

GPL Odorizers

Software Release Notes

For GPL5000 (XL4) Version 1

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Version 1.0

New:

- **Flow Page:** Updated to support the new flow type and flow source.
 - The Gas Page has been renamed to the Flow Page to accommodate liquid-on-liquid injection.

Flow Rate		0.00 gal/hr
Manual Override		Manual Flow Rate (gal/hr)
OFF		0.00
Flow Source		
Pulses		4-20mA
Min Flow Rate (gal/hr)	Max Flow Rate (gal/hr)	
0.00	0.00	
Menu	Home	Settings

Figure 1: Flow Page in Liquid Mode

- Added a toggle to switch between gas and liquid modes, accessible only with Admin-level permissions.
- Introduced a units toggle that allows users to switch between:
 - **Gas mode:** MCFH or MMCFH
 - **Liquid mode:** Gallons or 10³gallons

Flow Rate		0.00 gal/hr
Flow Type		
Gas	Liquid	
Flow Units		
Mgal	gal	
Back	Home	Menu

Figure 2: Flow Type and Units Toggles

- **Pulses Flow Source** added to count pulses from a flow meter rather than receiving a 4-20 mA signal.

- **Isolation Alarm** added to detect solenoid failure. If excessive ticks are measured while the solenoids are supposed to be closed, the alarm will trigger.
- **Data Logs** now track solenoid cycles to monitor the frequency of Solenoid 2 usage.
- **Modbus:** Added hourly usage and gas volume to the register block.
- **Usage Page:** Users can now set the Contract Hour (0 to 23) to determine the time of day the usage data rolls over.

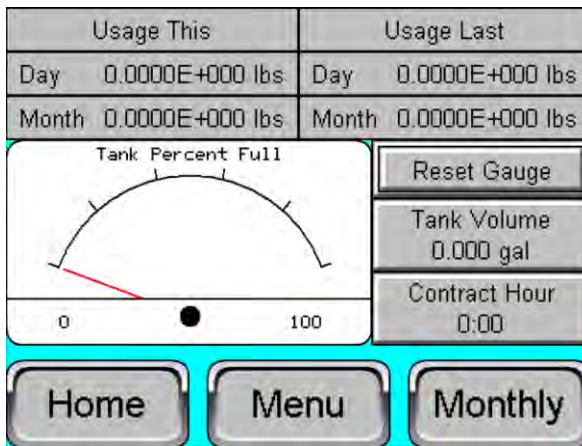


Figure 3: Usage Page With Contract Hour

- **WebMI** enables remote control of the system for users with modems.

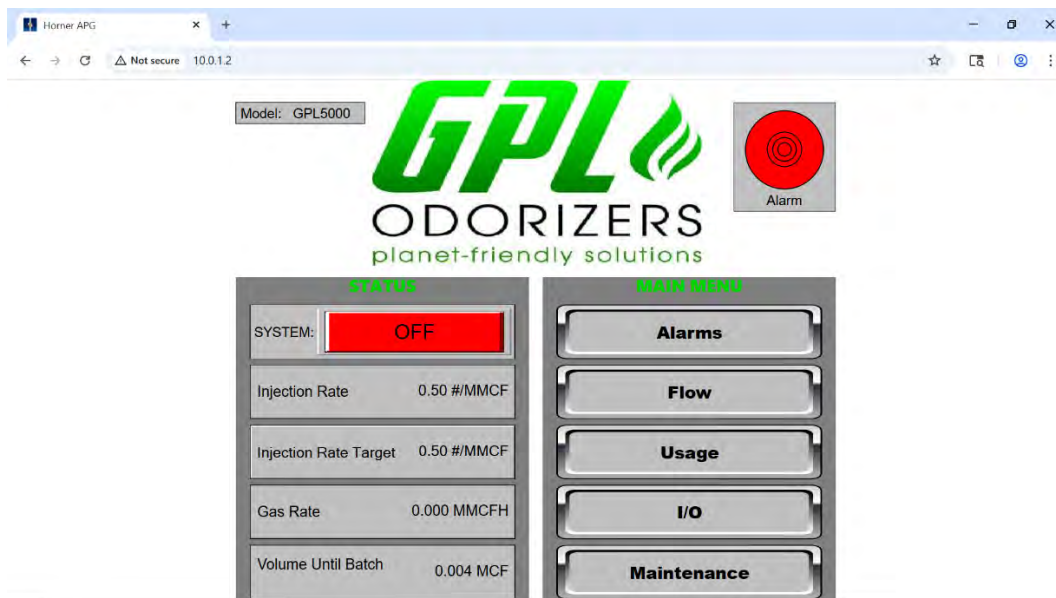


Figure 4: WebMI Remote Access

Changes:

- **Analog Input 4 (AI 4):** Converted from a 4-20mA input to a 0-5V input for Tank Level monitoring.
- **User Interface Improvements:**
 - **I/O Page:** Now includes arrow buttons to scroll between sections of I/O.

