FUELCLOUD

CloudLink V1.4

Installation Manual

Hardware Version 1.4
Manual Version 1.3
Revised 1/13/25

Welcome to FuelCloud!

This installation guide contains all of the information you need to install your hardware, create your online account, and begin using FuelCloud.

Before beginning physical installation of your FuelCloud hardware, create an account at fuelcloud.com and register your device's serial number to your account. Physical installation cannot be completed without an online account.

For help on the FuelCloud website, please see the Quick Setup Guide video on the dashboard.

Download on the **App Store**

GET IT ON **Google Play**

Get the installer app today!

Table of Contents

Privacy Statement

FuelCloud is committed to protecting user's privacy. For more information about FuelCloud's privacy policy, please review our full terms and conditions at: **fuelcloud.com/privacy-policy**

FCC Statements

Find complete details of our FCC compliance at: **fuelcloud.com/fcc-compliance**

Terms and Conditions

For a complete terms and conditions, including warranty disclaimers visit: **fuelcloud.com/terms-condition**

ⓘ Compatibility & Specs

Input Power Requirements	85-264VAC 50/60Hz 35W 10-15VDC 11W
Pump Control Ratings	80-240VAC 7.5A 12VDC 7.5A
Dimensions	**Height:** 12.59" (32.0cm) **Width:** 10.59" (26.9cm) **Depth:** 7.11" (18.1cm)
Weather Ratings	NEMA 4X / IP67
Temperature Ratings	-40°F to 185°F (-40°C to 85°C)
Pulser	**Power supply:** 12VDC, 100mA **Rate:** 1:1 to 10,000:1 **Speed:** 120,000 pulses per minute **Duty cycle:** 50% **Contact:** (ex: reed switch, contact close) **Open collector:** (ex: 12VDC, signal, ground)
I/O	RS485
Fuses	**Board power fuse:** 1amp 5mm x 20mm. **Pump control fuses:** 6.35mm x 31.75mm (0.25" x 1.25")

Declaration of Conformity:

Hereby, FuelCloud, declares that this CloudLink is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

FuelCloud vakuuttaa täten että CloudLink tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

Hierbij verklaart FuelCloud dat het toestel CloudLink in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

Bij deze verklaart FuelCloud dat deze CloudLink voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

Par la présente FuelCloud déclare que l'appareil CloudLink est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

Par la présente, FuelCloud déclare que ce CloudLink est conforme aux exigences essentielles et aux autres dispositions de la directive 2014/53/EU qui lui sont applicables. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

Hiermit erklärt FuelCloud, dass sich dieser/diese/dieses CloudLink in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 2014/53/EU befindet". (BMWi) The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ FuelCloud ΔΗΛΩΝΕΙ ΟΤΙ CloudLink ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

Con la presente FuelCloud dichiara che questo CloudLink è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

Por medio de la presente FuelCloud declara que el CloudLink cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

FuelCloud declara que este CloudLink está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [URL of DoC]

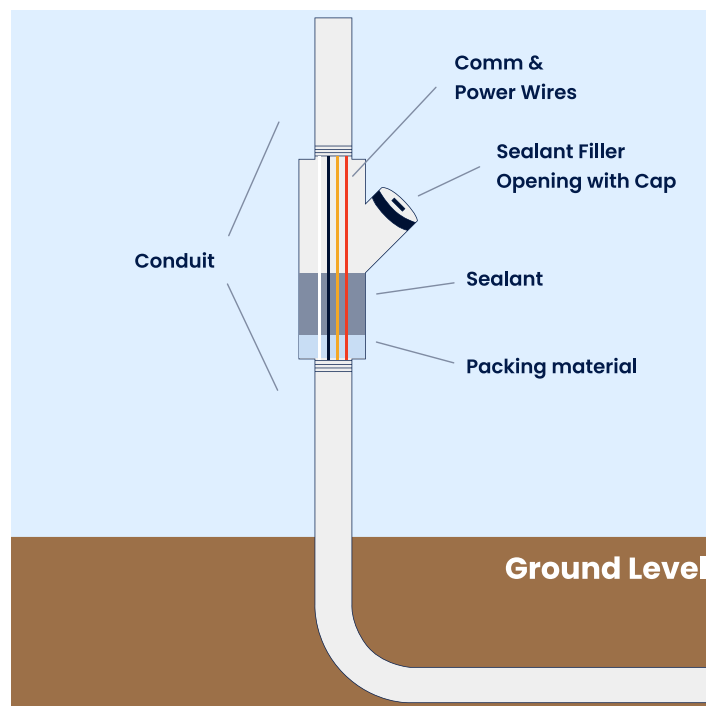# ⚠️ Hardware and Install Warnings

Installations must be in accordance with the National Electrical Code (NFPA No. 70) and the Automotive and Marine Service Station Code (NFPA No. 30A). The installer is responsible for investigating and following any applicable local codes.

Restricted Access:

Access can only be gained by service persons or by users who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken.

Access is through the use of a tool or lock and key, or other means of security, and is controlled by the authority responsible for the location.

Seal offs must be used when conduit is exiting an explosion proof zone. (class 1 div 1 or class 1 div 2)

Comm & Power Wires

Sealant Filler Opening with Cap

Conduit

Sealant

Packing material

Ground Level

Hazardous Area (Where **not** to mount the CloudBox):

Do not mount the CloudBox or any FuelCloud device within the hazardous / classified area.

## Hazardous Zones:

| Dispensing Device	Class 1 Div 1	Class 1 Div 2
Compressed natural gas (CNG)	Entire space within the dispenser enclosure.	1.5 m (5 ft) in all directions from the dispenser enclosure.
Liquefied natural gas (LGN)	Entire space within the dispenser enclosure.	3 m (10 ft) in all directions from the dispenser enclosure.
Liquefied petroleum gas (LP-Gas)	Entire space within the dispenser enclosure; 450 mm (18 in.) from the exterior surface of the dispenser enclosure to an elevation of 1.22 m (4 ft) above the base of the dispenser; the entire pit or open space beneath the dispenser and within 6 m (20 ft) horizontally from any edge of the dispenser when the pit or trench is not mechanically ventilated.	Up to 450 mm (18 in.) above ground and within 6 m (20 ft) horizontally from any edge of the dispenser enclosure, including pits or trenches within this area when provided with adequate mechanical ventilation.

*Pulled from NEC 2018

Hazardous Area Examples:

Classified areas adjacent to dispenser mounted on aboveground storage tank:

18 in. (0.5 m)

20 ft. (6 m)

18 in. (0.5 m)
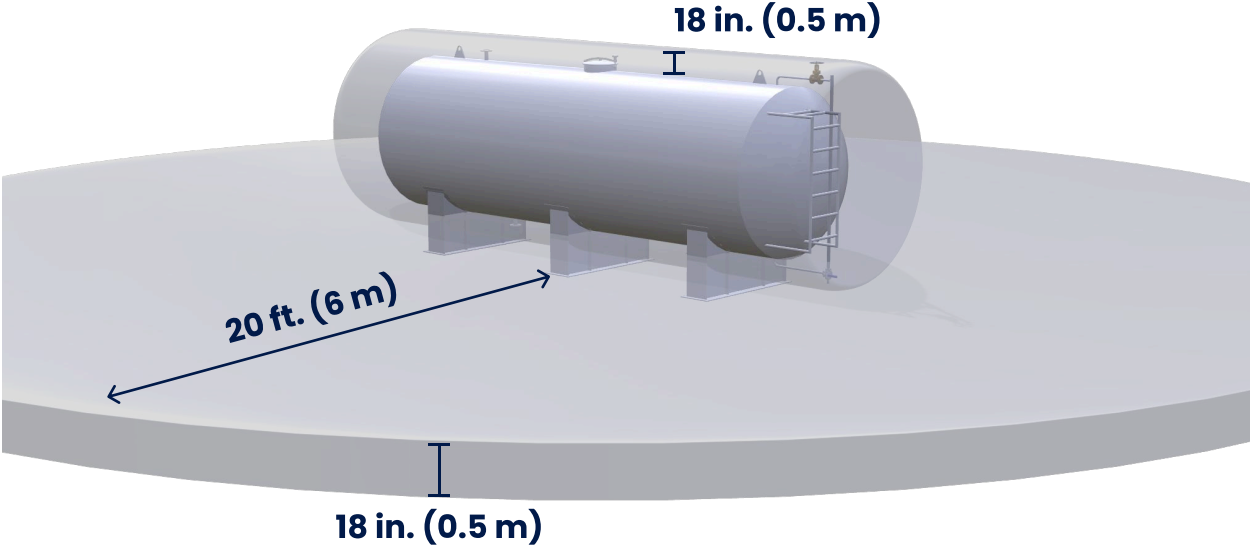
Classified areas adjacent to dispensers:

