

Advanced Environmental Instrumentation

Harnessing the Power of Mobile Computing



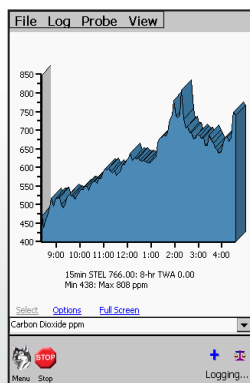
✓ Surveyed

✓ Documented

✓ Reported



Live Graph

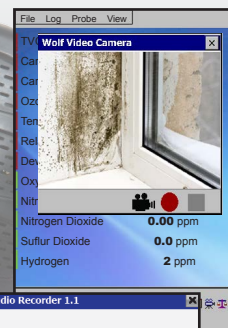


Live Display

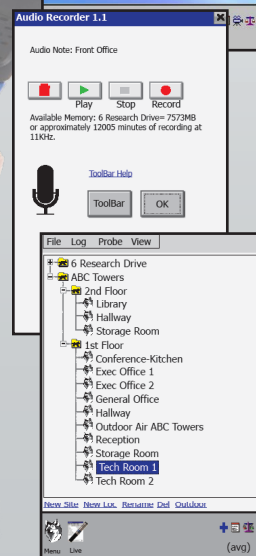
Parameter	Value
TVOC	11 ppb
Carbon Dioxide	848 ppm
Carbon Monoxide	1.4 ppm
Ozone	0.00 ppm
Temperature	24.9 °C
Relative Humidity	29.7 %RH
Formaldehyde	21 ppb
Particulate	61.74 µg/m3
ΔP	0.2 Pa
Barometric	1006 mbar

Example Screens

Video/Photo Notes



Audio Notes



Descriptive Data File Names

ADVANCEDSENSE[®] PRO

Environmental Test Meter Plus



GRAYWOLF[®]
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GrayWolf is transforming the way that environmental measurements are taken. The AdvancedSense Pro meter runs highly advanced, very user-friendly application software. Display, data-log and annotate (on-site) a broad range of parameters with a single, rugged, cutting edge instrument.

- Simultaneously connect 1 or 2 GrayWolf DirectSense[®] probes with up to 8 sensors per probe plus a particulate and/or formaldehyde meter
- Available sensors; differential pressure, airspeed, TVOCs, CO₂, %RH, °C/°F, CO, O₃, NH₃, H₂S, NO, NO₂, SO₂, Cl₂, HCN, H₂, HF, HCl, F₂, HCHO and other parameters
- Backlit color touch screen with virtual keyboard (for text input such as descriptive data file)
- Bluetooth for wireless connection to probes (as a standard alternative to cabled connection).
- WiFi for emailing data, live updates and optional GrayWolfLive[®] remote data access
- **Feature rich** with productivity tools that make your environmental surveys more efficient, more detailed, more reliable:
 - Built-in 2MP camera for photos/videos that attach to data (with annotation)
 - Microphone for audio documentation of surveys
 - Text notes, field (Word template) notes, event notes and more auto-attach to data
 - Speaker for audible queues, alarms and more
 - On-board educational info, application docs, help videos, sensor tips and more
 - Data transfer & reporting software for trend graphs, note management and much more
- Highly intuitive and extremely Easy-To-Use



ADVANCEDSENSE[®] PRO

Environmental Test Meter Plus

SPECIFICATIONS:
(for additional sensor/probe specifications refer to GrayWolf's DirectSense[®], pitot tube and thermocouple brochures)

