

# General Monitors® S5000 Gas Monitor

Extreme Conditions Demand Exceptional Detection.



Simple retrofits have identical footprint and wiring to S4000 Gas Monitor series.

Bluetooth® wireless technology allows mobile device to act as HMI screen and controller via the X/S Connect App.

Dual sensor capability increases detection coverage without increasing CAPEX expense. Remote mount gas sensors up to 100 m away.

Wide operating temperature for extreme environments (-55°C to +75°C).

Instrument status indicators illuminate power, fault, and alarm conditions.

Intuitive user experience with industry-first touch-button interface or familiar magnetic interface.

 Remote monitoring & notifications with FGFD FieldServer IoT Gateways

 X/S Connect App

Streamline setup for faster configuration with the X/S Connect App.

 GET IT ON Google Play  Download on the App Store

## Advanced Sensor Technology

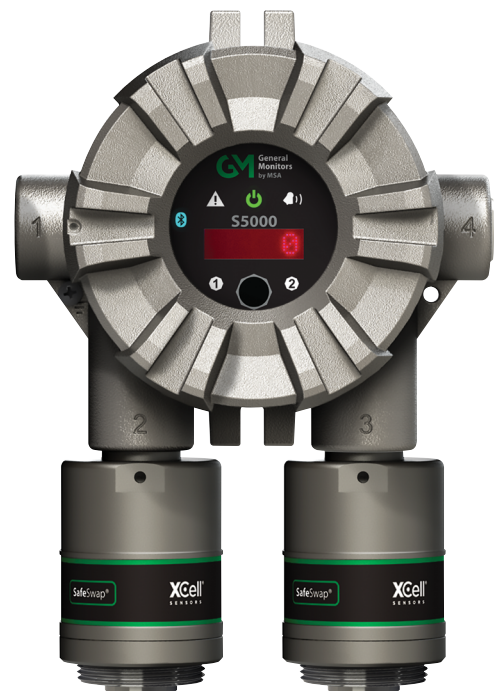
POWERED BY  
**XCell®**  
SENSORS

WITH  
**TruCal®**  
TECHNOLOGY

- Patented XCell H<sub>2</sub>S and CO Sensors with TruCal technology extend calibration cycles for as long as 2 years, actively monitor sensor integrity, and compensate for environmental factors and electrochemical sensor drift.
  - **Diffusion Supervision** sends acoustic signal every 6 hours to check that sensor inlet isn't obstructed so gas can reach the sensor.
  - Worry-free operation—automatically self-checks four times per day.
- Three-year warranty and five-year expected life for XCell Sensors.
- **Dual sensor capability** doubles sensing power with half the footprint of a single gas sensor transmitter.
- **SafeSwap** enables safe and quick XCell Sensor replacement without powering off gas detector.

### Applications

- Compressor stations
- LNG/LPG processing and storage
- CNG maintenance facilities
- Oil well logging
- Drilling and production platforms
- Petrochemical
- Fuel loading facilities
- Refineries



