UE VANGUARD™

WIRELESS FIXED GAS DETECTOR

Specifications

Sensor	Methane (CH$_4$)	Propane (C$_3$H$_8$)	Hydrogen Sulfide (H$_2$S)	Carbon Monoxide (CO)	Ammonia (NH$_3$)
Sensor Pack:	62169-54	62169-57	62169-53	62169-55	62169-56
Storage Temp:	72° F (22° C) Recommended				
Storage Life:	3 years		1 Year	6 Months	6 Months
Service Life[1]:	5 years		2 years		
Min Op. Temp:	-40 °F (-40 °C)		-40 °F (-40 °C)	-40 °F (-40 °C)	-4 °F (-20 °C)
Max Op. Temp:	149 °F (65 °C)		149 °F (65 °C)	131 °F (55 °C)	105 °F (40 °C)
Range:	0 to 100% LEL		0 – 100 ppm	0 – 500 ppm	0 – 100 ppm
Resolution:	1% LEL		1 ppm	1 ppm	1 ppm
Accuracy[2]:	±2 LEL or ±5% of indication [3]		±2 ppm or ±5% of indication [3]	±5 ppm or ±5% of indication [3]	±2 ppm or ±5% of indication [3]
Response Time:	30 sec		<30 sec	<30 sec	<5 min
Stabilization Time:	2 min		<1 min	<1 min	5 min

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 x1.25"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
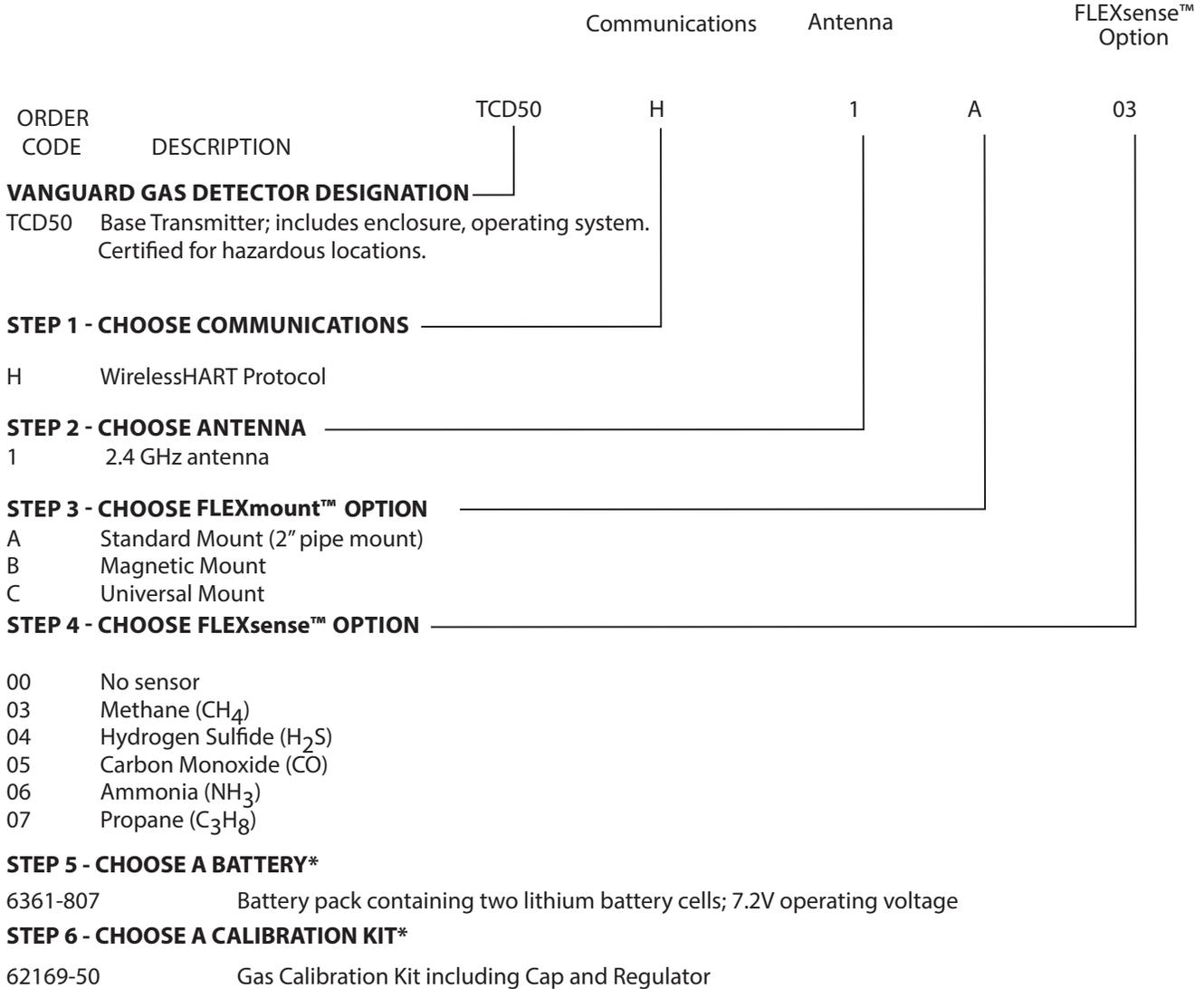**Operating Voltage:**
7.2V
Life:
5 years based on an 8 second update rate

