

# WirelessHART® Toxic & Combustible Gas Detector Annex 1

| "UE Sensor P/N" | "UE Replacement P/N" | Sensor Type     | Gas Type         | Gas Formula                    | Gas Range  | Temperature Range | Calibration Gas Stabilization Time |
|-----------------|----------------------|-----------------|------------------|--------------------------------|------------|-------------------|------------------------------------|
| <b>Active</b>   |                      |                 |                  |                                |            |                   |                                    |
| 6361-813        | 62169-54             | NDIR            | Methane          | CH <sub>4</sub>                | 0-100% LEL | -40°C to 65°C     | 2 minutes                          |
| 6361-820        | 62169-57             | NDIR            | Propane          | C <sub>3</sub> H <sub>8</sub>  | 0-100% LEL | -40°C to 65°C     | 2 minutes                          |
| 6361-821        | 62169-58             | NDIR            | Butane           | C <sub>4</sub> H <sub>10</sub> | 0-100% LEL | -40°C to 65°C     | 2 minutes                          |
| 6361-822        | 62169-59             | NDIR            | Pentane          | C <sub>5</sub> H <sub>12</sub> | 0-100% LEL | -40°C to 65°C     | 2 minutes                          |
| 6361-814        | 62169-53             | Electrochemical | Hydrogen Sulfide | H <sub>2</sub> S               | 0-100 PPM  | -40°C to 55°C     | 2 minutes                          |
| 6361-816        | 62169-55             | Electrochemical | Carbon Monoxide  | CO                             | 0-500 PPM  | -40°C to 65°C     | 2 minutes                          |
| 6361-819        | 62169-56             | Electrochemical | Ammonia          | NH <sub>3</sub>                | 0-100 PPM  | -20°C to 40°C     | 5 minutes                          |
| <b>Obsolete</b> |                      |                 |                  |                                |            |                   |                                    |
| 6361-801        | 62169-45             | NDIR            | Methane          | CH <sub>4</sub>                | 0-100% LEL | -20°C to 50°C     | 2 minutes                          |
| 6361-802        | 62169-46             | Electrochemical | Hydrogen Sulfide | H <sub>2</sub> S               | 0-100 PPM  | -20°C to 50°C     | 2 minutes                          |

## Sensor Cross Sensitivity:

### Typical Cross Sensitivity of Hydrogen Sulfide (H<sub>2</sub>S)

| Gas              | ppm Tested | Signal (as ppm H <sub>2</sub> S) |
|------------------|------------|----------------------------------|
| Carbon Monoxide  | 400        | 1.3                              |
| Hydrogen Sulfide | 25         | 25.0                             |
| Ozone            | 5          | -0.6                             |
| Nitrogen Dioxide | 10         | 0.2                              |
| Sulfur Dioxide   | 20         | 3.5                              |
| Ethanol          | 200        | -0.3                             |
| NO               | 50         | 15.9                             |
| Chlorine         | 10         | -0.5                             |
| n-Heptane        | 500        | -0.1                             |
| Ammonia          | 100        | 0.0                              |
| Methane          | 500        | 0.1                              |

## Typical Cross Sensitivity of Carbon Monoxide (CO)

| Gas                                        | ppm Tested | Signal<br>(as ppm CO) |
|--------------------------------------------|------------|-----------------------|
| Acetylene (C <sub>2</sub> H <sub>2</sub> ) | 100        | 88                    |
| Ethylene (C <sub>2</sub> H <sub>4</sub> )  | 100        | 97                    |
| Hydrogen (H <sub>2</sub> )                 | 100        | <28                   |
| Nitric Oxide (NO)                          | 48.6       | 14                    |
| Nitrogen Dioxide (NO <sub>2</sub> )        | 19.5       | <0.5                  |
| Chlorine (Cl <sub>2</sub> )                | 13.7       | <0.5                  |
| Ethanol (C <sub>2</sub> H <sub>5</sub> OH) | 200        | 0                     |
| Hydrogen Sulfide (H <sub>2</sub> S)        | 50         | 0                     |
| Sulfur Dioxide (SO <sub>2</sub> )          | 20         | 0                     |
| Ammonia (NH <sub>3</sub> )                 | 20         | 0                     |

