

# Crowcon Technical Note

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**Document Reference:** GEN108  
**Document applies to:** MPS Sensor  
**Release Date:** 27<sup>th</sup> February 2023  
**Subject:** MPS Sensor: Flammable Gases Detected (Issue 3)



The volume percentage (%VOL) corresponding to 100 %LEL for a given gas varies across regions and standards due to differences in criteria, including the methods used for ignition and for the determination of an explosion.

The MPS Flammable Gas Sensor is factory calibrated to report %LEL concentrations in accordance with the relevant standard for the region specified when the product was originally ordered.

Gas	Formula	Class <sup>5</sup>	Detection Range [%LEL]	% Volume of gas at 100 %LEL (ISO 10156)		MPS Accuracy 0 to 50%LEL (ISO 10156)		% Volume of gas at 100 %LEL (IEC60079-20-1)		MPS Accuracy 0 to 50 %LEL (IEC60079-20-1)	
				%VOL	%LEL	%VOL	%LEL	%VOL	%LEL	%VOL	%LEL
butane	C4H10	4	0-100	1.8	%VOL	±5	%LEL	1.4	%VOL	±5	%LEL
ethane	C2H6	4	0-100	3.0	%VOL	±5	%LEL	2.4	%VOL	±5	%LEL
hydrogen	H2	1	0-100	4.0	%VOL	±5	%LEL	4.0	%VOL	±7	%LEL
isobutane	HC(CH3)3	4	0-100	1.8	%VOL	±5	%LEL	1.3	%VOL	±9	%LEL
isobutylene	C4H8	4	0-100	1.8	%VOL	±5	%LEL	1.8	%VOL	±5	%LEL
isopropanol	C3H8O	4	0-100	2.0	%VOL	±10	%LEL	2.0	%VOL	+20	%LEL
methane	CH4	3	0-100	5.0	%VOL	±3	%LEL	4.4	%VOL	±3	%LEL
MEK	C4H8O	5	0-100	1.4	%VOL	±5	%LEL	1.5	%VOL	+16	%LEL
pentane	C5H12	5	0-100	1.5	%VOL	±5	%LEL	1.1	%VOL	±6	%LEL
propane	C3H8	4	0-100	2.1	%VOL	±5	%LEL	1.7	%VOL	±6	%LEL
propylene	C3H6	4	0-100	2.4	%VOL	±5	%LEL	2.0	%VOL	±5	%LEL
acetone	C3H6O	5	0-100	2.5	%VOL	+20	%LEL	2.5	%VOL	+24	%LEL
ethylene	C2H4	4	0-100	2.7	%VOL	-11	%LEL	2.3	%VOL	-11	%LEL
heptane	C7H16	5	0-100	1.1	%VOL	±12	%LEL	0.85	%VOL	±15	%LEL
hexane	C6H14	5	0-100	1.1	%VOL	-20	%LEL	1.0	%VOL	-17	%LEL
octane	C8H18	6	0-100	1.0	%VOL	±12	%LEL	0.8	%VOL	±15	%LEL
styrene	C8H8	6	0-100	1.1	%VOL	-20	%LEL	1.0	%VOL	-17	%LEL
toluene	C7H8	6	0-100	1.2	%VOL	±12	%LEL	1.0	%VOL	±13	%LEL
xylene	C8H10	6	0-100	1.1	%VOL	±12	%LEL	1.0	%VOL	±13	%LEL

**(For 'Notes' about the above data, please see the next page)**

Some additional gases are known to be detected by the MPS sensor, but have not yet been fully tested. Please see **Note 4** on the next page for details.



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## Gas Table Notes:

- 1) Accuracy guaranteed for methane across full environmental range.
- 2) Other gases will typically meet published tolerances across the full environmental range, but guaranteed only near standard conditions: 20°C, 50%RH.
- 3) Accuracy (+) %LEL corresponds to a higher-than-delivered reading and Accuracy (-) %LEL corresponds to a lower-than-delivered reading.
- 4) The MPS is also confirmed to detect other gases including **1-butene, acetylene, ammonia, cyclohexane, decane, diesel, dimethyl carbonate, ethanol, gasoline, hexane, and methanol.**
- 5) Class values shown in table will typically be accurate across the full environmental range, but were determined near standard conditions: 20°C, 50%RH.

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