18 in. (0.5 m)

20 ft. (6 m)

18 in. (0.5 m)
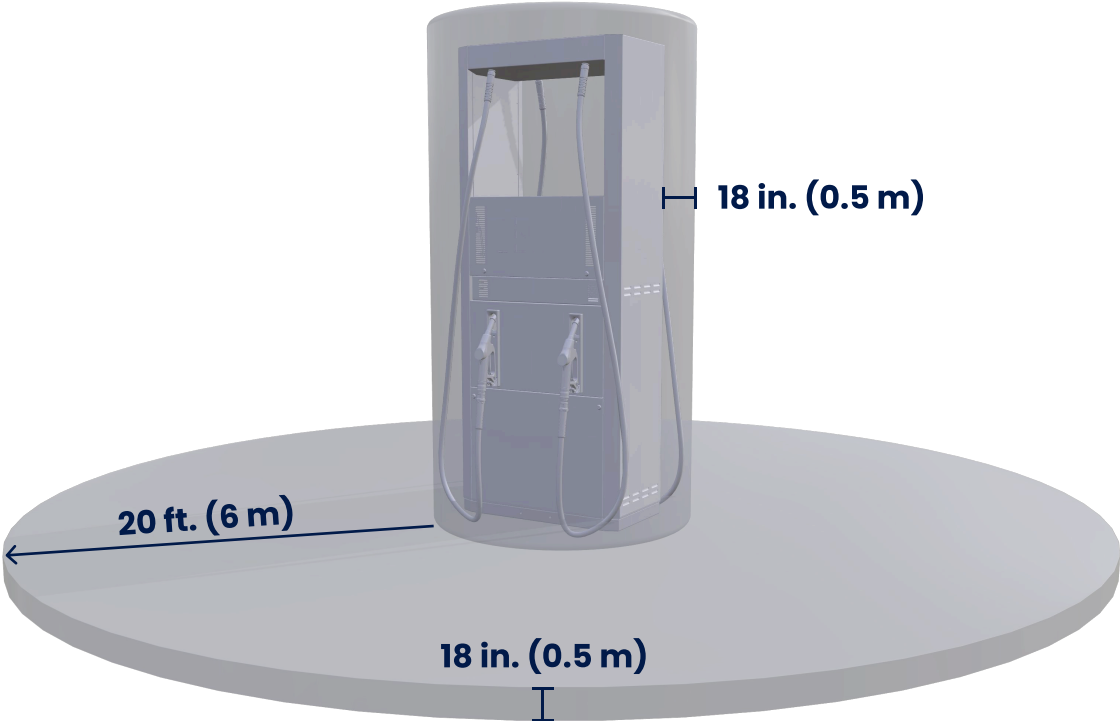
Additional Warnings:

External Devices: All peripheral equipment connected to the CloudBox system must be UL and CSA listed.

Certifications / Approvals:

The CloudLink is UL/cUL 1238 listed: MH61718

FuelCloud OPCO, LLC   FuelCloud FCHCL0002

RATINGS:
Max Ambient Temperature Rating: 50 °C

Input:	80-277VAC, 50/60 Hz 7.5A
	12VDC, 7.5A
Output:	80-277VAC, 50/60 Hz 7.5A
	12VDC, 7.5A
Enclosure:	Type 4X

For supply connection use wires rated for at least 90C (194F)
For use with equipment specified in the installation instructions.

SEE INSTALLATION INSTRUCTIONS

WARNING SIGNAL WIRING IN THIS BOX MUST BE RATED AT LEAST 300V.

CAUTION: BONDING BETWEEN CONDUIT CONNECTIONS IS NOT AUTOMATIC AND MUST BE PROVIDED AS A PART OF THE INSTALLATION

ATTENTION: LE CABLAGE DE SIGNALISATION RACCORDÉ DANS CETTE DOÎTE DOIT CONVENIR POUR UNE TENSION NOMINALE D'AU MOINS 300V.

ATTENTION: L'INTERCONNEXION DES CONDUITS NE SUFFIT PAS POUR ASSURER LA MISE À LA MASSE; ELE DOIT FAIRE PARTIE INTÉGRANTE DE L'INSTALLATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

cULus LISTED
MH61718

FC

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App Store

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Check List

Complete the following steps before beginning installation of FuelCloud hardware. Failure to perform the below checks may result in the FuelCloud system or fuel equipment being damaged or not working as intended.

1   Turn off all power to the pump and tank.

2   Ensure that your installation location meets the following physical requirements:

   ✔   Clear line of site to pump **or** placed in a location where wireless signal will not be blocked or degraded.

   ✔   No wiring obstructions.

   ✔   Good cellular connectivity.

   ✔   Hardware will be mounted outside of hazardous zones - see **warnings** for more information.

   ✔   Hardware dimensions for mounting: 12.59" H x 10.59" W x 7.11" D (32.0cm H x 26.9cm W x 18.1cm D).

3   Ensure that your site power supply and fuel equipment is compatible with FuelCloud's hardware. See **Compatibility & Specs** for more information.

4   The CloudLink needs to be physically connected to the CloudBox through shielded twisted pair RS-485 wire.
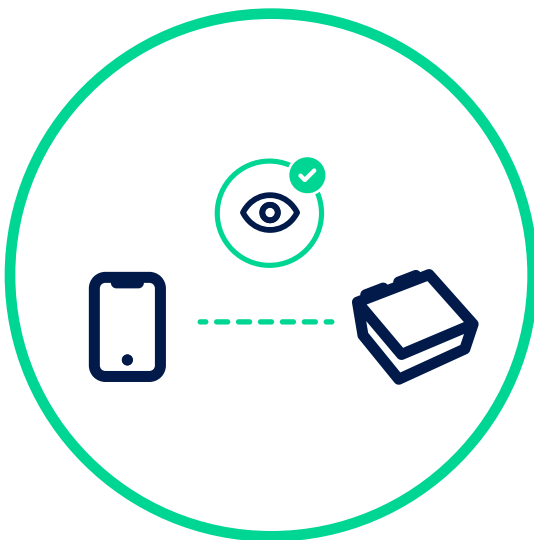
Identify Your Installation Location

Ensure the following:

