PIUSI

B.SMART IdentiTank

MADE IN ITALY

Installation, use and maintenance manual EN

BULLETIN M0791 EN_01

ENGLISH

INDEX

BULLETIN M0791

1 OVERVIEW

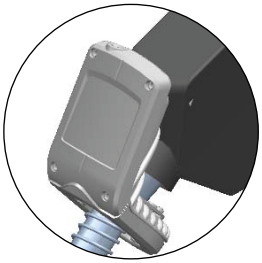
1.1 DEVICE DESCRIPTION

IdentiTank is a fuel authorization system using an RFID tag integrated into the diesel dispenser.
The system consists of three different devices that work in synergy:

RFID Tag: Installed on a fixed or mobile tank.

Passive low-frequency (LF) RFID tags require no maintenance.
Designed for installation on both fixed and mobile tanks, the tags wirelessly identify the vehicle.
When a vehicle arrives at a fueling station equipped with an RFID reader, the unique ID of the vehicle's tag is read and transmitted to the B.Smart electronic board, authorizing fuel dispensing for the registered vehicle.
If the tag is removed after installation, it is immediately destroyed, preventing reuse on another vehicle.
The tags are available in Heavy and Wing versions.

Nozzle RFID: Integrated into the Fuel Nozzle.



A rugged and intrinsically safe RFID reader featuring a unique design that ensures long-lasting attachment to the fueling nozzle, activating automatically when the nozzle is tilted.
Designed to work in combination with RFID tags and the Wireless Controller as a front-end for fuel management systems.
As soon as the RFID reader detects an associated vehicle tag, the unique ID of the tag is sent through an encrypted channel to the Wireless Controller.
The controller communicates with the B.Smart board, which decides whether to authorize fuel dispensing.
Removing the nozzle from the tag stops fuel dispensing.
The RFID reader includes a bi-color LED to indicate its operational status (a flashing green LED indicates successful tag reading, while a red LED means that no associated tag is being read).
Depending on the system configuration, the Nozzle RFID is available for the PA60 and PA80 Fuel Nozzle models.

WIRELESS CONTROLLER: Transmits data between the RFID reader and the fuel dispenser control unit.

The Wireless Controller is a device that receives data from the RFID reader and forwards this information via RS485 to the B.Smart electronic board, which determines whether and how much fuel can be dispensed based on the system configuration.
Only vehicles authorized via RFID tags can refuel.

2 TECHNICAL DATA

	Wireless controller	RFID Reader	RFID Tag
Operating frequency	433.92 MHz (receiver)	433.92 MHz (transmitter); 121 kHz – 129 kHz (receiver)	125 kHz (transmitter)
IP protection	IP67	IP66	IP68 (heavy version) IP67 (wing version)
Storage temperature [°C]	From -40 to +80	From -40 to +80	From -25 to +60
Operating temperature [°C]	From -25 to +60	From -25 to +60	From -25 to +60
Dimensions [mm]	195x190x82	94.4x131.3x64x6	37.8x28.5x20 heavy version 25x25.8x11.2 wing version
Additional information	Powered via alternating current (AC/DC power unit inside the box with supply voltage between 85VAC and 264VAC)	Battery life approx. 3 years with 200 minutes of daily operation	Housing material: PA6

3 INSTALLATION

3.1 RFID TAG MOUNTING PROCEDURE

1 **Identifying the mounting area:**

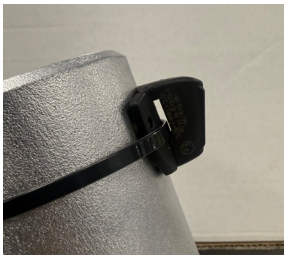
Install the RFID Tag near the vehicle's fuel tank cap, selecting a position that ensures minimum distance between the RFID reader on the Fuel Nozzle and the RFID Tag.

