

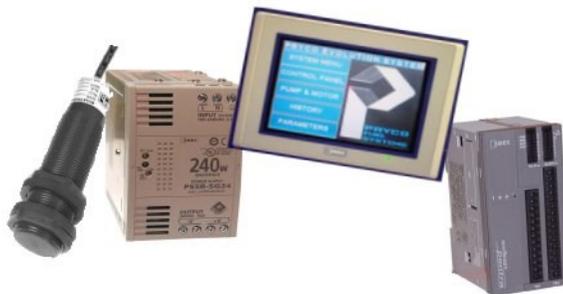


PRYCO, INC.
P. O. BOX 108
Mechanicsburg, IL 62545

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**OPERATIONS
AND
MAINTENANCE
MANUAL
For
EVOLUTION
PLC SYSTEM**



WHAT TO DO FIRST

Upon receiving your new tank with PLC system equipment, always check for physical signs of damages before signing the bill of lading. Inspect for possible damage that might have occurred during shipment. All products are inspected at point of shipment to ensure they are free of any defects. Dropping and other rough handling in transit could place stress that will result in a failure. Check to ensure the system equipment arrives in good condition.

THEN

Always have the fuel system installed by trained, authorized personnel.

Record your model and serial numbers here and save this manual. The model and serial numbers are located on the tag inside the electrical enclosure cover.

Model: _____ Install Date: _____

Serial Number _____

Refer to this serial number whenever you contact the factory:

Pryco, Inc.
 3rd and Garvey Streets
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 Mechanicsburg, IL 62545

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PLC MAINTENANCE

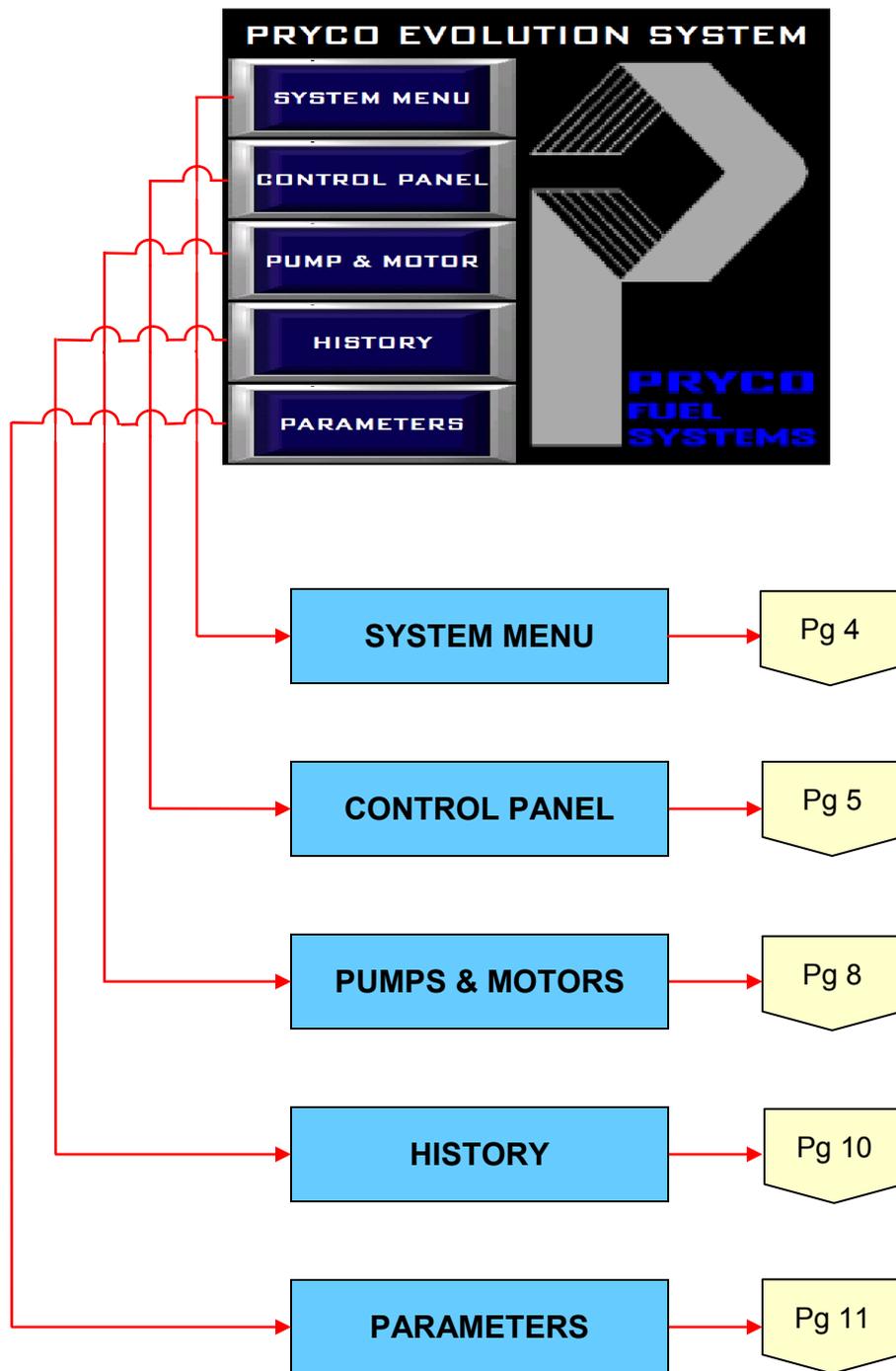
The PLC components , including the touch screen, generally need no maintenance except for an occasional dusting or light cleaning.