- Line of sight to the CloudBox

- Good LTE cellular coverage

- Fueling within 75' of the CloudBox
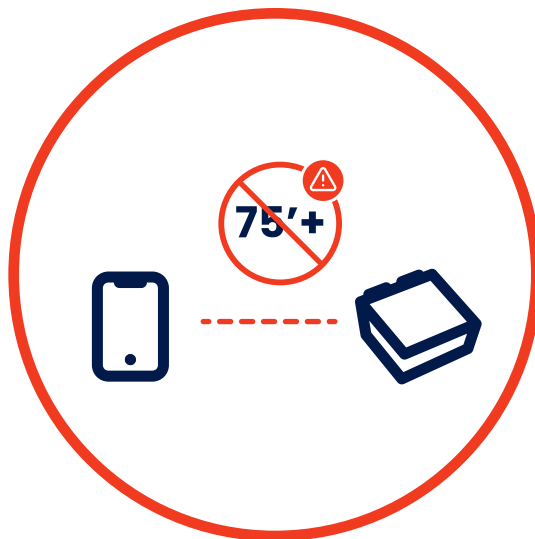
Turn Power Off
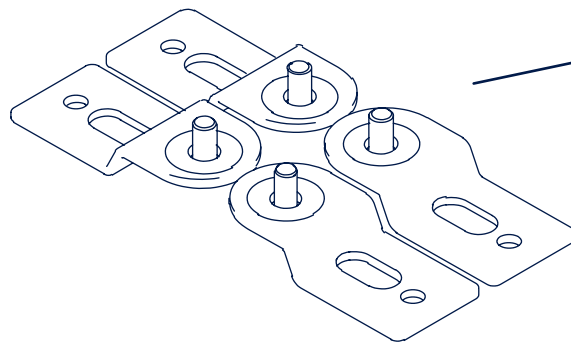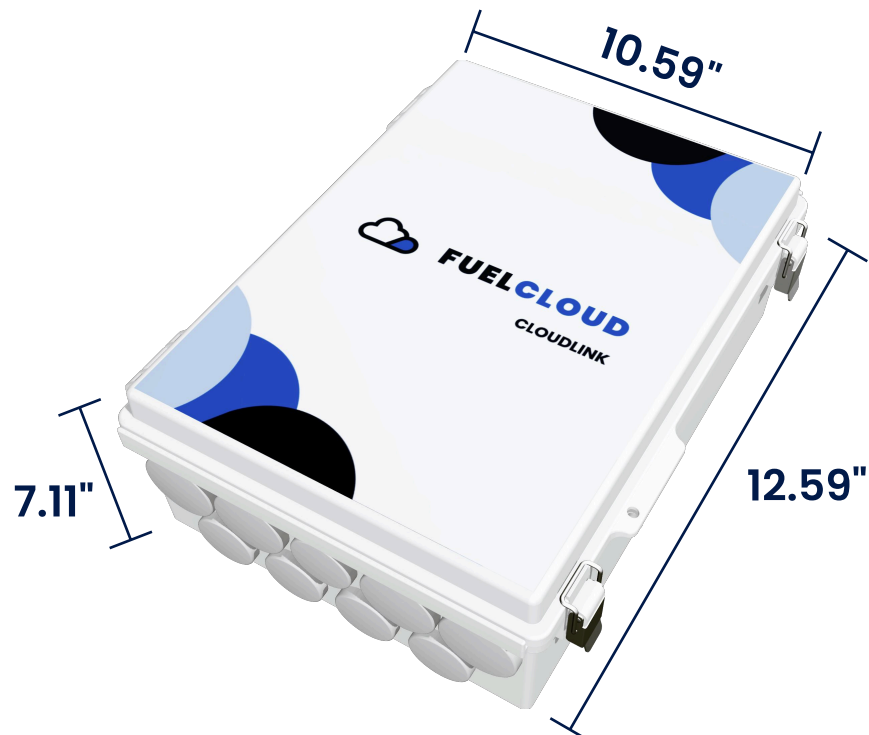
Turn off all power to the pump at the breaker.

OFF

Mount

Attach the 4 included Mounting Brackets and screws to the CloudLink. Use any available fasteners to mount the CloudLink.
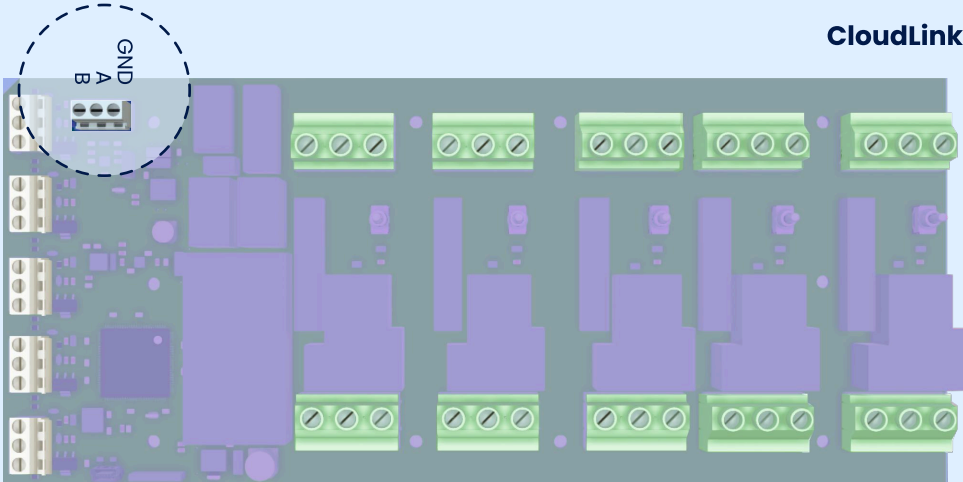
Included with CloudLink (4x)
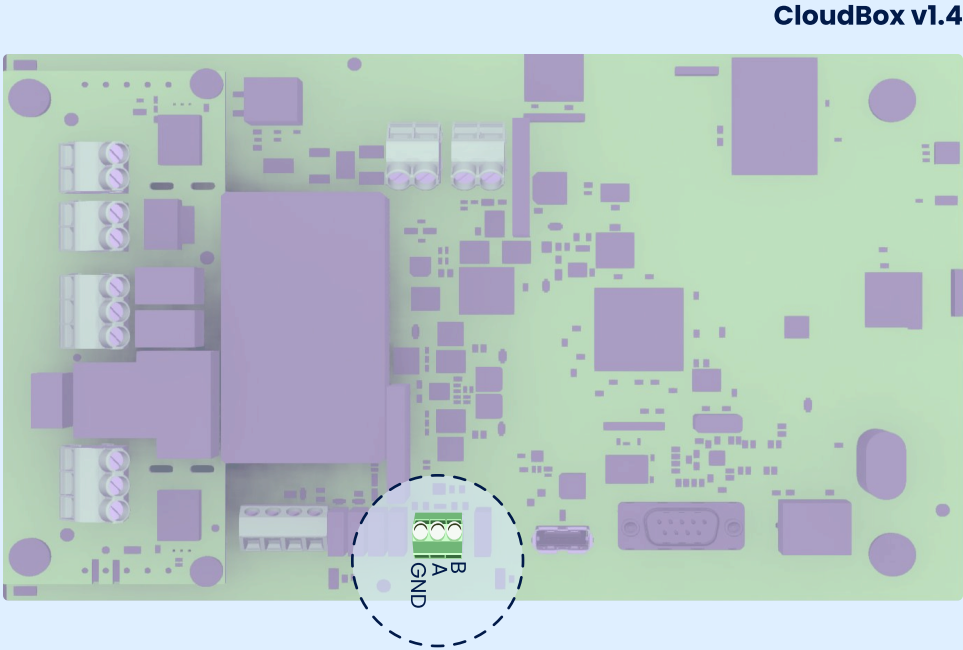
10.59"

FUELCLOUD
CLOUDLINK

7.11"

12.59"

RS-485 (CloudBox v1.4)

The CloudLink and CloudBox v1.4 must be connected together through RS-485 in order to communicate. Both hardware units have 3 wiring terminals that must be connected to each other. A, B, and GND on the CloudLink need to be connected to A, B, and GND on the CloudBox v1.4.

