
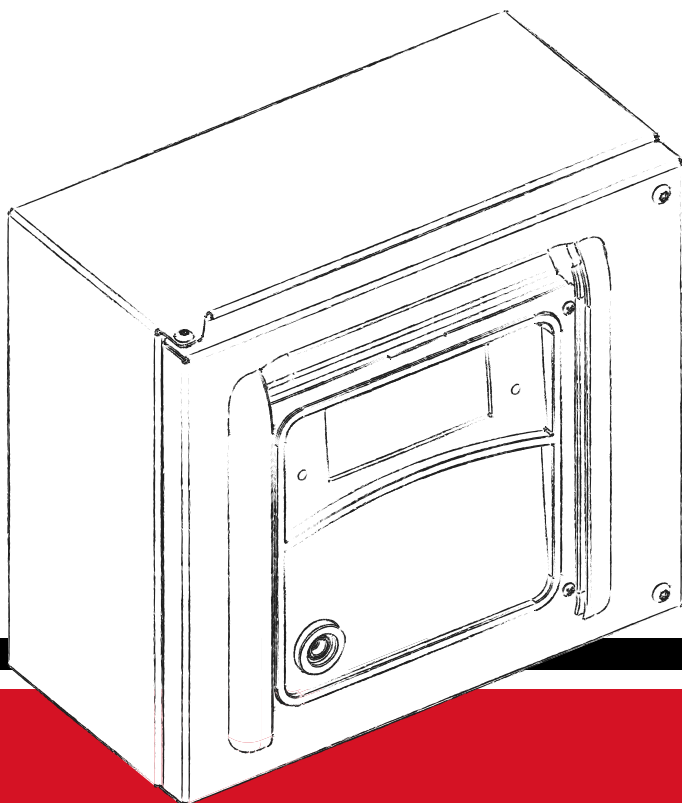




*Fluid Handling  
Innovation*

 **B.SMART**  
**FULL PACK**  
**MC BOX DC**



**MADE  
IN  
ITALY**

Installation, use and maintenance

**EN**

**BULLETIN MO579A EN\_00**

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# ENGLISH

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## **BULLETIN MO579A**

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## 1 DECLARATION OF CONFORMITY

The undersigned: PIUSI S.p.A.  
Via Pacinotti 16/A - Z.I. Rangavino  
46029 Suzzara - (MN) - Italy

DECLARES on its own responsibility, that the machine described below:

Description: **AUTOMATIC FLUID DISPENSING MANAGEMENT SYSTEM**

Model: **MC BOX B.SMART DC**

Serial number: see the Lot Number on the EC plate affixed to the product.

Year of construction: see the production year on the EC plate stamped on the product.

is compliant with the law provisions transposing directives:

- **Electromagnetic Compatibility Directive 2014/30/EU**

- **ROHS Directive 2011/65/EU**

- **Radio Equipment Directive (RED) 2014/53/EU**

Documents are made available to the appropriate authority on request at Piusi S.p.A. Alternatively, it can be requested writing to: e-mail: doc.tec@piusi.com. The person in charge of writing both the technical file and the conformity statement is Otto Varini as the legal representative.

Suzzara, 01/03/2021



Otto Varini  
Legal representative

## 2 GENERAL PRECAUTIONS

### Important warnings

In order to protect workers' safety and to avoid the risk of any damage, before performing any operation, please read and become familiar with the contents of the instruction manual.

### Symbols used in the manual

In order to signal particularly important instructions or warnings, the following symbols are used:



#### CAUTION

This symbol indicates accident prevention regulations addressed to operators and/or other people concerned.



#### WARNING

This symbol indicates that there is a possibility of damaging the machines and/or their components.



#### NOTE

This symbol indicates useful information.

### Manual storage

This manual must be intact and completely readable. The final users, as well as the qualified technicians authorised to installation and maintenance must be able to view it at any time.

### Reproduction rights

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### 3 SAFETY INSTRUCTIONS

<b>CAUTION</b> Mains - preliminary checks before installation	 <b>You must avoid any contact between the electrical power supply and the fluid that needs to be pumped.</b>
<b>Control and maintenance operations</b>	<b>Before any checks or maintenance work are carried out, disconnect the power source.</b>
<b>FIRE AND EXPLOSION</b> If there are flammable liquids in the working area, flammable vapours may be present and may cause fire or explosion during station use.	 <b>To help prevent fire and explosion:</b> Use equipment only in well ventilated area. Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline. Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. Ground all equipment in the work area. Stop operation immediately if static sparking occurs or if you feel a shock. Do not use the station until you have identified and resolved the problem. Keep a working fire extinguisher in the work area.
<b>ELECTRIC SHOCK</b>	 This station must be grounded. Improper installation or use of the station may result in danger of electric shock. Switch off and unplug the power cord after use.
<b>Electrocution or death</b>	 Connect only to grounded sockets. Use only grounded cables in accordance with the applicable regulations. Unsuitable extension leads can be dangerous. Make sure that the plug and socket of the extension cords are intact. Unsuitable extension leads may be dangerous. In outdoor use, use only extensions suitable for the specific use, according to the regulations in force. The electrical connection between the plug and socket must be kept well away from water. Do not expose to rain. Install in a sheltered location Never touch the plug or the socket with wet hands Do not turn the distribution system on if the supply connection cable, important parts of the equipment - the suction/delivery tube for example - the nozzle or the safety devices are damaged. Replace the damaged pipe immediately before use. Before each use, check that the mains connection cable and the plug are not damaged. If damaged, have the cable and plug replaced by qualified personnel. The electrical connection between the plug and socket must be kept well away from water. Outdoors, use only authorised extension leads for which this use is envisaged with an adequate wire diameter in accordance with the regulations in force. As a general rule of electrical safety it is always recommended to power the device by protecting the line with: - circuit breaker/disconnector with a current rating suitable for the power line - 30 mA residual current device The electrical connection must have a ground fault current interrupter (GFCI). Installation operations are carried out with the box open and the electrical contacts accessible. All these operations must be carried out with the unit isolated from the mains in order to avoid hazards of electrocution!

NE

## EQUIPMENT MISUSE

Misuse can cause death or serious injury



Do not operate the unit when fatigued or under the influence of drugs or alcohol.

Do not leave the work area while equipment is energized or in operation.

Turn off the equipment when not in use.

Do not alter or modify the equipment. Alterations or modifications may void agency approvals and create safety hazards.

Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.

Do not twist the hose or use a stronger hose.

Keep children and animals away from the working area.

Respect all safety norms in force.

Do not exceed the maximum working pressure or temperature of the component with the lowest system rating.

See the technical specifications in all machine manuals.

Use liquids and solvents that are compatible with the wet parts of the unit. See the technical specifications in all machine manuals. Read the manufacturer's warnings for liquids and solvents. To obtain more information about the material, request the Safety Data Sheet (MSDS) from your distributor or dealer.

Check the unit every day. Repair or replace worn or damaged parts immediately with original manufacturer's spare parts only.

Make sure that the unit is classified and approved in accordance with the regulations for the environment in which it is used.

Use only the unit for its intended purpose. Contact your distributor for more information.

Keep hoses and cables away from transit areas, edges, moving parts and hot surfaces.

Do not bend or bend the hoses too much or use the hoses to pull the unit.

To avoid severe burns, do not touch liquids or equipment

## DANGER OF BURNS



### Danger of smoke and toxic fluids.



For issues arising from the treated product with eyes, skin, inhalation and ingestion refer to the safety data sheet of the fluid used.

Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

Prolonged contact with the product may cause skin irritation; during delivery phases, always wear protective gloves.

## **FIRE AND EXPLOSION**

If it is necessary to dispense in areas classified as hazardous for explosion, it is forbidden to use a smartphone less than 30 cm away from the fluid at the time of dispensing.



The PIUSI B-SMART has been designed to be used with the user's mobile phone only and exclusively for connection and authentication operations and to link the user's device to the fuel transfer pump in order to perform certain operations in remote mode as described in this manual.

If the PIUSI B-SMART product is used to refill petrol or other fuel or liquid that emits flammable vapours or in any case creates potentially explosive atmospheres according to the current ATEX regulations (Directive 2014/34/EU and relative applicable national implementing provisions, including any later amendment or additions), mobile phone use while dispensing and in any case within any zone classified for ATEX purposes in accordance with the regulations in force is strictly prohibited, except in the case where the unit is regularly ATEX certified and authorised for use in the relevant area. Mobile phones must therefore remain outside this area or be switched off.

Mobile phone use when refilling the vehicle with other non-flammable liquids is in any case strongly discouraged as it can cause distractions that may prove hazardous.

PIUSI shall not be held liable in the event of damage to persons or property of the user or third parties resulting from failure to comply with the above warnings and / or any other negligent, reckless or inept behaviour of the user.

**NE**

## **4 FIRST AID MEASURES**

**Persons who have suffered electric shock**

Disconnect the power source, or use a dry insulator to protect yourself while you move the injured person away from any electrical conductor. Avoid touching the injured person with your bare hands until he is far away from any conductor. Immediately call for help from qualified and trained personnel. Do not operate switches with wet hands.

**NO SMOKING**



Do not smoke near the fuel transfer pump and do not use the pump near naked flames.

## **5 SAFETY NORMS**

**PERSONAL PROTECTION EQUIPMENT FEATURES**

Wear personal protection equipment that is:

- suitable to the operations to be performed;
- resistant to the products used for cleaning procedures.

**PERSONAL PROTECTION EQUIPMENT FEATURES TO BE WORN**



Safety shoes;



Close-fitting clothes;



Protective gloves;



Safety glasses;

**OTHER EQUIPMENT**



Instructional manual.

## 6 TRANSPORT, HANDLING AND UNPACKING

During periods of non-use, the machine, be it packed or unpacked, must be stored in an area protected against the elements (e.g. rain, humidity, direct sunlight, etc.) and dust.

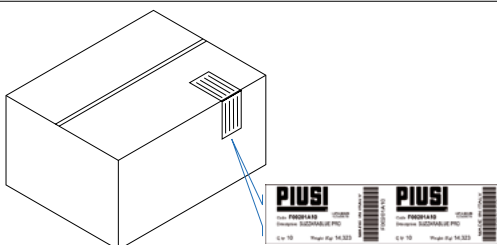
Use scissors or a cutter to open the cardboard box, taking care not to damage the contents. Open the box completely and take hold of the MC BOX B.SMART to then proceed with definitive positioning.

Put all packing elements (cardboard, wood, cellophane, etc.) into the corresponding containers. Do not leave them in the environment or within children's reach as they are potentially dangerous. They should be disposed of according to the regulations in force in the country where the unit will be used.

Check the conditions of the equipment making sure that no part shows such damages as compromise safety and functionality. In case of doubt, do not start up and contact the manufacturer's technical service.

The packaging carries the following indications:

- a label with all the information relating to the equipment (model, weight, etc..).



### 6.1 DIMENSIONS AND WEIGHTS

MODEL	OVER-ALL WEIGHT (Kg)	PACKAGING DIMENSIONS (mm)		
MC BOX B.SMART DC	5.3	480 x 370 x 265		
PEDESTAL KIT	15	-		

## 7 MACHINE AND MANUFACTURER IDENTIFICATION

MC BOX B.SMART stations are equipped with an identification plate attached to the frame:

- |                       |                  |
|-----------------------|------------------|
| - Model               | - Technical data |
| - Serial number /     | - CE marking     |
| - Year of manufacture | - Manual code    |

### CAUTION



**Before installing, always make sure the type of dispensing system is correct and suitable for the available power supply (Voltage/Frequency).**

NE

### 7.1 POSITION OF THE PLATES

On the MC BOX B.SMART there is an adhesive label that shows the operator the most important information. Make sure it stays on and that it does not deteriorate over time.