- General:**
- Dimensions:** 96.0mm (3.8in.) w. x 177mm (7.0in.) h. x 47.0mm (1.8in.) d.
 - Construction:** Rugged polycarbonate plastic with rubberized side grips. IP64
 - Weight:** 700gr (1lb 8.5oz.) Add 50gr (1.5oz.) for auto-zeroing ΔP option
 - Screen Size:** 3.5" HVGA 320 x 480 color touch screen with backlight
 - Memory:** 32GB for data-logging (millions of readings) and notes (photo/video/audio), help videos, documents and WolfSafe™ auto-data backup
 - Camera/LED:** Integral 2MP photo/video camera and 17cd LED illuminating/inspection light
 - Wireless Network:** WiFi 802.11 a/b/g with integrated antenna and Bluetooth 4.0 standard (may optionally be ordered with wireless hardware removed)
 - Audio:** Integral electret microphone (on front, for audio recording) and 8 ohm speaker (on back, for audio queues, help videos and audio note replay)
 - Mounting:** 1/4" - 20 thread (on back) for belt clip, etc. (& for included mini tripod/stand)
 - Operating Range:** -10°C to 50°C (15°F to 122°F), 0 to 100 %RH non-condensing

- Connectors:**
- 2 x Lemo 8F pin for GrayWolf DirectSense probes (the AdvancedSense Pro will support up to 4 x DirectSense probes with Y-adapters)
 - 1 x Lemo 7F pin for particulate meters or RH-AS2 direct-connect TRH probe
 - 2 x sub-mini type K thermocouple temperature sockets. Range -80 to 1100°C (-110 to 2010°F)
 - 1 x Lemo 7M pin for formaldehyde meter, or optional USB key download adapter cable
 - 1 x USB mini B socket. 1m mini USB B to USB A download cable supplied as standard
 - 1 x 12V, 2.1mm DC power socket
 - Optional: 2 x 4mm posts for differential pressure tubing

- Power:**
- Battery:** 4250 mAh Lithium Ion rechargeable
 - Battery Life:** 16+ hours typical for new battery with backlight off (and probes self-powering)
The AdvancedSense Pro can power DirectSense probes. Battery life will vary when powering probes, pressure sensors or wireless.
 - Recharge time:** 4 hours typical. Red/green front LED displays charging/fully charged status
 - Power supply:** 100/240VAC, 50-60Hz external charger. Specify local plug

All specifications are subject to change without further notice

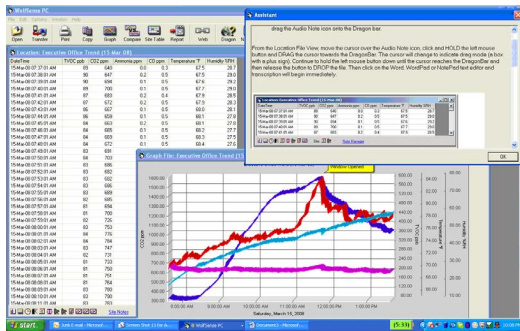
Optional Built-in Sensors:

	Differential Pressure (DP-702LH)	Barometric Pressure (BP-101A)*
Range (auto-ranging, dual DP sensors)	±10,000Pa, ±40 inH ₂ O, ±1000 mmH ₂ O, ±100 mbar, ±70 mmHg	600 to 825 mmHg, 800 to 1100mBar, 23.50 to 32.50 inHg, 0.80 to 1.10atm
Resolution	0.1 Pa, 0.001 inH ₂ O, 0.01 mmH ₂ O, 0.001 mbar, 0.001 mmHg	0.1mmHg, 0.1mBar, 0.01 inHg, 0.01atm
Accuracy (auto-zeroing enabled)	±1% of rdg ±0.1Pa up to 250Pa, ±1%rdg ±4Pa >250Pa (±1% of rdg ±0.001 inH ₂ O to 1.000 inH ₂ O, ±1%rdg ±0.015 inH ₂ O >1.000 inH ₂ O)	±0.1% rdg

Differential Pressure is auto-zeroing (every 2 minutes by default but zeroing frequency is user adjustable to 5 min. or OFF)

*The barometric pressure sensor, when installed, will compensate mass concentration readings (µg/m³) for pressure changes.