⚠️ **Warning:** Please use a 2 twisted pair + 1 shielded cable for RS485. Example: Belden 3106a

CloudBox v1.4

CloudLink

RS-485 (CloudBox 2)

The CloudLink and CloudBox 2 must be connected together through RS-485 in order to communicate. Both hardware units have 3 wiring terminals that must be connected to each other. A, B, and GND on the CloudLink need to be connected to A, B, and GND on the CloudBox 2. The shield wire terminates the CloudBox 2 shield and not the CloudLink.

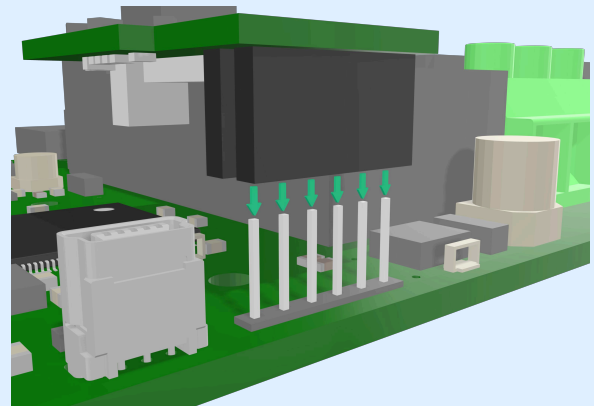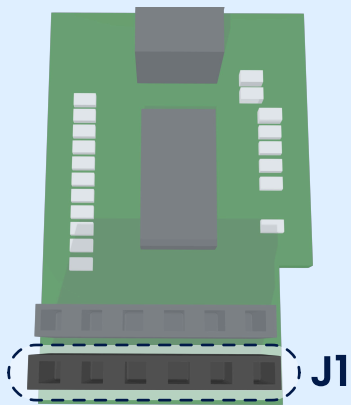⚠️ **Warning:** Please use a 2 twisted pair + 1 shielded cable for RS485. Example: Belden 3106a

CloudBox 2
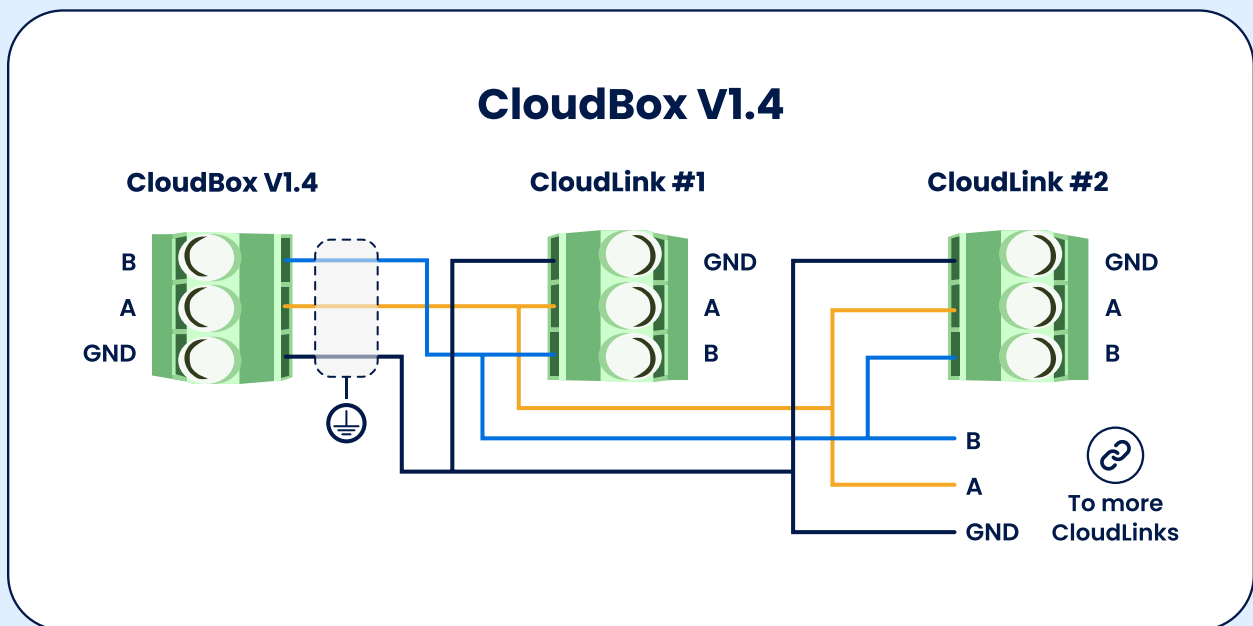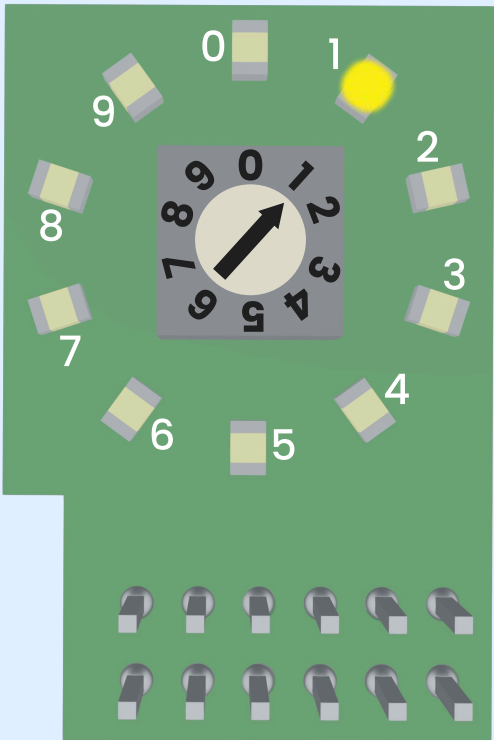
A
B
GND
Shield
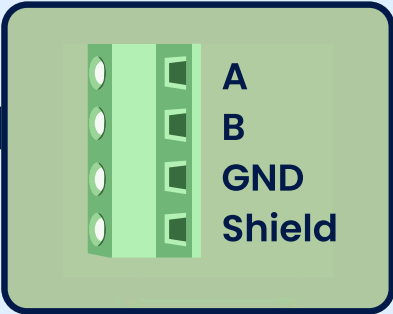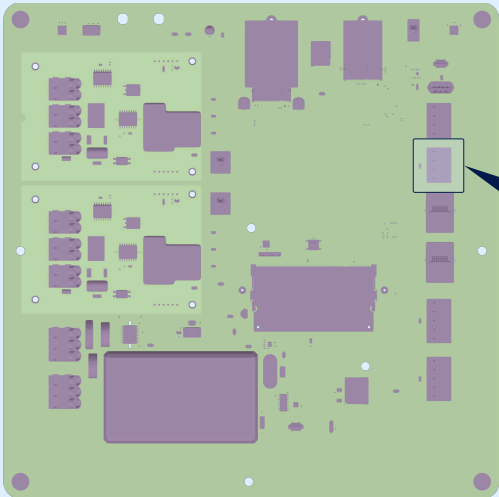
CloudLink

2+ CloudLinks

If more than 1 CloudLink is used, an identification (ID) board must be installed on all but the first CloudLink in the chain. Multiple CloudLinks are daisy chained to each other using the RS485 connection. The ID board connects directly to the CloudLink with arrows indicating which ID board connector to use.

