



Molecular Property Spectrometer™ MPS™ Flammable Gas Sensor

MPS Firmware Version History

MPS Flammable Gas Sensor Firmware Version 3.1.0.2 Release Notes

Build 3.1.0.2 has the following improvements and updates:

- Adjusted sensor parameters necessary for manufacturing. No change to sensor performance or behavior.

MPS Flammable Gas Sensor Firmware Version 3.1.0.1 Release Notes

Build 3.1.0.1 has the following improvements and updates:

- Improved resistance to false positive readings when sensor operated continuously for months.

MPS Flammable Gas Sensor Firmware Version 3.1.0.0 Release Notes

Build 3.1.0.0 has the following improvements and updates:

- Introduced new sensor status (0x35) when suspected breath or humidity surge is detected. detailed in section 2.1.2 of the MPS Flammable Gas Sensor User Manual.
- Increased output concentration upper limit to 110 %LEL.
- Improved accuracy for detection of extremely slow accumulation of gas.

MPS Flammable Gas Sensor Firmware Version 3.0.5.0 Release Notes

Build 3.0.5.0 has the following improvements and updates:

- Improved repeatability when delivering gases from a cylinder without humidity.
- Improved (decreased) cross-sensitivity to carbon dioxide (CO₂).
- Improved accuracy to heavy gases.

MPS Flammable Gas Sensor Firmware Version 3.0.4.0 Release Notes

Build 3.0.4.0 has the following improvements and updates:

- Enhanced performance when detecting heavy hydrocarbons such as octane, nonane, and heptane (molecular weight > ~90 g/mol).



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MPS Flammable Gas Sensor Firmware Version 3.0.3.1 Release Notes

Build 3.0.3.1 has the following improvements and updates:

- Improved robustness against potential memory leaks due to interrupted or failed UART transmissions.

MPS Flammable Gas Sensor Firmware Version 3.0.3.0 Release Notes

Build 3.0.3.0 has the following improvements and updates:

- Improved chemometric algorithms for handling rapid environmental transients.
- Sensor reconfigured to enable output of all concentration readings < -5 %LEL and to also report fault 0x30 "HW_SENSOR_NEGATIVE" if < -15 %LEL.

MPS Flammable Gas Sensor Firmware Version 3.0.2.0 Release Notes

Build 3.0.2.0 has the following improvements and updates:

- Improved chemometric algorithms for handling environmental extremes.
- Sensor reconfigured to output Gas ID = 255 ("Over Range – Concentration greater than 100 %LEL") when exposed to very high gas concentrations (e.g., 10-100% by volume). Previous versions of firmware could sometimes report a sensor malfunction under such conditions.
- Voltage-supply related faults now latch the fault until the sensor is power cycled and supplied the correct voltage.
- For sensors configured to utilize the "Analog Out" pin, the sensor voltage is used to indicate the level of gas concentration (%LEL). When the sensor detects an error condition, the "Analog Out" pin generates a specific voltage indicating an error, detailed in section 2.2 of the MPS Flammable Gas Sensor User Manual.

MPS Flammable Gas Sensor Firmware Version 3.0.1.0 Release Notes

Build 3.0.1.0 has the following improvements and updates:

- New UART command (SENSOR_INFO) to retrieve sensor-specific information, e.g. serial number, manufacturing date, etc.



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MPS Flammable Gas Sensor Firmware Version 3.0.0.0 Release Notes

Build 3.0.0.0 has the following improvements and updates:

- Enhanced chemometric algorithms and bug fixes.
- “Power-On” and “Built-In” Self Tests (POST and BIST) are now enabled. The host system should check the “Status” field in the reply header.
- Simplified error status reporting for the UART interface. In the unlikely event that the sensor has multiple concurrent errors, only the highest priority error is reported. The command to retrieve additional error codes (0x0A) is deprecated and no longer available.