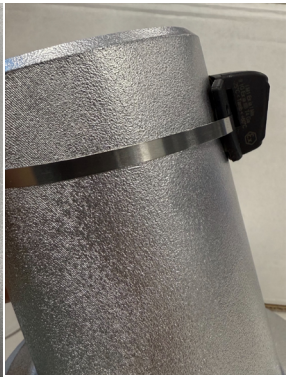
It is recommended to perform reading tests before permanently attaching the tag. The maximum reading distance is approximately 50 mm.

Below are some examples of recommended tag application areas.

2	**Surface cleaning:** Before attaching the tag, ensure that the tank surface is clean, free of fuel residues, and completely dry. It is recommended to use specific degreasers designed to prepare the surface for bonding. Recommended cleaner: LOXEAL CLEANER 10.
3	**Tag bonding:** A two-component acrylic adhesive (methacrylate ester) must be used. Recommended adhesive: LOXEAL SUPERLOX. The adhesive resin should be applied around the edges of the tag and inside the area where the antenna is located. Proceed with tag bonding, applying a sufficient amount of adhesive in the areas indicated in the following image:  Wait 30 minutes for the adhesive to set.

When possible, it is recommended to use one, or preferably two, zip ties to securely hold the Tag in place. The use of metal ties is recommended.
Below are some examples:





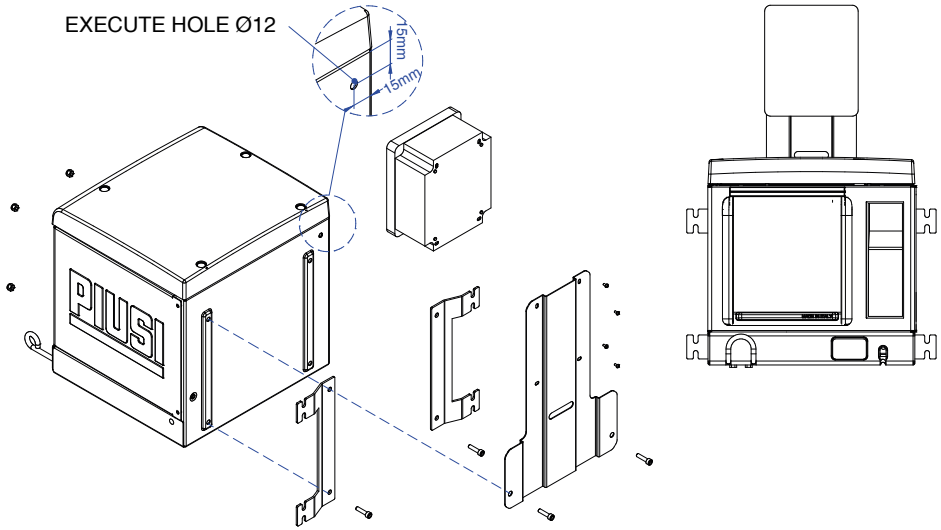
3.2 WIRELESS CONTROLLER

3.2.1 Installation

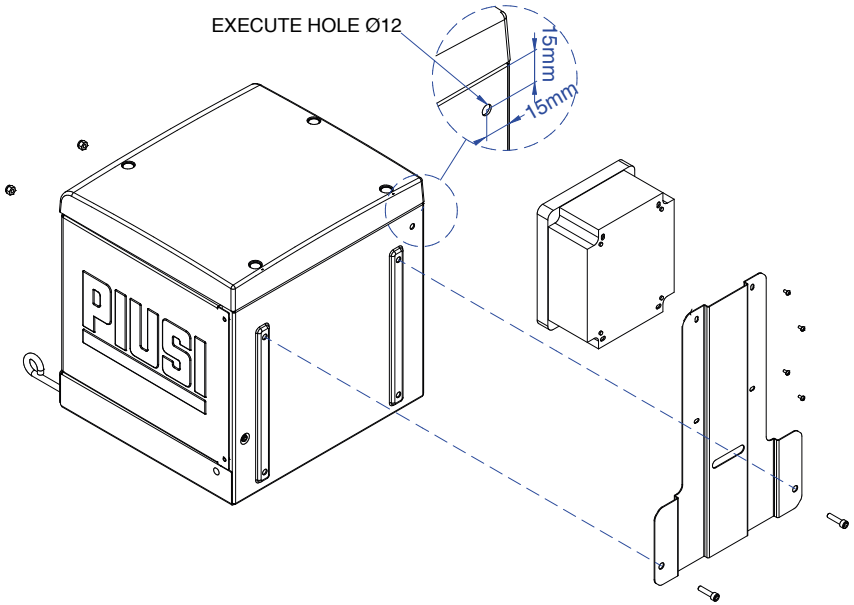
WARNING **To ensure proper insulation of the Wireless Controller enclosure, do not drill any holes in the box itself.**
For installation, use only the pre-drilled holes provided.