J1

Must use **J1** on ID Board

CloudBox V1.4

CloudBox V1.4   CloudLink #1   CloudLink #2

B   GND   GND
A   A   A
GND   B   B

B
A
GND

To more
CloudLinks

CloudBox 2
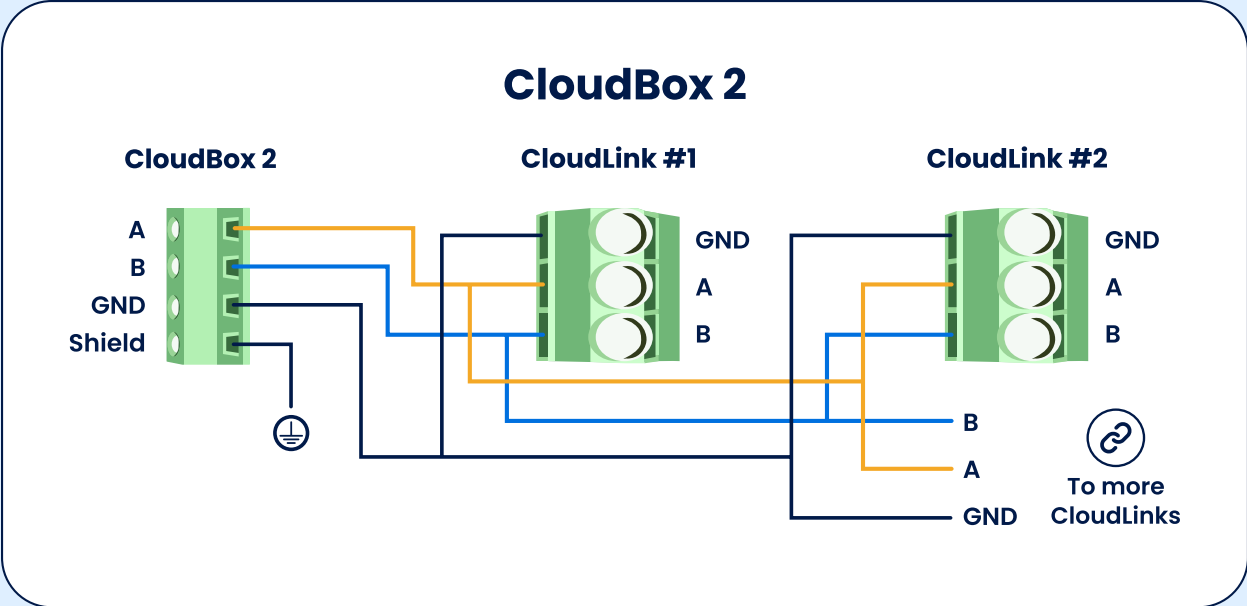
The selector on the ID board must be set to 1 for the second CloudLink, 2 for the third, and so on.

120VAC Power
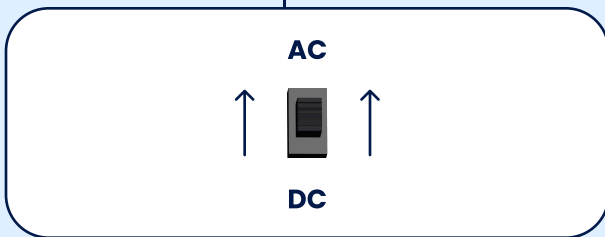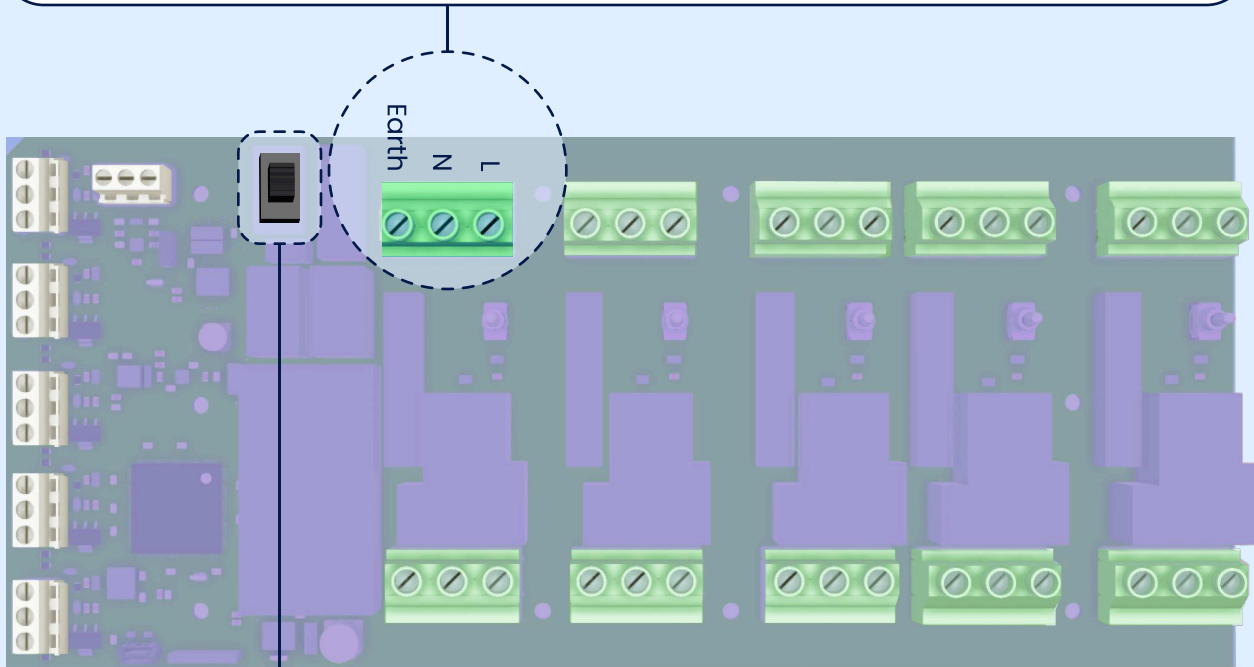
AC Board Power

⚡ **Breaker**	**Line** **Neutral** **Earth**	────────		**L** **N** **Earth** **INPUT**

Earth N L

AC

↑ ↑

DC

ℹ️ **Note:** AC/DC switch only applies to fuel position 1. Fuel positions 2–5 can accept either AC or DC power.

⚠️ **Warning:** If the switch is in DC position the 1amp fuse will blow.

240VAC Power

AC Board Power

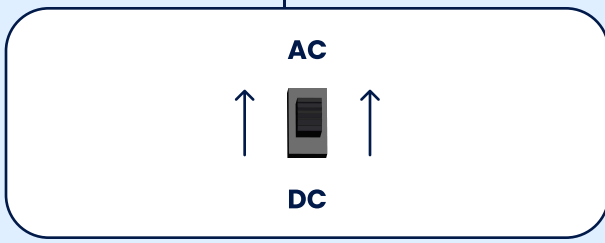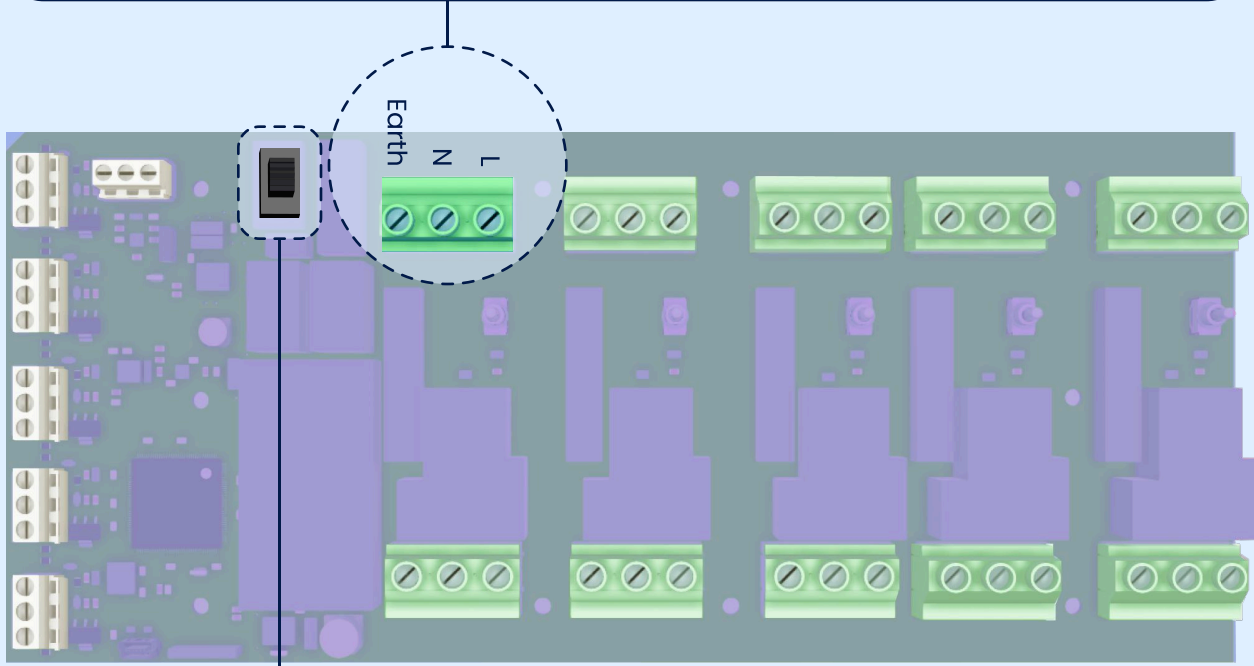| Breaker					
⚡	Line	————————		L	
	Line 2	————————		N	INPUT
	Earth	————————		Earth	

