## Specifications

### Sensor

<table>
<thead>
<tr>
<th></th>
<th>Methane (CH₄)</th>
<th>Propane (C₃H₈)</th>
<th>Hydrogen Sulfide (H₂S)</th>
<th>Carbon Monoxide (CO)</th>
<th>Ammonia (NH₃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temp:</td>
<td>-40°F (-40°C)</td>
<td>-40°F (-40°C)</td>
<td>-40°F (-40°C)</td>
<td>-4°F (-20°C)</td>
<td></td>
</tr>
<tr>
<td>Storage Life:</td>
<td>3 years</td>
<td>1 Year</td>
<td>6 Months</td>
<td>6 Months</td>
<td></td>
</tr>
<tr>
<td>Service Life¹</td>
<td>5 years</td>
<td>2 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min Op. Temp:</td>
<td>-40°F (-40°C)</td>
<td>-40°F (-40°C)</td>
<td>-40°F (-40°C)</td>
<td>-4°F (-20°C)</td>
<td></td>
</tr>
<tr>
<td>Max Op. Temp:</td>
<td>149°F (65°C)</td>
<td>149°F (65°C)</td>
<td>131°F (55°C)</td>
<td>105°F (40°C)</td>
<td></td>
</tr>
<tr>
<td>Range:</td>
<td>0 to 100% LEL</td>
<td>0 – 100 ppm</td>
<td>0 – 500 ppm</td>
<td>0 – 100 ppm</td>
<td></td>
</tr>
<tr>
<td>Resolution:</td>
<td>1% LEL</td>
<td>1 ppm</td>
<td>1 ppm</td>
<td>1 ppm</td>
<td></td>
</tr>
<tr>
<td>Accuracy²</td>
<td>±2 LEL or ±5%</td>
<td>±2 ppm or ±5% of indication ³</td>
<td>±5 ppm or ±5% of indication ³</td>
<td>±2 ppm or ±5% of indication ³</td>
<td></td>
</tr>
<tr>
<td>Response Time:</td>
<td>30 sec</td>
<td>&lt;30 sec</td>
<td>&lt;30 sec</td>
<td>&lt;5 min</td>
<td></td>
</tr>
<tr>
<td>Stabilization Time:</td>
<td>2 min</td>
<td>&lt;1 min</td>
<td>&lt;1 min</td>
<td>5 min</td>
<td></td>
</tr>
</tbody>
</table>

### Operating Temperature:
-40°F (-40°C) to 149°F (65°C)

### Operating Humidity
0% to 98% RH recommended, non-condensing

### Material
- Aluminum alloy (maximum copper content at 0.25%)
- with powder polyester paint
- 316 stainless steel
- nickel-plated brass
- tempered glass

### Ingress Protection:
Type 4X (enclosure only)

### Display:
- Viewable area is 2.25"W x 1.25"H (57.2mm x 31.8mm)
- Graphical LCD display

### Display Language:
- English

### Memory:
Programming and data are protected by a non-volatile EEPROM

### Antenna:
2.4 GHz, Hazardous Area Antenna

### Mounting:
FLEXmount™ Options

### Weight:
- 7.84 lbs (Base)
- 9.61 lbs (Base with Sensor and Battery)

### Communication Protocol:
WirelessHART® HART 7.2
EDDL file available at www.ueonline.com/vanguard

### Process Variables:
- **Primary Variable (PV):**
  - Hydrocarbons concentration in %LEL
  - Toxic gas concentration in ppm
- **Secondary Variable (SV):**
  - Temperature (°C); Not available for Hydrocarbon sensor
- **Tertiary Variable (TV):**
  - Days since calibration (days)
- **Quaternary Variable (QV):**
  - Battery voltage (volts)

### Programming Access:
- HART hand-held communicator, or via HART modem, connected to HART terminals located in rear battery compartment or via remote access (e.g., asset management software)
- DTM available for PC programming