The Wireless Controller can be installed on Piusi devices from the B.Smart family.
Below are the installation specifications:

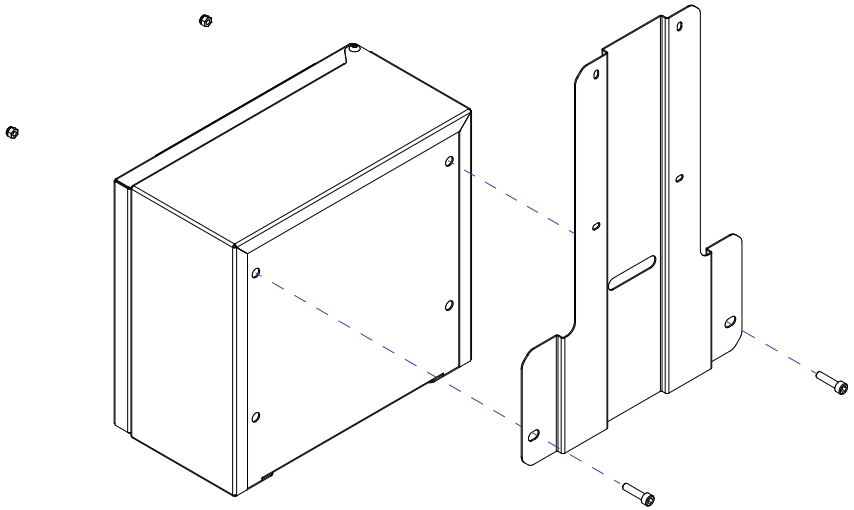
Wall-mounted Cube: Secure the Wireless Controller enclosure using a wall-mount bracket.



Pedestal-mounted Cube:

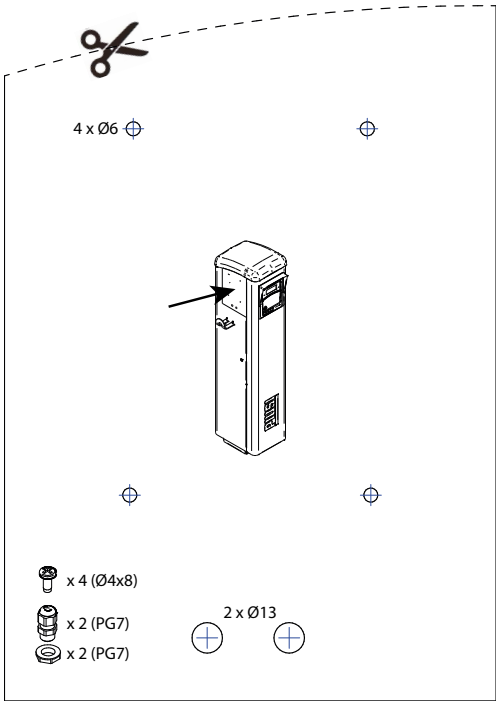


Pedestal-mounted MCBox:

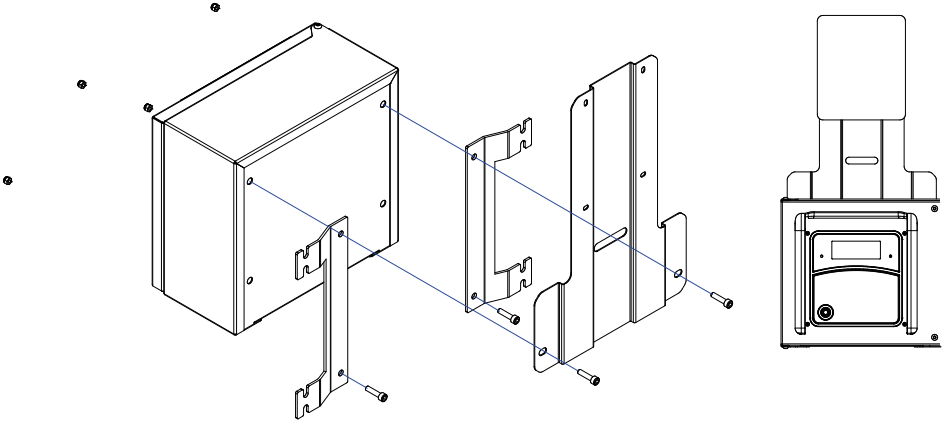


Self Service

- Use the drilling template 027045000
- Install the two provided PG cable glands for power and communication cable routing
- Secure the box from the inside using the four screws



Wall-mounted MC Box



3.2.2 Electrical Connections and System Configuration

To proceed with the Wireless Controller connection, follow the instructions below. Refer to the electrical diagram.

1 Remove the top cover of the enclosure.

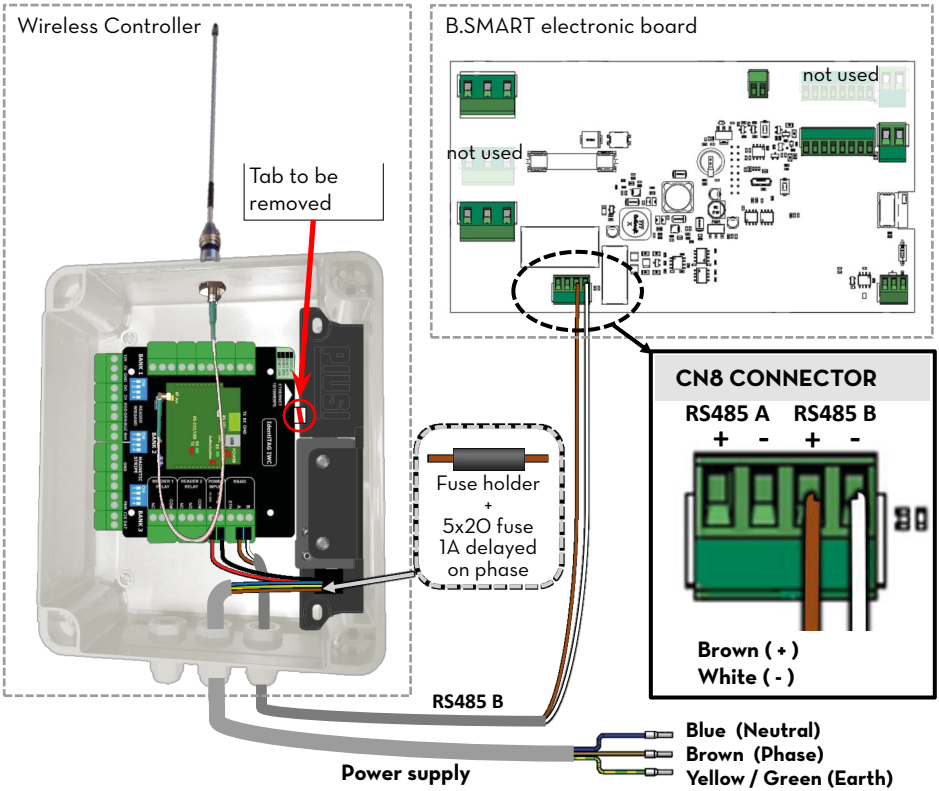
2 Remove the battery pull tab from the bottom of the Wireless Controller.

