



VANGUARDTM

WIRELESS FIXED GAS DETECTOR



WirelessHART



UNITED ELECTRIC
CONTROLS
LEADERS IN SAFETY, ALARM & SHUTDOWN

TCD50-B-05

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 Life¹:	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
Accuracy²:	±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 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

¹Expected operational life varies with environmental conditions and gas exposure

²At 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).

³Whichever is greater

Vanguard Wireless Fixed Gas Detector

HOW TO ORDER

ORDER CODE	DESCRIPTION	Communications	Antenna	FLEXmount™ Option	FLEXsense™ Option
TCD50		H	1	A	03
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 ₂ S)				
05	Carbon Monoxide (CO)				
06	Ammonia (NH ₃)				
07	Propane (C ₃ H 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 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.

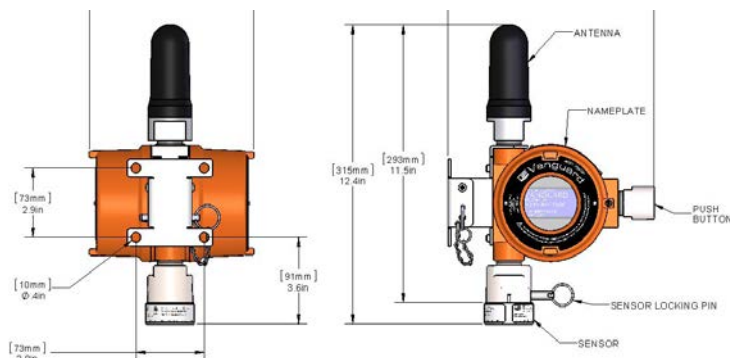
COMPLIANCE TO STANDARDS

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

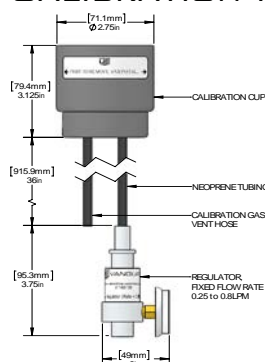
ACCESSORIES AND REPLACEMENTS

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 (CH ₄) sensor; sensor pack only
62169-53	FLEXsense™ Hydrogen Sulfide (H ₂ S) 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 ₃ H 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

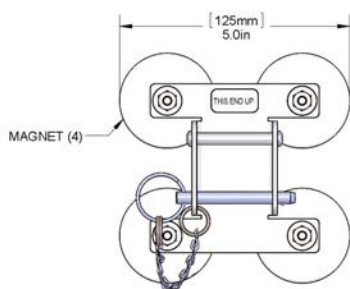


CALIBRATION KIT

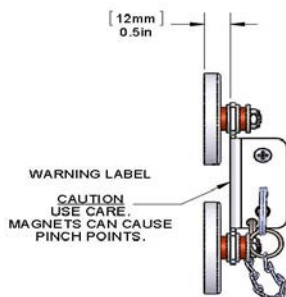


FLEXMOUNT™ BRACKET OPTIONS

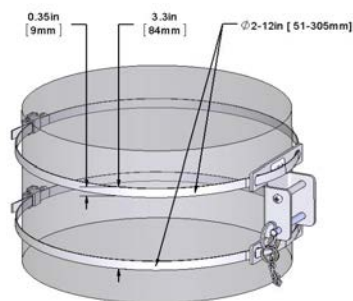
MAGENETIC MOUNT
FRONT VIEW



MAGENETIC MOUNT
SIDE VIEW



UNIVERSAL MOUNT
ISOMETRIC VIEW



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