

# Advanced Environmental Instrumentation

## Harnessing the Power of Mobile Computing



✓ Surveyed

✓ Documented

✓ Reported



# ADVANCEDSENSE® TOX

# DIRECTSENSE®

Toxic Gas Test Meters

Realtime

File	Log	Probe	View
Hydrogen Chloride			0.2 ppm
Chlorine			0.64 ppm
Oxygen			20.8 %
Sulfur Dioxide			0.1 ppm
Hydrogen			0 ppm
Temperature			24.4 °C

### Example Screens

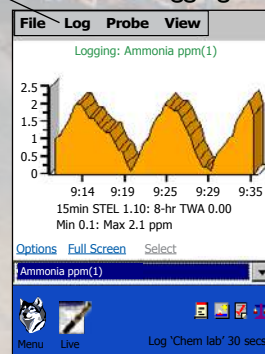
Click the SNAP icon to record measurements, time, date and detailed location name

Snap-Shot Log

File	Log	Probe	View
Ozone			0.54 mg/m3
Ammonia			1.3 mg/m3
Sulfur Dioxide			1.3 mg/m3
Nitric Oxide			2.0 mg/m3
Hydrogen Sulfide			0.15 mg/m3
Temperature			22.9 °C
Barometric			754.2 mmHg

Log at intervals of your choice. Optionally display trend graphs on meter

### Trend Logging



### On-Board Docs



GrayWolf is transforming how to Measure, Data-log and Document worker exposure levels and indoor air quality parameters. The AdvancedSense and DirectSense TOX are powerful environmental data collection tools; intuitive and Easy-To-Use.

- Choose from SO<sub>2</sub>, NO<sub>2</sub>, NO, CO, H<sub>2</sub>S, HCN, EtO, Cl<sub>2</sub>, O<sub>2</sub>, O<sub>3</sub>, NH<sub>3</sub>, HCl, H<sub>2</sub>, SiH<sub>4</sub>, AsH<sub>3</sub>, PH<sub>3</sub>... and more
- Stores measured data along w/calibration history, text notes, audio notes, user created field note templates... and more
- Up to 5 electrochemical gas sensors (plus °F / °C) per probe
- On-board measurement tips, industry guidelines and help files
- Connect multiple probes simultaneously (up to 4)
- Remote Access any WiFi enabled platforms via optional GrayWolfLive™
- "Snap-Shot" instantaneous data capture and long-term trending
- Cal checks, and extensive additional features are highly intuitive and Easy-To-Use

**ET Enviro**  
Technology Services Ltd  
part of CuraTerra

UK & Ireland Distributor

Kingfisher Business Park, London Road,  
Stroud, Gloucestershire, GL5 2BY, UK

Tel: +44 (0) 1453 733200

sales@et.co.uk

www.et.co.uk

# Choose Your Platform:

**AdvancedSense** Handheld Embedded PC Meter



**WolfPack**® Modular Area Monitor



**GrayWolf** Supplied Tablet  
Entry level platform with great standard features (built-in camera, WiFi)



Or Use Your Own Windows PC as the instrument platform  
**Remote Data Access** to, and email/text alerts from, any WiFi enabled platforms via optional **GrayWolfLive**™

# Advanced Toxic Gas Measurement

Example AdvancedSense/WolfPack® Screens

**Intuitive File Naming**

**Alarm Lines**

**Video Help**

**Realtime (multi-probe)**

Parameter	Value
Hydrogen Fluoride	0.0 ppm
Fluorine	0.58 ppm
Phosphine	0.00 ppm
Chlorine Dioxide	1.00 ppm
Phosgene	0.81 ppm
Temperature	72.4 °F
Arsine	0.34 ppm
Ethylene Oxide	1.2 ppm
Hydrogen Cyanide	1.3 ppm

**Sensor Tips**  
(extensive info for each parameter)

WolfSense  
Sensor Basics for

The Nitric Oxide sensor, per the manufacturer (AlphaSense), exhibits the following cross-sensitivity with common gases:

- NO<sub>2</sub> sensitivity measured gas @ 50ppm NO<sub>2</sub> < 2.5ppm
- SO<sub>2</sub> sensitivity measured gas @ 20ppm SO<sub>2</sub> < 4ppm
- Cl<sub>2</sub> sensitivity measured gas @ 10ppm Cl<sub>2</sub> < 1.5ppm
- H<sub>2</sub>S sensitivity measured gas @ 20ppm H<sub>2</sub>S < 1.5ppm

Documenting and data-logging gas parameters has never been easier. Provide a descriptive name for files using the virtual keyboard. Record your readings as snap-shot data captures, or as trend logs over time. On-board educational info.

