GASBOY®

CFN IslanderI & II Installation Quotation Guide

(For Quotation Use Only - Do Not Install From This Guide)

This document is provided as a guide for quoting the installation of a CFN Islander system. Component location, power, wiring, and conduit requirements can be calculated from this guide. The CFN Islander Installation Manual (not this guide!) should be used for the actual installation of the system. *GASBOY will not be responsible for installations performed from this guide.*

HARDWARE DESCRIPTION

The GASBOY CFN Islander systems are microprocessor-based automated fueling systems that control electronic or mechanical pumps or dispensers. The CFN systems are made up of modular components so you can custom-tailor the system to your needs.

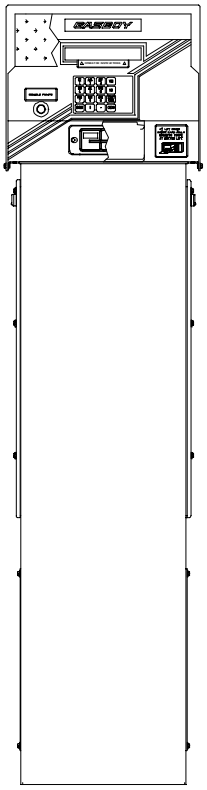
Depending on your application, you could have several or all of the following components:

- Islander I or Islander II
- CRT Terminal and Printer
- Islander Satellite Readers or Satellite Readers with Receipt Printers
- Consoles
- Standalone Receipt Printers
- Cash Drawers
- PIN Pads
- Pump Control Units (wall-mount or pedestal)
- RS-485 Junction Box(es)
- Internal or external phone modems

Standard Islander System Features
Magnetic or optical card or cardless operation. Controls up to 32 hoses. Standard or receipt printer post. Certain applications require peripheral pump control units: the standard pedestal can contain two pump control units controlling up to eight hoses; receipt printer pedestal can contain one pump control unit controlling up to four hoses. Remote wall-mount pump control unit(s) can also be used. Display: 2x20-character LCD, backlit, displays programmable instructional messages. Read Method: ABA Track II Magnetic, manual swipe; or Static read optical. 4x4 Membrane keypad. Options: DES Encryption of PIN numbers, receipt printer mounted in pedestal or pump control unit mounted in pedestal, disable pumps button. Supports up to 7 satellite readers. Satellite readers contain same features as Islander, minus CPU and memory boards.

Islander I Features
Site Controller I with 512K memory is designed for fuel-only operations where access to financial networks is not required. Two asynchronous RS-232 or RS-422 ports for terminal and/or computer communications (Local port-CRT/logger printer; remote port-modem/computer/terminal). Two RS-485 ports for communications with other CFN devices at the fueling site.

Islander II Features
Site Controller II with 608K battery-backed RAM is designed for fuel and merchandise operations and controls/interacts with all your automated fueling equipment including pump control devices and satellite Islander readers. Two PCMCIA card slots and two PCMCIA SRAM cards for mass storage of data and operating system program loading. Ports: Four asynchronous RS232 or RS422 (0-data terminal/logger; 2-modem/computer; 1 and 3 individually configurable). Two RS-485 ports for communications with other CFN devices at the fueling site. Various network interfaces may require a modem. Dispenser interfaces: GASBOY, Gilbarco*, Tokheim*, Wayne, Bennett, Tokheim DPT, Wayne CAT*, Gilbarco CRIND*, Unidynamics*, LTS* (propane).
** Requires interface equipment.*



Consoles
Console I Provides point of sale capabilities for fuel sales for up to 16 fueling positions. Features: 20 character alphanumeric display, 16 pump LEDs, built-in ABA track II mag reader, manager keyswitch. Handles credit and proprietary cards and stackable sales. Options: Standalone receipt printer, PIN pad, cash drawer, customer display.

Check Point Provides point of sale capabilities for fuel and merchandise sales for Site Controller II only. 20-character alphanumeric display. Built-in ABA track II mag reader. Three key configurations, 71, 56, and 36 key, programmable for custom functions. Stackable sales, high, low prices and lookups for 99 products/departments. Handles credit, debit, proprietary cards. Options: Standalone receipt printer, PIN pad, cash drawer, customer display.

CRT Terminal and Printer
Provides communication capability with the Islander. Can be used to log system activity and enter and extract information. Cables are not included with the terminal and must be ordered separately.

LINK MC5 CRT Terminal (GASBOY P/N C03813)
Interface Modes: EIA RS-232 C Main and Auxiliary Ports, IBM-compatible Centronics 25-pin interface, 50-38.4K Baud. Power: 110/220 VAC, 50/60 HZ Keyboard: Low profile, Extended PC (EPC) layout Display: 14" diagonal, 24, 25 or 43 scrollable lines, 80 or 132 columns. Data Transmission: Asynchronous, Full Duplex. Includes CRT-Printer adapter DB9F-DB25F

Okidata 184 Serial Printer (GASBOY P/N C03814)
Interface modes: RS-232C Power: 120 VAC, 220/240 VAC Print speed: 155 cps, utility; 186 cps @10 and 17.1 cpi; 232 cps @ 12 cpi, draft; 40 cps, NLQ. Data Transmission: Asynchronous full duplex

RS-485 Junction Box
Provides a means for hard-wire connections and incorporates protection circuitry to prevent electrostatic surges (which may occur on the field wiring) from reaching the Islander.

Power Conditioner
Provides clean power to the Islander. Provides transient and common mode protection.

Pump Control Units
Required for mechanical pumps and some electronic pumps. Microprocessor controlled. One unit controls up to four fueling positions (up to 8 fueling positions in self-contained unit) to a maximum of 32. Certain applications may require peripheral pump control units. Battery-backup, three solid state relays for each pump/dispenser, manual override switches. Wall-mounted or accommodated in island reader pedestal.

Electronic Pump/Dispenser Interfaces
Certain pump interfaces use controller boxes or special interface devices. When installing any electronic pumps or registers, follow the manufacturer's specifications. GASBOY 9800 Series electronic pumps and dispensers can be connected to the Islander via the RS-485 data loop. A Current Loop interface is available from GASBOY and is required for Gilbarco electronic pumps. For Islander II, Tokheim and Wayne use a controller box to control the pumps. The CFN system interfaces with this control box.