### NOTE



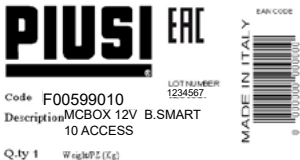
**Should this situation arise, please contact our support department and arrange to have a copy of the damaged or missing plates sent back and replaced where necessary.**

Decals are the following ones:



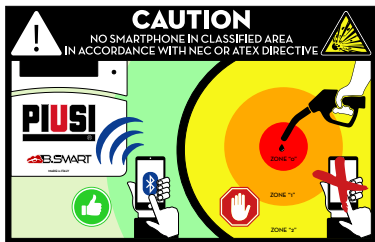
1

CE plate with technical data:



2

Corner label plate applied on the box



3

**Warning decal prohibiting smartphone use near the transfer pump when dispensing is under way**

After dispensing has been activated, during refuelling operations, do not use your smartphone at a distance of less than 30 cm from the pump.

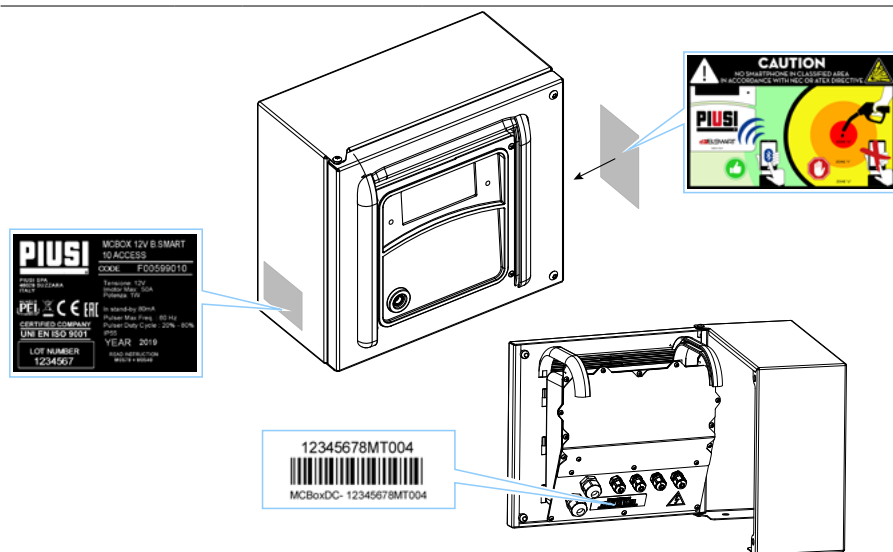
TO BE APPLIED BY THE INSTALLER

To be applied if MC BOX B.SMART is installed near a classified area.



4

Product warranty label



## 8 DESCRIPTION OF MAIN PARTS

### FOREWORD

B.SMART is an electronic system for controlling the dispensing of fluids via smartphone.

The control system consists of:

#### **An electronic controller**

equipped with a BlueTooth interface (BLE 4.0 and later), a display and an interface LED that controls a dispensing pump

#### **An APP**

installed on a smartphone equipped with an Android operating system or Apple iOS

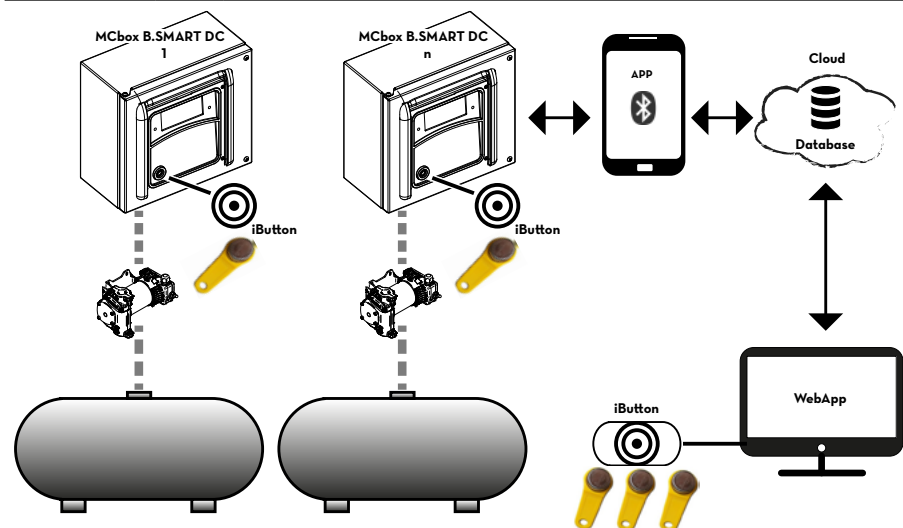
#### **A WebAPP**

namely an internet portal accessible from any PC or Tablet connected to the internet from which the entire site can be monitored

### SYSTEM FUNCTIONS

- site configuration, acquisition and management of refillings, management of refilling fuel dispensers, management of drivers, vehicles and detailed reporting of the dispensings via WebAPP accessible from any PC/Tablet, using your credentials
- Fuel dispensing using the dedicated APP: PIUSI APP, downloadable only for smartphones from Play Store and App Store, which connects to the fuel transfer pump / controller via BLE connection
- Fuel dispensing using the dedicated APP also in areas without 3/4G coverage and Wi-Fi
- Dispensing via iButton associated with the individual driver
- Possibility to remotely manage sites far from the company headquarters

<b>COMPATIBILITY WITH OPERATING SYSTEMS</b>	<p>As can be seen from the descriptive diagram on page 12, an example of a basic system structure is given showing the possibility of:</p> <ul style="list-style-type: none"><li>• managing a motor output</li><li>• monitoring the level in 1 tank, as needed, even when a tank is shared by pumps connected to different controllers.</li><li>• Manage multiple controllers simultaneously, within the same plant</li></ul>
	<p>For more specific details on modes of connection and communication between controllers, please refer to the manual found in the <b>system management WebApp</b>.</p> <p>The system is compatible with the following iOS versions:</p> <ul style="list-style-type: none"><li>• iOS10</li><li>• iOS11</li><li>• iOS12 and subsequent versions</li></ul>
	<p>The system is compatible with the following Android versions:</p> <ul style="list-style-type: none"><li>• 5.0 - 5.1</li><li>• 6.0</li><li>• 7.0 - 7.1</li><li>• 8.0</li><li>• 9.0 and subsequent versions</li></ul>
<b>EQUIPMENT AND CHARACTERISTICS BOX</b>	<p>The system is made up of several devices:</p> <p>Composed of an electronic controller to manage fuel dispensing, equipped with:</p> <ul style="list-style-type: none"><li>• Numeric display</li><li>• Reader for iButton</li><li>• BLE 4.0 connection (or following)</li><li>• Status sensors for: level alarms, flow meters, positioning of the dispensing nozzle</li><li>• Pump on/off control</li></ul>
<b>CLOUD</b>	<p>The cloud holds the database for storing the configurations of the site and the transfer pump, the drivers, the vehicle license plates and all dispensed fuel data.</p>
<b>WebApp</b>	<p>Web interface used by the site manager. It has various functions: it monitors the dispensing cycles (who carried them out, when, from which controller), creates/deletes users from the site, adds/removes pumps from the site. The only external device the WebApp connects to is a USB reader for iButton</p>
<b>APP</b>	<p>It makes several operations:</p> <ul style="list-style-type: none"><li>• It manages two types of users: driver and manager</li><li>• It sends commands to the controller and receives responses. The commands are used to perform: dispensing, calibration, updating of the controller firmware, downloading of updates to controller configuration, management of drivers or uploading to the cloud of the dispensing cycles performed by the controller.</li></ul>





## 9 TECHNICAL CHARACTERISTICS

### INTENDED USE

Implementation of a fluid delivery and control system for private use and not subject to special regulations such as ATEX standards for potentially explosive atmospheres.

### CAUTION



**DO NOT INSTALL MC BOX B.SMART IN POTENTIALLY EXPLOSIVE LOCATIONS ACCORDING TO ATEX DIRECTIVE.**

### MAXIMUM ELECTRICAL PARAMETER VARIATIONS

The transfer pump electric motors can handle a maximum variation in the power voltage of +/- 5% and a maximum frequency variation of +/- 2%  
SEE THE TECHNICAL DATA TABLE BELOW

### CAUTION



**BEFORE INSTALLING, ALWAYS MAKE SURE THE TYPE OF DISPENSING SYSTEM IS CORRECT AND SUITABLE FOR THE AVAILABLE POWER SUPPLY (VOLTAGE/FREQUENCY).**

Signal	Standard conditions	Limits	Note
<b>Power supply input</b>	12 Vdc	Current absorbed by controller electronics is < 100 mA, rated power of 1 W	
	24 Vdc		
<b>Motor piloting output</b>	12V 24V	I <sub>max</sub> = 50 A I <sub>max</sub> = 25 A	
<b>Electronic Key Interface</b>	YELLOW key (iButton): Enabling input from PIUSI electronic key	The yellow drivers' keys are registered on the PC via a software procedure so that the drivers are enabled to use one or more refuelling stations.	It is possible to configure the presence or not of said key.
<b>Nozzle contact input (only for versions where available)</b>	Clean contact or Open Collector electronic signal (NPN)	Approximately 250 µA at 5 Vdc will be supplied to the clean contact (or open collector).	It is possible to configure the presence or not of this contact, furthermore it is possible to configure the type of signal (normally open or normally closed).
<b>Pulser IN input</b>	Free contact or Open Collector electronic signal (NPN)	Approximately 250 µA at 5Vdc will be supplied to the clean contact (or open collector). The input signal may have a maximum frequency of 300 Hz with a Duty Cycle between 20% - 80%.	The input signal may have a maximum frequency of 300 Hz with a Duty Cycle between 20% - 80%.
<b>Level 1 contact input (only for versions where available)</b>	Clean contact or Open Collector electronic signal (NPN). Should it be necessary to power a level sensor, 24Vdc are also available on the terminal. The maximum current available to power the sensor is 25 mA.	Approximately 1 mA to 5 Vdc will be supplied to the clean contact (or open collector).	It is possible to configure the presence or not of this signal, furthermore it is possible to configure the type of signal (normally open or normally closed for those versions where envisaged). Finally, it is possible to select the action which the main controller must perform when it receives this signal: it may simply generate an alarm on the display or completely inhibit further dispensing if Block Pump is set.

<b>Level 2 contact input (only for versions where available)</b>	Clean contact or Open Collector electronic signal (NPN). Should it be necessary to power a level sensor, 24Vdc are also available on the terminal. The maximum current available to power the sensor is 25 mA.	Approximately 250 $\mu$ A at 5 Vdc will be supplied to the clean contact (or open collector).	It is possible to configure the presence or not of this signal, furthermore it is possible to configure the type of signal (normally open or normally closed for those versions where envisaged). Finally, it is possible to select the action which the main controller must perform when it receives this signal: it may simply generate an alarm on the display or completely inhibit further dispensing if Block Pump is set.
<b>Auxiliary power supply output 24 Vdc</b>	Auxiliary 24 Vdc power supply output to power external electronic devices.	I <sub>max</sub> = 25 mA	The device being powered must not absorb more than 25 mA with a 24 Vdc power supply. Typically it could be a level sensor
<b>Fuses</b>	F1 (Vdc power supply input) 315mA F (fast)		
<b>IP Protection Rating</b>	IP 55		
<b>Working temperature</b>	From -10° C to +40°C		
<b>Storage temperature</b>	From -20° C to +60°C		
<b>Humidity</b>	< 90%		
<b>Wiring distances</b>	Max pulser distance	15 mt	
	Max level sensors distance	100 m	
<b>Display limits and Counter</b>	<p>The mobile decimal point: 0.00 -&gt; 99.99 -&gt; 999.9 -&gt; 9999</p> <p>The maximum quantity which can be dispensed is 9999 units, regardless of the unit of measure set, be it litres, gallons or pints.</p> <div style="text-align: center;"> <pre> graph LR     A[0.00] --&gt; B[9,999]     B --&gt; C[99.99]     C --&gt; D[999.9]     D --&gt; E[9999]             </pre> </div> <p>PRESET: Maximum settable quantity      9999 litres/gallons/pints</p>		
<b>Memory storage</b>	<p>The Electronic Controller can store:</p> <ul style="list-style-type: none"> <li>- Up to 500 Users</li> <li>- Up to 500 dispensing cycles</li> </ul>		

## 10 USE

### 10.1 INTENDED USE

MC BOX B.SMART has been designed to manage the dispensing operations of more than one filling stations for private use. Dedicated app and web services make it easy to use, returning a summary of all dispensing operations.