[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

		Communications	Antenna		FLEXsense™ Option
	TCD50	H	1	A	03

ORDER CODE	DESCRIPTION

VANGUARD GAS DETECTOR DESIGNATION

TCD50 Base Transmitter; includes enclosure, operating system. Certified for hazardous locations.

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_4)
04 Hydrogen Sulfide (H_2S)
05 Carbon Monoxide (CO)
06 Ammonia (NH_3)
07 Propane (C_3H_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

Model	N. America	Europe	International
TCD50H1XXX	Class I Div. 1, Groups C & D, T4 **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 < Ta < +65°C[††]	ITS 16 ATEX 18474 II 2 (2) G Ex db ia [ia] IIB T4 Gb IP66[†] -40°C < Tamb < +65°C[††]	IECEx ETL 16.0016 Ex db ia [ia] IIB T4 Gb IP66[†] -40°C < Tamb < +65°C[††]

*Ordered as a seperate 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 (CH_4) sensor; sensor pack only
62169-53	FLEXsense™ Hydrogen Sulfide (H_2S) sensor; sensor pack only
62169-55	FLEXsense™ Carbon Monoxide (CO) sensor; sensor pack only
62169-56	FLEXsense™ Ammonia (NH_3) sensor; sensor pack only
62169-57	FLEXsense™ Propane (C_3H_8) 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
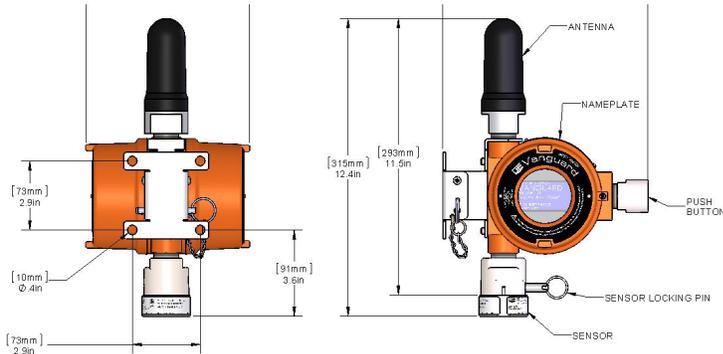
Calibration kit

FLEXmount™ Bracket Options

Magnetic Mount Front View

Magnetic Mount Side View
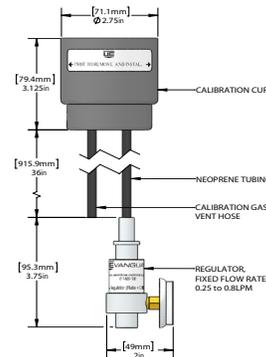
Universal Mount Isometric View

UNITED ELECTRIC CONTROLS
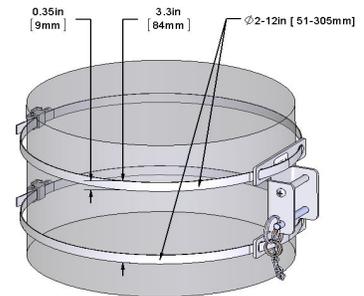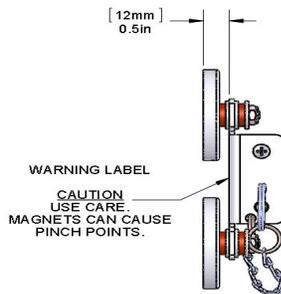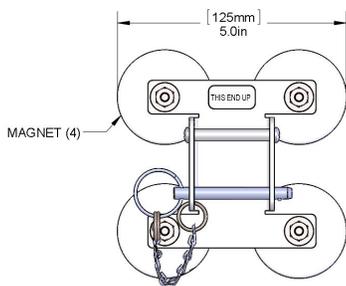
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