**SafeSwap®**

**SAFEGUARDING PEOPLE,  
PLACES & THE PLANET.**

# General Monitors S5000 Gas Monitor Sensor Specifications

## ELECTROCHEMICAL SENSORS

| Gas                                        | Default Range | Selectable Full Scale Range | Resolution | Response Time* |           | Repeatability | Zero Drift        | Operating Temperature |              | Sensor Type | Sensor Life | Warranty | Classification |
|--------------------------------------------|---------------|-----------------------------|------------|----------------|-----------|---------------|-------------------|-----------------------|--------------|-------------|-------------|----------|----------------|
|                                            |               |                             |            | T50            | T90       |               |                   | Min                   | Max          |             |             |          |                |
| Ammonia - 100                              | 0 - 100 ppm   | 25 - 100 ppm                | 1 ppm      | < 20 Sec       | < 60 Sec  | < +/- 1%      | <1% FS / Month    | -30°C (-22°F)         | 50°C (122°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 2     |
| Ammonia - 1000                             | 0 - 1000 ppm  | 190 - 1000 ppm              | 10 ppm     | < 20 Sec       | < 300 Sec | < +/- 15%     | <1% FS / Month    | -30°C (-22°F)         | 50°C (122°F) | Echem       | 2 Years     | 1 Year   | Div/Zone 2     |
| Carbon Monoxide - 100                      | 0 - 100 ppm   | 10 - 1000 ppm               | 1 ppm      | N/A            | < 9 Sec   | < +/- 2%      | <1% FS / Year     | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 1     |
| Carbon Monoxide - 500                      | 0 - 500 ppm   | 10 - 1000 ppm               | 1 ppm      | N/A            | < 9 Sec   | < +/- 2%      | <1% FS / Year     | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 1     |
| Carbon Monoxide - 1000                     | 0 - 1000 ppm  | 10 - 1000 ppm               | 1 ppm      | N/A            | < 9 Sec   | < +/- 2%      | <1% FS / Year     | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 1     |
| Carbon Monoxide - H <sub>2</sub> Resistant | 0 - 100 ppm   | 10 - 100 ppm                | 1 ppm      | N/A            | < 9 Sec   | < +/- 2%      | <1% FS / Year     | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 1     |
| Chlorine - 5                               | 0 - 5 ppm     | 1 - 20 ppm                  | 0.1 ppm    | N/A            | < 12 Sec  | +/- 1%        | <1% FS / Month    | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 2     |
| Chlorine - 10                              | 0 - 10 ppm    | 1 - 20 ppm                  | 0.1 ppm    | N/A            | < 12 Sec  | +/- 1%        | <1% FS / Month    | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 2     |
| Chlorine - 20                              | 0 - 20 ppm    | 1 - 20 ppm                  | 0.1 ppm    | N/A            | < 12 Sec  | +/- 1%        | <1% FS / Month    | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 2     |