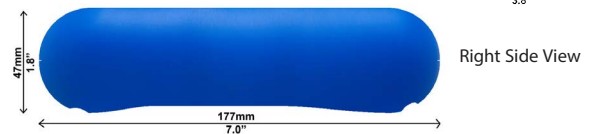
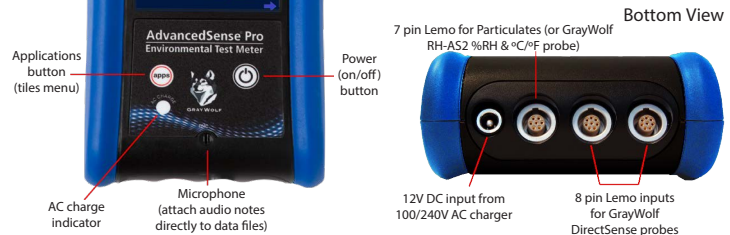
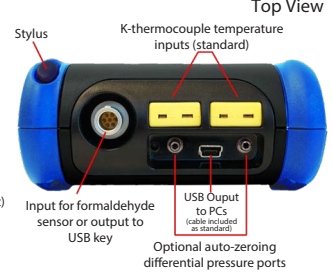
WolfSense[®] PC data transfer and analysis software supplied as standard



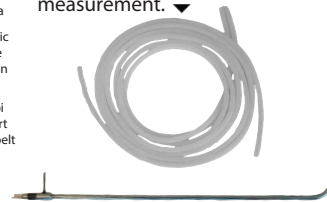
Measure Smart



Report Efficiently



2m dual tubing is supplied with optional differential pressure sensor. GrayWolf offers a selection of pitot tubes for air velocity and K thermocouples for temperature measurement.



PCC-AS01 pouch with neck-strap for hands-free surveys. Also eyelets for camera/inspection light and hand-strap/belt-loop.



PCC-20A Hardshell case holds AdvS Pro, probes (DSII inside or extended for secure monitoring) & accessories. Larger cases also available.



Cloud Platform Data Application, Advanced Reporting Software, Calibration kits and other accessories are available from GrayWolf. View them online at:

graywolvesensing.com/accessories/

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Advanced Environmental Instrumentation

With the right sensors for the application



✓ Surveyed

✓ Documented

✓ Reported



Choice of Platforms



User Swappable Smart Sensors



Charging Stand/
Wall-Mount

DIRECTSENSE® II

Advanced Environmental Probes

For 20 years, GrayWolf has been transforming the way that environmental measurements are taken. And now we have acted on the feedback from our many worldwide IAQ, HVAC, IH and Green Building customers to introduce a range of patented* *smart probes* with highly advanced features.

- Up to eight (8) sensors per probe; %RH, temperature plus up to six gas sensors.
- Sensors are plug-and-play, easily swapped by the user. Calibration and other info is stored on each sensor.
- 25+ available sensors; TVOCs, CO₂, CO, O₃, NO₂, NH₃, O₂, H₂S, NO, SO₂, Cl₂, HCN, HF, HCl, H₂, F₂, ClO₂, EtO and other parameters.
- Connect to GrayWolf AdvancedSense meters or to Windows tablets/laptops; **via cable or Bluetooth wireless**. Your choice (both included as standard).
- Connect one or multiple probes simultaneously.
- **Optional WiFi built into the probe** enables direct connection to remote devices: smart phones, etc. (w/o needing a local AdvS/tablet) via the GrayWolfLive® Cloud app.
- Internal fan increases sensor response and eliminates sensor generated heat.
- Rechargeable (or powered via meter/ tablet). Charging cradle also operates as a stand or wall-mount fixture.



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*US Patent 10,348,834 SELF CONFIGURING SMART PROBE



DIRECTSENSE® II

Advanced Environmental Probes

SPECIFICATIONS:

General:	
Dimensions:	Probe: 83mm (3.3in.) w. x 295mm (11.6in.) h. x 55mm (2.2in) d. Cradle: 93mm (3.7in.) w. x 80mm (3.2in.) h. x 93mm (3.7in) d.
Construction:	Probe: Rugged polycarbonate plastic with rubberized handle grip. Cradle: Rugged polycarbonate plastic.
Weight:	Probe: not including sensors which are ~10 gr each; 460gr (1lb) Cradle: not including AC adapter; 180 gr (6.4 oz.)
Wireless:	Bluetooth for connection to AdvancedSense Pro or to Windows tablet, standard. Optional IEEE 802.11 b/g/n Wi-Fi Module to directly relay probe readings to Cloud.
Mounting:	1/4" - 20 tpi brass thread for belt clip, etc. (& for included mini tripod/stand). Also M3 brass thread for security thumb-screw.
Operating Range:	-10°C to 50°C (15°F to 122°F), 0 to 100 %RH non-condensing (certain specific sensors have a more limited range).