**CAUTION**  
Ambient conditions for use



**Ambient temperature: min. -20°C / max. +40°C**

**Relative humidity: max. 90%**

**The temperature limits indicated apply to the pump components and must be observed to avoid any damage or malfunctions.**

### 10.2 UNINTENDED USE

**CAUTION**  
Inflammable liquids and explosive atmosphere



**THE MC BOX B.SMART HAS NOT BEEN DESIGNED TO COMPLY WITH THE ATEX DIRECTIVE OR TO OPERATE IN POTENTIALLY EXPLOSIVE ATMOSPHERES. DO NOT INSTALL THE MC BOX B.SMART IN A POTENTIALLY EXPLOSIVE LOCATION.**

The system was not designed for dispensing of diesel, petrol, flammable liquids with flash point <55°C/131°F, or for operation in environments with potentially explosive atmosphere.

The use in the above mentioned conditions is forbidden.

**CAUTION**  
Unenvisaged use



**It is strictly forbidden to use the system for purposes other than the ones indicated. Any other use different from the one for which the system has been conceived and described in this manual is considered "MISUSE". Therefore, Piusi S.p.A. shall not be held responsible for any damage caused to people, animals or to the system itself.**

### 10.3 REASONABLY FORESEEABLE MISUSE

The smartphone is an indispensable tool for MCbox B.SMART to set up and record the dispensing cycles managed by the system, but it is forbidden to use your mobile phone near the transfer pump when refuelling operations are under way.

**CAUTION**



**It is strictly forbidden to use mobile phones when dispensing petrol, other fuel or liquid which give off flammable vapours or generate a potentially explosive atmosphere and, in any case, inside any ATEX classified zone pursuant to current regulations unless the equipment has been ATEX certified and approved for use in the zone in question. Mobile phones must therefore remain outside this area or be switched off.**

**CAUTION**



**Use your smartphone only and exclusively to connect, authenticate and link your device to the transfer pump. When refilling the vehicle, even with non-flammable liquids, the use of the telephone is in any case strongly discouraged as it can cause distractions that can be dangerous.**

# 11 INSTALLATION

## 11.1 BOX INSTALLATION

### FOREWORD

**WARNING**  
Personnel  
authorised  
to install the  
device



MC BOX B.SMART can be installed outdoors. However, it is advisable to shelter it under a canopy to ensure a longer life and provide more comfort when refilling in bad weather.  
Installation must be carried out by specialised personnel in accordance with the instructions provided in this chapter.

All installation procedures must be performed exclusively by qualified and authorised staff. They must:

- Install the system in a dry and well ventilated place;
- Properly install all the components necessary for the equipment to function properly.
- Only use accessories that have been supplied with the system.

### CAUTION



**THE UNIT IS FOR PROFESSIONAL USE ONLY.**

**The use of accessories that are unsuitable and were not provided with the system is strictly prohibited. Piusi S.p.A. shall not be held responsible for damages caused to people, things or to the environment deriving from failure to meet such instructions.**

**MC BOX B.SMART must be installed in a well lit place, in compliance with the norms in force.**

**MC BOX B.SMART has been designed to be used in a dry environment. If it is installed outdoors, provide adequate protective covering.**

MCbox B-SMART can be wall- or pedestal mounted.

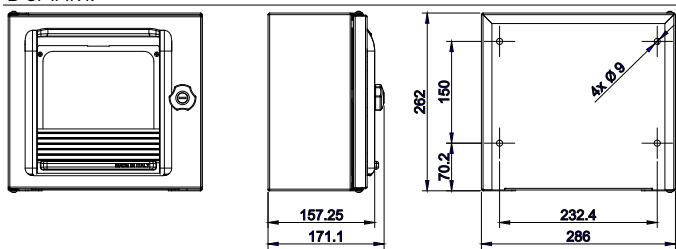
To install the equipment on a wall you will need 4 x M8 screws.

To install it on a pedestal you will need 4 x M6 screws.

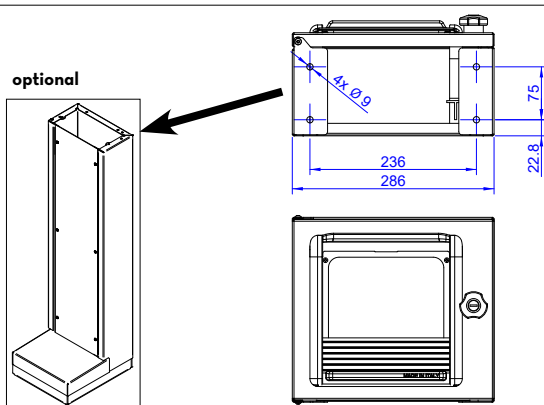
Diagrams showing the distance between holes for precise installation are provided below.

The pedestal is a Piusi accessory supplied separately from the MCbox B-SMART.

### WALL MOUNTING



## PEDESTAL MOUNTING



### CAUTION



**BE SURE TO INSTALL THE MCBOX B.SMART ONLY IN AN AREA WHERE THERE IS NO RISK OF EXPLOSION**

EN

## 11.2 ELECTRICAL CONNECTIONS

### ELECTRICAL CONNECTIONS

The electrical connections must be carried out in a workmanlike manner by specialised personnel, in full compliance with the regulations in force in the country of installation and with the instructions in the electrical diagrams in this manual.

### CAUTION



**The MCBOX B.SMART electronic panel is NOT equipped with circuit breakers; it is therefore essential to provide a rapid disconnect system, such as a fuse rated for the nominal motor current and operating voltage.**

### CAUTION



**Before accessing the electrical parts, make sure that you have disconnected all the main switches that energize the unit.**

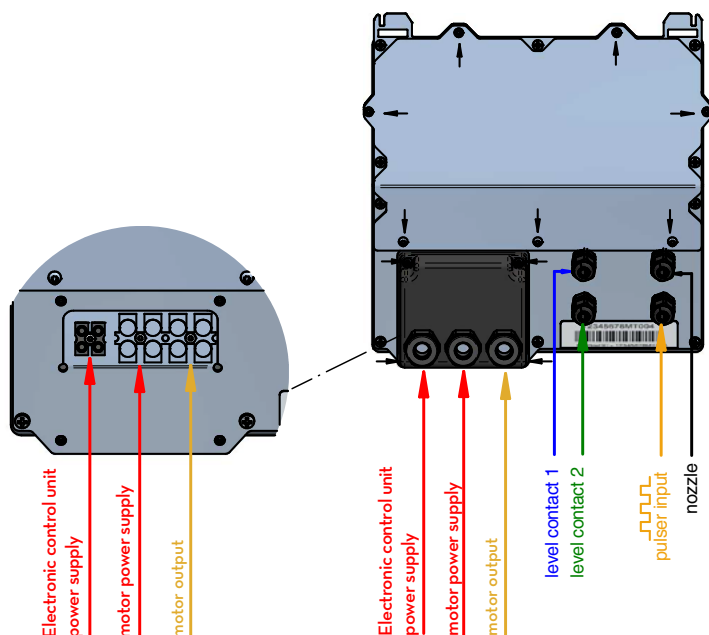
The operations required for correct wiring are described below:

- Opening the rear cover of the controller
- Connector for power supply
- Connector for the pump
- Connector for: 24 Vdc service power supply, nozzle contact, pulser, level 1 and 2 contact
- OCIO connection on RS485 (if used)
- Connection for interfacing with other canbus controllers
- Controller PG connection
- Closing the rear cover of the controller

### OPENING THE REAR COVER OF THE CONTROLLER CABLE GLAND CONNECTION

Loosen all 7 screws of the rear cover of the controller to access the compartment of the electronic boards.  
For the power supply connections, access the terminal board compartment by unscrewing the 4 screws on the junction box at the back of the panel.

Cable glands to be used for the various signals are indicated in order to obtain an optimised cable route inside the controller.


**CAUTION**


The MC BOX power connections can be divided into two cases, depending on the motor's power draw:

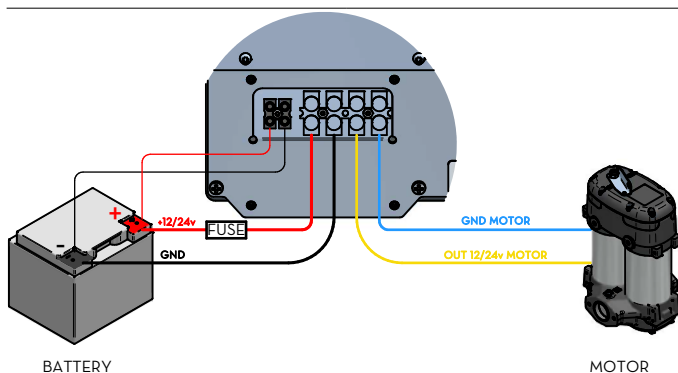
- 1
  - MCBOX 12V with power cables > (greater than) 4m and draw > (greater than) 10A
  - MCBOX 24V with power cables > (greater than) 4m and draw > (greater than) 5A

**CAUTION**


Configuration 1 is preferable. Use configuration 2 **EXCLUSIVELY** when the motor's power draw is less than shown"

- 2
  - MCBOX 12V with power cables < (less than) 4m and draw < (less than) 10A
  - MCBOX 24V with power cables < (less than) 4m and draw < (less than) 5A

1

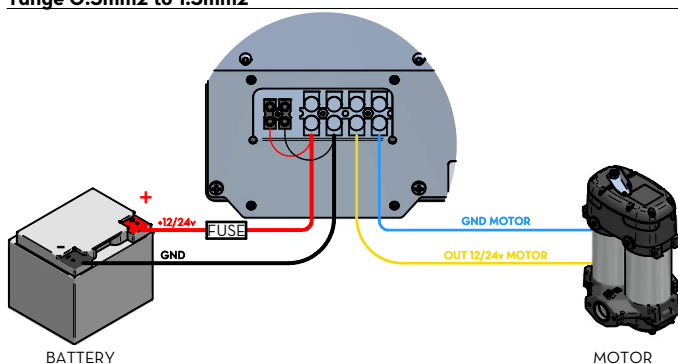


**CAUTION**



**Make sure to use a cable of cross section  $\geq 6\text{mm}^2$  for the motor's +12/24V power supply.  
The electronic controller's power cable should have a cross section in the range 0.5mm<sup>2</sup> to 1.5mm<sup>2</sup>**

2



**CAUTION**



**Make sure to use a cable of cross section  $\geq 6\text{mm}^2$  for the motor's +12/24V power supply.  
The electronic controller's power cable should have a cross section in the range 0.5mm<sup>2</sup> to 1.5mm<sup>2</sup>**

**CABLE GLAND CONNECTION  
CAUTION**



Cable glands to be used for the various signals are indicated in order to obtain an optimised cable route inside the controller.