COMPONENT LOCATION

Careful planning for the layout of the site will help eliminate possible problems with the start-up of the CFN system and will ensure continued, reliable system operation.

Console
Location: Office environment, or at minimum, within a protective enclosure.
Environment: 4ºF to 104ºF. 5% to 95% relative humidity, non-condensing.
Dimensions: 7"H x 15-1/2"W x 18"D
Installation: Can be located up to 1000 feet away from Islander. RS-485 junction box must be within 8 feet of console.

CRT Terminal/Printer:
Location: Clean office; a dirty location may cause premature failure.
Environment: 32ºF to 104ºF, 10% to 95% relative humidity, non-condensing, if supplied by GASBOY.
Dimensions: CRT: 12.5"H x 13.3"W x 12.2"D Weight: Terminal: 20 lbs, Keyboard: 3 lbs. Printer: 3.2"H x 14.2"W x 10.8"D Weight: 9.9 lbs.
Installation: Do not install over a hazardous location.

External Modem
Location: Office environment, or at minimum, within a protective enclosure.
Environment: 32ºF to 104ºF, if supplied by GASBOY.
Installation: Do not install over a hazardous location.

Islander or Satellite Islanders
Location: On fueling island.
Environment: -40ºF to 104ºF. 2% to 99% relative humidity, non-condensing.
Dimensions: Blank Post: 58-1/2"H x 11-3/4"W x 11-1/2"D
Receipt Printer Post: 58-1/2"H x 12-3/4"W x 11-5/8"D
Installation: Provide adequate clearance to allow easy access to post's access covers. If equipped with a receipt printer or pedestal pump control unit, minimum 18 inches between post and pumps/dispensers.

RS-485 Junction Boxes
Location: Within eight feet of console.
Environment: -40ºF to 104ºF. 2% to 99% relative humidity, non-condensing.
Dimensions: 3-1/8"H x 3-1/8"W x 2-1/8"D

Power Conditioner
Location: In weather-protected area, within 50 feet of the Islander.
Environment: 0ºF to 104ºF.

Pump Control Unit - Wall Mount
Location: Office environment, or at minimum, within a protective enclosure.
Environment: -40ºF to 104ºF. 2% to 99% relative humidity, non-condensing.
Dimensions: 29-1/8"H x 9-3/16"W x 6-3/4"D
Installation: Do not install over a hazardous location.

Pump Control Unit - Pedestal
Location: Within pedestal on fueling island.
Environment: -40ºF to 120ºF. 2% to 99% relative humidity, non-condensing.
Dimensions: Post: 48"H x 16-1/2"W x 12"D

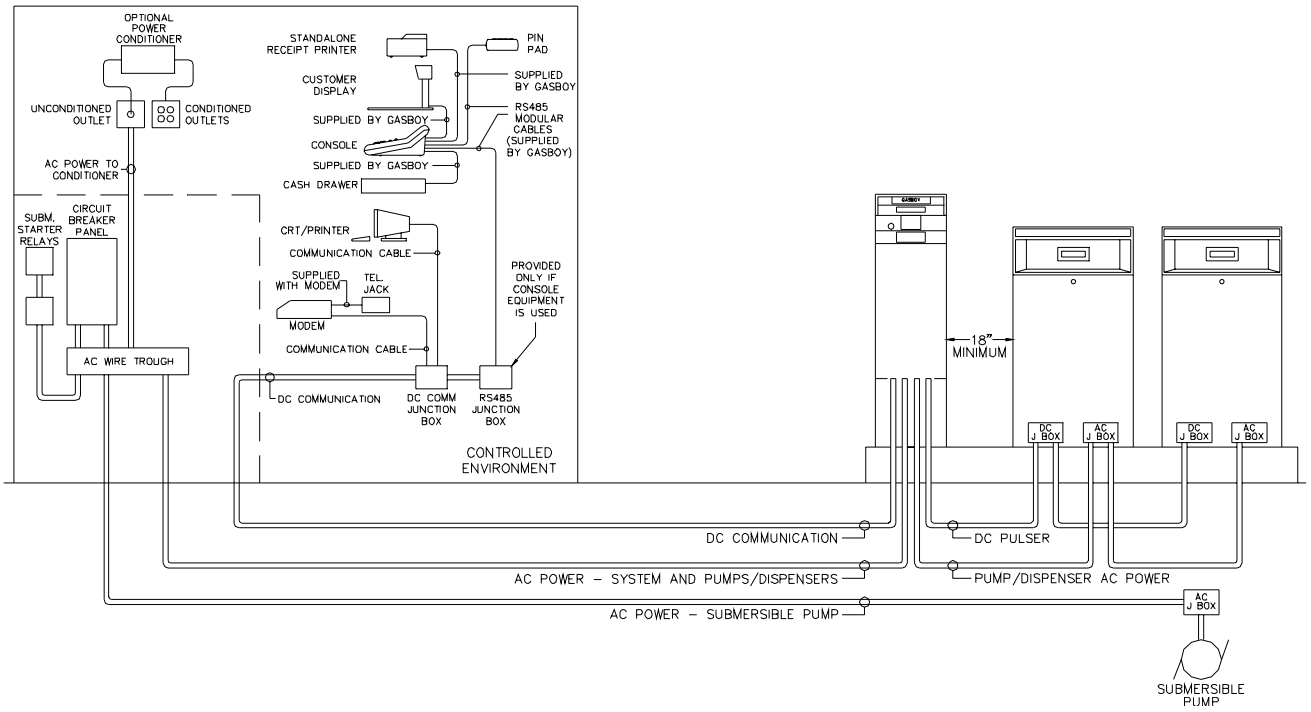
Current Loop Interface
Location: Clean office; a dirty location may cause premature failure.
Environment: 35º to 110ºF, 20% to 80% relative humidity, non-condensing.
Dimensions: 3"H x 12"W x 8"D
Installation: Do not install over a hazardous location.

