



No wires.

No worries.
Fuel Point PLUS

No wires in your vehicles. No wires at your fueling locations. No wires, period. That's what sets Fuel Point PLUS apart. Its RFID-based architecture enables you to build a high-security, low-maintenance, data-rich vehicle identification and fuel access system in just minutes per vehicle.

Whether you're installing in one vehicle or thousands, Fuel Point PLUS makes it easy and affordable to build exactly the system you need with modular, scalable components that can work separately or together. Rugged construction stands up to the toughest site conditions, while sophisticated vehicle telematics and deep integration with head office software keep you in control.

Install in minutes: Vehicle Ring, DataPass and Wireless Nozzle Reader install quickly, with no wires to run. Even initial programming is done wirelessly.

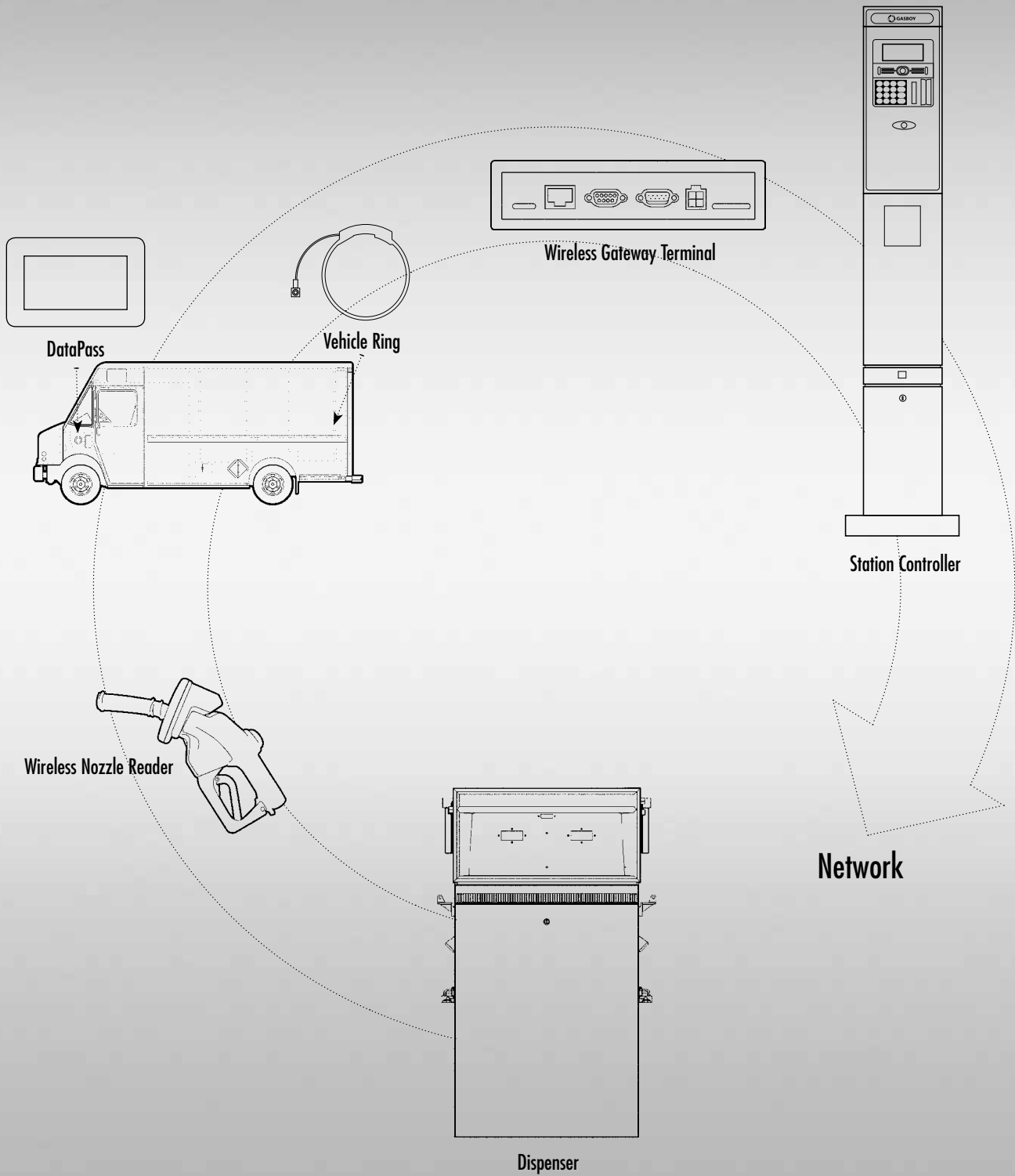
Secure every vehicle, every dispenser: Fuel Point PLUS provides an unprecedented level of information and control, reducing fraud and ownership costs while boosting profits.