**the cable cross-section must be chosen according to the electrical current absorbed by the motor, which is the device in which almost all the current flows.**

**NOTE**



**The maximum current that can be absorbed by the motor is 50A at 12Vdc and 25A at 24Vdc**

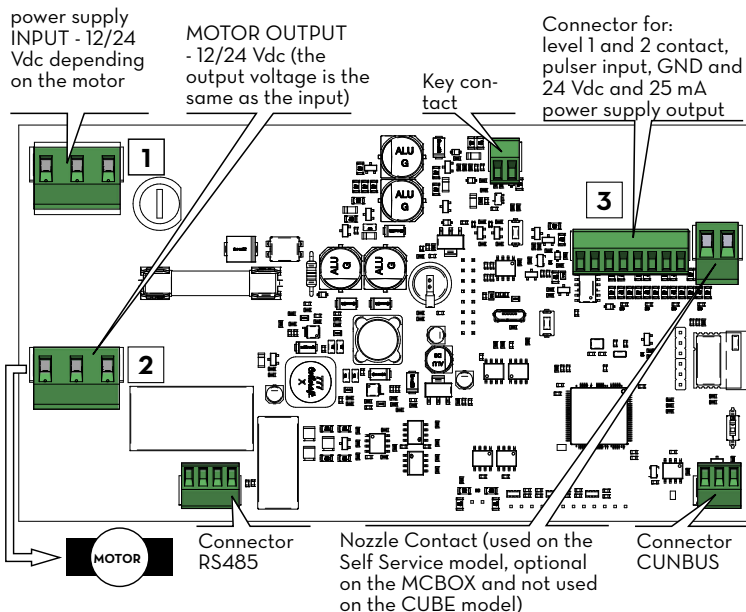
**Power supply  
input:**

Make sure to use a motor which is compatible with the controller:

**Voltage values**

- If the controller is a 12V model, the motor must also have a 12V operating voltage.
- If the controller is a 24V model, the motor must also have a 24V operating voltage.

Once the cover has been opened, the electronic board and its connectors are accessed:



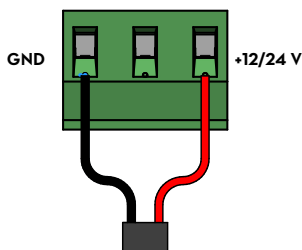
**IN DETAIL:  
CAUTION**



**The power cable and motor output cable are already connected to the B.Smart board. For the main power part and the motor output, see the description for connecting the output terminal board located on the back of the B.Smart panel.**

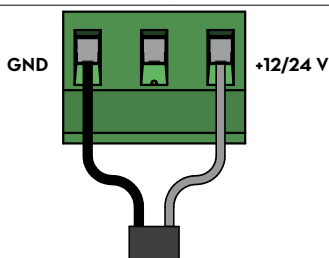
For the part concerning the level contact, pulser input and nozzle contact signals, see the following heading.

**1  
Power supply  
input**





## 2 MOTOR cable



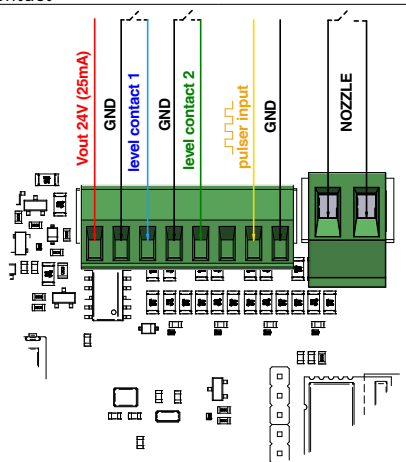
## 3 SIGNALS connector:

Output 24 V dc, pulser, level 1 and 2 contact, nozzle contact.  
Tighten the screws on the top of the 8-pin terminal board for 24Vdc output, level 1 contact, level 2 contact and pulser.  
The second 2-pin terminal board is for the nozzle contact.

### LEVEL CONTACTS ELECTRICAL CONNECTION

With reference to the level 1 contact and level 2 contact, it is necessary to underline that these are configurable contacts which can be used to connect:

- level sensor 4-20mA
- level sensor 0-10V
- clean contact



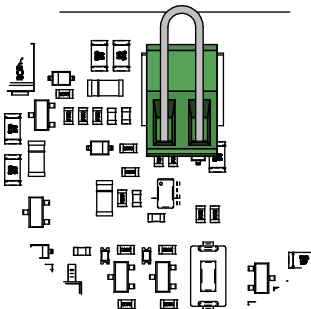
# KEY CONTACT NOTE



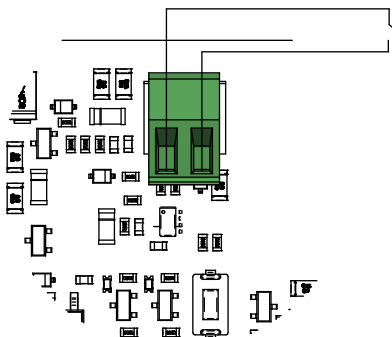
The key contact is used to zero the current draw when the vehicle is powered off, to avoid draining its battery.

- 1 jumper, always active (configuration as sold)

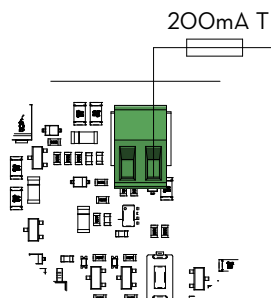
The key contact can be used in 3 different ways:



- 2 no voltage contact (switch)



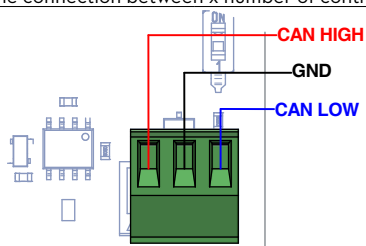
- 3 The battery voltage supplied by the ignition circuit can be used with an appropriate switch.  
We recommend using a 200mA T fuse

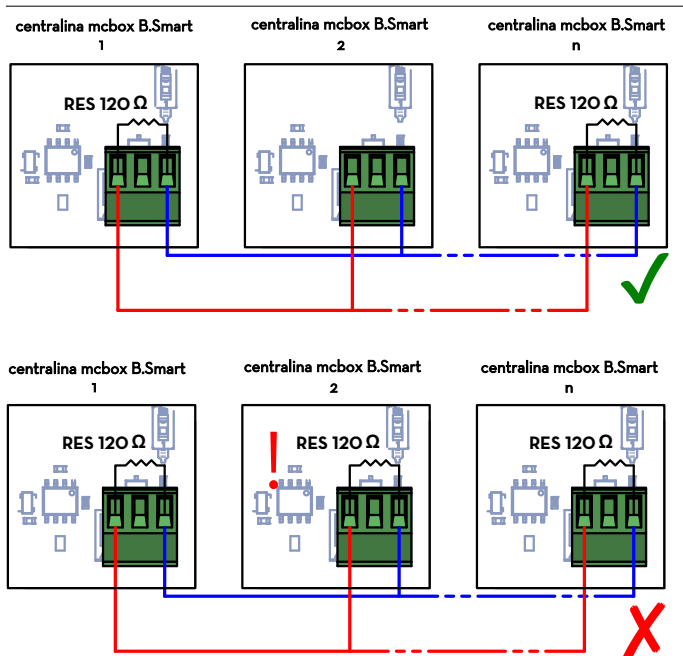


#### CANBUS connector

#### CANBUS CONNECTION

The controllers can be connected to each other, via CANBUS connection. The figure shows the connector on each individual board and a small diagram showing the connection between x number of controllers.





**CAUTION**



The 120 ohm resistor must be installed on the CANBUS line as shown in the connection diagram. The resistor must be installed at the beginning and end of the CANBUS line. **NEVER INSTALL MORE THAN 2 RESISTORS ON A SINGLE LINE.**

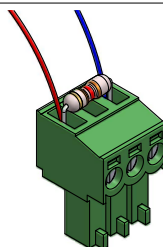
**NOTE**



For the CANBUS connection, it is recommended to:

- Use a cable with a characteristic impedance of 120 ohms
- The length of the connection between the various MCBOX B.SMARTs must not exceed 100 m.

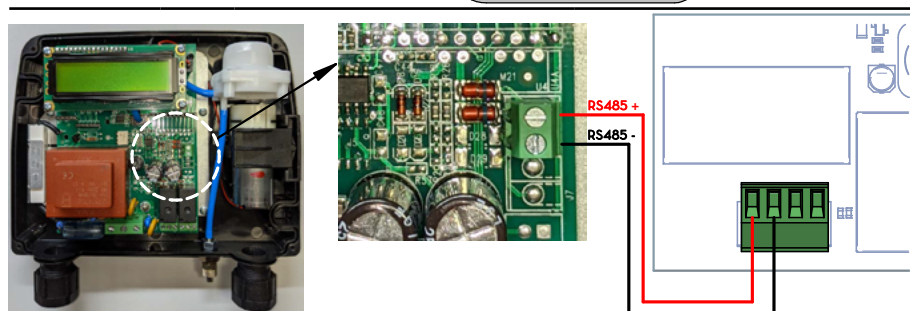
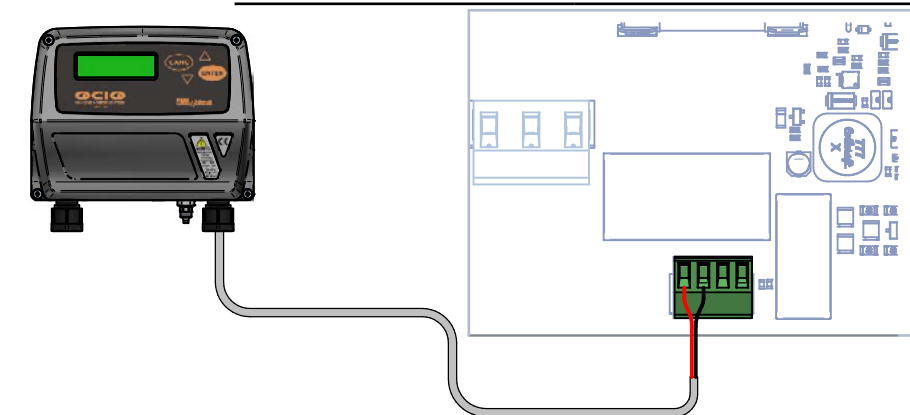
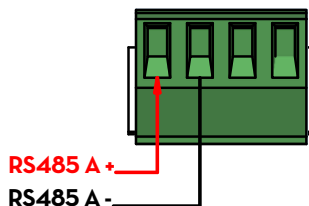
Insert the 120 ohm resistor provided between CAN HIGH - CAN LOW and connect the resistor output wires to the terminal boards, as shown in the figure.



## RS485 connector

### SERIAL CONNECTION

The B.Smart board has two RS485 serial communication channels. As well as the level contacts on the signals terminal board, it is possible to connect the OCIO detection system to the B.Smart board.



### CAUTION



If you are using OCIO 2.0 on a RS485 port, DO NOT connect the level 1 and 2 contacts to the signal connector".

### 4 Closing the rear cover of the controller

Replace the cover and tighten the 7 screws

## 12 INITIAL CONFIGURATION

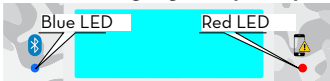
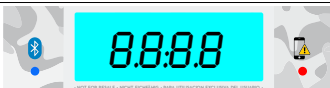




Before use, you must set up your system by connecting your MCbox B-SMART to the Smartphone App and the dedicated WebApp. This section explains all the steps required for a correct configuration.

To configure the system you need to:

- Turn the controller on.
- Configure the controller via APP;
- Configure the controller with the WebApp

### 12.1 SWITCHING-ON

The following is the sequence of messages given by the system during the switching-on phase

1		Display, BLUE and RED LEDs light up
2		All segments ON
		All segments OFF
3		The first part of the firmware revision index is shown (in this example r.1.00)
4		The last part of the firmware revision index (i = internal) is shown: i.00
5		The backlighting of the display and the LEDs turn off and 0.00 appears on the display

## 12.2 CONFIGURATION VIA APP AND WEBAPP

### FOREWORD

Initially it is necessary to assign the purchased SYSTEM CODE to the controller.