3 Screw the antenna onto the top of the socket.

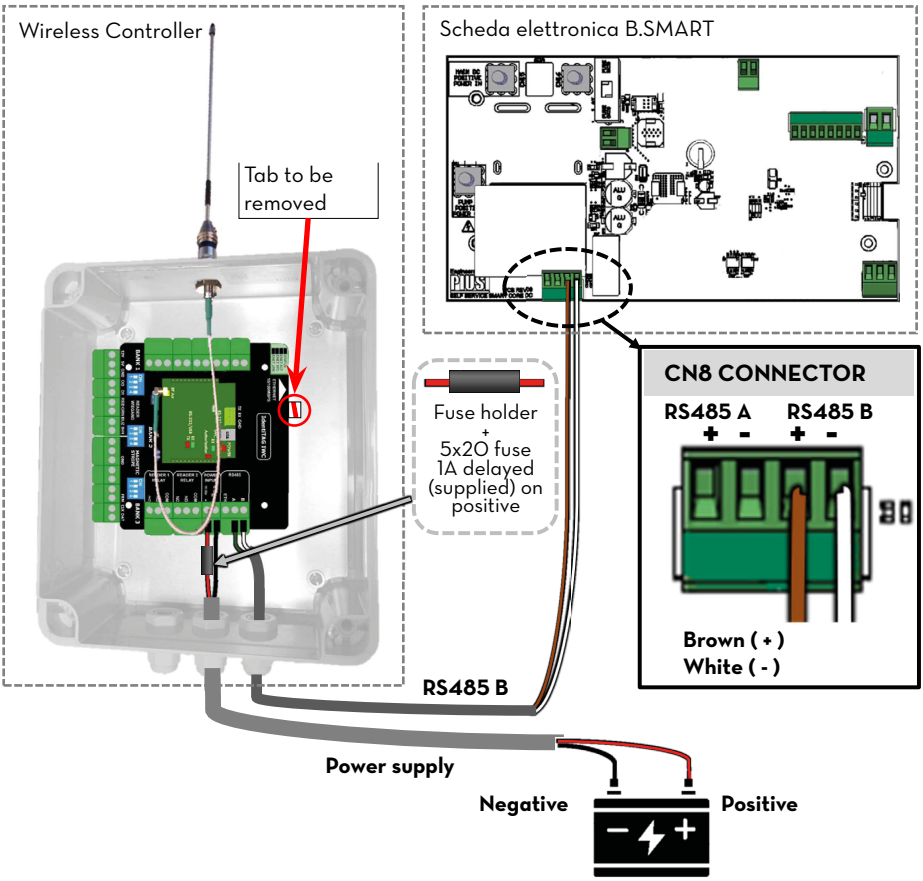
4 Wiring the Wireless Controller:

- Connect the controller to the control unit using the cables specified in the electrical diagram.
- RS485 B wiring to the CN8 connector on the B.Smart board.
- Power supply wiring with an AC voltage range between 85VAC and 264VAC.

ALTERNATED VOLTAGE VERSION 85-264 Vac



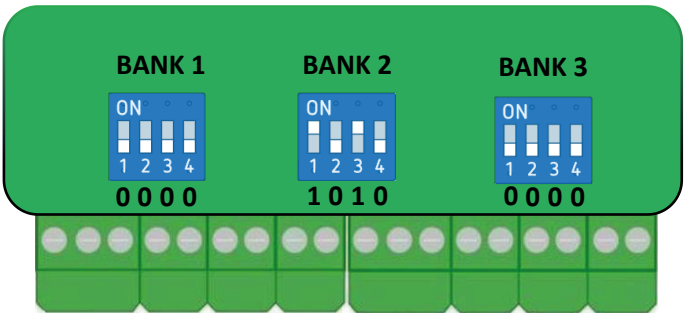
12-24Vdc CONTINUOUS VOLTAGE VERSION:



- Power cable not included. It is recommended to use a cable with a minimum cross-section of 2x1.5 sq. mm.
- Install the fused fuse holder on the positive and insert it inside the Wireless controller box (see example).
- Power the wireless controller directly from the battery.