In a dusty environment, canned aerosol air, as is used for computer keyboards, etc., should be used to blow dust out of component vents.

The LCD touch screen will magnetically attract airborne particles and fingerprints. Do not use any abrasive cleaner or towels to clean the LCD screen—it will be permanently scratched. A dry soft cloth should be used. For more stubborn dirt, commercially available aerosol cleaners (for LCD/Plasma television, computer LCD monitor screen, etc.) and a soft cloth should work. Never use a petroleum-based solvent.

MAIN MENU

This is the “home” touch screen page of the Evolution system. From here, using soft buttons an operator may select subsequent pages to monitor and control the fuel system PLC.



SYSTEM MENU

This password protected page contains critical information relevant to the overall Evolution PLC system. The system password is maintained here.



Enter A Password One Character At A Time Using Touch-Letter Pad.

The Characters Entered Will Appear In The Upper-Right Input Area.

Then Press One Of The Action Buttons Below.

CAN

Cancel, Do Not Save, Then Return To The Main Menu

CLR

Clear The Input Area And Start Over

ENT

Accept What Is Entered, Save New Password, Then Return To Main Menu

CONTROL PANEL

Graphics Description

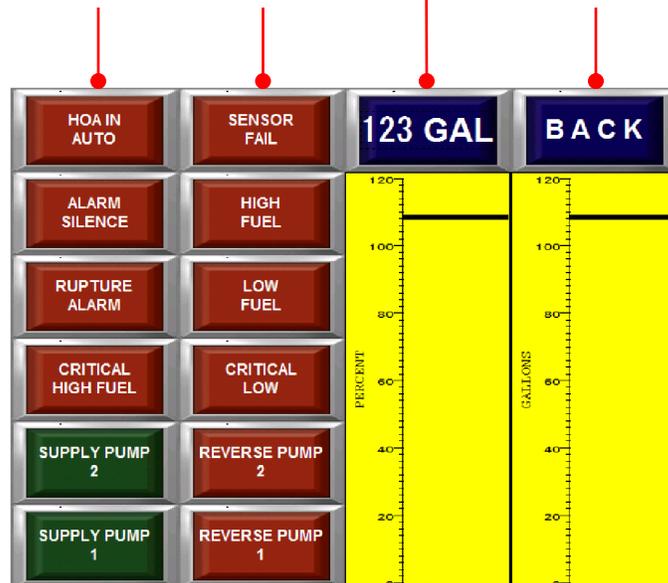
This is the monitoring screen page. Each monitored feature that is available to the system is represented here as a solid illuminated lamp. If a feature becomes “active” the lamp graphic flashes. An operator can determine at a glance if the system is operating normally.

Two yellow linear-scaled graphics report fuel level in “percent full” and in gallons. A digital readout of number of gallons (blue) is shown above these areas.