To do this, your smartphone must be connected to the 3/4G or Wi-Fi network, so check the status at the bottom left of the screen:



OFFLINE

OFFLINE: APP/smartphone not connected to 3/4G or Wi-Fi



ONLINE

ONLINE: APP/ smartphone connected to 3/4G or Wi-Fi

- 1 From your smartphone, go to the Play Store or App Store and search for PIUSI APP.

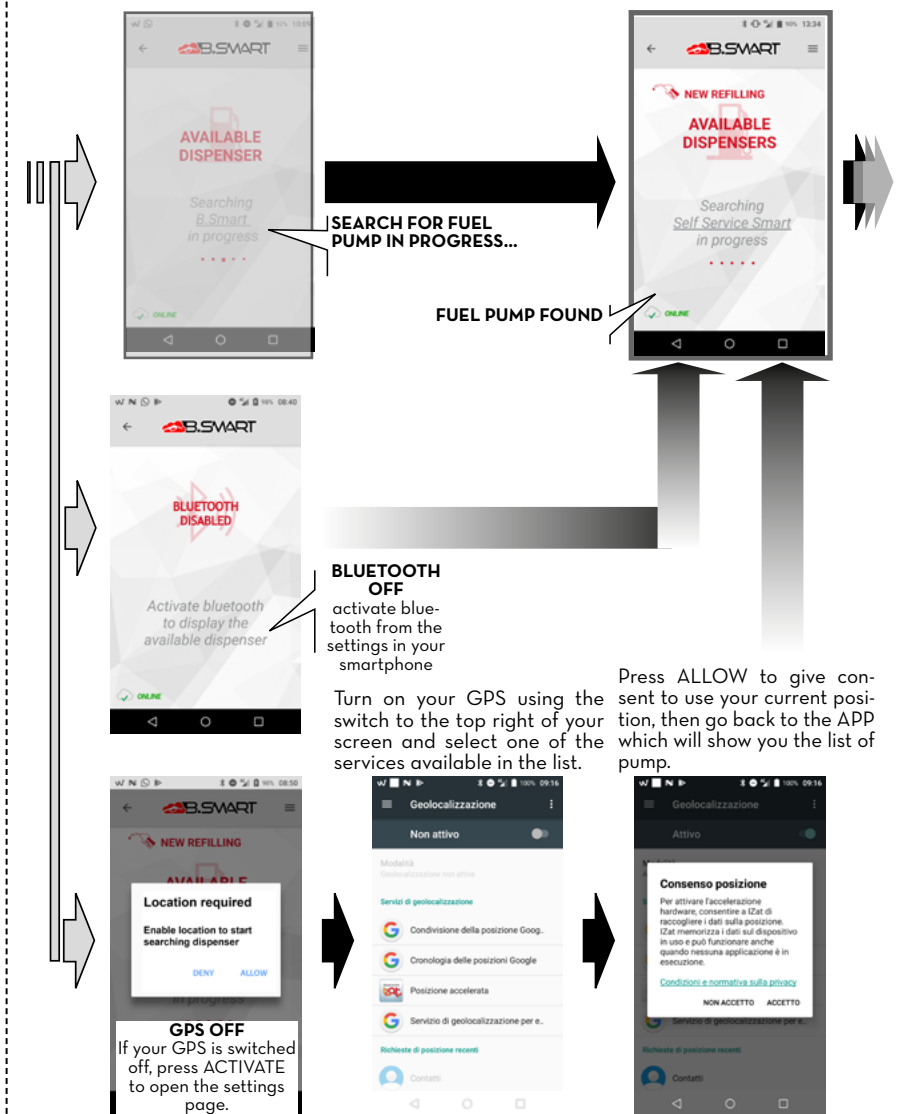


The icon is: Download and install the application.

- 2 Activate your smartphone's Bluetooth and GPS and open the APP. Then follow the steps described below:



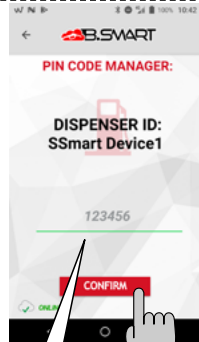
**DURING THE SEARCH, THE FOLLOWING ERRORS MAY OCCUR**



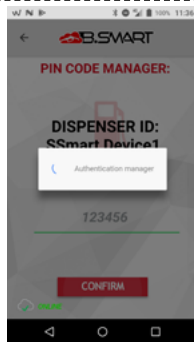




**YOU WILL BE ASKED TO ENTER YOUR PIN**



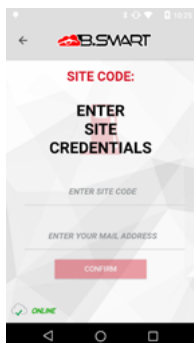
The manager PIN to enter on first installation is **123456** press **CONFIRM** to continue.



Wait for authentication to be completed.

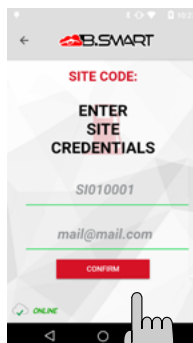


**2**



You will be asked to enter the **SITE CODE** (site CODE) and the **EMAIL** address of the portal user who registered the site"

**CAUTION:**  
**SEE THE REGISTRATION GUIDE (MO548)**

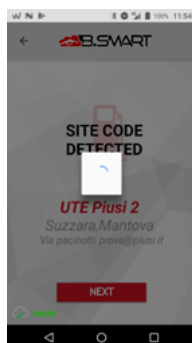


Enter the **SYSTEM CODE** acquired in the license and the **EMAIL** address of the portal user who registered the pump on the PIUSI portal. In this example it is: **Ute00004**



**SITE CODE** detected. Press **CONTINUE**. The system data appears on the screen.





The fuel pump is taken into cloud.



The other manager operations are shown (as well as station discovery and cloud registration)

The operations are:

- 1 - Meter calibration
- 2 - Forced synchronization of data in addition to all automatic synchronization
- 3 - Firmware updating of the electronic controller.

Press HOME to return to the APP's HOME page.



HOME page of the APP

## 12.3 CONTROLLER CONFIGURATION VIA WEBAPP

### FOREWORD

**For detailed account registration instructions, see the Registration Guide (MO548)**

After assigning the SYSTEM CODE to the controller, you must check if the controller is present in the cloud. Then connect from your browser: Google Chrome, Microsoft Edge or Mozilla Firefox to the following link: <https://bsmart.piusi.com/>

The WebApp login screen opens:

**PIUSI** **B.SMART**

Username  
admin.ute2

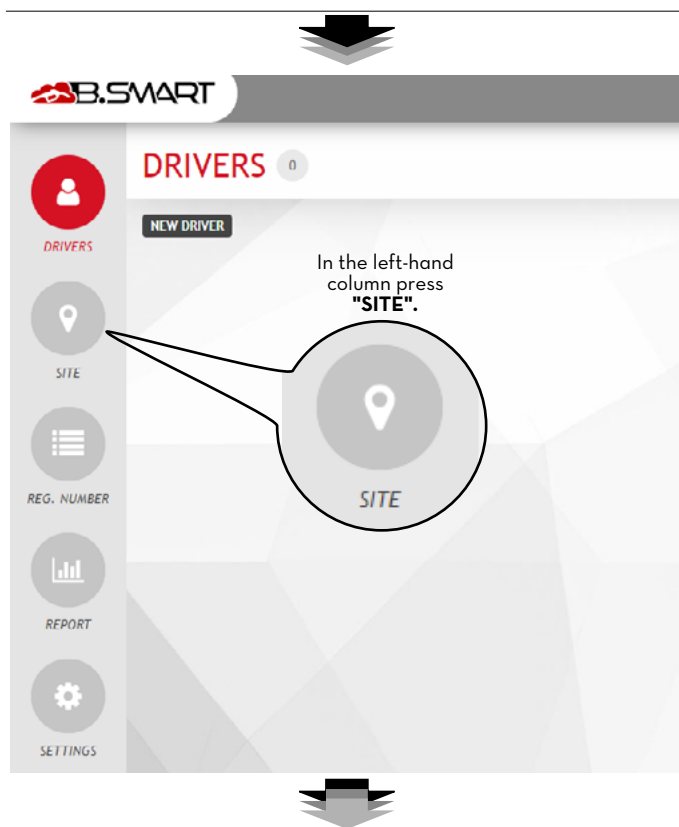
Password  
.....

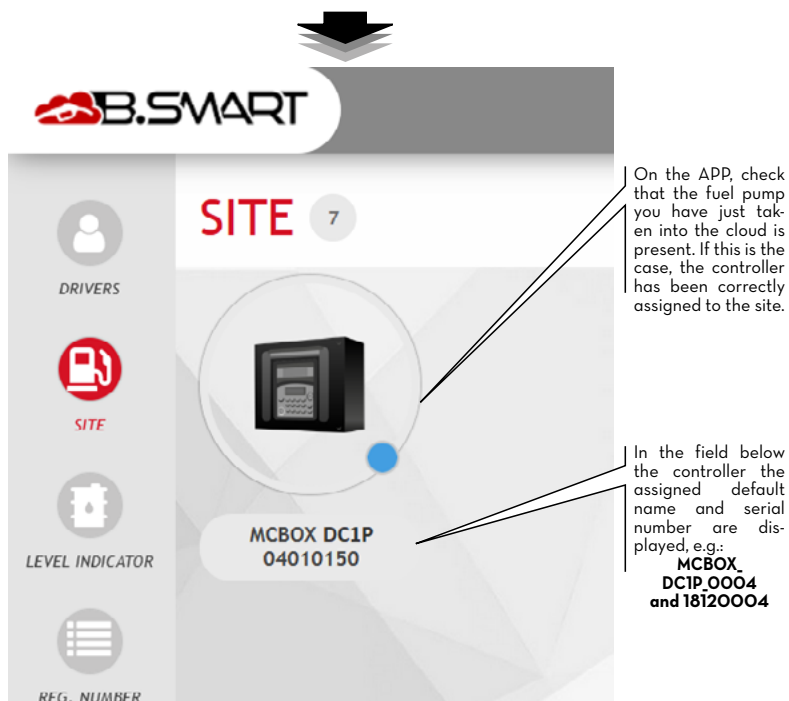
☐ Show password

Site Code  
ute00002

**LOGIN**

When the WebApp opens enter: username, password, and site code and then press LOGIN.





Full details of the WebApp functions (such as managing drivers, registration numbers, dispensing reports and configurations) can be found in the dedicated manual, loaded in the dedicated area of the WebApp.