Earth   N   L

AC

↑   ↕   ↑

DC

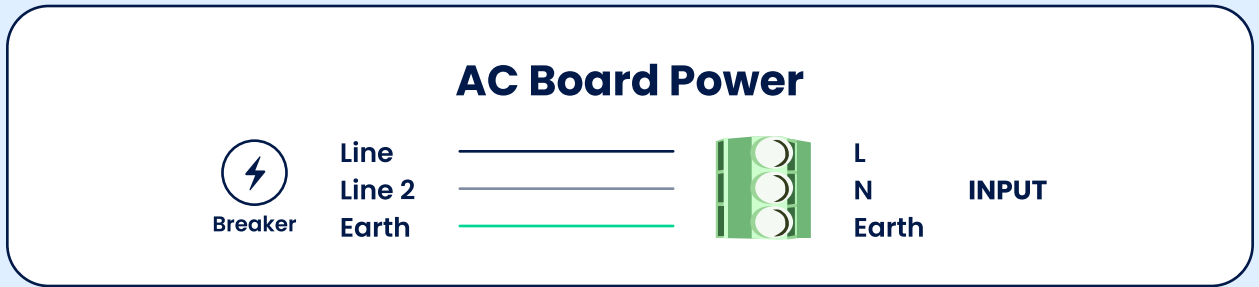**Note:** AC/DC switch only applies to fuel position 1. Fuel positions 2–5 can accept either AC or DC power.

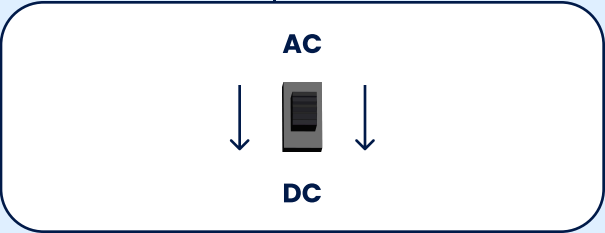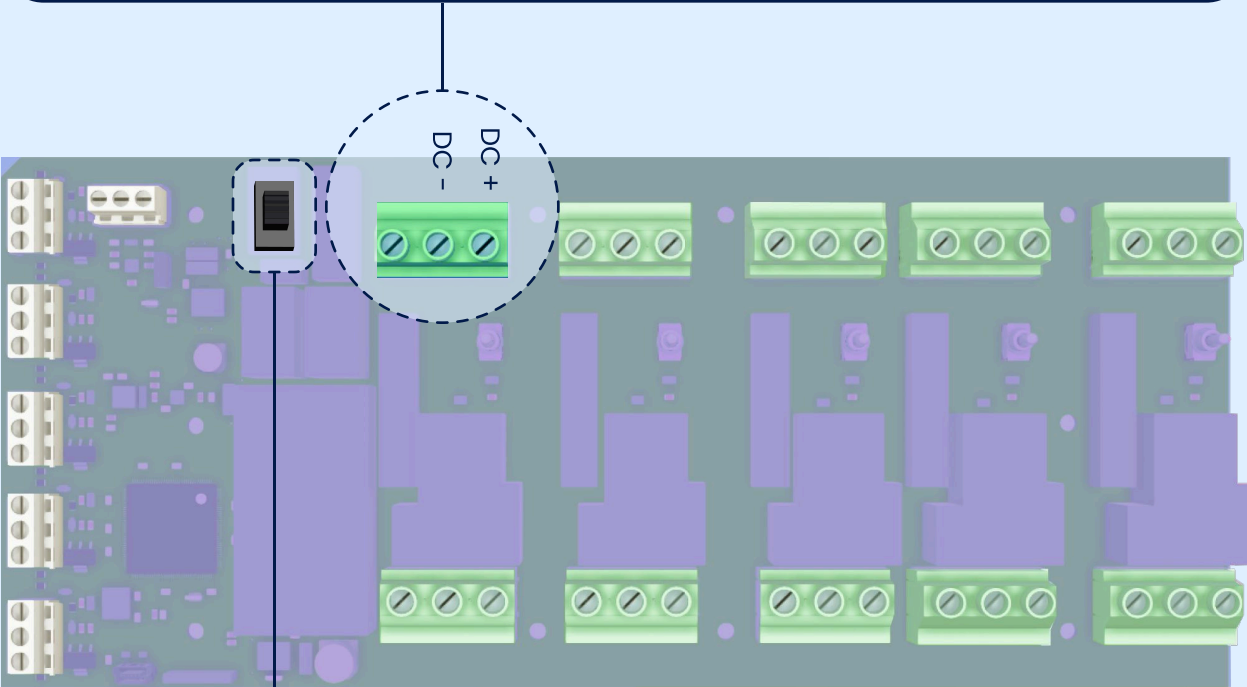⚠ **Warning:** If the switch is in DC position the 1amp fuse will blow.

DC Power

DC Board Power

12V DC+
12V DC−

DC +
DC −   INPUT

12V

DC +
DC −

AC
DC

Note: AC/DC switch only applies to fuel position 1. Fuel positions 2–5 can accept either AC or DC power.

Standalone Pump Wiring

FuelCloud Hardware Power In / Power Out

The CloudLink can work on AC or DC power.

> ⚠️ **Warning:** The CloudLink requires an external circuit-beaker (AC) or fuse (DC) be connected before the input power. It is recommended that the current protection devices are located near the CloudLink.
>
> **Wiring Requirements:** All connections to the terminal board must be made using conductors rated 300V minimum.
> - **Tightening:** Min 0.5 Nm, Max 0.6 Nm
> - **Type:** Copper solid or stranded
> - **Wiring gauge:** 10-30AWG

DC Site Wiring

For mobile site applications, the CloudLink switches the pump, PTO, or solenoid on ground.

A solenoid value should be used with a PTO, otherwise fuel can be turned on or off without control from the FuelCloud app.