CONDUIT INSTALLATION SPECIFICATIONS

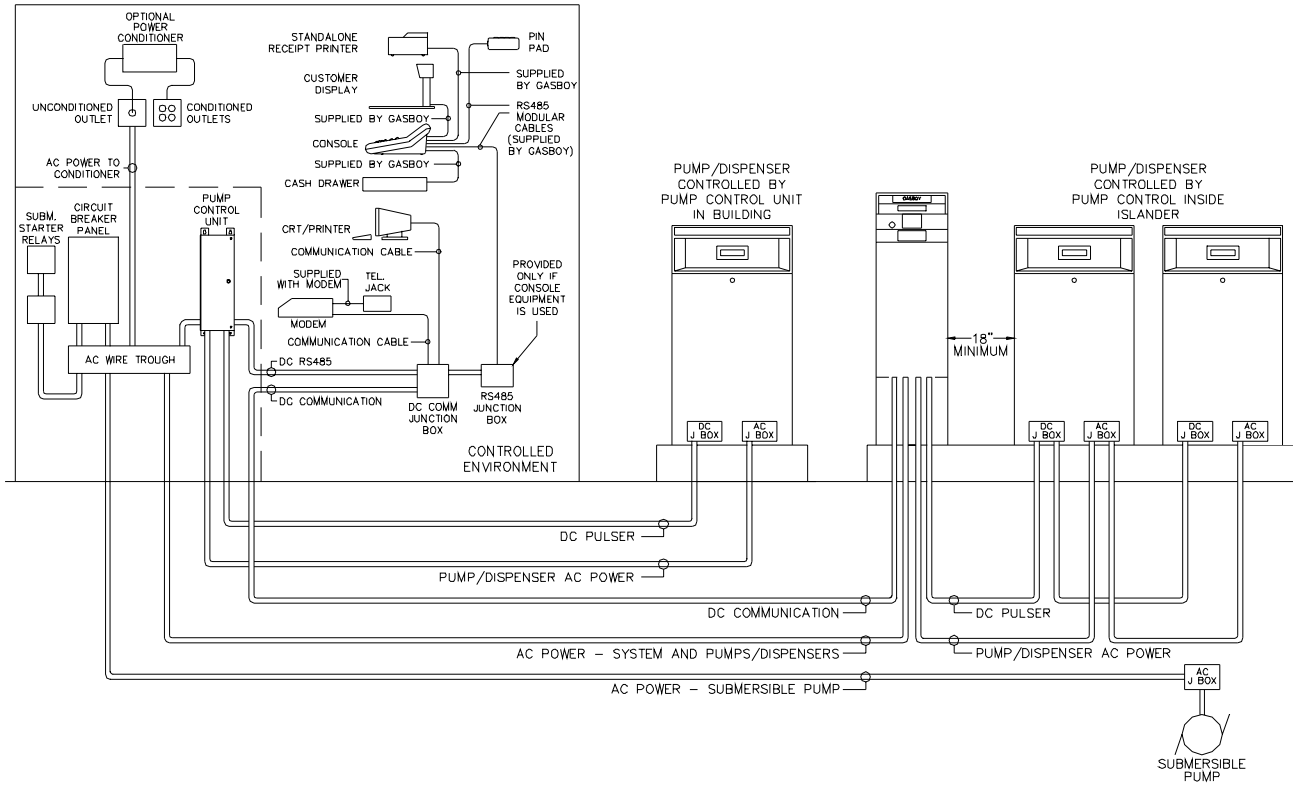
1. All wiring is to be installed and used in accordance with all building/fire codes, all Federal, State, and Local codes, National Electrical Code (NFPA 70), NFPA 30, and Automotive and Marine Service Station Code (NFPA 30A) codes and regulations. Canadian users must also comply with the Canadian Electrical Code.
2. All peripheral equipment connected to the RS-232 ports must be UL-Listed, have an Electronics Industrial Association (EIA) standard RS-232 communications protocol and not be installed over a hazardous location.
3. Power for the system components, data terminal, and modem must come from a separate dedicated circuit breaker rated at no less than 10 AMPS.
4. All wiring connecting the components of the CFN system and all communication equipment signal wires must be installed in threaded, rigid, metal conduit. PVC is not acceptable.
5. All conduit must be run underground, not overhead.
6. High voltage AC power wires must be installed in separate conduit from the low voltage DC signal wires; they cannot be run in any common conduit or trough, except as noted in Communication Wiring and Optional Modem Requirements.
7. Use the Wire Size Chart to determine the wire gauge.
8. Use the Conduit Size chart to determine the size according to the number of wires and wire gauge.
9. RS-232 communication must not exceed 100 feet. RS-232 communication wires must be in a metal conduit separate from any AC wires.
10. For communication distances from 100 to 1500 feet, use a GASBOY RS-422 Short Haul Modem. See the Optional Modem Requirements section of this document for specific RS-422 guidelines and restrictions.
11. In submersible applications, starter relays are always recommended; however, the system can directly drive motors up to 3/4 HP at 120/240 VAC or 1-1/2 HP at 240 VAC.
12. Suction pumps over 3/4 HP at 120/240 VAC or 1-1/2 HP at 240 VAC must use a starter relay. Wire the starter relay in place of the motor in the applicable pump wiring drawing.
13. When using a receipt printer or pump control unit post, a minimum distance of 18 inches must be maintained between the Islander post and any of the pumps/dispensers.
14. Disregard the submersible pump in the drawing if the hose outlets are suction pumps.
15. See the Communication Wiring and Pulser Wiring sections of this document for RS-485 and DC wiring and conduit requirements.