### Calibration/Bump Test Access:
- Via external button on transmitter base

### Batteries:
Battery pack contains two Lithium battery cells

### Operating Voltage:
- 7.2V

### Life:
5 years based on an 8 second update rate

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¹ Expected operational life varies with environmental conditions and gas exposure
² At standard conditions: 68°F (20°C) and 1.0 atm. Accuracy may vary with frequency, accuracy of calibration, and environmental conditions (e.g., barometric pressure, temperature and humidity).
³ Whichever is greater
how to order

<table>
<thead>
<tr>
<th>ORDER CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCD50</td>
<td>Base Transmitter; includes enclosure, operating system. Certified for hazardous locations.</td>
</tr>
</tbody>
</table>

**STEP 1 - CHOOSE COMMUNICATIONS**

H WirelessHART Protocol

**STEP 2 - CHOOSE ANTENNA**

1 2.4 GHz antenna

**STEP 3 - CHOOSE FLEXmount™ OPTION**

A Standard Mount (2” pipe mount)
B Magnetic Mount
C Universal Mount

**STEP 4 - CHOOSE FLEXsense™ OPTION**

00 No sensor
03 Methane (CH\textsubscript{4})
04 Hydrogen Sulfide (H\textsubscript{2}S)
05 Carbon Monoxide (CO)
06 Ammonia (NH\textsubscript{3})
07 Propane (C\textsubscript{3}H\textsubscript{8})

**STEP 5 - CHOOSE A BATTERY* 6361-807**

Battery pack containing two lithium battery cells; 7.2V operating voltage

**STEP 6 - CHOOSE A CALIBRATION KIT* 62169-50**

Gas Calibration Kit including Cap and Regulator

**Product Approvals & Ratings**

<table>
<thead>
<tr>
<th>Model</th>
<th>N. America</th>
<th>Europe</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCD50H1XXX</td>
<td>Class I Div. 1, Groups C &amp; D, T4</td>
<td>ITS 16 ATEX 18474 II 2 (2) G Ex db ia [ia] IIB T4 Gb -40°C &lt; Tamb &lt; +65°C††</td>
<td>IECEx ETL 16.0016 Ex db ia [ia] IIB T4 Gb IP66† -40°C &lt; Tamb &lt; +65°C††</td>
</tr>
<tr>
<td></td>
<td>USA: Class I, Zone 1, AEx db ia [ia] IIB T4 Gb Enclosure Type 4X, IP66† Canada: Class I, Zone 1, Ex db ia [ia] IIB T4 Gb -40°C &lt; Ta &lt; +65°C††</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Ordered as a separate line item
†Enclosure Type 4X and/or IP66 rating excludes sensor.
††Ambient operating temperature range may vary with sensor type.

UE declarations and third-party issued agency certifications are available for download at: www.ueonline.com/prod_approval.

**Compliance to Standards**

The device has been certified in accordance with the applicable requirements of the standards listed on page 5 of the installation and maintenance manual.
ACCESSORIES AND REPLACEMENTS

- **6361-807** Battery pack containing two lithium battery cells; 7.2V operating voltage
- **62169-50** Gas calibration kit including calibration cup and regulator
- **62169-54** FLEXsense™ Methane (CH₄) sensor; sensor pack only
- **62169-53** FLEXsense™ Hydrogen Sulfide (H₂S) sensor; sensor pack only
- **62169-55** FLEXsense™ Carbon Monoxide (CO) sensor; sensor pack only
- **62169-56** FLEXsense™ Ammonia (NH₃) sensor; sensor pack only
- **62169-57** FLEXsense™ Propane (C₃H₈) sensor; sensor pack only
- **6361-811** FLEXmount™ Standard Mounting bracket kit
- **6361-817** FLEXmount™ Magnetic Mounting bracket kit
- **6361-818** FLEXmount™ Universal Mounting bracket kit

**Dimensional Drawings**

**FLEXmount™ Bracket Options**

**Magnetic Mount Front View**

**Magnetic Mount Side View**

**Universal Mount Isometric View**

**Calibration kit**

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