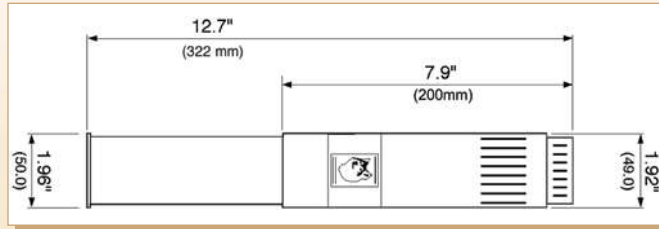
Efficiently attach notes, in-situ (or after-the-fact) direct to data files:

- Text
- Audio
- Photos/Video
- Events (time-tagged text)
- Drawings
- Template "Field Forms"
- Custom
- Auto-Fill (data & text)

Example WIN 8/7/XP Screens

GrayWolf provides embedded computer based meters and Windows tablets that are ideal for the application; or connect probes to your own PC.

GrayWolf's TOX kits come with WolfSense PC software for data transfer, analysis, graph/report generation and/or simple export to Excel.



- Easy to calibrate all parameters
- Calibration history stored in probe
- CO & H<sub>2</sub>S available in a single sensor
- Allows up to 5 gas sensors in one probe
- Plus Temperature

## TG-501

Select up to 5 gas sensors in one probe (plus °F/°C):

Note: Sensors are factory installed (this optimizes their L.O.D.s). Sensors may be added or changed at a later time by GrayWolf or by an authorized cal lab.

- Sulfur Dioxide (SO<sub>2</sub>)
- Nitrogen Dioxide (NO<sub>2</sub>)
- Nitric Oxide (NO)
- Carbon Monoxide (CO)
- Hydrogen Sulfide (H<sub>2</sub>S)
- Hydrogen Cyanide (HCN)
- Hydrogen Chloride (HCl)
- Hydrogen Fluoride (HF)
- Ethylene Oxide (C<sub>2</sub>H<sub>4</sub>O)
- Chlorine Dioxide (ClO<sub>2</sub>)
- Ozone (O<sub>3</sub>)
- Oxygen (O<sub>2</sub>)
- Ammonia (NH<sub>3</sub>)
- Chlorine (Cl<sub>2</sub>)
- Hydrogen (H<sub>2</sub>)
- Fluorine (F<sub>2</sub>)
- Phosphine (PH<sub>3</sub>)
- Arsine (AsH<sub>3</sub>)
- Silane (SiH<sub>4</sub>)
- Phosgene (COCl<sub>2</sub>)

Display units as:

- PPB
- PPM
- µg/m<sup>3</sup>
- mg/m<sup>3</sup> (mass readings are auto compensated w/optional AdvancedSense barometric pressure sensor)



## EC-202

Any 1 (one) sensor in one probe, plus °F/°C



**FM-801**  
Formaldehyde (ppb HCHO)

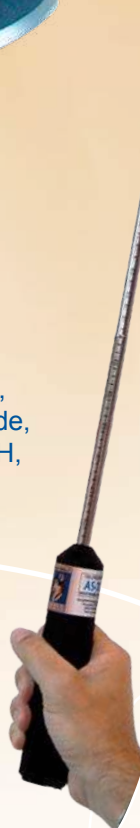
**TG-502**  
VOCs (PID) plus 3 specific gases, %RH, and temperature