Pump Control AC

Breaker	Line	———	AC (L)	
	Neutral	———	AC (N)	INPUT
	Earth	———	Earth	

Pump Control 1

Earth · AC (N) · AC (L)

Pump Control 2

Earth · AC (N) · AC (L)

Pump Control 3

Earth · AC (N) · AC (L)

Pump Control 4

Earth · AC (N) · AC (L)

Pump Control 5

Earth · AC (N) · AC (L)

Pump	Earth	———	Earth	
	Neutral	———	AC (N)	PUMP
	Line	———	AC (L)	

Pump Control DC

DC Board Power

Line
Neutral

DC +
DC – INPUT

12V+

Pump Control 1 — DC– DC+

Pump Control 2 — DC– DC+

Pump Control 3 — DC– DC+

Pump Control 4 — DC– DC+

Pump Control 5 — DC– DC+

Pump

DC–
DC+

DC –
DC + PUMP

Dispenser Control

Dispenser Control 1 — Earth, Neutral, Line / Authorize

Dispenser Control 2 — Line / Authorize

Dispenser Control 3 — Line / Authorize

Dispenser Control 4 — Line / Authorize

Dispenser Control 5 — Line / Authorize

Dispenser — Authorize — Line — PUMP

Note: There is no connection for handle sense or reset complete. FuelCloud uses timers and the app to end transactions.

Pulsers

- All pulser wire should be shielded twisted pair wire (14-22AWG).

- Pulser wiring should not share the same conduit as pump AC power.

- Pulser shield must be connected to Earth on one end only.

> ⚠️ **Warning:** It's recommended that pulser wire be in a separate conduit than AC wires. If the conduit must be shared, then a UL-listed, twisted pair, and shielded wire must be used.

2-Wire Pulser:

- Attach one wire to the terminal marked "ENC INP".
- Attach one wire to the terminal marked "GND".
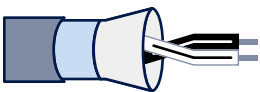
3-Wire Pulser:

- Attach 12v power line from the pulser to the terminal marked "12VDC".
- Attach signal wire to the terminal marked "ENC INP".
- Attach the ground wire to the terminal marked "GND".

Recommended wiring

2-Wire Pulsers
Passive

Belden 8762

3-Wire Pulsers
Active

Belden 8772

Pulser Wiring

2-Wire (Passive) Pulser

Pulser	Pulse		12V+	
	Pulse		ENC INP	PULSER
			GND	

3-Wire (Active) Pulser

Pulser	12V+		12V+	
	Signal		ENC INP	PULSER
	GND		GND	
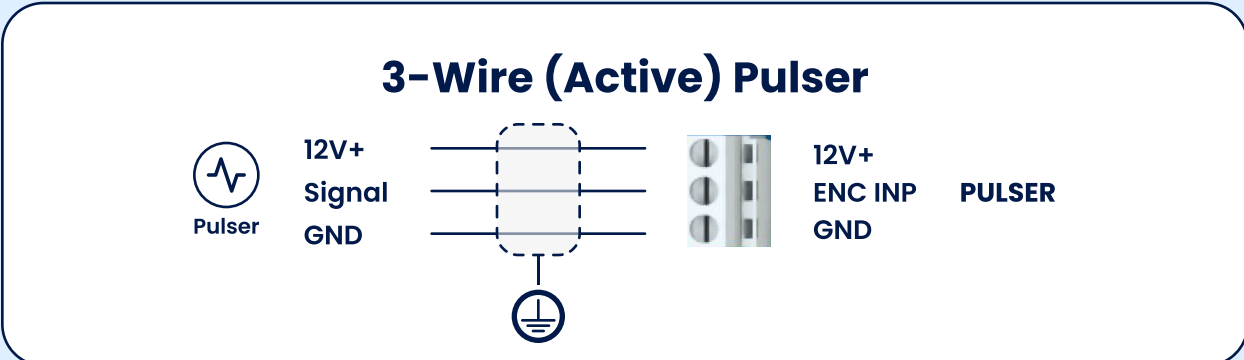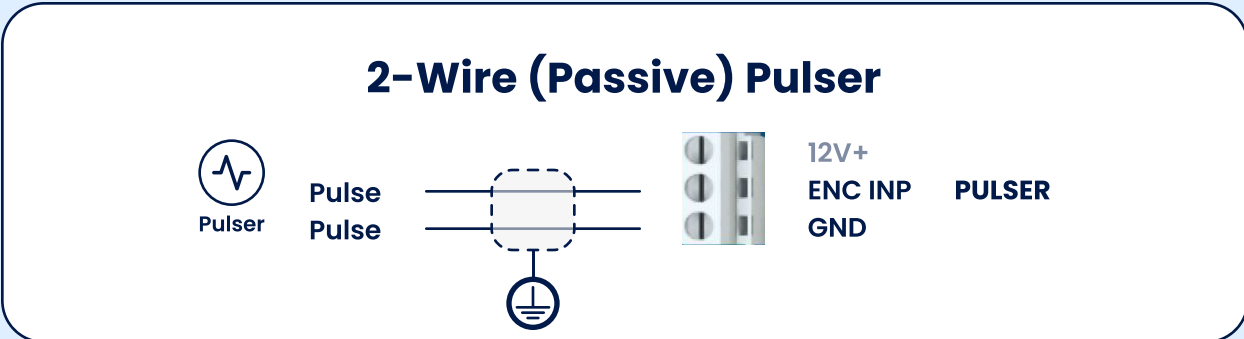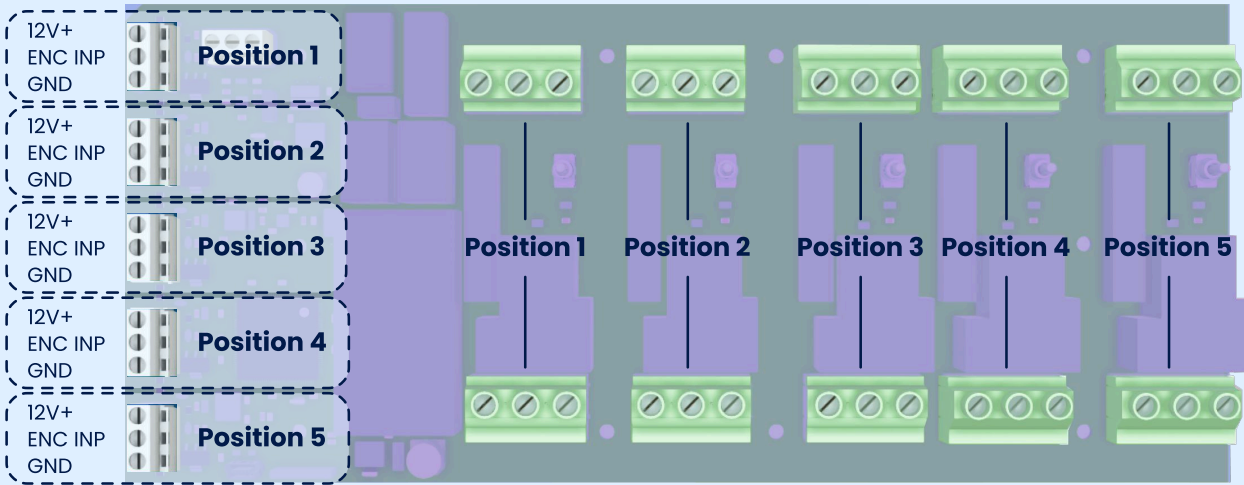
⚠️ **Caution:** Connect the pulser wiring shield to earth to prevent electrical noise.

Power On & Verification

After installing the FuelCloud hardware and restoring power to the pump, verify the following items:

1   **Power to the hardware**

- Check that there are lights on the FuelCloud circuit board and that the LEDs are illuminated on the circuit board.
- If the board does not have power, check that the circuit breaker has not tripped.