CONDUIT LAYOUT

Mechanical Pumps - Pedestal Pump Control

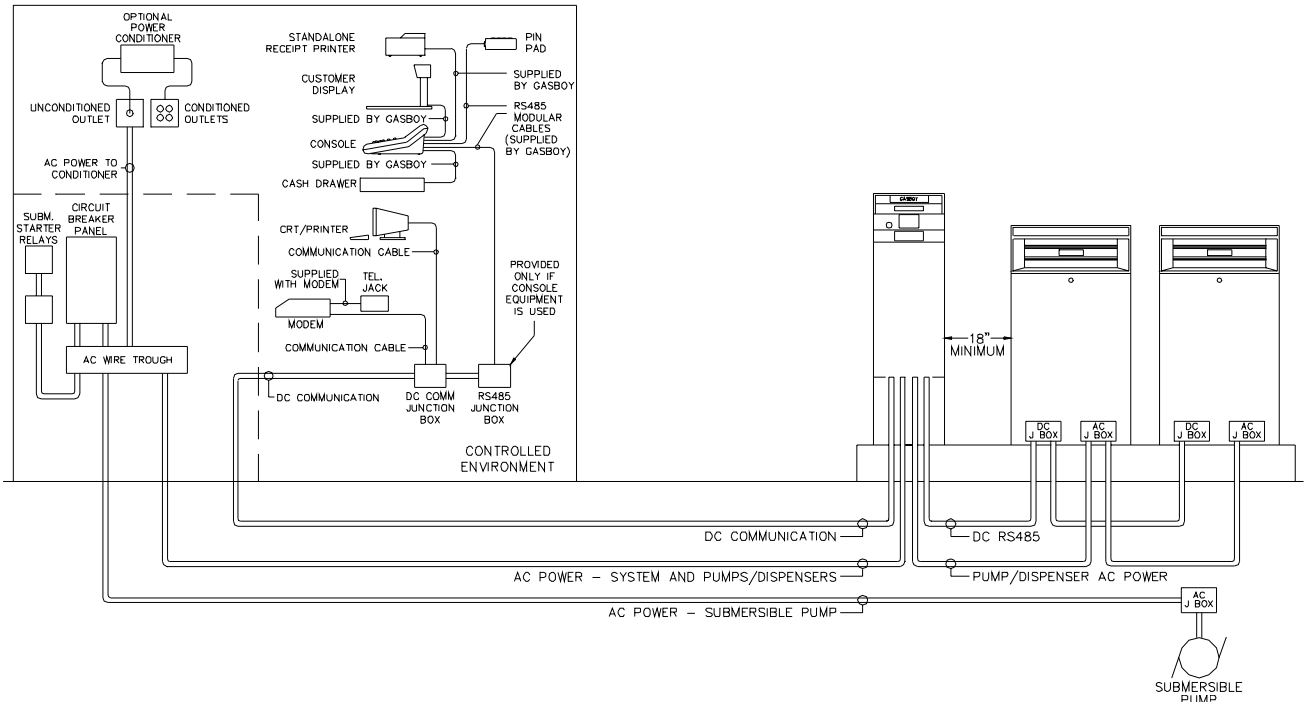


Mechanical Pumps - Wall Mount Pump Control



CONDUIT LAYOUT (cont'd)

GASBOY Electronic Pumps/Dispensers



CONDUIT SIZE

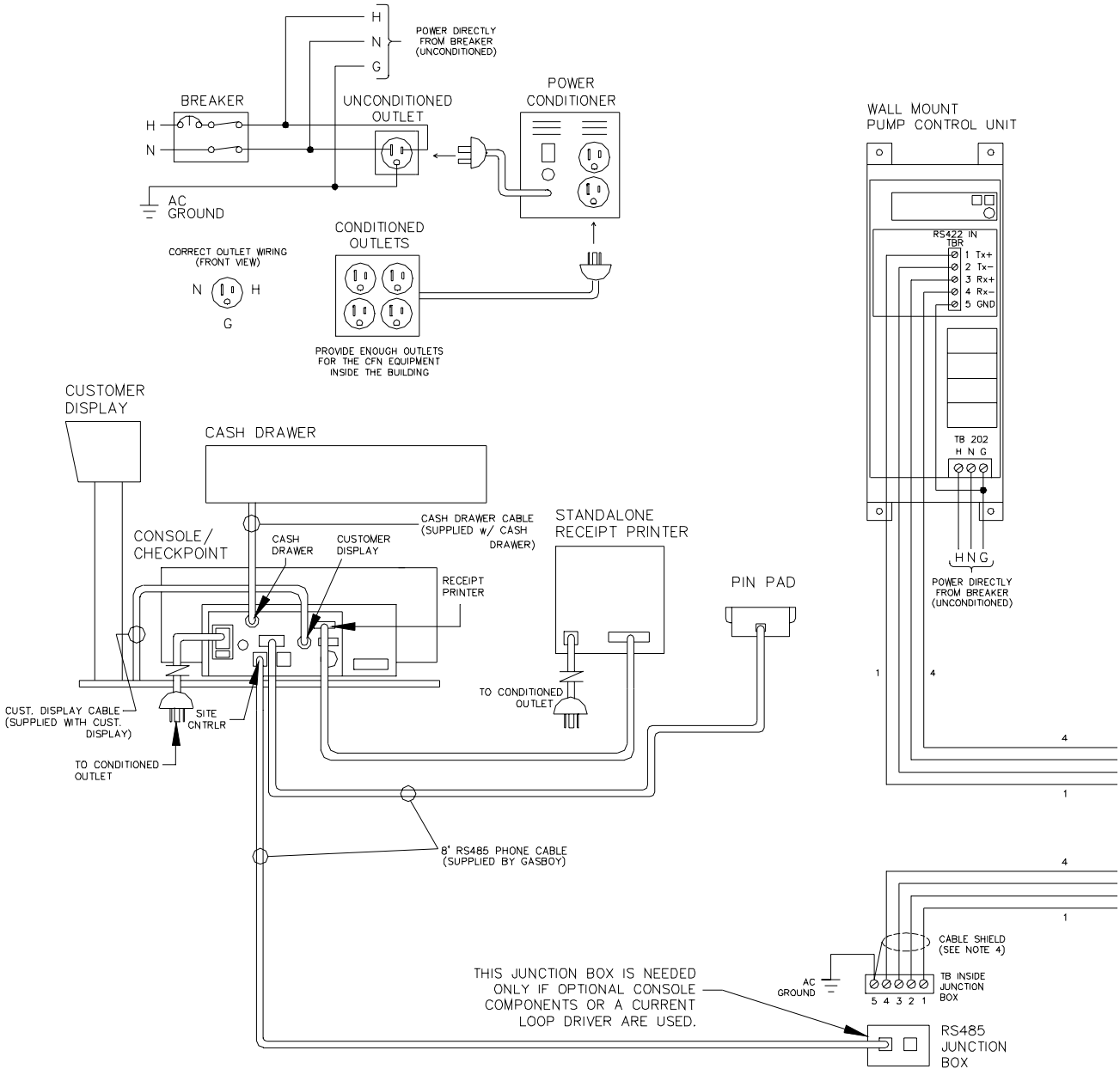
Use these charts as a guideline to determine the necessary conduit sizes for the wiring of the GASBOY Islander. When actually determining the size of a conduit, you may need to increase conduit size because of a long run or large number of bends.