Prevent tampering while maximizing flexibility: Every component features sophisticated removal protection mechanisms and strong data encryption, preventing tampering while making it easy for authorized users to move components from vehicle to vehicle.

More data, more control: Fuel Point PLUS can gather vehicle information, fueling activity, and more. It even enables you to enforce fueling limits and restrictions.

With an installed base of over two million units, Fuel Point PLUS offers a better way to a wire-free, worry-free future. What could it do for your fleet? Talk to your sales rep or visit www.gasboy.com to find out.

Hardware





The **Fuel Point PLUS Vehicle Ring** installs on the fuel tank of each vehicle, allowing the Fuel Point PLUS system to identify it without the need for cards or fobs. A patented removal protection mechanism prevents tampering. Vehicle Rings can be used by themselves or combined with DataPass and micro DataPass for additional functionality.



DataPass and micro DataPass monitor vehicle telematics, including odometer and engine hour data, idle time, speed, rpm, and error codes. DataPass connects to the vehicle bus of heavy vehicles, while micro DataPass connects to the OBD-II connector of light vehicles.



The **Wireless Nozzle Reader** reads each Vehicle Ring and sends data to the Wireless Gateway Terminal. It requires no wiring or external power connection and fits a wide variety of nozzle sizes and types.



The **Wireless Gateway Terminal** creates a wireless network that spans your entire fueling location. It receives data from each Vehicle Ring, DataPass and micro DataPass, Wireless Nozzle Reader, then transmits that data to the Station Controller.



The **Fleet Head Office** receives and processes detailed data for every transaction at your site, including number of gallons per vehicle, total number of gallons, detailed vehicle information, and more. It features a secured login process for fleet managers, sophisticated reporting capabilities, and the ability to set limits and restrictions for individual vehicles or across an entire fleet.



The **Wireless Programmer** is used to perform the initial programming on each Vehicle Ring, DataPass and Wireless Nozzle Reader. It can also be used to reprogram Vehicle Rings in order to move them from one vehicle to another.

Fuel Point PLUS Q&A

I have several different types of vehicles. Will Fuel Point PLUS fit them all?

Fuel Point PLUS offers a variety of components to fit virtually any type of vehicle.

- > Vehicle Rings: A wide range of Vehicle Ring sizes can accommodate many different fuel tank types
- > DataPass: Fuel Point PLUS offers two types of DataPass modules. Micro DataPass is used for lighter vehicles with OBD-II diagnostics, while DataPass connects directly to the vehicle bus of heavy-duty vehicles

Do I have to use both the Vehicle Ring and the DataPass module?

No. The Vehicle Ring and DataPass module can work separately or together.

Can I move Vehicle Rings and DataPass modules from vehicle to vehicle?

Yes. The Vehicle Ring is designed to make it difficult to tamper with, but easy for authorized users to move from one vehicle to another. It uses a patented removal protection mechanism to prevent tampering. But authorized users can move the Vehicle Ring simply by replacing a small security chip.

Specifications

DATAPASS (DP) AND MICRO DATAPASS (mDP)

GENERAL

DataPass and micro DataPass continuously collect vehicle data. DataPass collects data from the computer bus of heavy-duty vehicles, while micro DataPass collects data from the OBD-II computer bus of light-duty vehicles

DataPass and micro DataPass wirelessly transmit data to the Wireless Gateway Terminal as the vehicle enters the fleet depot

DataPass uses the J1708/J1587 & J1939/FMS to read vehicle bus information

micro DataPass is offered in two forms: mDP-CAN for OBD-II – CAN BUS and mDP-KLINE for OBD-II – KLINE to read vehicle bus information

DataPass and micro DataPass use the IEEE802.15.4 to transmit vehicle data to the Wireless Gateway Terminal