| Chlorine Dioxide                           | 0-3 ppm       | 0.5 - 3.0 ppm               | 0.01 ppm   | < 12 Sec       | < 30 Sec  | < +/- 15%     | <1% FS / Month    | -40°C (-40°F)         | 50°C (122°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 2     |
| Hydrogen                                   | 0 - 1000 ppm  | 250 - 1000 ppm              | 10 ppm     | < 40 Sec       | < 185 Sec | < +/- 10%     | <1% FS / Month    | -30°C (-22°F)         | 50°C (122°F) | Echem       | 2 Years     | 1 Year   | Div/Zone 1     |
| Hydrogen Sulfide - 10                      | 0 - 10 ppm    | 10 - 100 ppm                | 0.1 ppm    | < 7 Sec        | < 23 Sec  | < +/- 1%      | <1% FS / Year     | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 1     |
| Hydrogen Sulfide - 50                      | 0 - 50 ppm    | 10 - 100 ppm                | 0.1 ppm    | < 7 Sec        | < 23 Sec  | < +/- 1%      | <1% FS / Year     | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 1     |
| Hydrogen Sulfide - 100                     | 0 - 100 ppm   | 10 - 100 ppm                | 0.1 ppm    | < 7 Sec        | < 23 Sec  | < +/- 1%      | <1% FS / Year     | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 1     |
| Hydrogen Sulfide - 500                     | 0 - 500 ppm   | 20 - 500 ppm                | 1 ppm      | < 20 Sec       | < 60 Sec  | < +/- 10%     | <1% FS / Month    | -40°C (-40°F)         | 50°C (122°F) | Echem       | 2 Years     | 1 Year   | Div/Zone 1     |
| Nitric Oxide                               | 0 - 100 ppm   | 2.5 - 100 ppm               | 0.5 ppm    | < 5 Sec        | < 20 Sec  | < +/- 15%     | <1% FS / Month    | -30°C (-22°F)         | 50°C (122°F) | Echem       | 2 Years     | 1 Year   | Div/Zone 1     |
| Nitrogen Dioxide                           | 0 - 10 ppm    | 1.5 - 10 ppm                | 0.1 ppm    | < 30 Sec       | < 60 Sec  | < +/- 10%     | <1% FS / Month    | -40°C (-40°F)         | 50°C (122°F) | Echem       | 2 Years     | 1 Year   | Div/Zone 2     |
| Oxygen/Oxygen (FM)                         | 0 - 25%       | 5 - 25%                     | 0.10%      | < 6 Sec        | < 11 Sec  | < +/- 1% Vol  | <0.2 % Vol / Year | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 1     |
| Oxygen (Low)                               | 0 - 25%       | 2 - 25%                     | 0.10%      | < 10 Sec       | < 30 Sec  | < +/- 10%     | <1% FS / Month    | -30°C (-22°F)         | 50°C (122°F) | Echem       | 2 Years     | 1 Year   | Div/Zone 1     |
| Sulfur Dioxide - 100                       | 0 - 100 ppm   | 25 - 100 ppm                | 1 ppm      | < 10 Sec       | < 30 Sec  | < +/- 15%     | <1% FS / Month    | -30°C (-22°F)         | 50°C (122°F) | Echem       | 2 Years     | 1 Year   | Div/Zone 2     |
| Sulfur Dioxide - 25                        | 0 - 25 ppm    | 5 - 25 ppm                  | 0.1 ppm    | < 3 Sec        | < 6 Sec   | < +/- 1%      | <1% FS / Month    | -40°C (-40°F)         | 60°C (140°F) | XCell       | 5 Years     | 3 Years  | Div/Zone 2     |