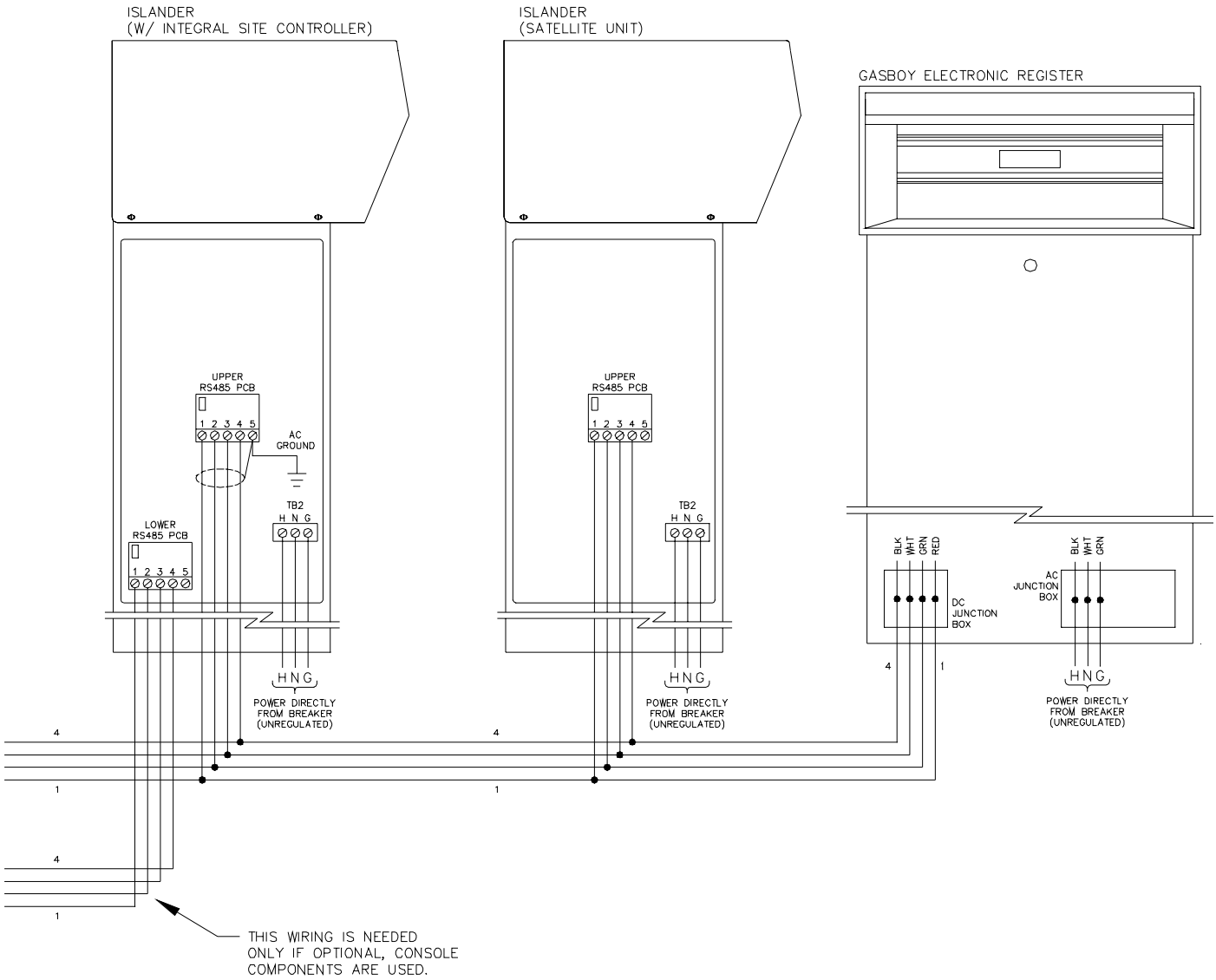
To determine conduit size needed, use the THHN/THWN Wire Areas table (left) to find the area for each wire gauge. Add up all wire areas. Use the Areas of Trade Size Conduit Table (right) to select the smallest number in the 25% fill area (based on NEC 501-1) that comes closest without exceeding the total wire area.

THHN/THWN Wire Areas				
Gauge	Diameter		Area (Sq units)	
	in	mm	in	mm
18	.090	2.29	.007	4.1
16	.104	2.64	.009	5.5
14	.118	2.95	.011	6.8
12	.135	3.43	.014	9.2
10	.169	4.29	.022	14.5
8	.216	5.49	.037	23.7
6	.259	6.60	.053	34.2
4	.331	8.41	.086	55.5
3	.359	9.14	.102	65.6
2	.394	10.01	.122	78.7
1063A	.417	10.59	.137	88.4

Areas of Trade Size Conduit						
Trade Size	Int. Diameter		Area (Sq units)		Fill Area (sq units) 25% Fill	
	in	mm	in	mm	in	mm
1/2	.629	16	.303	196	.076	49
3/4	.826	21	.532	343	.133	86
1	1.063	27	.862	556	.215	139
1–1/4	1.378	35	1.50	968	.375	242
1–1/2	1.614	41	2.04	1314	.509	329
2	2.087	53	3.36	2165	.839	541

System Components Wiring - Islander





1. All wiring is to be installed and used in accordance with all building/fire codes, all Federal, State, and Local codes, National Electrical Code (NFPA 70), NFPA 30, and Automotive and Marine Service Station Code (NFPA 30A) codes and regulations. Wiring must also conform to the wiring diagram supplied with the pump/dispenser.
2. All peripheral equipment connected to the RS-232 ports must be UL-Listed, have an Electronics Industry Association (EIA) standard RS-232 communications protocol and not be installed over a hazardous location.
3. The above wiring diagram illustrates a CFN System with every component to indicate how they are interconnected. Components that are not a part of your system should be ignored.
4. When using shielded cable for the RS-485 communication wiring, ground the shield to the AC ground used for the system components (on one end only).
5. CFN island card readers (ICR's) are interchangeable with satellite Islanders in your configuration.
6. Consult the applicable section of the Installation Manual for specific system installation requirements.
7. For Islander II connecting to Tokheim DPT’s, consult the Pump Interface manual or contact Gasboy Technical Service for special instructions.