GRAPHIC DISPLAYS – COL. 1
Actions/Alarms (See Page 6 &7)

NUMBER GALLONS OF FUEL TANK
Digital Display

BACK TO MAIN MENU
Soft Push Button (Page 3)



NUMBER GALLONS OF FUEL IN TANK
Linear Display

PERCENT FULL
Linear Display

(Continues Next Page)

CONTROL PANEL

Graphics Actions/Alarms Display – Column 1

Red Graphic LED Lamps lit solid generally indicates normal operation.



Correct the abnormal condition that is causing a flashing red LED graphic. The system will automatically restore the flashing LED graphic to its solid state.

LIT SOLID	FLASHING
The "HOA Switch(s)" is in the "AUTO" position.	The HOA switch(s) is not in the "AUTO" position.
The "Alarm Silence Switch".	The alarm silence switch is for silencing alarm horn when ordered with Opt 223/224.
The "Rupture Alarm" monitor is functioning properly.	A leak in the secondary containment area is detected.
The "Critical High" fuel monitor is functioning properly.	The fuel level has exceeded the predetermined high fuel level—normally 103% capacity. Supply pump(s) and motor(s) are shut-down.
A second pump and motor (Supply Pump #2) of a duplex system is installed. (See page 8 to determine how the duplex system is set to operate.)	The second pump and motor (Supply Pump #2) of a duplex system is running. (See page 8 to determine how the duplex system is set to operate.)
A single pump and motor (Supply Pump) or the first pump and motor (Supply Pump #1) of a duplex system is installed. (See page 8 to determine how the duplex system is set to operate.)	A single pump and motor (Supply Pump) or the first pump and motor (Supply Pump #1) of a duplex system is installed running. (See page 8 to determine how the duplex system is set to operate.)

(Continues Next Page)

CONTROL PANEL

Graphics Actions/Alarms Display – Column 2

Red Graphic LED Lamps lit solid generally indicates normal operation.



Correct the abnormal condition that is causing a flashing red LED graphic. The system will automatically restore the flashing LED graphic to its solid state.

LIT SOLID	FLASHING
The "Sensor Fail" monitor is functioning properly.	The sensor has lost signal or is not functioning at all. LED on top of ultra-sonic should always be RED.
The "High Fuel" monitor is functioning properly.	The fuel level has exceeded the predetermined high fuel level - normally 102% capacity.
The "Low Fuel" monitor is functioning properly.	The fuel level has dropped to the predetermined low fuel level - normally 50% capacity.
The "Critical Low" fuel monitor is functioning properly.	The fuel level has dropped to the predetermined critical low fuel level – normally 5% capacity. To prevent loss of engine fuel prime, the generator engine should be wired through critical low.
A second pump and motor (Reverse Pump #2) of a duplex system is installed. (See page 8 to determine how the duplex system is set to operate.)	The second pump and motor (Reverse Pump #2) of a duplex system is running. (See page 8 to determine how the duplex system is set to operate.)
A single pump and motor (Reverse Pump) or the first pump and motor (Reverse Pump #1) of a duplex system is installed. (See page 8 to determine how the duplex system is set to operate.)	A single pump and motor (Reverse Pump) or the first pump and motor (Reverse Pump #1) of a duplex system is installed running. (See page 8 to determine how the duplex system is set to operate.)

PUMPS & MOTORS

This LCD screen page contains input HOA switch and light graphics where an operator can control each pump motor of the fuel system. A motor may operate in either automatic or manual mode. The illuminated LCD boxes to the right of each switch report the switch position of its associated motor.