## XCELL CATALYTIC BEAD SENSORS

| Gas                 | Default Range | Selectable Full Scale Range | Resolution | Response Time* |          | Repeatability | Zero Drift     | Operating Temperature |              | Sensor Type    | Sensor Life | Warranty | Classification |
|---------------------|---------------|-----------------------------|------------|----------------|----------|---------------|----------------|-----------------------|--------------|----------------|-------------|----------|----------------|
|                     |               |                             |            | T50            | T90      |               |                | Min                   | Max          |                |             |          |                |
| Methane (5.0 %)     | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |
| Propane (2.1 %)     | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |
| Heptane (1.05 %)    | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |
| Nonane (0.8 %)      | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |
| Hydrogen (4.0 %)    | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |
| Methane (4.4 % EN)  | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |
| Propane (1.7 % EN)  | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |
| Heptane (0.85 % EN) | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |
| Nonane (0.7 % EN)   | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | < 10 Sec       | < 22 Sec | < +/- 1% LEL  | <5% LEL / Year | -50°C (-58°F)         | 60°C (140°F) | XCell Cat Bead | 5 Years     | 3 Years  | Div/Zone 1     |

\*At ambient conditions

# General Monitors S5000 Gas Monitor Sensor Specifications

## INFRARED SENSORS

| Gas                               | Default Range | Selectable Full Scale Range | Resolution | Response Time* |         | Repeatability                          | Zero Drift/Yr | Operating Temperature |              | Sensor Type | Sensor Life | Warranty | Classification |
|-----------------------------------|---------------|-----------------------------|------------|----------------|---------|----------------------------------------|---------------|-----------------------|--------------|-------------|-------------|----------|----------------|
|                                   |               |                             |            | T50            | T90     |                                        |               | Min                   | Max          |             |             |          |                |
| IR400 0-100 % LEL Propane         | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -40°C (-40°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100% LEL Hexane           | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -40°C (-40°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100% LEL Pentane          | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -40°C (-40°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100 % LEL Ethylene        | 0 - 100% LEL  | N/A                         | 1% LEL     | < 2 Sec        | < 4 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -40°C (-40°F)         | 60°C (140°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100% LEL Butane           | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -40°C (-40°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100% LEL Ethane           | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -40°C (-40°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100% by Volume Methane    | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -40°C (-40°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100 % LEL Methane EN      | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -60°C (-76°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100 % LEL Propane EN      | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -60°C (-76°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100% LEL Hexane EN        | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -60°C (-76°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100 % LEL Ethylene EN     | 0 - 100% LEL  | N/A                         | 1% LEL     | < 2 Sec        | < 4 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -40°C (-40°F)         | 60°C (140°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100% LEL Butane EN        | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -60°C (-76°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| IR400 0-100% LEL Ethane EN        | 0 - 100% LEL  | N/A                         | 1% LEL     | < 1.5 Sec      | < 3 Sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | N/A           | -60°C (-76°F)         | 75°C (167°F) | IR400       | 5+ Years    | 2 Years  | Div/Zone 1     |
| XIR+ 0-100% LEL Methane (5%)      | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | —              | < 2 Sec | ±1% LEL                                | <2% LEL       | -40°C (-40°F)         | 60°C (140°F) | XIR+        | 10+ Years   | 10 Years | Div/Zone 1     |
| XIR+ 0-100% LEL Propane (2.1%)    | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | —              | < 2 Sec | ±1% LEL                                | <2% LEL       | -40°C (-40°F)         | 60°C (140°F) | XIR+        | 10+ Years   | 10 Years | Div/Zone 1     |
| XIR+ 0-100% LEL Methane (4.4%) EN | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | —              | < 2 Sec | ±1% LEL                                | <2% LEL       | -40°C (-40°F)         | 60°C (140°F) | XIR+        | 10+ Years   | 10 Years | Div/Zone 1     |
| XIR+ 0-100% LEL Propane (1.7%) EN | 0 - 100% LEL  | 20 - 100% LEL               | 1%         | —              | < 2 Sec | ±1% LEL                                | <2% LEL       | -40°C (-40°F)         | 60°C (140°F) | XIR+        | 10+ Years   | 10 Years | Div/Zone 1     |
| XIR+ Carbon Dioxide (2%)          | 0 - 2% Vol    | 0.4 - 2%                    | 0.05%      | —              | < 6 Sec | ±1%                                    | ±2% FS        | -40°C (-40°F)         | 60°C (140°F) | XIR+        | 10+ Years   | 10 Years | Div/Zone 1     |
| XIR+ Carbon Dioxide (5%)          | 0 - 5% Vol    | 1 - 5%                      | 0.05%      | —              | < 6 Sec | ±1%                                    | ±2% FS        | -40°C (-40°F)         | 60°C (140°F) | XIR+        | 10+ Years   | 10 Years | Div/Zone 1     |