The wireless IEEE802.15.4 uses the ISM 2.4 GHz global license free band

COMMUNICATION

Wireless Interfaces

- > Single IEEE802.15.4 wireless channel
- > Operating frequency ISM 2.405 to 2.480 GHz (global license free band)
- > Uses Gasboy's proprietary Mesh network

Wireless Antenna

- > Built-in PCB antenna

Wired Interfaces

DataPass

- > OBD-II – J2284/ISO15765 (CAN BUS)
- > OBD-II – ISO14230/ISO9141 (KLINE)
- > J1708/J1587
- > Odometer Pulses In
 - Pulse rate: 0 – 2500 pps
 - Minimum pulse width (High): 200 micro second
 - Minimum pulse width (Low): 200 micro second
 - Voltage level: 0 – 32 VDC
 - Threshold level: 0.5 – 4.5 VDC
- > Engine Hours In
 - Voltage level: 0 – 32 VDC
 - Maximum Off level: 4 VDC
 - Minimum On level: 8 VDC

micro DataPass

- > OBD-II – J2284/ISO15765 (CAN BUS)
- > OBD-II – ISO14230/ISO9141 (KLINE)

Specifications

ELECTRICAL

Supply Voltage

DataPass

- > Normal operation: 12 VDC (nominal)
- > Minimum 10 VDC
- > Maximum 32 VDC

micro DataPass

- > Normal operation: 12 VDC (nominal)
- > Minimum 9 VDC
- > Maximum 16 VDC

Current Consumption (typical)

DataPass

- > In sleep mode: 5 mA
- > In active mode: up to 35 mA

micro DataPass

- > In sleep mode: 4 mA
- > In active mode: up to 35 mA

MECHANICAL

DataPass

Dimensions

- > 2.8 x 0.6 x 0.8 inches (70 x 15 x 21 mm) (W x H x D)

Weight

- > 0.1 lbs. (45 grams)

Connectors

- > 5268-10 Molex

micro DataPass

Dimensions

- > 2.8 x 0.9 x 0.7 inches (70 x 22 x 17 mm) (W x H x D)

Weight

- > 0.02 lbs. (10 grams)

Connectors

- > OBD-II compatible (male)

ENVIRONMENTAL CONDITIONS

Temperature Range

- > Operating: -40 to +158 °F (-40 to +70 °C)
- > Storage: -40 to +185 °F (-40 to +85 °C)

Specifications

WIRELESS NOZZLE READER (WNR)

GENERAL

The WNR unit is a low-frequency RFID tag reader (125 KHz) ISO 18000-2 compliant

The WNR unit authenticates and reads the Fuel Point PLUS Vehicle Ring tag data

The WNR transmits tag data via a wireless IEEE802.15.4 channel to Wireless Gateway Terminal

The wireless IEEE802.15.4 is using the ISM 2.4 GHz global license free band

Tag data is used for vehicle identification during the automatic refueling process

COMMUNICATION

Wireless Interfaces

- > Single IEEE802.15.4 wireless channel
- > Operating frequency ISM 2.405 to 2.480 GHz (global license free band)
- > Uses Gasboy's proprietary Mesh network

Wireless Antenna

- > Built-in PCB antenna

RFID

LF RFID Reader

- > Designed for low-frequency (125 KHz) chip reading
- > Read distance: Up to 8 cm, influenced by tag geometry

STARTUP

Movement detection using accelerometer

Specifications

ELECTRICAL

Supply Voltage

- > Batteries: 2*2/3AA 3.6V lithium batteries
- > Expected life: 3 years

Current Consumption (typical)

- > Transmitting: 22 mA
- > Standby: 10 uA
- > Transportation mode: 5 uA

Protection

- > Supply voltage: short circuit

Power Management

- > Wake up by movement
- > Timer interrupt wakes processor from Power Save mode

MECHANICAL

Dimensions

- > 2.2 x 4.2 x 2.9 inches (56 x 106 x 72.5 mm) (W x H x D)

Weight

- > 0.4 lbs. (160 grams)

ENVIRONMENTAL CONDITIONS

Temperature Range

- > Operating: -40 to +60 °C
- > Storage: -40 to +85 °C

Specifications

WIRELESS GATEWAY TERMINAL (WGT)

GENERAL

Wireless Gateway Terminal (WGT) uses router and Mesh topologies to transfer data from DataPass devices as well as from WNR devices