PUMP-FAIL RESET

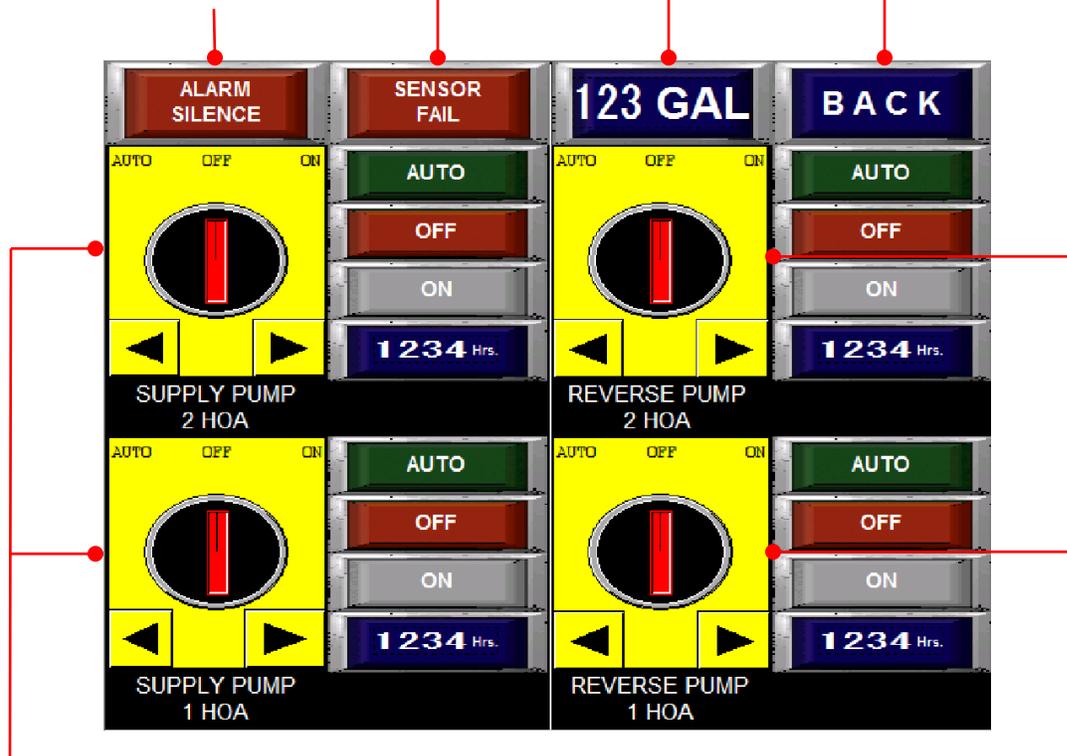
Soft Push Button
(See page 5)

NUMBER GALLONS OF
FUEL IN TANK
Digital Display

COMMON ALARM SILENCE

Soft Push Button
(See page 5)

BACK TO MAIN MENU
Soft Push Button (Page 3)



SUPPLY MOTORS (HOA)

Soft Push Button

REVERSE MOTORS (HOA)

Soft Push Button

For control of Supply Pumps and Motors.

For control Reverse Pumps and Motors.