WARNING **THERE IS NO BATTERY PROTECTION CIRCUIT, SO THE INSTALLATION OF A DISCONNECT SWITCH IS STRONGLY RECOMMENDED.**

Default DIP switch configuration on the Wireless Controller electronic board:



NOTE Changing the setting of the DIP switches will affect the operation of the system. Refer to this image for resetting to the correct positions.

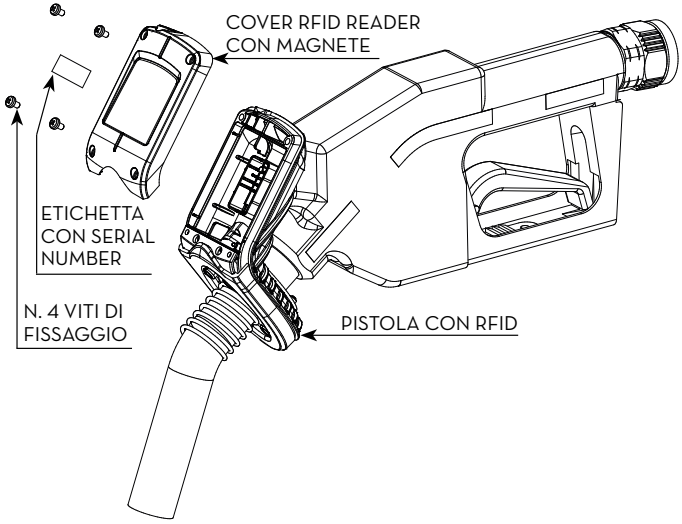
3.3 ACTIVATION OF THE RFID READER ON THE FUEL NOZZLE

The fuel nozzle is supplied with the following components:

- Fuel Nozzle with RFID;
- RFID reader cover with magnet;
- 4 mounting screws;
- 2 adhesive labels (one to apply + one duplicate in case replacement is needed).

Nozzle Activation:

- Apply an adhesive label to the top of the cover.
- Position the cover and secure it using the 4 supplied screws.
- Ensure that the reader's LED blinks red.



4 REFUELING PROCEDURE

Before use, it is necessary to perform system configuration by connecting BOX B-SMART C with the smartphone App and dedicated WebApp.

APP Download the PIUSI B:SMART APP from your local APP Store

WEBAPP Use the PIUSI WEBAPP available at the following link: https://bsmart.piusi.com/
To log in, Enter User Name, Password and Site Code set during registration from portal

NOTE All information and instructions for using the PIUSI APP and PIUSI WebAPP, can be found in the specific manuals M0617* and M0618* found on the web page https://www.piusi.com/it/assistenza/cerca-manuali.

To proceed with fuel dispensing, follow the steps below:

1 Lift the fuel nozzle.

2 Bring the nozzle close to the vehicle's fuel tank cap:
- The RFID reader will automatically detect the tag on the tank.