**IQ-610**  
Carbon Dioxide, Carbon Monoxide, ppb VOCs, %RH, °F / °C plus one additional gas



**AS-201**  
Air Velocity probe



Interface these meters to GrayWolf platforms; and/or use as stand-alones



**PC-3016A**  
6-Channel Particle Meter



**PM-205**  
Particulate Concentration





# ADVANCEDSENSE<sup>®</sup> DIRECTSENSE<sup>®</sup> TOX

## Toxic Gas Test Meters

### SPECIFICATIONS: TG-501, EC-202

Gas	Range/ Resolution (ppm)	Limit of Detection (ppm)
<b>Standard Sensors</b>		
Ammonia (NH <sub>3</sub> ) Standard range sensor	0.0 to 100.0	<1.0
Ammonia (NH <sub>3</sub> ) High range sensor	0 to 1000	12
Carbon Monoxide (CO solo)	0.0 to 750.0	0.5
Carbon Monoxide (CO combo w/H <sub>2</sub> S sensor)	0.0 to 500.0	1.0
Chlorine (Cl <sub>2</sub> )	0.00 to 20.00	0.02
Hydrogen (H <sub>2</sub> )	0 to 1000	2.0
Hydrogen Chloride (HCl)*	0.0 to 30.0	0.7
Hydrogen Cyanide (HCN)	0.0 to 30.0	0.2
Hydrogen Sulfide (H <sub>2</sub> S solo)	0.00 to 50.00	<0.03
Hydrogen Sulfide (H <sub>2</sub> S combo w/CO sensor)	0.0 to 200.0	0.5
Nitric Oxide (NO)*	0.0 to 250.0	0.2
Nitrogen Dioxide (NO <sub>2</sub> )	0.00 to 30.00	0.02
Oxygen (O <sub>2</sub> )	0.0 to 25.0%	0.2%
Ozone (O <sub>3</sub> )	0.00 to 1.00	0.02
Sulfur Dioxide (SO <sub>2</sub> )	0.0 to 30.0	<0.1
<b>Exotic Sensors</b>		
Arsine (AsH <sub>3</sub> )	0.00 to 1.00	0.02
Chlorine Dioxide (ClO <sub>2</sub> )	0.00 to 1.00	0.02
Diborane (B <sub>2</sub> H <sub>6</sub> )	0.00 to 1.00	0.03
Ethylene Oxide (C <sub>2</sub> H <sub>4</sub> O)*	0.0 to 20.0	0.3
Fluorine (F <sub>2</sub> )	0.00 to 1.00	0.02
Hydrogen Fluoride (HF)	0.00 to 10.00	<0.1
Phosgene (COCl <sub>2</sub> )	0.00 to 1.00	0.02
Phosphine (PH <sub>3</sub> )	0.00 to 5.00	0.05
Silane (SiH <sub>4</sub> )	0.00 to 50.00	0.05
Temperature: (PT100)	Accuracy: ±0.3°C	
	Range: -10.0° to 160.0°F (-25.0° to +70.0°C)	
Operating Range:	0 to 98%RH (non-condensing), -20° to 50°C	
	Specific gas sensors may have a reduced operating range	
Probe Dimensions:	2in. (5cm) dia. x 12.5in. (30cm) lgth.	
Weight (probe):	w/batteries 1lb. 10oz. (0.7kg)	
Power (probe):	2 x D cells; typical battery life 1500 hrs.	
	Meter/Mobile PC battery life varies by make and model	
PC Software Requirements:	Windows 8/7/XP	

\*HCl, NO, EtO; up to 2, but not all 3 may be installed into a single TG-501 probe  
SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT FURTHER NOTICE

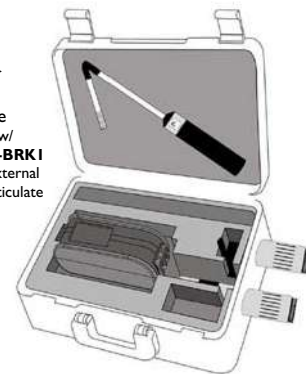
- All gas sensors are electrochemical. One per EC-202 or up to 5 per TG-501 may be included. Typical sensor life, sensor drift and response times vary by sensor.
- Probe wall mounting brackets, automated reporting software, and many other accessories are available from GrayWolf. View them on our website at [accessories.graywolfsensing.com](http://accessories.graywolfsensing.com).

MEASURE SMART

REPORT EFFICIENTLY



▶ **PCC-15** Multi-Probe Security Case (shown at left w/ optional **ACC-BRK1** brackets for external HCHO or particulate meters)



▲ **PCC-051Q** probe pouch. Neck pouches are also available for tablet, AdvancedSense or Pocket PC



▲ **CA-GSXX** Gas Calibration Kit. Specific calibration gases are available in various portable cylinder sizes

▶ **ACC-TPD1** tripod shown w/ **ACC-MNT2P** dual mount and **ACC-MNT1** & **ACC-MNT3** meter mounts. A soft carry case (**PCC-TPDL**) is also included with the **ACC-TPDL-KIT** tripod kit



▶ **CA-HD2** Calibration Hood  
May alternatively be used with air pump to draw sample across sensors



▶ **ACC-APUMPI** Portable Air Sampling Pump with belt clip



- **AdvancedSense TOX** kits include an AdvancedSense meter, **DirectSense TOX TAB** kits include a tablet PC. These complete kits also come with WolfSense PC desktop data transfer software, hardshell security case, probe/meter pouches and more. Contact GrayWolf for details.



▲ **ACC-FIL6** Probe Filters for dirty environments

## UK & Ireland Distributor



Kingfisher Business Park, London Road, Stroud, Gloucestershire, GL5 2BY, UK

Tel: +44 (0) 1453 733200 [sales@et.co.uk](mailto:sales@et.co.uk) [www.et.co.uk](http://www.et.co.uk)