

# RS485 Smart DBox Addendum

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The RS485 Smart DBox can be used in two different modes: Standard RS485 DBox and Gilbarco Emulation. Standard is how all previous versions of the PIE RS485 DBox have worked, and Gilbarco Emulation allows controllers that communicate to Gilbarco dispensers to communicate with non-Gilbarco dispensers.

## Standard RS485 DBox

Standard mode is a connection to dispensers or card readers using RS485 protocol (PMC) where the controller is set to the same dispenser type (PMC). This is how all previous versions of the PIE RS485 DBox have worked in the past. Refer to the table below for the proper jumper settings.

Table: Standard RS485 DBox Jumper Settings							
Controller	STD/ALT	LB ON	ALT0	ALT1	ALT2	CTRL/ALT3	-CTRL/ALT4
FuelDirect (new)*	OFF	ON	OFF	OFF	OFF	ON	OFF
FuelDirect (old)†	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FuelDirect (RS232)	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Plcon II or Omega JR	OFF	ON	OFF	OFF	OFF	ON	OFF

\* FuelDirect 057.007.050-rc10 (or newer) **AND** XPort 5.00 (or newer). P2 & P9 set to XPORT

† FuelDirect 057.007.050-rc9 (or older) **AND/OR** XPort 4.01 (or older). P2 set to XPORT. P9 not jumpered.

## Gilbarco Emulation

Gilbarco Emulation mode allows controllers that control Gilbarco dispensers to control dispensers that use RS485 protocol. The DBox emulates a Gilbarco dispenser, and allows a controller to be set to Gilbarco, but communicate to other dispenser brands that use RS485 protocol (PMC, for example). Refer to the table below for the proper jumper settings.

Table: Gilbarco Emulation Jumper Settings							
Pump Brand	STD/ALT	LB ON	ALT0	ALT1	ALT2	CTRL/ALT3	-CTRL/ALT4
Wayne CAT	ON	<i>See Below</i>	OFF	OFF	OFF	OFF	OFF
PMC	ON	<i>See Below</i>	ON	OFF	OFF	OFF	OFF
Bennett 485*	ON	<i>See Below</i>	OFF	ON	OFF	OFF	OFF
Tatsuno	ON	<i>See Below</i>	ON	ON	OFF	OFF	OFF
Dong Hwa	ON	<i>See Below</i>	OFF	OFF	ON	OFF	OFF
Mechanical	ON	<i>See Below</i>	ON	OFF	ON	OFF	OFF

\* Bennett 485: The Model Type of each dispenser must be set in Diagnostics for proper functionality. See Diagnostics section below.

Plcon II, Omega JR, and FuelDirect (XPORT & RS232)

- LB ON jumpered

VeriFone Commander:

- LB ON not jumpered
- P2 & P9: RS232
- K22: RTS

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## Diagnostics

RS485 Smart DBox has built-in Diagnostics that may need to be accessed for configuration purposes. When accessing Diagnostics, all other PI DBox functionality is disabled. **When set for Bennett 485, the Model Type of each dispenser must be set in Diagnostics for proper functionality.**

To access Diagnostics:

1. Power down the PI DBox.
2. Jumper the pins for DIAG at P6.
3. Jumper P2 for RS232.
4. Connect a serial cable from a PC to the RS232 port of the PI DBox.
5. Power up the PI DBox.
6. To access diagnostics, a computer running a terminal emulation software such as Hyperterm for Windows is required. The diagnostic port is a serial port with the following connection parameters.

Baud Rate	57600
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

## Low-Voltage Disconnect Wiring

The Current Loop DBox, RS485 Smart DBox, and Tokheim DBox are equipped with built-in relays for signal disconnect, in compliance with current low-voltage disconnect regulations NFPA 30A, Section 6.7 NEC Sections 514.11 and 514.13. Use the following Diagram to wire the Emergency Stop switch properly. If not wired to the kill switch, the RELAY\_BYPASS jumper must remain jumpered.

### Kill Switch Wiring Diagram