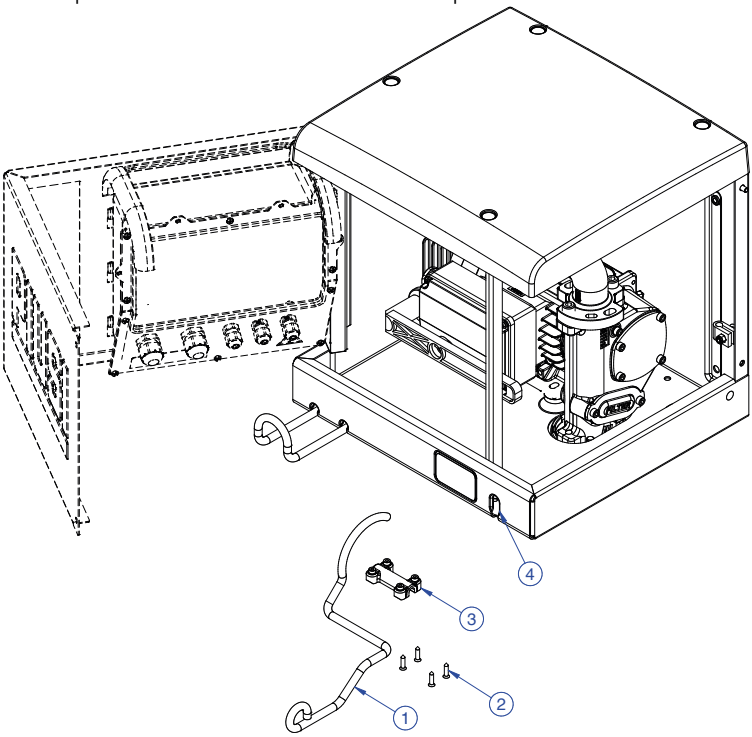
3 If the vehicle is authorized, the dispenser will allow fuel dispensing.

4 Once refueling is complete, return the fuel nozzle to its holder and close the fuel tank cap.

5 RFID SYSTEM MAINTENANCE

Below are some guidelines for proper RFID system maintenance:

RFID Tag:	Regularly check that the tag is intact and securely attached.
RFID Reader:	Clean it regularly to ensure optimal reading performance.
Wireless Controller:	Check the connection status and ensure proper communication functionality.
Replacing the Nozzle Lever:	If installed on a pedestal, first remove the Cube from the pedestal, then follow the steps below: • Unscrew the four screws (pos.2). • Remove the retaining clip (pos.3). • Pull out the lever (pos.1). • Replace the lever and reassemble the components.



6 ALARM STATES

The alarms listed in the table below should be considered in addition to those found in the installation, operation, and maintenance manual for the B.Smart system in your possession.

Code	Alarm Name	Description	Red LED status
C30	WARNING_HID_GLOBAL_ COMUNICATION	No communication with the Wireless Controller	
C31	WARNING_HID_GLOBAL_ CONFIGURATION	Wireless Controller not configured	
C32	WARNING_HID_GLOBAL_ PAIRED_NOZZLE_ CONFIGURATION	RFID Nozzle Code needs to be paired in B.Smart	
C33	WARNING_HID_GLOBAL_ NOZZLE_BATTERY	RFID Nozzle battery level below threshold	

7 TROUBLESHOOTING

ISSUE	CHECKS TO PERFORM
The reader does not recognize the tag:	• Ensure that the tag is correctly installed. • Verify that the Fuel Nozzle is properly configured.
No communication between the reader and the control unit:	• Check the power status of the Wireless Controller. • Verify the RS485 connection to the panel. • Ensure that the system has been configured via the APP and WEBAPP. • Check for any alarm codes. • Verify that the Fuel Nozzle is properly configured. • Check the LED status (see section “Nozzle RFID: Integrated into the Fuel Nozzle” in paragraph 1.1).
Blocked dispensing:	• Check for any disturbances caused by bar/gate remote controls that could create interference between the Wireless controller and the RFID reader on the dispensing nozzle

notes

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CS Stáhnout příručku ve vašem jazyce!
DA Download manualen på dit sprog!
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ES ¡Descarga el manual en tu idioma!
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FR Téléchargez le manuel dans votre langue!
NL Download de handleiding in uw taal!
PL Pobierz instrukcję w swoim języku!
PT Baixe o manual em seu idioma!
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BULLETIN MO791 EN_01

05.2025