Power LED

ON   TRIP   OFF
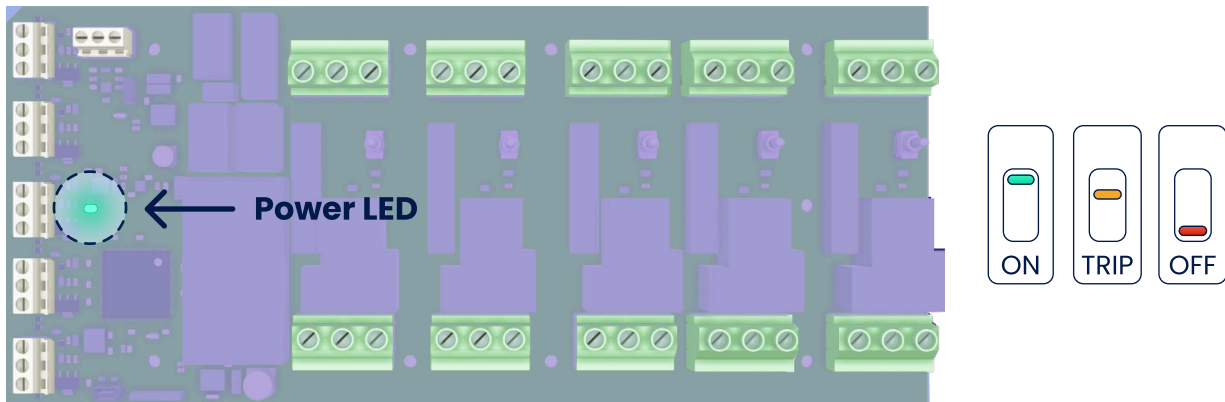
2   **Bypass mode**

- Flip the bypass switch on the FuelCloud circuit board, and confirm that your fuel equipment can dispense fuel.
- Be sure to switch to normal on mode after you have successfully tested your equipment.

Bypass switches
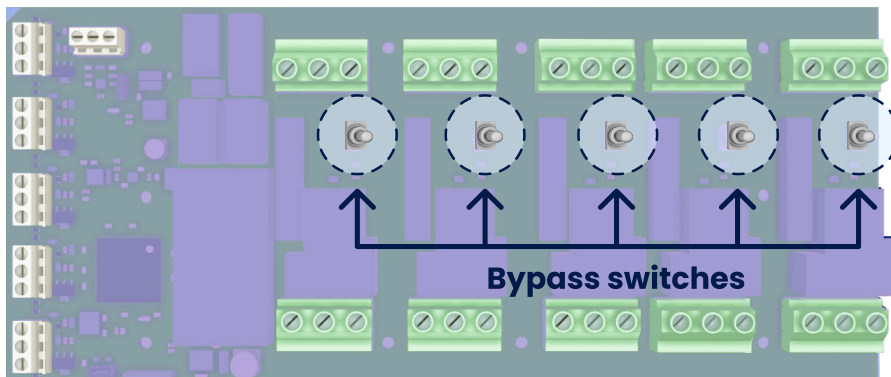
3   Hardware wi-fi

- Ensure that your FuelCloud hardware is successfully broadcasting a wifi signal. On a wifi-enabled device, you should be able to identify and join a wifi network titled "FuelCloud_XXXXX" (XXXXX = last five digits of serial number). If using ethernet, connect to your local network.

4   Test transaction

- Have the FuelCloud system administrator create a driver profile and pin code for you, and perform a test fueling using the FuelCloud mobile app.

- The FuelCloud app may perform a firmware update on first use.

- Or you can download the installer app and automate testing via your mobile device:
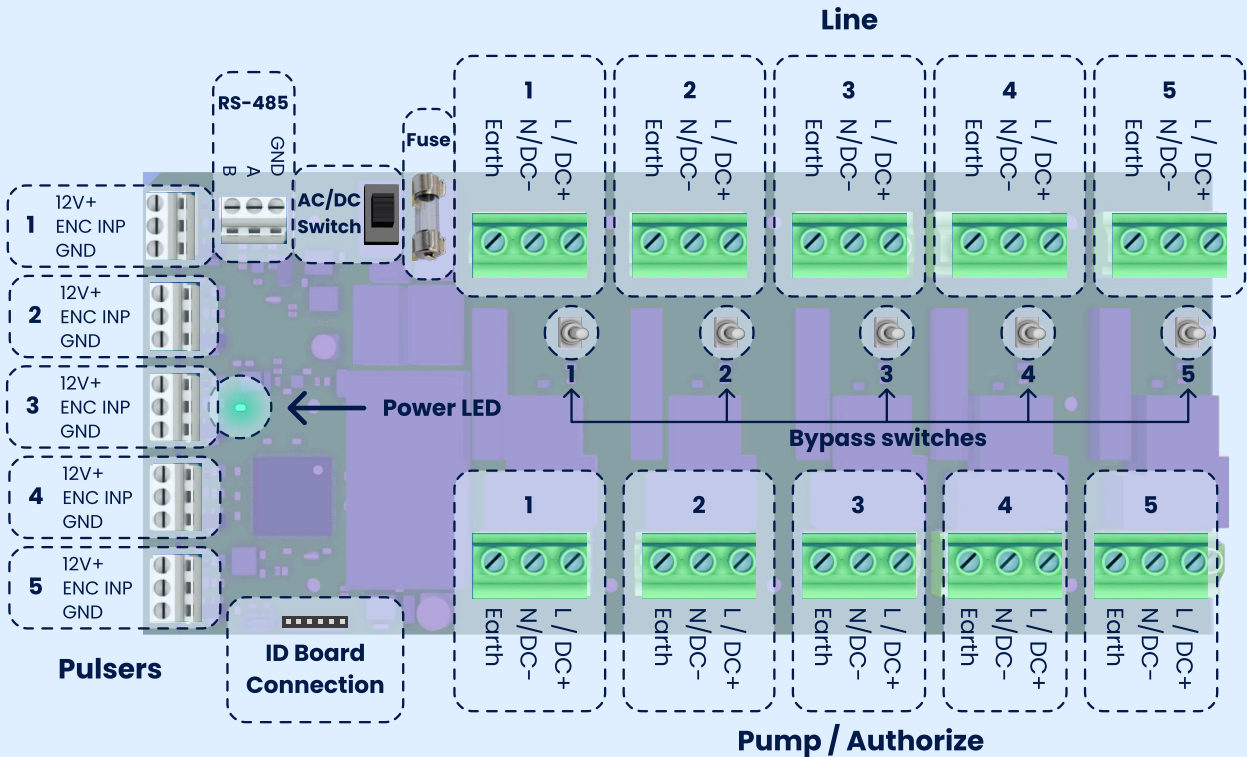

5   Check pulse rate

- Confirm that the volume displayed on the FuelCloud app matches the volume of fluid being dispensed by the equipment.

6   You are all finished. Congrats!

- For technical support please call: (844) 792-6071

CloudLink Overview

Line

1	**2**	**3**	**4**	**5**
L / DC+	L / DC+	L / DC+	L / DC+	L / DC+
N/DC−	N/DC−	N/DC−	N/DC−	N/DC−
Earth	Earth	Earth	Earth	Earth

RS-485

GND
A
B

Fuse

AC/DC Switch

1	12V+
	ENC INP
	GND
2	12V+
	ENC INP
	GND
3	12V+
	ENC INP
	GND
4	12V+
	ENC INP
	GND
5	12V+
	ENC INP
	GND

← **Power LED**

1   2   3   4   5

Bypass switches

Pulsers

ID Board Connection

1	**2**	**3**	**4**	**5**
Earth	Earth	Earth	Earth	Earth
N/DC−	N/DC−	N/DC−	N/DC−	N/DC−
L / DC+	L / DC+	L / DC+	L / DC+	L / DC+

Pump / Authorize

Revised 1/13/25