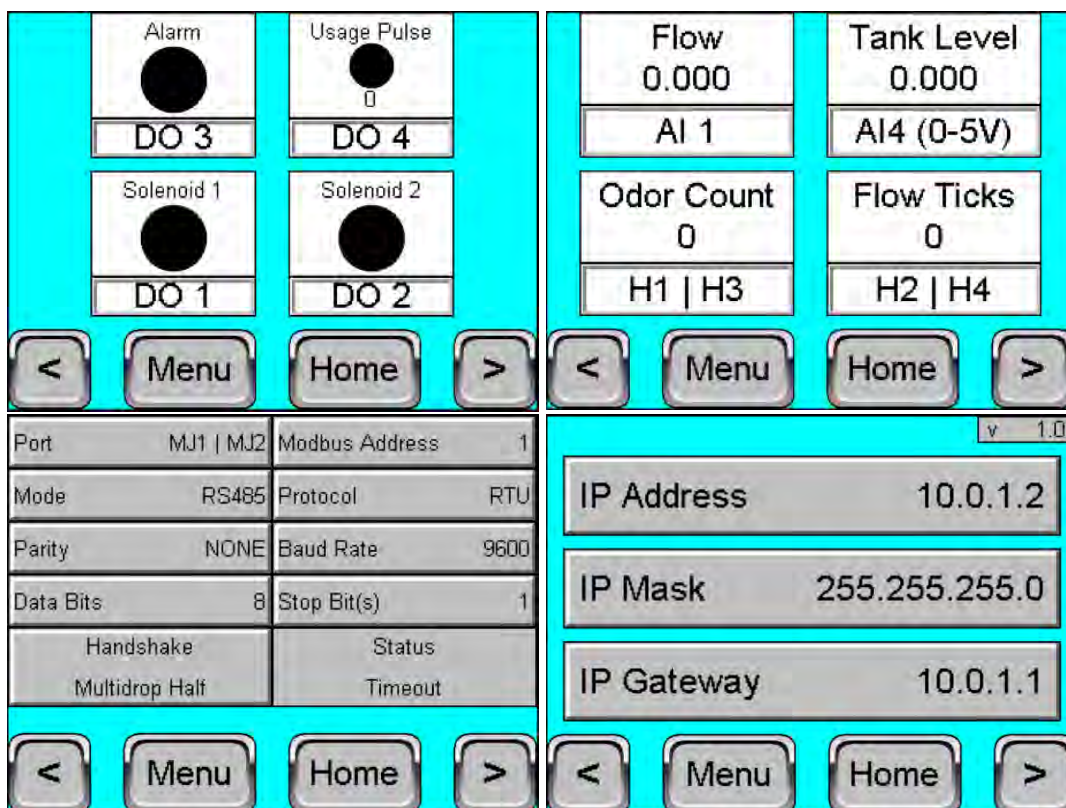


Figure 5-8: I/O Pages

- **Maintenance Page:** Redesigned for improved usability.



Figure 9: Maintenance Page

- **Quick Inject Page:** Reworked for a more intuitive experience.

<div> <div>Pound</div> <div>Gallon</div> </div>		<div> <div>Sol 1</div> <div>Sol 2</div> </div>	
<div> <div>Pounds To Inject</div> <div>0.00 lbs.</div> </div>		<div> <div>Pickle System</div> <div>OFF</div> </div>	
<div> <div>Remaining Pounds</div> <div>0.000 lbs.</div> </div>		<div> <div>SPEED PICKLE</div> <div>OFF</div> </div>	
<div> <div>Solenoid Swap Over</div> <div>0%</div> </div>			
<div>Menu</div>		<div>Home</div>	
		<div>Home</div>	

Figure 10: Quick Inject Page

- **Odor Page:** Reorganized for symmetry.

<div> <div>Odor Blend</div> <div>Default</div> </div>		<div> <div>Injection Rate Target</div> <div>(#/MMCF)</div> <div>0.00</div> </div>	
<div> <div>Density (lb/gal)</div> <div>0.000</div> </div>		<div> <div>Current CCPM</div> <div>0.0 cm³/min</div> </div>	
<div> <div>lb/pulse out</div> <div>0.00000</div> </div>		<div> <div>Average Single CCPM</div> <div>0.0 cm³/min</div> </div>	
<div> <div>Batch Time</div> <div>0.0 minutes</div> </div>		<div> <div>Average Double CCPM</div> <div>0.0 cm³/min</div> </div>	
<div>Menu</div>		<div>Home</div>	
		<div>CCPM</div>	

Figure 11: Odor Page

- Standardized reset buttons across the user interface.