\*Typical response at standard temperature and pressure test conditions

## PASSIVE SENSORS

| Gas     | Default Range | Selectable Full Scale Range | Resolution | Response Time* |          | Repeatability                          | Zero Drift    | Operating Temperature |              | Sensor Type                   | Sensor Life | Warranty | Classification |
|---------|---------------|-----------------------------|------------|----------------|----------|----------------------------------------|---------------|-----------------------|--------------|-------------------------------|-------------|----------|----------------|
|         |               |                             |            | T50            | T90      |                                        |               | Min                   | Max          |                               |             |          |                |
| 10058-1 | 0 - 100% LEL  | N/A                         | 1% LEL     | < 10 sec       | < 30 sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | <5% FS / Year | -40°C (-40°F)         | 75°C (167°F) | Cat Bead Screened             | 3-5 Years   | 2 Years  | Div/Zone 1     |
| 11159-8 | 0-20% LEL     | N/A                         | 1% LEL     | < 10 sec       | < 30 sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | <5% FS / Year | -40°C (-40°F)         | 70°C (158°F) | Cat Bead Sintered             | 3-5 Years   | 2 Years  | Div/Zone 1     |
| 11159-1 | 0 - 100% LEL  | N/A                         | 1% LEL     | < 10 sec       | < 30 sec | +3% LEL @ <50% LEL; +5% LEL @ >50% LEL | <5% FS / Year | -40°C (-40°F)         | 70°C (158°F) | Cat Bead Sintered             | 3-5 Years   | 2 Years  | Div/Zone 1     |
| 50448-9 | 0-20 ppm      | N/A                         | 1 ppm      | < 14 sec       | n/a      | + 2 ppm or 10% of applied gas          | N/A           | -40°C (-40°F)         | 75°C (167°F) | H <sub>2</sub> S MOS Screened | 3-5 Years   | 2 Years  | Div/Zone 1     |
| 50448-5 | 0-50 ppm      | N/A                         | 1 ppm      | < 14 sec       | n/a      | + 2 ppm or 10% of applied gas          | N/A           | -40°C (-40°F)         | 75°C (167°F) | H <sub>2</sub> S MOS Screened | 3-5 Years   | 2 Years  | Div/Zone 1     |
| 50448-1 | 0-100 ppm     | N/A                         | 1 ppm      | < 14 sec       | n/a      | + 2 ppm or 10% of applied gas          | N/A           | -40°C (-40°F)         | 75°C (167°F) | H <sub>2</sub> S MOS Screened | 3-5 Years   | 2 Years  | Div/Zone 1     |
| 51457-9 | 0-20 ppm      | N/A                         | 1 ppm      | < 30 sec       | n/a      | + 2 ppm or 10% of applied gas          | N/A           | -40°C (-40°F)         | 70°C (158°F) | H <sub>2</sub> S MOS Sintered | 3-5 Years   | 2 Years  | Div/Zone 1     |
| 51457-5 | 0-50 ppm      | N/A                         | 1 ppm      | < 30 sec       | n/a      | + 2 ppm or 10% of applied gas          | N/A           | -40°C (-40°F)         | 70°C (158°F) | H <sub>2</sub> S MOS Sintered | 3-5 Years   | 2 Years  | Div/Zone 1     |
| 51457-1 | 0-100 ppm     | N/A                         | 1 ppm      | < 30 sec       | n/a      | + 2 ppm or 10% of applied gas          | N/A           | -40°C (-40°F)         | 70°C (158°F) | H <sub>2</sub> S MOS Sintered | 3-5 Years   | 2 Years  | Div/Zone 1     |