SEE PAGE 9

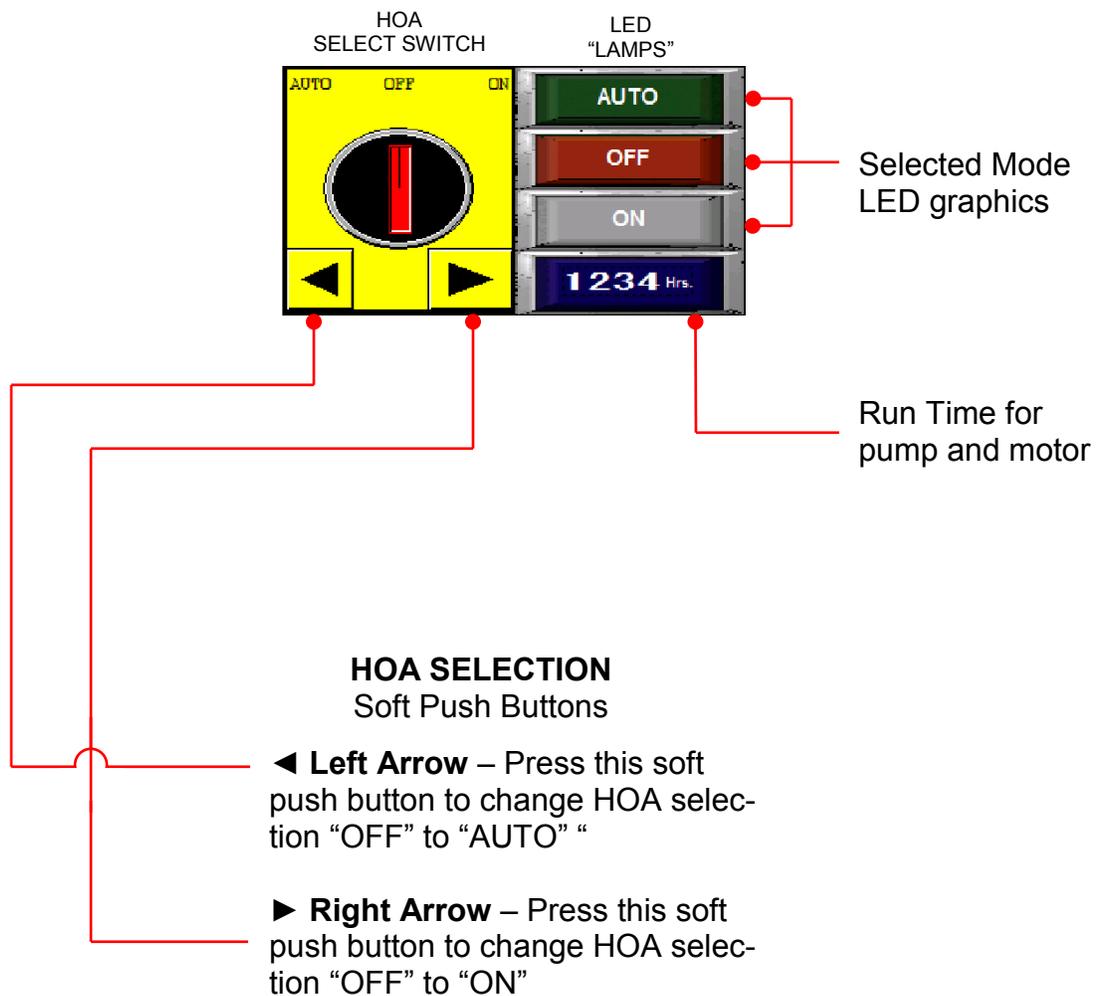
For a description and use of the HOA switches and LED graphics

(Continues Next Page)

PUMPS & MOTORS

HOA Switches and LED Displays

Shown below is a graphic displays of an HOA switch and associated LED lamps. A graphic will be displayed for each pump motor installed. By pressing the left ◀ and right ▶ arrows, the “HOA Selection Knob” will move the red bar to point to which of the three modes is selected.



HISTORY

Activity Log Display

This screen page reports a time/date historical log of pump motor activities and alarm conditions. The soft push-buttons at bottom assist in scrolling through the log.

OCCURENCE COLUMN
A display of the month and day and the time an activity occurred

MESSAGE COLUMN
A display of active and inactive alarms and operator functions.

BACK TO MAIN MENU
Soft Push Button (Page 3)



Page Down – To scroll down through the entries

Page Up – To scroll up through the entries

Highlight – Highlights (selects) first or latest log entry

PARAMETERS

This password-protected page contains level settings at which specified actions (pump motor on/off, high low fuel levels, etc.) are to begin. Optional Pump fail timers are also displayed for user defined time. This allows dynamic fine tuning at the job sight.

**DESCRIPTION COLUMN
(ACTIVITY LEVEL SETTING)**

A display of the pump motor activity level setting

LEVEL SETTING COLUMN

Entry areas (using display touch keypad) that indicates the distance, in inches, that an activity begins

BACK TO MAIN MENU
Soft Push Button (Page 3)

DESCRIPTION COLUMN (ACTIVITY LEVEL SETTING)	LEVEL SETTING COLUMN
HIGH FUEL	123.45
REV LAG ON	123.45
REV LEAD ON	123.45
SUP LEAD OFF	123.45
SUP LAG OFF	123.45
REV LEAD OFF	123.45
REV LAG OFF	123.45
SUP LEAD ON	123.45
SUP LAG ON	123.45
LOW FUEL	123.45
CRITICAL LOW	123.45

SLAVE NUMBER 123

COMM PORT SETTING
BAUD RATE: 9600
DATA BITS: 8
PARITY: NONE
STOP BITS: 1

Note: Level setting window values should be set to read lowest to highest. Pryco will not be held responsible for improper level values. Values are set in percent

**SLAVE NUMBER
(MODBUS SLAVE NUMBER)**
Using display touch keypad allows user to change slave number.

MODBUS COMM SETTINGS
Displays communication port setting for Modbus.

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