

Data Sheet

VANGUARD™

Wireless Fixed Point Gas Detector



Supplied by

247able.com

Call us on +44 (0)118 916 9420 | Email info@247able.com

Vanguard™

Wireless Fixed Point Gas Detector



WirelessHART™

HART®
REGISTERED

ISO
9001
CERTIFIED
COMPANY



Specifications

	Methane (CH4)	Propane (C3H8)	Hydrogen Sulfide (H2S)	Carbon Monoxide (CO)	Ammonia (NH3)
Sensor Pack	62169-54	62169-57	62169-53	62169-55	62169-56
Storage Temp	72° F (22° C) Recommended				
Storage Life	3 yrs	3 yrs	1 yr	6 mons	6 mons
Service Life ¹	5 yrs	5 yrs	2 yrs	2 yrs	2 yrs
Min Op. Temp	-40 °F (-40 °C)	-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)	149 °F (65 °C)	131 °F (55 °C)	105 °F (40 °C)
Range	0 to 100% LEL	0 to 100% LEL	0 – 100 ppm	0 – 500 ppm	0 – 100 ppm
Resolution	1% LEL	1% LEL	1 ppm	1 ppm	1 ppm
Accuracy ²	±2 LEL or ±5% of indication ³	±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	<30 sec	<5 min
Stabilization Time	2 min	2 min	<1 min	<1 min	5 min

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

³ Whichever is greater

Operating Temperature:

-40°F (-40°C) to 149°F (65°C)

Operating Humidity

0% to 98% RH 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

2.25"W x1.25"H (57.2mm x 31.8mm) Graphical LCD display

Display Language

English

Memory

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 and DTM 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

HART terminals located in rear battery compartment

Calibration/Bump Test Access: Single external button

Batteries:

Battery pack contains two Lithium battery cells

Operating Voltage: 7.2V

Life: 5 years based on an 8 second update rate

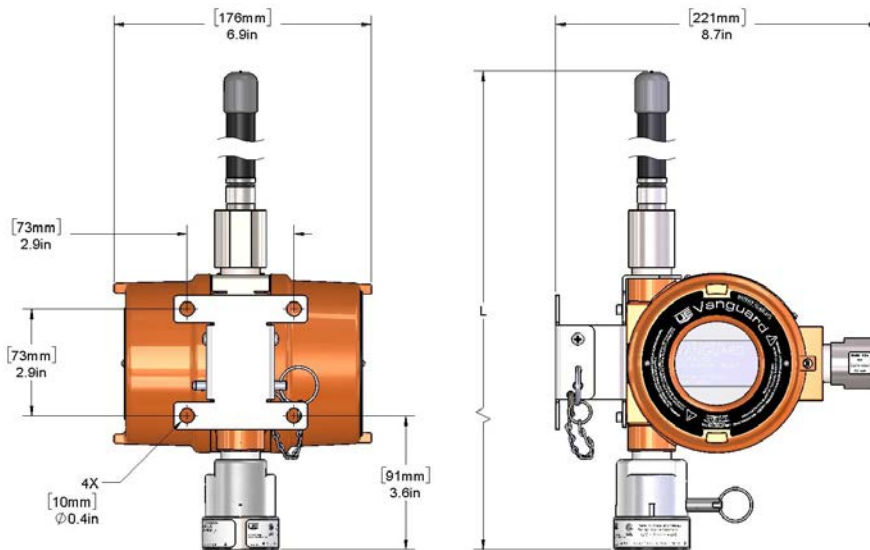
Certifications

Model	N. America	Europe	International
TCD50	Class I Div. 1, Groups C & D, T4 United States Class I, Zone 1, AEx db ia [ia] IIB T4 Gb Enclosure Type 4X, IP66 ¹ Canada Class I, Zone 1, Ex db ia [ia] IIB T4 Gb -40°C < Ta < +65°C ²	ITS 16 ATEX 18474 II 2 (2) G Ex db ia [ia] IIB T4 Gb IP66 ¹ -40°C < Tamb < +65°C ²	IECEx ETL 16.0016 Ex db ia [ia] IIB T4 Gb IP66 ¹ -40°C < Tamb < +65°C ²
TCD60	Class I Div. 1, Groups A,B,C & D, T4 United States Class I, Zone 1, AEx db ia [ia] IIC T4 Gb Enclosure Type 4X, IP66 ¹ Canada Class I, Zone 1, Ex db ia [ia] IIC T4 Gb -40°C < Ta < +65°C ²	ITS 16 ATEX 18474 II 2 (2) G Ex db ia [ia] IIC T4 Gb IP66 ¹ -40°C < Tamb < +65°C ²	IECEx ETL 16.0016 Ex db ia [ia] IIC T4 Gb IP66 ¹ -40°C < Tamb < +65°C ²

¹ Enclosure Type 4X and/or IP66 rating excludes sensor

² Ambient operating temperature range may vary with sensor

Dimensional Drawings



TCD60 Shown with Standard Mount

Model	Option	Gain (dBi)	L
TCD50	1	2	12.4" (315mm)
TCD60	2	2	16.2" (412mm)
	3	4.35	16.6" (422mm)
	4	6	18.9" (482mm)

How to order

		Model	Comms	Antenna	FLEXMount	FLEXsense
Model		TCD50				
	Base transmitter for Gr C & D / IIB zones					
	Base transmitter for Gr A,B,C & D / IIC zones	TCD60				
Communications			H			
	WirelessHART protocol					
Antenna				2		
1	2.4 GHz; 2.0 dBi (TCD50 Only)					
2	2.4 GHz; 2.0 dBi (TCD60 Only)					
3	2.4 GHz; 4.35 dBi (TCD60 Only)					
4	2.4 GHz; 6.0 dBi (TCD60 Only)					
FLEXmount™					A	
A	Standard mount (2" pipe mount)					
B	Magnetic Mount					
C	Universal Mount					
FLEXsense™						03
00	No sensor					
03	Methane (CH4)					
04	Hydrogen Sulfide (H2S)					
05	Carbon Monoxide (CO)					
06	Ammonia (NH3)					
07	Propane (C3H8)					

Battery¹

6361-807 Battery pack; 7.2V operating voltage

Calibration Kit¹

62169-50 Gas Calibration Kit including Cap and Regulator

¹ Ordered as a separate item. Battery will ship separately.

Accessories and parts

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
62149-249	2 dBi, 2.4 GHz Antenna for TCD60
62149-250	4.35 dBi, 2.4 GHz Antenna for TCD60
62149-251	6 dBi, 2.4 GHz Antenna for TCD60

United Electric Controls
 180 Dexter Avenue
 Watertown MA 02472
 T: 617 926-1000
 Www.ueonline.com