\*At ambient conditions

# General Monitors® S5000 Gas Monitor

## Specifications



| PRODUCT SPECIFICATIONS               |                                                                                                                                                         |                                                                                                                                                                                                      |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combustible Gas Sensor Type          | Catalytic Bead (passive comb., XCell comb.)<br>Infrared (ULTIMA XIR Plus, IR400)                                                                        |                                                                                                                                                                                                      |
| Toxic Gas & Oxygen Sensor Type       | XCell Toxic                                                                                                                                             | Ammonia (NH <sub>3</sub> ), Carbon Monoxide (CO), Carbon Monoxide (CO) H <sub>2</sub> -resist., Chlorine (Cl <sub>2</sub> ), Chlorine Dioxide (ClO <sub>2</sub> ), Sulfur Dioxide (SO <sub>2</sub> ) |
|                                      | XCell Toxic, Echem Passive MOS                                                                                                                          | Hydrogen Sulfide (H <sub>2</sub> S)                                                                                                                                                                  |
|                                      | XCell O <sub>2</sub>                                                                                                                                    | Oxygen (O <sub>2</sub> )                                                                                                                                                                             |
|                                      | Echem                                                                                                                                                   | Ammonia (NH <sub>3</sub> ), Hydrogen (H <sub>2</sub> ) Nitrogen Oxide (NO), Nitrogen Dioxide (NO <sub>2</sub> ), Sulfur Dioxide (SO <sub>2</sub> )                                                   |
| Sensor Measuring Ranges              | Combustible                                                                                                                                             | 0-100% LEL (CB, IR)                                                                                                                                                                                  |
|                                      | Cl <sub>2</sub>                                                                                                                                         | 0-5, 0-10, 0-20 ppm                                                                                                                                                                                  |
|                                      | ClO <sub>2</sub>                                                                                                                                        | 0-3 ppm                                                                                                                                                                                              |
|                                      | CO                                                                                                                                                      | 0-100, 0-500, 0-1000 ppm                                                                                                                                                                             |
|                                      | CO, H <sub>2</sub> -resistant                                                                                                                           | 0-100 ppm                                                                                                                                                                                            |
|                                      | CO <sub>2</sub>                                                                                                                                         | 0-2%, 0-5% Vol (XIR Plus only)                                                                                                                                                                       |
|                                      | H <sub>2</sub>                                                                                                                                          | 0-1000 ppm                                                                                                                                                                                           |
|                                      | H <sub>2</sub> S                                                                                                                                        | 0-10, 0-20, 0-50, 0-100, 0-500 ppm                                                                                                                                                                   |
|                                      | NH <sub>3</sub>                                                                                                                                         | 0-100 ppm, 0-1000 ppm                                                                                                                                                                                |
|                                      | NO                                                                                                                                                      | 0-100 ppm                                                                                                                                                                                            |
|                                      | NO <sub>2</sub>                                                                                                                                         | 0-10 ppm                                                                                                                                                                                             |
|                                      | O <sub>2</sub>                                                                                                                                          | 0-25%                                                                                                                                                                                                |
| SO <sub>2</sub>                      | 0-25, 0-100 ppm                                                                                                                                         |                                                                                                                                                                                                      |
| Classifications Divisions (U.S./CAN) | See manual for complete CSA listings.<br>Class I, Div 1&2, Groups A, B, C & D T5/T4;<br>Class II, Div 1&2, Groups E, F & G, T6; Class III Type 4X, IP66 |                                                                                                                                                                                                      |
| U.S. Zones                           | Class I, Zone 1 AEx db IIC T5 Gb<br>Class I, Zone 2 AEx nA nC IIC T4 Gc<br>Zone 21 AEx tb IIIC T85°C Db                                                 |                                                                                                                                                                                                      |
| Canadian Zones/ATEX/IECEX            | Ex db IIC T5 Gb<br>Ex nA nC IIC T4 Gc<br>Ex tb IIIC T85°C Db                                                                                            |                                                                                                                                                                                                      |
| Warranty                             | S5000 transmitter                                                                                                                                       | 2 years                                                                                                                                                                                              |
|                                      | XCell Sensors                                                                                                                                           | 3 years                                                                                                                                                                                              |
|                                      | Passive comb., MOS, IR400                                                                                                                               | 2 years                                                                                                                                                                                              |
|                                      | Echem sensors                                                                                                                                           | Varies by gas                                                                                                                                                                                        |
|                                      | XIR Plus                                                                                                                                                | 10 years source, 5 years electronics                                                                                                                                                                 |
| Approvals                            | CSA, FM*, ATEX, IECEX, INMETRO, ABS, DNV-GL Marine, CE Marking, Suitable for SIL 2                                                                      |                                                                                                                                                                                                      |
| DIMENSIONS                           |                                                                                                                                                         |                                                                                                                                                                                                      |
| Housing (W x H x D)                  | 6.37" x 5.38" x 4.25" (162 x 137 mm x 108 mm)                                                                                                           |                                                                                                                                                                                                      |
|                                      | w/passive sensor                                                                                                                                        | 6.37" x 7.62" x 4.25 (162 x 193 mm x 108 mm)                                                                                                                                                         |
|                                      | w/digital sensor                                                                                                                                        | 6.37" x 10.4" x 4.25" (162 x 265 mm x 108 mm)                                                                                                                                                        |
| Weight                               | 8.0 lb. (3.6 kg), 316 SS                                                                                                                                |                                                                                                                                                                                                      |