## Typical Cross sensitivity of Ammonia (NH<sub>3</sub>)

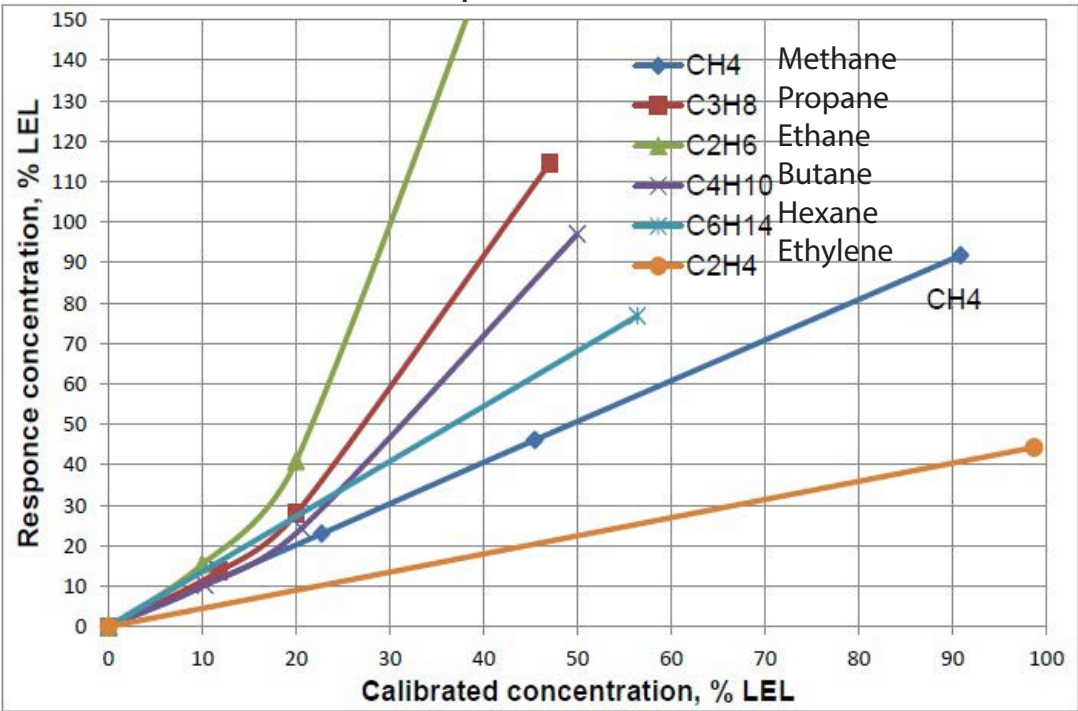
### Cross Sensitivities at 20°C

| Gas              | Concentration | Reading [ppm]  |
|------------------|---------------|----------------|
| Alcohols         | 1000 ppm      | 0              |
| Carbon Dioxide   | 5000 ppm      | 0 <sup>1</sup> |
| Carbon Monoxide  | 100 ppm       | 0              |
| Hydrocarbons     | % range       | 0              |
| Hydrogen         | 10000 ppm     | 0              |
| Hydrogen Sulfide | 20 ppm        | 2 <sup>2</sup> |

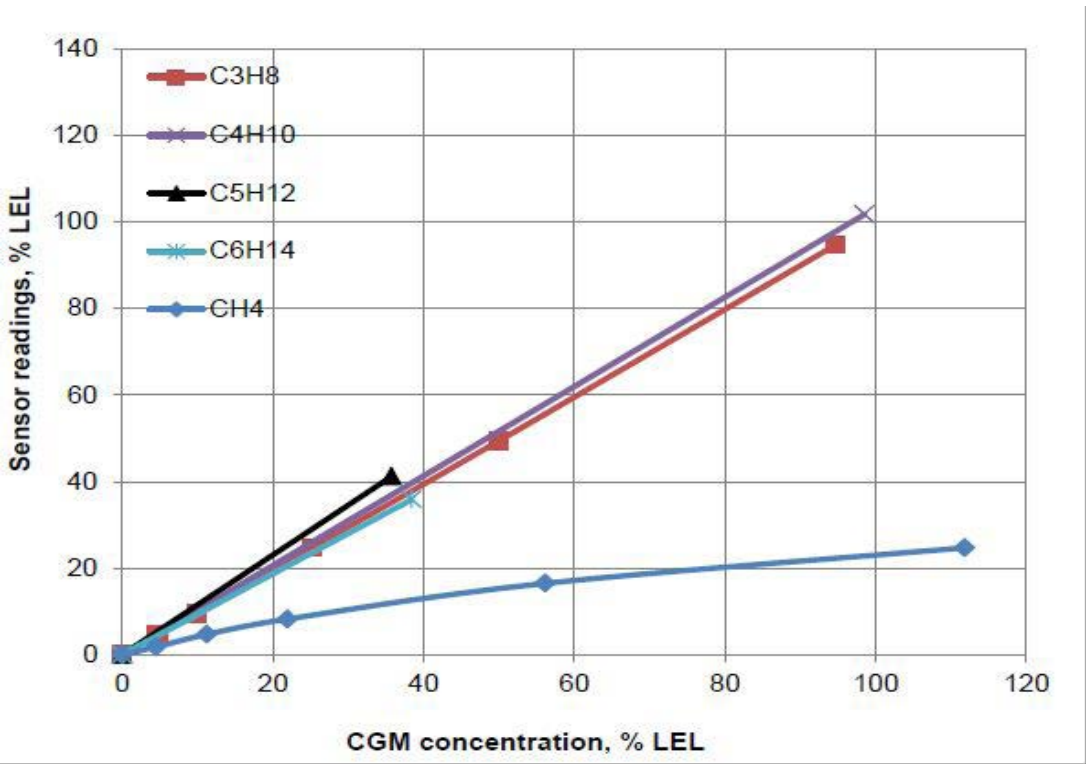
1) At higher carbon dioxide concentration (approx >5%) there can be a negative reading

2) Short gas exposure in minute range

Typical Cross Sensitivity of Methane (CH<sub>4</sub>)



Typical Cross Sensitivity of Propane(C<sub>3</sub>H<sub>8</sub>)



- Notes:
- i. Interference factors may differ from sensor to sensor and with life time. It is not advisable to calibrate with interference gasses.
  - ii. This data does not claim to be complete. The sensor might also be sensitive to other gases.