## 13 DRIVER ACCESS

### 13.1 FIRST DRIVER ACCESS FROM APP

#### FOREWORD

To use the APP as a driver, the manager must have created the driver profile via WebAPP, (see WebAPP manual, section - ADD NEW DRIVER). Furthermore, to do this, your smartphone must be connected to the 3/4G or Wi-Fi network, so check the status at the bottom left of the screen:

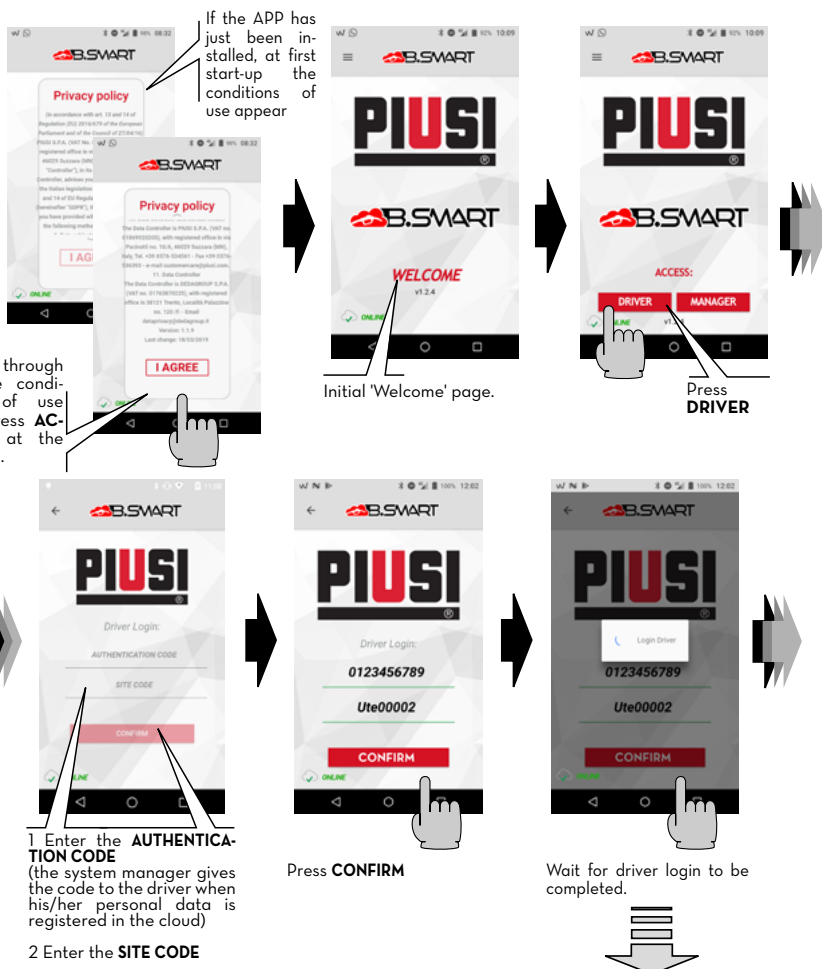


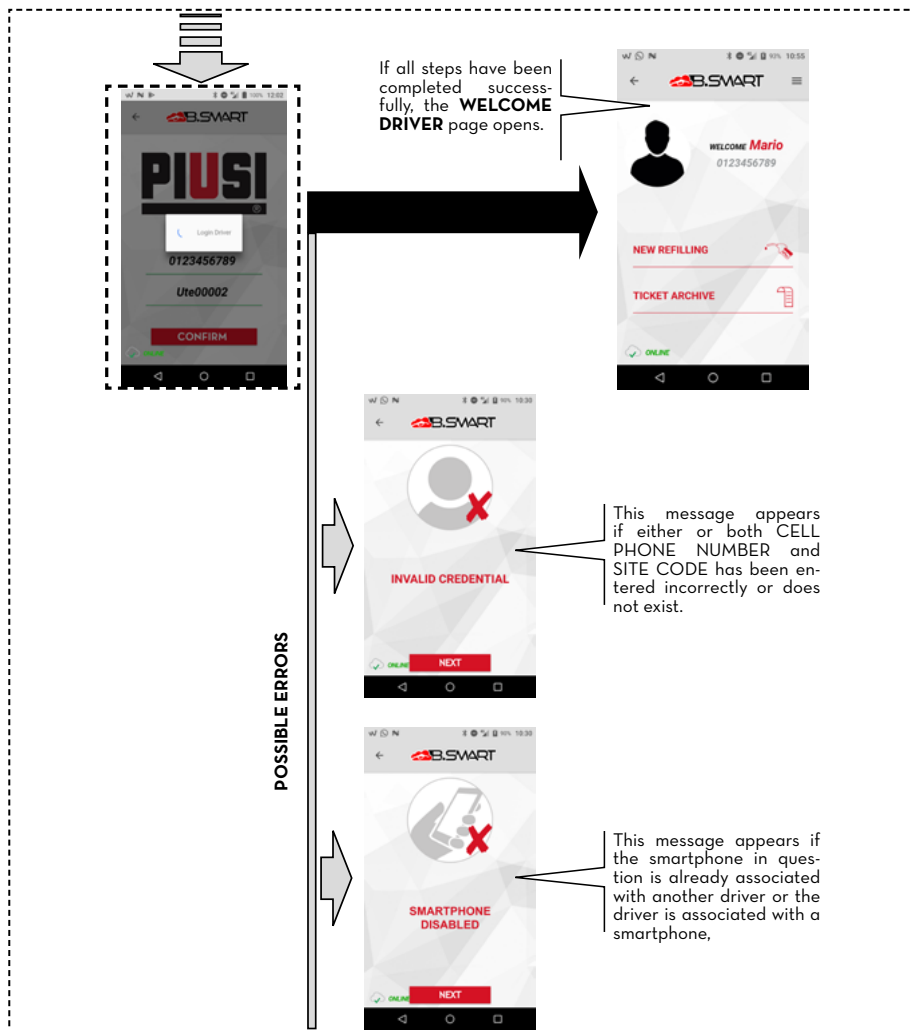
OFFLINE: APP/smartphone not connected to 3/4G or Wi-Fi



ONLINE: APP/ smartphone connected to 3/4G or Wi-Fi

Afterwards the driver can authenticate himself in the APP:





## 13.2 DRIVER - DISPENSING VIA APP

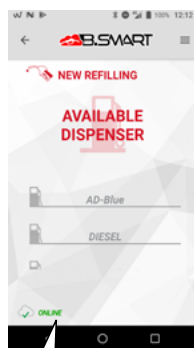
### TEMPORARY DISPLAY PAGES



After the very first authentication has been completed, each time the APP is opened the name of the driver, cell phone number and profile picture will appear.



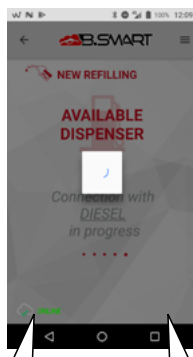
Search for fuel pump in progress



List of available fuel pumps which are not already being used

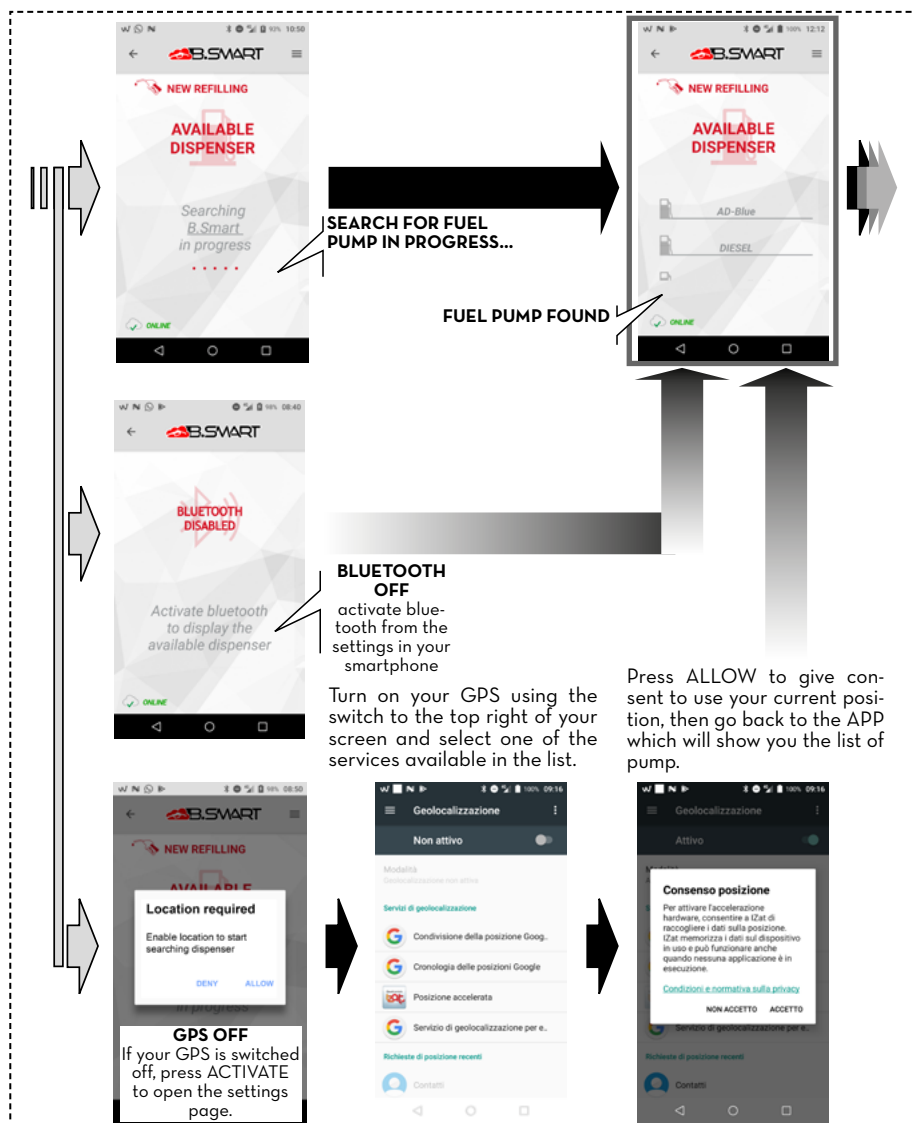


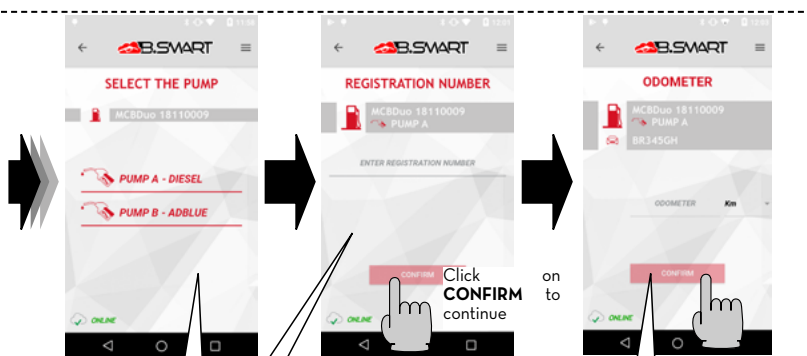
DIESEL fuel pump selected



Smartphone - controller connection in progress + Synchronization of cloud and pump data







Select the pumping unit to be used for dispensing.

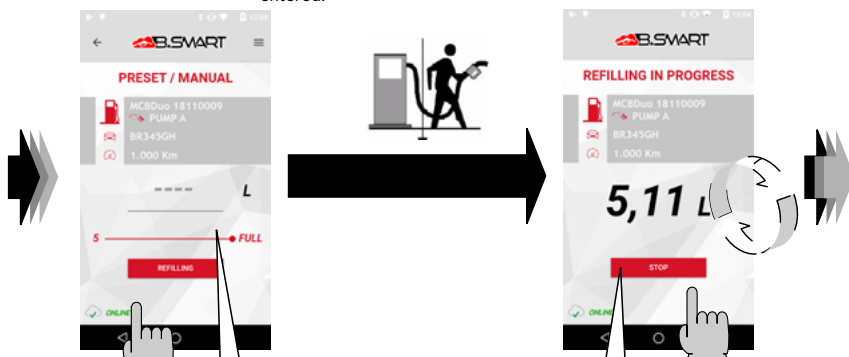
**OPTIONAL** request, decided by the manager based on how he has configured the webAPP (if he wishes this request to be made of the user or not).

Enter "Registration Number" (this could be the license plate of the vehicle using the pump or another reference code useful to the system manager)

In this example **ab123cd** is entered.

