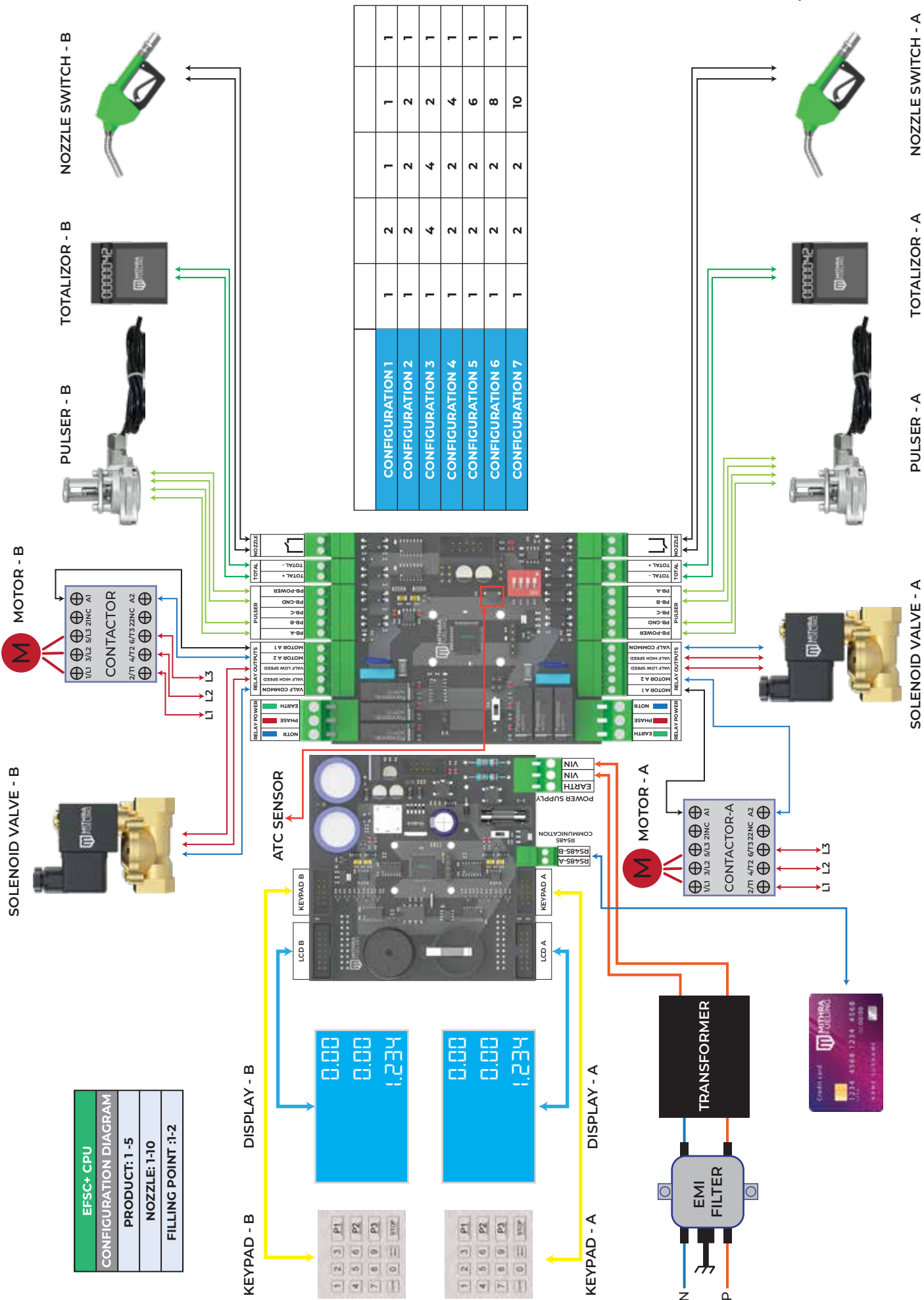


NOTE: DEFAULT FACTORY SETTING IS 3

20-ERROR CODES

P-OFF	Power Out
E-Tot X	Total X ERROR -
E-Puls X	Pulser X ERROR -
SCUOFF	Automation Off Error -
CLOSE	Pump Locked -
Ser-On	Services Switch OPEN -
Place Nozzle	Nozzle Out -

Ser-On Service Switch is turned on
Close Calibration Switch is turned on or Pump is closed.
(User menu 6.program Lock the dispenser)





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