Development Guide

Pump Simulator Automation Protocol

Applies to Pump Simulator Version 24.08.2+

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HISTORY OF DOCUMENTATION CHANGES & REVISIONS

Version 1.0 — August 07, 2024

Initial Release

PURPOSE OF THIS DOCUMENT

This manual describes in detail the protocol used for the Pump Simulator Automation. Instructions for installing or using the Pump Simulator are not included. Additional documentation is available from PIE.

NOTICE

Progressive International Electronics reserves the right to revise and improve this document as required. This publication details our Pump Simulator Automation Protocol at this time, and may not accurately describe these products at all times in the future. Specifications are subject to change without notice.

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Connection to Pump Simulator

Connection to the Pump Simulator is done via a socket. This connection can be made from the same PC on which Pump Simulator is installed, or from another PC that is on the same network. The port number is 10005. The IP Address depends on where the Pump Simulator is installed.

- On the same PC, the local host (127.0.0.1) can be used for the IP Address.
- On another PC on the same network, the IP Address of the PC with Pump Simulator installed will be used.

Pump Simulator Commands

Interface Information

D – *Read information from the Pump Simulator*

Interface Information Command Character D

Purpose of Interface Information Command

Query the status of the Pump Simulator. Allows for a visualization of the simulator without having the interface window(s) visible.

Format for Interface Information Command

D Pump#

Interface Information Command Character=D
Pump #=XX *(01 to 16)*

Response to Interface Information Command

A Data1 | V Data2 | P Data3 | H Data4 | M Data5 | F Data6

Description of Interface Information Response Tags		
Tag	Tag Description	Tag Response Data Format
A	Sale Amount	$.$$ *(variable length)*
V	Sale Volume	v.vvv *(variable length)*
P	Sale PPU	p.ppp *(0.000-9.999)*
H	Hose #	X *(0-6)*
M	Method of Payment	X *(1-2)*
F	Flow %	XXX *(000-100)*

Response data is divided by a Separator (|).

Dollar and Volume lengths are variable. Parse the data from the start of the Tag to the Separator.

Interface Information Command Example

- $137.94
- 30.059 gallons
- PPU=$4.589
- Hose #3
- Credit MOP
- Flow=75%

Command:
D01
Response:
A137.94|V30.059|P4.589|H3|M1|F075

Pump Simulator Commands

Flow Control

F – *Set the rate of flow*

Flow Control Command Character F

Purpose of Flow Control Command

Set the rate of flow during a transaction. This may be set to 100 to flow at max rate, set to 000 to stop flow, or any value in between.

Format for Flow Control Command

F Pump# Flow%

Flow Control Command Character=F
Pump #=XX *(01 to 16)*
Flow %=XXX *(001 to 100)*

Response to Flow Control Command

ACK/NAK only

Flow Control Command Examples

- Pump #7
- Flow Rate of 50%

Command:
F07050
Response:
ACK

- Pump #15
- Stop Flow

Command:
F15000
Response:
ACK

Pump Simulator Commands

Hose Selection

H — *Make a hose selection*

Hose Selection Command Character H

Purpose of Hose Selection Command

Lift the Handle, make a Hose selection, and select a Method of Payment (MOP) for a Fueling Position. This command allows for the selection of a Pump, Hose, and MOP and is also used to hang up the hose.

Format for Hose Selection Command

H Pump# Hose# MOP

Hose Selection Command Character=H
Pump #=XX *(01 to 16)*
Hose #=X *(1-6 to select a hose / 0 to hang up the hose)*
MOP=X *(1 for Credit / 2 for Cash)*

Sending this command with a Hose Number that is greater than zero (0) will select that Hose Number for use. To hang up the handle, Hose Number zero (0) must be sent (H0100) for the specified pump number.

Response to Hose Selection Command

ACK/NAK only

Hose Selection Command Examples

- Lift handle
- Pump #3
- Hose #5
- Credit

Command:
H0351
Response:
ACK

- Hang up handle
- Pump #12

Command:
H1200
Response:
ACK

Pump Simulator Commands

Jump to Limit

J — Jump to the preset limit

Jump to Limit Command Character J

Purpose of Jump to Limit Command

Jump to Limit immediately jumps the Pump Simulator to the preset limit of a transaction. This saves time when testing large transactions. This command must be sent while a sale is in progress.

Format for Jump to Limit Command

J Pump#

Jump to Limit Command Character=J
Pump #=XX *(01 to 16)*

Response to Jump to Limit Command

ACK/NAK only

Jump to Limit Command Examples

- Jump to preset limit
- Pump #7

Command:
J07
Response:
ACK

- Jump to preset limit
- Pump #13

Command:
J13
Response:
ACK

Pump Simulator Commands

Preset Overrun

O — *Allow a preset overrun*

Preset Overrun Command Character O

Purpose of Preset Overrun Command

Preset Overrun allows the Pump Simulator to run past the preset limit. This must be sent while a sale is in progress, and the option will return to disabled when the transaction is complete.

Format for Preset Overrun Command

O Pump#

Preset Overrun Command Character=O
Pump #=XX *(01 to 16)*

Response to Preset Overrun Command

ACK/NAK only

Preset Overrun Command Examples

- Allow preset overrun
- Pump #3

Command:
O03
Response:
ACK

- Allow preset overrun
- Pump #16

Command:
O16
Response:
ACK