**OPTIONAL** request. Enter odometer, this page appears only if the manager has enabled use of the odometer in the WebApp. In this case **1000** is entered.

Click **CONFIRM** on to continue



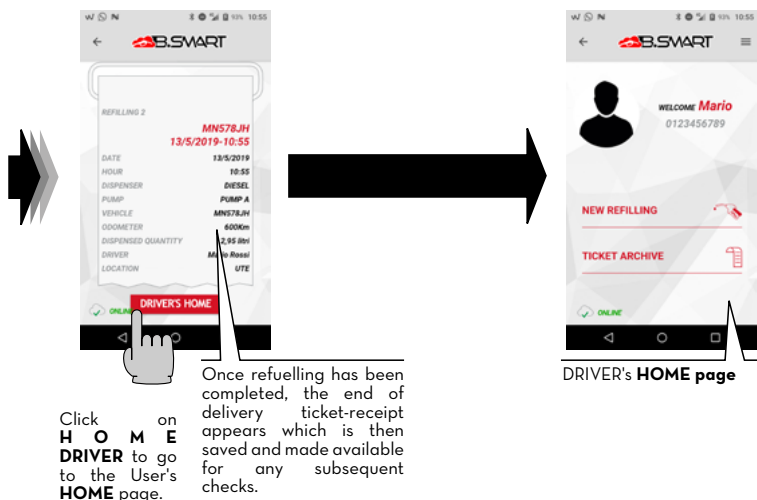
Click **REFUEL** on to continue

Enter the PRESET quantity to be delivered. If no value is set the tank will be filled.

Fuel delivery in progress: If a PRESET quantity has been entered, this quantity is shown under the meter.

This value does not appear if the setting FULL has been entered.

Click on **STOP** to finish the dispensing



**NOTE**



It is also possible to perform the **NEW REFILLING** procedure off-line, i.e. from a smartphone not connected to the 3/4G or Wi-Fi network. In this case, dispensings will be uploaded to the cloud as soon as the smartphone has the APP open in an area with 3/4G coverage, or as soon as a new smartphone connected to the 3/4G network or Wi-Fi connects up with the controller.

### 13.3 DISPENSING VIA USER KEY (I-BUTTON)

When the manager creates the driver he can add an electronic key (iButton) which is used to perform the access.

To do this, just add the last 7 digits of the hexadecimal code associated with the key to the input of the driver's card in WebAPP (see WebApp manual, chapter "ADD NEW DRIVER").

NUOVO AUTISTA

Nome \*

Mario

Cognome \*

Rossi

Telefono \*

0123456789

Email \*

prova0@piusi.com

CODICE I-BUTTON

002B4BF

LEGGI

SALVA

The i-Button serves as a means of authentication to replace the smartphone. For the dispensing, simply place the iButton on the reader in the controller: authentication takes place, then you can start dispensing.

Dispensings are uploaded to the cloud as soon as a smartphone with an active data connection connects to the controller.

#### CAUTION



**Dispensing via the iButton key is allowed only when the procedures indicated in paragraphs 13.2, 13.3 and 14.1 have been successfully completed using a smartphone and the WebApp.**

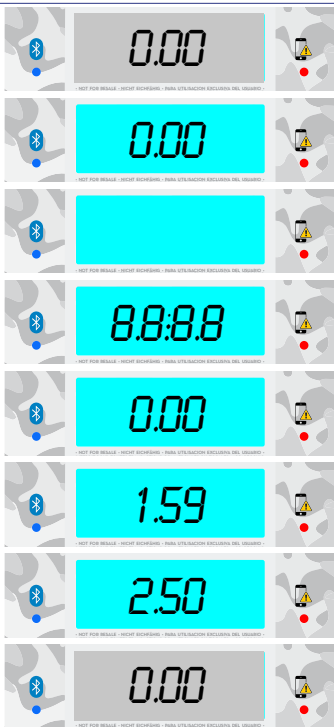
**These procedures are fundamental, as they allow the Manager to configure the system and manage its controllers while at the same time ENABLING THE DRIVER TO DISPENSE VIA A SPECIFIC CONTROLLER.**

#### NOTE



**Dispensing via iButton is recommended only when strictly necessary in those case where it is impossible to dispense via a smartphone.**

**This is because dispensing with iButton does not allow for direct cloud updating, thus compromising the real potential of the system.**

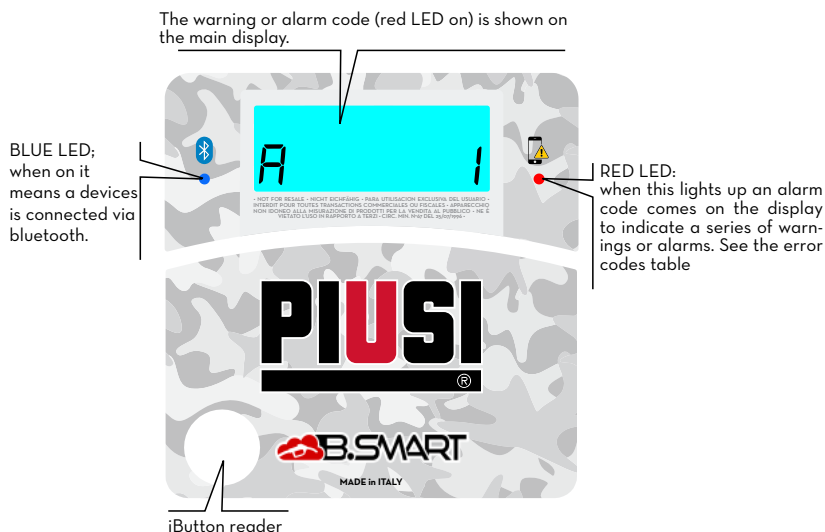


Driver authentication via i-Button

Dispensing start

Dispensing end

## 14 WARNINGS AND ALARMS



### NOTE



Red LED on - It switches on due to several factors, each time the LED lights up the display shows a code indicated by a letter A and by an incremental number. Whenever the led is on, it is not possible to dispense.

Below are the possible coded errors, with their respective resolution methods:

Coding	Description	Explanation/Solution
[ 1	WARNING_MASTER_PUMP_GROUPA_LEVEL1_CONTACT	Contact 1 associated with pump A of the main controller is active: red LED flashing.
[ 2	WARNING_MASTER_PUMP_GROUPA_LEVEL2_CONTACT	Contact 2 associated with pump A of the main controller is active: red LED flashing.
[ 3	WARNING_MASTER_PUMP_GROUPA_THR1	The tank associated with pump A of the main controller has reached the level 1 threshold: red LED flashing.
[ 4	WARNING_MASTER_PUMP_GROUPA_THR2	The tank associated with pump A of the main controller has reached the level 2 threshold: red LED flashing.
[ 9	WARNING_SLAVE_PUMP_GROUPA_LEVEL1_CONTACT	Contact 1 associated with pump A of the secondary controller is active: red LED flashing.
[ 10	WARNING_SLAVE_PUMP_GROUPA_LEVEL2_CONTACT	Contact 2 associated with pump A of the secondary controller is active: red LED flashing.
[ 11	WARNING_SLAVE_PUMP_GROUPA_THR1	The tank associated with pump A of the main controller has reached the level 1 threshold: red LED flashing.
[ 12	WARNING_SLAVE_PUMP_GROUPA_THR2	The tank associated with pump A of the secondary controller has reached the level 2 threshold: red LED flashing.
[ 17	WARNING_MASTER_PUMP_GROUPA_PROBE_OCIO	Fault detected on the level sensors connection line. (The system allows manual dispensing)
[ 19	WARNING_MASTER_SLAVE_GROUPA_PROBE_OCIO	Fault detected on the level sensors connection line. (The system allows manual dispensing)
[ 25	WARNING_CANBUS_COM	Fault detected on the connection line between controllers. The system behaves as for probe alarms, allowing manual dispensing

<b>A1</b>	<b>ALARM_MASTER_PUMP_GROUPA_LEVEL1_CONTACT</b>	Contact 1 associated with pump A of the main controller is active: red LED on (not flashing). Delivery not possible
<b>A2</b>	<b>ALARM_MASTER_PUMP_GROUPA_LEVEL2_CONTACT</b>	Contact 2 associated with pump A of the main controller is active: red LED on (not flashing). Delivery not possible
<b>A3</b>	<b>ALARM_MASTER_PUMP_GROUPA_THR1</b>	The tank associated with pump A of the main controller has reached the level 1 threshold: red LED on (not flashing). Delivery not possible
<b>A4</b>	<b>ALARM_MASTER_PUMP_GROUPA_THR2</b>	The tank associated with pump A of the main controller has reached the level 2 threshold: red LED on (not flashing). Delivery not possible
<b>A9</b>	<b>ALARM_SLAVE_PUMP_GROUPA_LEVEL1_CONTACT</b>	Contact 1 associated with pump A of the secondary controller is active: red LED on (not flashing). Delivery not possible
<b>A10</b>	<b>ALARM_SLAVE_PUMP_GROUPA_LEVEL2_CONTACT</b>	Contact 2 associated with pump A of the secondary controller is active: red LED on (not flashing). Delivery not possible
<b>A11</b>	<b>ALARM_SLAVE_PUMP_GROUPA_LEVEL1_THR1</b>	The tank associated with pump A of the main controller has reached the level 1 threshold: red LED on (not flashing). Delivery not possible
<b>A12</b>	<b>ALARM_SLAVE_PUMP_GROUPA_LEVEL1_THR2</b>	The tank associated with pump A of the secondary controller has reached the level 2 threshold: red LED on (not flashing). Delivery not possible
<b>A27</b>	<b>ALARM_LOW_BATTERY</b>	The battery charge is below the operational level. Power 12V --> threshold 11.5V Power 24V --> threshold 23.5V
<b>A28</b>	<b>ALARM_BUFFER_FULL</b>	The dispensing buffer is full. All the dispensing operations stored in the controller must be uploaded to the cloud
<b>A29</b>	<b>ALARM_INACTIVE_PUMP</b>	No pumps are active (Check system configuration on WebApp)
<b>A30</b>	<b>ALARM_RTC_RESET</b>	The time has been lost. The current time must be uploaded to the controller via a smartphone
<b>A31</b>	<b>ALARM_RTC_FAULT</b>	Time synchronization not possible (Contact the Service Department).
<b>A32</b>	<b>ALARM_SOFT_MEMORY_DATA_FAULT(Cumulative)</b>	Corrupted memory (data can be reset from WebApp backup)
<b>A33</b>	<b>ALARM_HARD_MEMORY_DATA_FAULT(Cumulative)</b>	Corrupted memory (data can be reset from WebApp backup)
<b>A34</b>	<b>ALARM_VERY_HARD_MEMORY_DATA_FAULT(Cumulative)</b>	Damaged memory (contact the Service Department)

With regard to the warning/alarm logics, it should be noted that one or more controllers can be connected to the same tank, or share common level contacts as outlined in the paragraph describing the system.

In these situations, warnings and alarms from one controller will be propagated to the other controllers sharing the same resource.

For more specific details on modes of connection and communication between controllers, please refer to the manual found in the system management WebApp.

## 15 MAINTENANCE

### 15.1 ROUTINE MAINTENANCE

MC BOX B.SMART does not USUALLY require any ROUTINE maintenance.