Connectors:	
Probe:	1 x 10 pin Lemo socket for cable connection to AdvancedSense meter or tablet/laptop.
Cradle:	1 x 10 pin Lemo socket and 1 x 2.1mm 12VDC power socket.

Power:	
Battery:	6600 mAh Lithium Ion rechargeable
Battery Life:	12+ hours typical with PID & NDIR sensors installed, no wireless. 36+ hours w/o PID, NDIR. Bluetooth ON reduces battery life ~20%.
Recharge time:	3 hours typical (in cradle). Probes may be continuously powered from meter/tablet/PC. Red/green front cradle LED displays charging/fully charged status.
Power supply:	100/240VAC, 50-60Hz external charger. Specify local plug.

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Model	Basic Description
DSII-3	DirectSense II probe with smart °C/°F, %RH sensors and 1 available socket for smart PID, NDIR or EC sensor.*
DSII-5	DirectSense II probe with smart °C/°F, %RH sensors and 3 available sockets for smart PID, NDIR or EC sensors.*
DSII-8	DirectSense II probe with smart °C/°F, %RH sensors and 6 available sockets for smart PID, NDIR or EC sensors.*
DSII-3/5/8-KIT	The kits include the relevant probe, charging cradle, AC adapter, 1m connection cable, mini-tripod and belt clip.

*All DSII Probes have a built-in fan, Bluetooth wireless and are supplied with a sensor insertion tool and hex screwdriver.

Accessories

ACC-DSII-FLANGE	Flange and bracket to secure DSII probes into ducts, test chambers, etc.
ACC-FIL6-DSII	Temporary filters to protect DSII probe sensors in dusty/dirty environments.
ACC-HD9	Hood for use when pumping samples across a DSII probe.
AD-DSIIL8-1M	1m replacement cable for DSII probes to connect to AdvancedSense meters.
AD-DSIIUSB-1M	1m replacement cable for DSII probes to connect to Tablets/Laptops/PCs.
CA-HD4-A1	A1 series smart sensor (DirectSense II) calibration cap.
CA-HD5-B1	B1 series smart sensor (DirectSense II) calibration cap.
GWLIVE-ST	GrayWolfLive cloud application. Allows remote, interactive WiFi access (via PCs, iPads, Android devices, smartphones, etc.). View data as tables, graphs, gauges, live readings and more (from one or virtually an unlimited number of DSII probes).
GWLIVE-Alerts	This GWLIVE version also sends alerts when high/low set points are exceeded.
PCC-20A/T	Hard-shell Security case with foam cutouts for AdvancedSense or tablet and sensor exposure for 1x DSII probe.
PCC-25A/T	Hard-shell Security case with foam cutouts for AdvancedSense or tablet and sensor exposure for 2x DSII probes.
PCC-35P/36P	Hard-shell Security case with foam cutouts for AdvancedSense or tablet and sensor exposure for 1x DSII probe plus a particulate meter.

Measure Smart

Report Efficiently



25+ Available Plug-and-Play Sensors:

TVOCs (5 PID ranges), CO₂ (NDIR), Electrochemicals; O₃, CO, NO₂, NH₃, Cl₂, SO₂, O₂, NO, H₂S, HCl, HCN, H₂, plus exotics; AsH₃, ClO₂, B₂H₆, EtO, F₂, HF, COCl₂, PH₃, SiH₄. And more coming. Some are available as B series (1 max. per probe). Sensor specifications are detailed on a separate data sheet. A smart °C/°F, %RH combo sensor (Pt100 and capacitive) is included as standard.