Tag-encrypted data received from Fuel Point PLUS Vehicle Ring is decrypted by the Wireless Gateway Terminal

The Wireless Gateway Terminal associates between the relevant pair of tag data and DataPass data

The Wireless Gateway Terminal transmits data using dual wireless IEEE802.15.4 channels

The wireless IEEE802.15.4 uses the ISM 2.4 GHz global license free band

COMMUNICATION

Wireless Interfaces

- > Dual IEEE802.15.4 wireless channel
- > Operating frequency ISM 2.405 to 2.480 GHz (global license free band)
- > Uses Gasboy's proprietary Mesh network

Wireless Antenna

- > Built-in PCB antenna

Wired Interfaces

- > External 10/100 Ethernet LAN Interface
- > External RS-232/RS-485 serial communication
- > External RS-485 serial communication
- > Internal quad SAM interface

RS-232 Interface #1

- > RS-232 – 2 wires TXD, RXD
- > Data rate – 115200 bps, 8 bit, 1stop, no par

RS-485 Interface #1

- > (Optional – Replacing the RS232 interface)
- > RS-485 – 2 wires (+Data; -Data)
- > Data rate – 9600 bps, 8 bit, 1stop, no par

RS-485 Interface #2

- > RS-485 – 2 wires (+Data; -Data)
- > Data rate – 9600 bps, 8 bit, 1stop, no par

Specifications

ELECTRICAL

Supply Voltage

- > Normal operation: 15 VDC
- > Minimum: 10 VDC
- > Maximum: 32 VDC

Current Consumption (typical)

- > Non-transmitting – 90 mA at 15 VDC
- > Transmitting – 100 mA at 15 VDC

Protection

- > Supply voltage: reverse polarity; short circuit

MECHANICAL

Dimensions

- > 7 x 1.5 x 4.7 inches (180 x 38 x 120 mm) (W x H x D)

Weight

- > 0.8 lbs. (365 grams)

Connectors

- > RS-232: DB-9 (female)
- > RS-485: DB-9 (male)
- > Ethernet: Molex RJ-45
- > Power port: Molex 5569-04

ENVIRONMENTAL CONDITIONS

Temperature Range

- > Operating: -40 to +158 °F (-40 to +70 °C)
- > Storage: -40 to +185 °F (-40 to +85 °C)

Specifications

WIRELESS PROGRAMMER

GENERAL

The Wireless Programmer transfers data to and from DataPass and vehicle fuel rings, as well as from WNR devices

The Wireless Programmer performs programming data onto Vehicle Ring tag

Tag data received from Fuel Point PLUS Vehicle Ring is read by wireless programmer

The Wireless Programmer associates between the relevant pair of tag data and DataPass data

The Wireless Programmer transmits data via single wireless IEEE802.15.4 channel for programming DataPass

The wireless IEEE802.15.4 uses the ISM 2.4 GHz global license free band

COMMUNICATION

Wireless Interfaces

- > Single IEEE802.15.4 wireless channel
- > Receive sensitivity: -101dbm
- > Typical range: 50 meters at open space

RFID

- > Designed for low-frequency (125 KHz) chip reading
- > Read and write distance: Up to 8 cm, influenced by tag geometry
- > ISO 18000-2 compliant

Wireless Antenna

- > Built-in PCB antenna

Wired Interfaces

- > External – RS232 communication link

ELECTRICAL

Supply Voltage

- > 7.2V, 2000 mAh lithium-ion internal battery

Battery Charge Voltage

- > 12V to 28V DC input

Protection

- > Supply voltage reverse polarity protected
- > Short circuit protected
- > Battery overcharge and full discharge protected

Specifications

MECHANICAL

Dimensions

- > 7.5 x 1.1 x 3.9 inches (192 x 29 x 99 mm) (W x H x D)

Weight

- > 0.13 lbs. (380 grams)

Connectors

- > Terminal port: DB-9 (female)
- > Power port: DC jack

ENVIRONMENTAL CONDITIONS

Temperature Range

- > Operating: -4 to +158 °F (-20 to +70 °C)
- > Storage: -40 to +185 °F (-40 to +85 °C)

Humidity

- > In accordance with IEC 68-2-30

USER INTERFACE

Keyboard

- > 48-key keyboard

Display

- > 2x16-character LCD



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