### 15.2 EXTRAORDINARY MAINTENANCE

#### CAUTION



**The maintenance of the electrical parts can 'be done only by qualified installer electrical or electronic.**

**Before performing any maintenance make sure to unplug the device from the power supply to turn it off and isolate it from the mains.**

**If the device is sold without cable to provide periodic verification of the circuit grounding in accordance with current regulations**

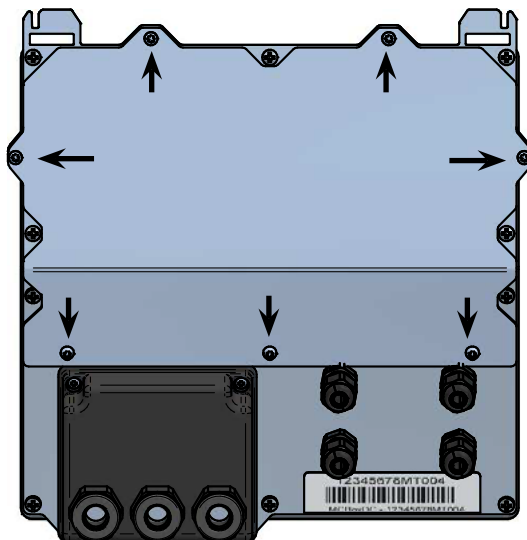
1 - Firmware update via smartphone, see dedicated section in the APP manual

2 - Fuse control: to access the fuses it is necessary to open the unit and access the parts that are live during normal use, to operate safely disconnect the general power supply from the unit

### 15.3 CHECK AND REPLACEMENT OF FUSES

For checking and replacing fuses on electronic boards:

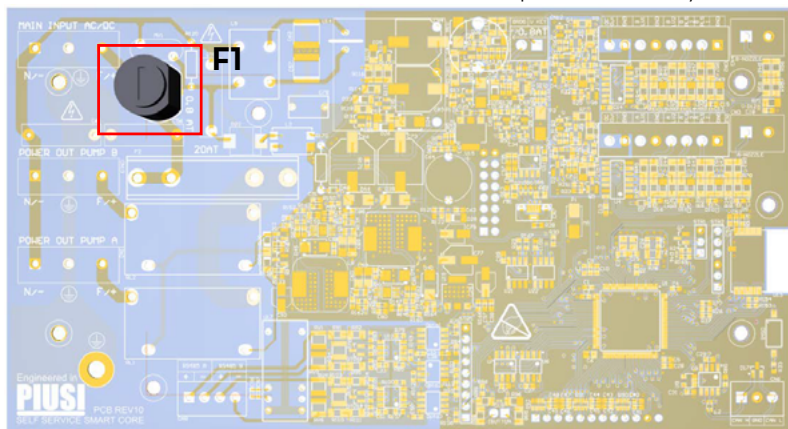
- 1 Cut the unit off the power supply;
- 2 Open the door on the MC BOX B.SMART using the relative key;
- 3 Loosen the screws of the metal rear cover to access the compartment of the electronic boards





**4**

Check the condition of the fuse and replace it if necessary



F1 • Power supply input fuse 315mA F (fast)

**5**

Tighten the screws of the metal rear cover to close the compartment of the electronic boards and power

## 16 TROUBLESHOOTING

### 16.1 ELECTRICAL/ELECTRONIC CONNECTIONS

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
<b>MC BOX</b> <b>B.SMART does not switch on</b>	Lack of power due to: <ul style="list-style-type: none"> <li>• Incorrect connections</li> <li>• Upstream circuit breaker in OFF position</li> <li>• Fuse on power supply interrupted</li> </ul>	Check connections Set circuit breaker to ON position Check fuse
<b>A driver with an electronic key is not recognized</b>	The electronic key has not been associated by the MANAGER The electronic key has been damaged and is no longer recognized by the system	The system MANAGER associates the key to the driver Change the electronic key, the system MANAGER will also have to delete the code of the old key and associate the new key to the driver via WebAPP
<b>The motor does not start</b>	It has not been connected correctly to the terminals provided	Check connections, or (if present) check that the position of the motor switch is in the ON position
<b>Does not count during dispensing</b>	The Pulser that emits the counting signals is not correctly connected The Pulser that emits the counting signals is NOT compatible with the electronics Pulser board damaged	Check connections The electronics are designed to receive a "clean contact" or "Open Collector" signal as input. If the input signal is an incompatible voltage signal, in addition to the malfunction the electronic board is likely to be damaged Replace Pulser board
<b>The counting is not accurate</b>	The system is NOT calibrated	Calibrate the system according to the procedure
<b>The counting is not accurate even after calibration or is only accurate at low flow rates</b>	The signal coming from the Pulser is out of the ranges acceptable by the electronics	The pulser signal must have a frequency of at most 300 Hz and Duty Cycle from 10% to 90%. Beyond these ranges, the system does not process the received data correctly. The system must be set within the correct ranges, inserting appropriate electronic interfacing equipment if needed (contact the Technical Assistance service for help with these options).

## 16.2 PROBLEMS WITH THE SMARTPHONE APP

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
<b>APP says the driver is not enabled</b>	The manager has not enabled the driver for transfer pump use.	The MANAGER must enable the driver to use the transfer pump via the WebAPP in the section dedicated to drivers
<b>Dispensing from smart-phone is not present in the cloud</b>	Dispensing was made with the smart-phone with data connection disabled or in an area with poor 2G/3G/4G coverage	Dispensing will be uploaded to the cloud as soon as the APP is opened in an area with 2G/3G/4G coverage. In the meantime it will be stored in the memory of the smartphone and also in the memory of the transfer pump
<b>APP does not see the controller even though Bluetooth is active</b>	Bluetooth module on the smartphone is not compatible with the Bluetooth module in the transfer pump Transfer pump being used by another driver	The Bluetooth module of the transfer pump is compatible with all smartphones that feature the Bluetooth version 4.0 or later (smartphones from 2011 onwards) The transfer pump will become visible on the smartphone only when the driver who is using it has finished operations

## 17 FAQ

- 1 **If a driver changes smartphone, is it necessary to create a new account for that driver or can he continue to use what he already had?**

CAUTION



If the driver changes smartphone, he must notify the site manager, who will delete / reset the smartphone - driver association in the WebApp (procedure described in the manual of the WebApp, chapter "DRIVER DETAIL"). The driver can then log in from the APP installed on the new smartphone.

**After the manager has deleted the smartphone - driver association, the driver is obliged to access with a smartphone other than the previous one, because access with his credentials is prevented on the old device. To be able to access with the old smartphone, you must first access with a new smartphone, then be reset as user and finally enter with the initial smartphone**

- 2 **What if a driver loses his smartphone?**

If the driver loses his smartphone, it is necessary to notify the site manager, who will immediately remove the smartphone - driver association. The procedure to be followed is the same as that indicated in question 1.

- 3 **What if the APP reports that the smartphone is not recognized?**



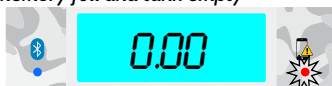
Generally it is an error shown when the driver has changed smartphone but has kept the same phone number and the site manager has not reset the user.

In this case the driver must contact the manager and inform him of the error shown by the APP. The manager will remove the smartphone - driver association to allow the driver to login from the new smartphone. The procedure to be followed by the manager is the same as that indicated in question 1 (see also the WebApp manual, chapter "DRIVER DETAIL")

- 4 When are dispensings made via iButton or smartphones without an internet connection uploaded to the cloud?**
- There are 4 cases in which the dispensings are uploaded to the cloud:
- Each time the APP is opened, if the data connection is active
  - APP open in the background and data connection active
  - Data synchronization by the manager by pressing the SYNCHRONIZATION key
  - Every time a driver connects to the controller and the internet connection of the smartphone is active
- As you can see from the list, the dispensings can be uploaded to the cloud even if your smartphone is not connected to the controller.

- 5 What if I can't dispense via authentication with iButton?**
- There are a few possible cases:
- Dispensing memory full
  - Tank empty
  - iButton not associated with any driver
- In detail:

**Dispensing memory full and tank empty**



The red LED to the right of the controller display is on. This may indicate problems in the memory (dispensing memory full) or tank empty.

To empty the dispensing memory, synchronize with the cloud. If the problem is not solved, reset the controller

**iButton not associated with any driver**



When the iButton is placed on the reader the display does not light up

**6 What if a driver changes his phone number and keeps the same smartphone?**

If a driver changes number it is necessary to inform the manager, who will change it from the driver's card in the WebApp (see also the manual of the WebApp, chapter "DRIVER DETAIL").

NUOVO AUTISTA

Nome \*  
Mario

Cognome \*  
Rossi

Telefono \*  
0123456789

Email \*  
prova0@piusi.com

Codice Ibutton  
002B4BF

LEGGI

SALVA

In the APP, the number is automatically updated the first time you connect to the cloud. From now on the mobile phone number will be the one to be used to access the APP. In addition, in the case of mobile number portability between different mobile operators, it is likely that for a few days the mobile number will be the temporary one, and then the mobile number will be the same again as soon as portability is complete. In this case, during the transition period, there is no need to notify the site manager of the temporary number, you can continue to use your original telephone number.

## 18      SCRAPPING AND DISPOSAL

**Foreword**

**Disposal of  
Packaging**

**Disposal of  
Metal parts**

**Disposal of  
electrical and  
electronic  
components**

**Environmental  
information for  
customers in  
the European  
Community**



In case the system should be demolished, its parts must be given to companies specialised in industrial waste disposal and recycling; in particular:

Packaging consists of biodegradable cardboard that can be given to firms charged with cellulose recovery.

The metal components, both painted and in stainless steel, are usually recycled by companies that are specialised in the metal-scraping industry.

These have to be disposed by companies that are specialised in the disposal of electronic components, in accordance with the instructions of 2012/19/UE (see text of Directive below).

European Directive 2012/19/UE requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities.

Disposing of RAEE equipment as household wastes is strictly forbidden. Such wastes must be disposed of separately.

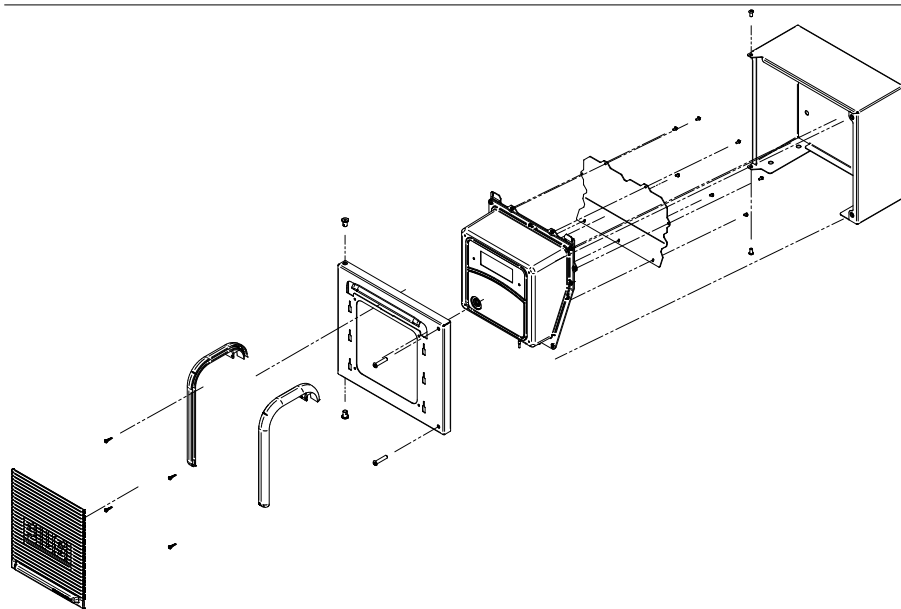
Any hazardous substances in the electrical and electronic appliances and/or the misuse of such appliances can have potentially serious consequences for the environment and human health.

In case of the unlawful disposal of said wastes, fines will be applicable as defined by the laws in force.

**Disposal of  
Other parts**

The disposal of other parts such as pipes, rubber seals, plastic components and cables should be entrusted to companies specialized in the disposal of industrial wastes.

## 19 EXPLODED VIEW



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*Fluid Handling  
Innovation*

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