SYSTEM AND PUMP/DISPENSER WIRING

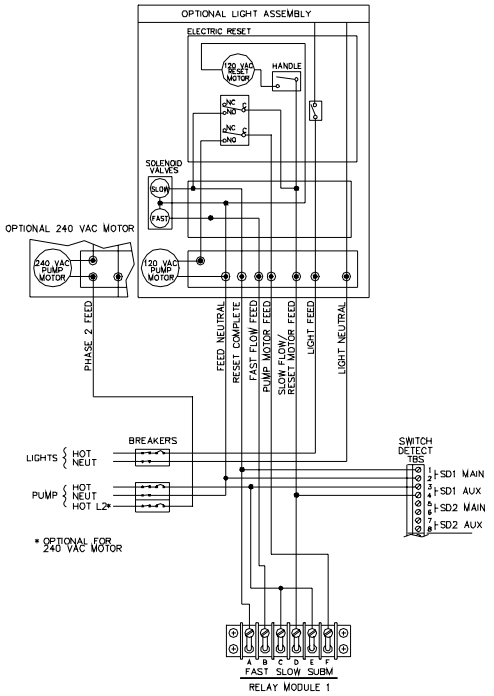
System/Peripheral Equipment: AC Power for the system components must come from a separate, dedicated circuit breaker. No other equipment, including the system's pumps or dispensers, may be powered from this breaker. Whenever possible, one breaker should be used to supply the CFN system components, terminal, and modem. However, it is acceptable to supply the power to different CFN system components and accessories from multiple breakers within the same panel and the same phase of power. If necessary, the terminal or modem may be on a different separate, dedicated breaker.

Power: 120 VAC + 10% 47-63 HZ.
Power conditioner: Optional.
Grounding: All system grounds must return to the same breaker panel to ensure a common ground and protect the RS-485 data loop circuitry.

Pulsers: Reed (contact closure) type pulsers require two wires per pulser. Electronic pulsers require three wires per pulser. See **Pulser Wiring** later in this document.

SUCTION PUMPS

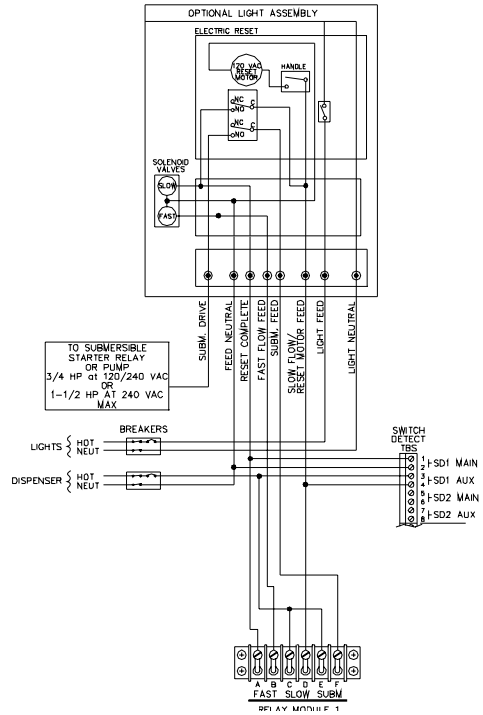
The CFN pump control unit is capable of directly driving pump motors up to 3/4 HP at 120/240 VAC or 1-1/2 HP at 240 VAC. A starter relay must be used with pump motors exceeding these limitations. A separate circuit breaker should be supplied for each pump to meet the current requirements and to allow for isolated control with the circuit breaker panel in case of problems.



9800A ELECTRONIC PUMPS

Series 9800A electronic pumps do not use the CFN pump control unit; they are wired as independent units. See the *9800A Installation Manual*, 035296 for details.

DISPENSERS



The CFN pump control unit can directly drive submersible pumps up to 3/4 HP at 120/240 VAC or 1-1/2 HP at 240 VAC. A submersible starter relay must be used with pump motors exceeding these limitations. A separate circuit breaker is required for each dispenser directly driving a submersible pump. Dispensers may be grouped together on a single breaker when the submersible pump has its own breaker. No more than two dispensers should be powered from one breaker to allow isolated control with the circuit breaker panel in case of problems.

WIRE SIZE

Wire Size
This table shows the required AC wire size for suction and submersible pumps based on the HP rating of the pump motor and the distance from the circuit breaker to the pump/dispenser for both 120 and 240 volt units. Use this table as a guide for selecting the proper size wire according to the specific installation requirements for motor wiring. All wire should be stranded.

120 VOLT WIRE GAUGE SIZES PER FEET OF RUN								
MOTOR H.P.	25'	50'	100'	150'	200'	250'	300'	OVER 300' USE RELAY AT MOTOR LOCATION
1/4	14	14	12	10	10	8	8	
1/3	14	14	12	10	8	8	8	
1/2	14	12	10	8	8	8	8	
3/4	14	12	10	8	6	6	4	
240 VOLT								
1/4	14	14	14	12	12	12	12	
1/3	14	14	12	12	12	12	12	
1/2	14	12	12	12	10	10	10	
3/4	14	12	12	10	10	10	8	
1-1/2	12	12	10	10	8	8	6	

COMMUNICATION WIRING

Requirements
The CFN system utilizes RS-485, RS-422 and RS-232 modes for communications to other CFN system components and peripheral equipment. The Islander has four ports: two RS-485, which are dedicated to communicating with other CFN components; the other two are configurable for either RS-232 or RS-422, for use with a terminal, modem, or PC. Phone line (modem) communication may also be used when remote communication to the site is desired. In cases where an Islander internal modem is used, the remote port is not available for external communication wiring.

RS-485 Data Loop
RS-485 is used for communications between the Islander and its peripherals. Communication takes place over RS-485 modular cables provided with the system components and the RS-485 data loop field wiring.