| ENVIRONMENTAL SPECIFICATIONS       |                                                                                                                                                                                                          |                                 |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Operating Temperature Range**      | Transmitter                                                                                                                                                                                              | -55°C to +75°C                  |
|                                    | CB (sintered, Zones)                                                                                                                                                                                     | -40°C to +70°C                  |
|                                    | CB (screened, Div)                                                                                                                                                                                       | -40°C to +75°C                  |
|                                    | MOS (sintered, Zones)                                                                                                                                                                                    | -40°C to +70°C                  |
|                                    | MOS (screened, Div)                                                                                                                                                                                      | -40°C to +75°C                  |
|                                    | IR400 (CSA)                                                                                                                                                                                              | -40°C to +75°C                  |
|                                    | IR400 (ATEX/IECEX)                                                                                                                                                                                       | -60°C to +75°C                  |
|                                    | XCell (Comb)                                                                                                                                                                                             | -55°C to +60°C                  |
|                                    | XCell (Toxic/O <sub>2</sub> ), XIR Plus                                                                                                                                                                  | -40°C to +60°C                  |
| Storage Temperature Range          | Housing, IR400, passive sensors                                                                                                                                                                          | -50°C to +85°C                  |
|                                    | XCell sensors, XIR Plus                                                                                                                                                                                  | -40°C to +60°C                  |
| Relative Humidity (Non-Condensing) | XCell Sensors (except O <sub>2</sub> ), XIR Plus                                                                                                                                                         | 5-95%                           |
|                                    | XCell O <sub>2</sub> , IR400                                                                                                                                                                             | 10-95%                          |
|                                    | Echem                                                                                                                                                                                                    | 15-90%                          |
|                                    | Passive combustible, Passive H <sub>2</sub> S                                                                                                                                                            | 5-90%                           |
| MECHANICAL SPECIFICATIONS          |                                                                                                                                                                                                          |                                 |
| Input Power                        | 24 VDC nominal, 12 to 30 VDC                                                                                                                                                                             |                                 |
| Signal Output                      | Dual 4-20 mA current source or sink, HART, Modbus, Bluetooth. <i>Optional: w/o Bluetooth</i>                                                                                                             |                                 |
| Relay Ratings                      | 5 A @ 30 VDC; 5 A @ 250 VAC<br>(3X) SPDT - fault, warn, alarm                                                                                                                                            |                                 |
| Relay Modes                        | Common, discrete, horn                                                                                                                                                                                   |                                 |
| Normal Max Power                   |                                                                                                                                                                                                          | Without Relays      With Relays |
|                                    | Passive comb.                                                                                                                                                                                            | 5.0 W      6.0 W                |
|                                    | Passive MOS                                                                                                                                                                                              | 9.8 W      10.8 W               |
|                                    | XIR Plus                                                                                                                                                                                                 | 5.7 W      6.7 W                |
|                                    | IR400                                                                                                                                                                                                    | 7.9 W      8.9 W                |
|                                    | XCell comb.                                                                                                                                                                                              | 5.0 W      6.0 W                |
|                                    | XCell toxic & O <sub>2</sub>                                                                                                                                                                             | 2.6 W      3.6 W                |
|                                    | IR400 + XCell comb.                                                                                                                                                                                      | 10.8 W      11.8 W              |
|                                    | IR400 + XCell toxic or O <sub>2</sub>                                                                                                                                                                    | 8.6 W      9.6 W                |
|                                    | Dual XCell toxic or O <sub>2</sub>                                                                                                                                                                       | 3.3 W      4.3 W                |
|                                    | Dual XCell comb.                                                                                                                                                                                         | 7.4 W      8.4 W                |
|                                    | XCell comb. + XCell toxic or O <sub>2</sub>                                                                                                                                                              | 5.7 W      6.7 W                |
| Status Indicators                  | 4-digit scrolling LED, icons depicting fault, warn, alarm, Bluetooth, 1 and 2 to indicate sensor reading displayed                                                                                       |                                 |
| RS-485 Output                      | Modbus RTU, suitable for linking up to 128 units or up to 247 units with repeaters                                                                                                                       |                                 |
| Baud Rate                          | 2400, 4800, 9600, 19200, 38400, 115200                                                                                                                                                                   |                                 |
| HART                               | HART 7, HART device description language available                                                                                                                                                       |                                 |
| Faults Monitored                   | Low supply voltage, RAM checksum error, flash checksum error, EEPROM error, internal circuit error, relay, invalid sensor configuration, sensor faults, calibration faults, analog output mismatch fault |                                 |
| Cable Requirements                 | 3-wire shielded cable for single sensor and 4-wire shielded cable for dual sensor configurations. Accommodates up to 12 AWG or 4 mm <sup>2</sup> .<br><i>Refer to manual for mounting distances.</i>     |                                 |

\* See manual for FM approved sensors. \*\* See data sheet for complete list.

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>