GPL Odorizers

Software Release Notes

For GPL750 (XL4) Version 4

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6-4-2025

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Version 4.0

New:

- **Standby Mode:**
  - Added standby polarity to the alarm configuration.
  - Introduced a standby alarm, active in standby mode, with an option to disabled it in the alarm configuration.
- **Pulses Gas Source Overhaul:**
  - Reprogrammed to support standby mode.
  - Changed batching from a time-based system to a gas flow-based system, replacing “Seconds Until Batch” with “Volume Until Batch.”
  - Improved accuracy and performance.
- **Modbus:** Added Modbus configuration to the I/O Page.

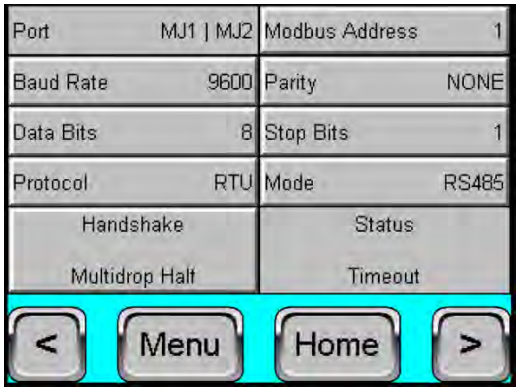

Figure 1: Modbus Settings (I/O Page)

- **Comprehensive Data Logging:**
  - Every batch now creates an entry in the data logs stored on the SD card.
  - Hourly logs now include both odorized and total gas volumes. Total volume accounts for gas detected by the meter even when the injection system is off.
- **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.

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

Figure 2: WebMI Remote Access

Changes:

- **High Gas Alarm:** The system now automatically shuts down if the alarm remains active for three consecutive minutes.
- **Home Screen:** Removed the Alarm indicator shortcut to prevent conflicts when interacting with the System On/Off button.
- **I/O Page:** Redesigned to incorporate standby assignment and Modbus configuration.

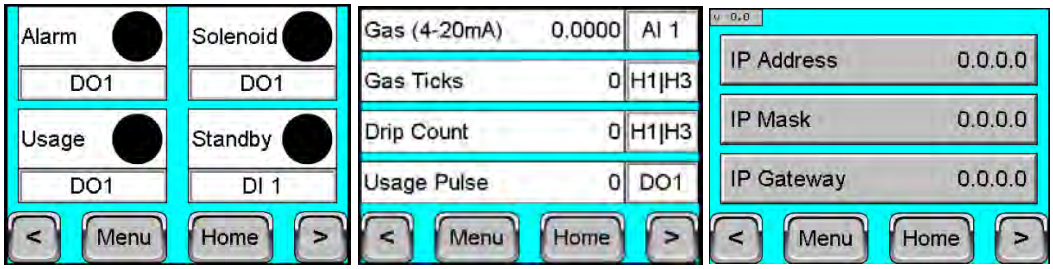

Figure 3-5: I/O Page (Digital, Analog, IP Configuration)

- **Odor Page:** The "Iso Valve Transition" has been renamed "Burst Transition" for clarity.
    - This setting controls the number of drops the solenoid remains in burst mode before fully opening.
    - Burst mode is beneficial for small batches with only a few drops.
    - The default Burst Transition value is zero, meaning the solenoid will always open fully. Increasing this setting may improve performance for low-flow (small batch) applications.

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Fixes:

- **Usage Reset:** Resetting the current month's usage now also resets the last day's usage mass, except on the first day of the month.
- Fixed an overflow error for “Volume Until Batch” after a power cycle.
- **Autoclears:** Fixed a bug that allowed the system to execute one additional autoclear beyond the configured limit in alarm settings.
- **Isolation Alarm:** Implemented an upper threshold to reduce false alarms. If the optical comparator detects more than 25 drops per second, they will be excluded from triggering the isolation alarm. This threshold is based on fluid dynamics calculations.
- Removed unexecuted processes to improve performance.
- **High Gas Alarm:** Prevented “Volume Until Batch” from updating while the alarm is active.