- **Home Screen:** Condensed for the XL4

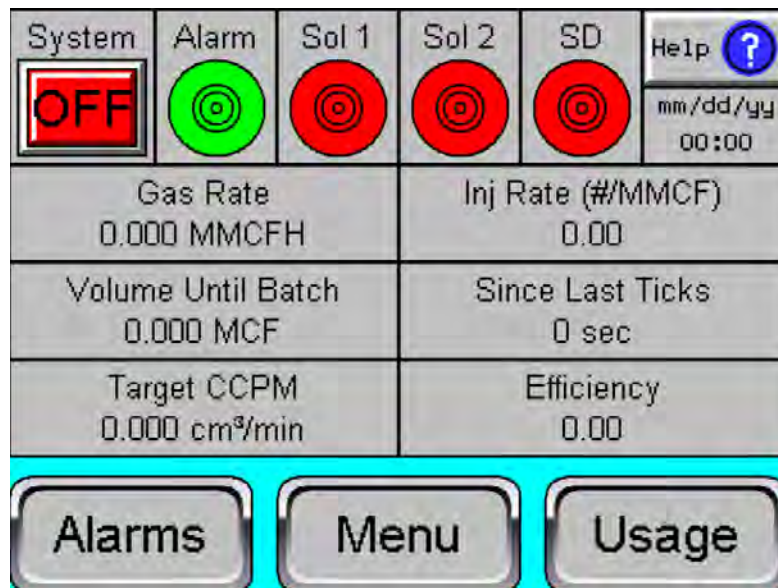


Figure 12: Home Screen

Fixes:

- **Odor Page:** Reworked CCPM readouts.
 - Current CCPM is no longer an average over ten seconds to prevent Double CCPM measurements averaged with Single CCPM measurements.
 - Single & Double CCPM indicators now reflect the average over the entire batch, improving accuracy by keeping measurements separate before averaging.
- **Alarm Improvements:**
 - **High Flow Alarm:**
 - Fixed a false Lo-Lo Alarm occurring when the Hi Flow Alarm was active.
 - The Hi Flow Rate setpoint in the alarm configuration now adjusts dynamically based on the units toggle.
 - The Hi Flow Alarm now automatically clears when the flow rate drops below the setpoint.
 - **Flow Signal Alarm:**
 - Corrected the enable/disable toggle in the alarm configuration.
 - The alarm is now prevented when the 4-20mA signal is not set as the current gas source.
 - **Isolation Alarm:** Implemented a delay to prevent false alarms on power cycle.

Version 1.1

New:

- **Odorant Usage Tracking:** Added daily and monthly logs to the data stored on the SD card.
- **Memory Failure Alarm:** An alarm has been added to detect instances where memory is not retained after a power cycle, helping to identify depleted memory batteries. Please note that this alarm will be triggered following a software update—this does not necessarily indicate battery depletion. Be sure to clear the alarm after updating.

Changes:

- **Manual Flow Alarm:** Introduced a delay, so the manual flow rate override must be left on for more than an hour to activate the alarm.

Fixes:

- **Usage Tracking:**
 - Resolved an issue where monthly usage data could become corrupted after a power cycle.
 - Fixed a bug that excluded the last hour of the day from the total calculation.
 - Contract Hour now applies to both logs and on-screen data.
- **Date Format Correction:** Fixed formatting for usage indicators and maintenance indicators.
- **Modbus:** Expanded and corrected Modbus settings.
- **Alarm Configuration:** Added a floor to the solenoid Max Time Open setting to prevent users from setting it to zero.

Version 1.2

New:

- **Standby Mode Implementation:** Allows users to inhibit the odorizer with a digital input.
 - The standby input is assigned to digital input 1 by default.
 - Added Standby Polarity (normally open/normally closed) to the alarm configuration to control the digital input.
 - Added a standby alarm, which can be disabled in the alarm configuration. This alarm activates when the unit is in standby mode.
- **Comprehensive Data Logging:**
 - Every batch now creates an entry in the data logs stored on the SD card.
 - Implemented an SD Low Storage alarm (noncritical) triggered when storage exceeds 80% capacity.

Changes:

- **Login Log Enhancements:**
 - Now supports up to four WebMI logins simultaneously, in addition to the controller's local login.
 - A new entry is recorded each time the number of logged-in users changes.
- **Hi Gas Alarm Behavior:**
 - If triggered three times within an hour, the system will automatically shut down.
 - If the alarm remains active for three consecutive minutes, the system will shut down.
- **Max Time Open Alarm Behavior:**
 - The system now shuts down after consecutive Max Time Open alarms.
 - This alarm is triggered when the solenoid remains open too long, often because the injection target is not met.
 - A Max Time Open Limit is now configurable in the alarms settings, defaulting to four cycles before system shutdown.

Fixes:

- Fixed an error that prevented new usage pulses after a power cycle