Twisted pair shielded cable is highly recommended for RS-485 wiring. Although it is recommended that wires be run in a conduit separate from AC wires, they can be combined in the same conduit with AC wires providing UL-Listed cable with the following specifications is used:

Conductor: 18 AWG stranded wire. 2 twisted-pairs.
Shield: Foil-wrapped 100% coverage and/or tinned copper braid 90% coverage
Drain Wire: Stranded, tinned copper, 20 AWG or larger/or braided shield
Voltage Rating: Maximum operating voltage of 600V
Environmental: Gas- and oil-resistant; suitable for wet or dry locations.

GASBOY can supply Belden 1063A (P/N C09655) which is a UL-Listed, 4-conductor cable that meets the requirements listed above. *NOTE: Belden 1063A is UL-Listed but not CSA listed.*

When using the above recommended cable or its equivalent, RS-485 wires can be run with AC wires in metal conduit. The shield drain wire must be connected to the system AC ground. Only AC wires for the system and pumps can be installed in the AC conduit.

If using cable other than that recommended, the RS-485 field wires must be installed in a metal conduit separate from any AC wires.

Wiring over 100 feet must be C09655 or equivalent. Distance from Islander to farthest CFN component is limited to 1000 feet. Total length of all RS-485 wiring cannot exceed 1500 feet.

RS-485 modular cables required are supplied with the system. These cables are not compatible with standard phone cables. GASBOY supplied cables are 8 feet long, however, if you need to connect to a device with a modular connector, you must use an RS-485 junction box to connect the device to the RS-485 wiring. The system components wiring diagrams on pages 6 and 7 show proper connection of the CFN components.

RS-232
RS-232 wiring is used for communication between the Islander and EIA RS-232-compatible peripheral devices (terminal, modem, printer, etc). Distance for RS-232 are as follows:

1-100 feet: RS-232 can be directly connected to a peripheral device.
101-1500 feet: RS-422 and GASBOY Short Haul Modem required.

RS-232 wiring exceeding 15 feet must be installed in metal conduit separate from any AC wires.

Cables may be purchased from Gasboy or made by the installer. See the *Installation Manual* for cabling details.

PULSER WIRING REQUIREMENTS

When installed in a separate DC conduit, 18 AWG wires are required for installation. Although it is recommended that DC pulser wires be run in a conduit separate from AC wires, they can be combined in the same conduit with AC wires providing UL-Listed cable with the following specifications is used:

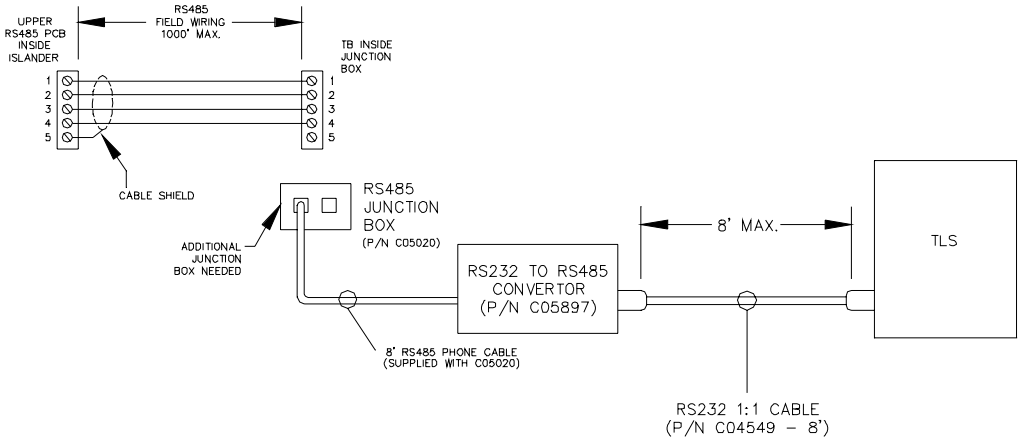
Conductor: 18 AWG stranded wire. Number of conductors to be determined by pulser
Shield: Foil-wrapped 100% coverage and/or tinned copper braid 90% coverage
Drain Wire: Stranded, tinned copper, 20 AWG or larger/or braided shield
Voltage Rating: Maximum operating voltage of 600V
Environmental: Gas- and oil-resistant; suitable for wet or dry locations.

GASBOY can supply Belden 1063A (P/N C09655) which is a UL-Listed, 4-conductor cable that meets the requirements listed above. *NOTE: Belden 1063A is UL-Listed but not CSA listed.*

OPTIONAL TANK MONITOR REQUIREMENTS

Islanders can be connected to Veeder-Root TLS tank monitoring systems. All previously described RS-232 and RS-485 wiring guidelines should be followed when wiring a tank monitoring system. Consult the manufacturer's instructions for further guidelines.

The following diagram shows the connection of the Islander to a Veeder-Root tank monitoring system. Consult the Islander II Installation Manual, C35963 for details on RS-232 wiring.



Connection to a Veeder-Root TLS

OPTIONAL MODEM REQUIREMENTS

GASBOY RS-422 Short Haul Modems

A GASBOY Short Haul Modem (SHM) and the appropriate interconnect cable must be used when the RS-422 communication mode is being used to communicate to the local or remote ports of the Islander. The SHM should be used for distances between 100 and 1500 feet. One SHM is required at the remote end of the communication wiring. SHM's must be connected with private lines and will not work if connected into a telephone network.

AC power should come from the same breaker that supplies the peripheral device or the system.

Twisted pair shielded cable is highly recommended for RS-422 wiring. Although it is recommended that wires be run in a conduit separate from AC wires, they can be combined in the same conduit with AC wires providing UL-Listed cable with the following specifications is used:

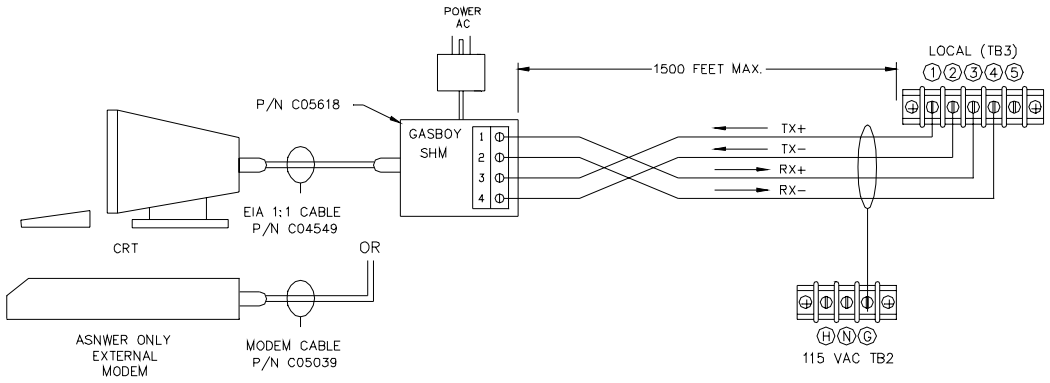
Conductor: 18 AWG stranded wire. 2 twisted-pairs.
Shield: Foil-wrapped 100% coverage and/or tinned copper braid 90% coverage
Drain Wire: Stranded, tinned copper, 20 AWG or larger/or braided shield
Voltage Rating: Maximum operating voltage of 600V
Environmental: Gas- and oil-resistant; suitable for wet or dry locations.

GASBOY can supply Belden 1063A (P/N C09655) which is a UL-Listed, 4-conductor cable that meets the requirements listed above. *NOTE: Belden 1063A is UL-Listed but not CSA listed.*

When using the recommended C09655 or its equivalent, RS-422 wires can be run with AC wires in metal conduit. The shield drain wire must be connected to the system AC ground. Only AC wires for the system and pumps can be installed in the AC conduit.

If using cable other than that recommended, the RS-422 field wires must be installed in a metal conduit separate from any AC wires.

The cable can be run indoors without using metal conduit. The shield drain wire must be connected to the system ground.



External Modems

The type of phone line required for communication via an external modem is contingent upon the type of modem used and the method of communication desired. Consult the manual that comes with the modem for specific requirements.

Internal Modem

The Islander is available with an optional internal modem. When this modem is installed, remote port communication is routed through the modem in place of being wired at the terminal block in the post. The phone line for the internal modem must not be installed in the DC conduit. Check with your local phone company for proper installation of the phone line.

The 2400 baud modem is designed for 300, 1200, or 2400 baud, full duplex, asynchronous communication. The 33600 baud modem is designed for 1200, 2400, or 9600 baud, full duplex, asynchronous communications. The modem is mounted inside the Islander at the factory. Power for the modem is supplied by the Islander.

The modem is designed to meet or exceed the direct connection registration requirements of the FCC rules. This means the modem will connect directly with a jack supplied by the phone company. The customer is required to order this jack and have it installed. To order this equipment from the phone company, specify:

1. Any one of the following jacks: RJ11C or RJ41S, OR RJ45S.
2. The registration number of 6BHUSA-24793-DT-E.
3. The data transmission rate of 300 baud, 1200 baud, 2400 baud, or 9600 baud.
4. The Bell equivalent of 103J/212A.

OPTIONAL FUEL POINT

The Islander II system can be purchased or retrofitted with a Fuel Point option. With Fuel Point, each vehicle is equipped with a T-ring (tank ring). Each hose used with Fuel Point is equipped with an N-ring (nozzle ring). When fueling the vehicle, the antennas on the T-ring and N-ring automatically transmit vehicle information to the Fuel Point Reader (FPR), which in turn, transmits this information to the GASBOY Islander II system which authorizes fueling and records vehicle and transaction information.

The hardware required for the Fuel Point option can be factory-installed on a new system, or retrofitted to an existing system. Refer to the following Fuel Point manuals for information on system installation and retrofitting:

- *Fuel Point Reader Installation, C35628*
- *Fuel Point Hose and Dispenser Retrofit Installation, C35593*
- *Vehicle Module Installation, C35699*
- *Vehicle Module Programming Manual, C35629*
- *Fuel Point Parts, C35709*

There are two variations on the Fuel Point option: the standard Fuel Point option or the Fuel Point Gate option. The standard option allows you to authorize up to 8 fueling positions. The gate option allows you to designate a fueling position (hose) as a gate controller. The gate option requires a special vehicle module with gate antenna connectors on the vehicle and installation of a special ground loop antenna buried in the driveway.

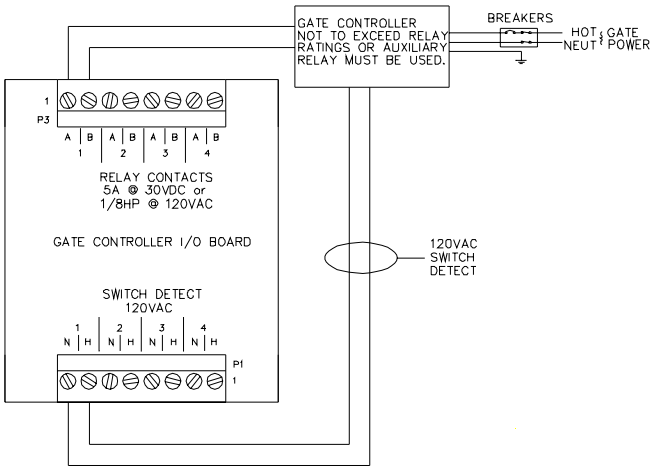
GATE CONTROLLER WIRING USING GATE READER

The Islander system can activate a gate controller by using the CFN Gate Island Reader or Gate Satellite Reader. Either of these Gate Readers allows activation by card, Fuel Point, or terminal command, but not via console or POS terminal.

- The CFN Gate ICR can directly switch power to a gate controller. The maximum ratings of the switched power is not to exceed 5A @ 30VDC or 1/8HP @ 120VAC. If the gate controller switch control exceeds those ratings, an auxiliary relay must be installed to handle the load. The auxiliary relay coil is not to exceed the ratings mentioned above.

- The Islander II system allows a loadable timeout value up to two minutes during which time the relays are energized. The selected time depends on the gate controller manufacturer's specification.

- Instead of a timed closure, the system also allows the relays to stay energized indefinitely until a signal comes back to turn them off. The signal is 120VAC only, and is connected to the I/O Board's Switch Detect connector.



GASBOY INTERNATIONAL, INC.
A Tokheim Subsidiary
P.O. Box 309, Lansdale, PA 19446 ● (215) 855-4631 ● FAX: (800) 444-5569