

GrayWolfLive Applications

App Note September 2022



GrayWolfLive is a cloud-based application that provides interactive access to real-time and historical indoor air quality readings from any Wi-Fi capable GrayWolf device. Utilizing the built-in Wi-Fi in the DirectSense II multi-parameter gas monitoring probes; the WolfRadio-XM accessory for particle meters, the Zephyr-XM for differential pressure, you can achieve a comprehensive solution for managing small, medium or large facilities.

GrayWolfLive can be used in several ways, allowing for fixed long-term monitoring, remote monitoring, and automatic alerts, utilizing the same tools and a centralized interface for data analysis.

Fixed Monitoring

Set up your systems permanently or semi-permanently throughout your facility with the Wi-Fi capable GrayWolf devices (DirectSense II shown on right with security docking/charging cradle).

Monitor individual rooms or facilities and have all your environmental readings collected to a central database that can be accessed from any internet browser. Custom device groups help keep multiple probes organized by location.

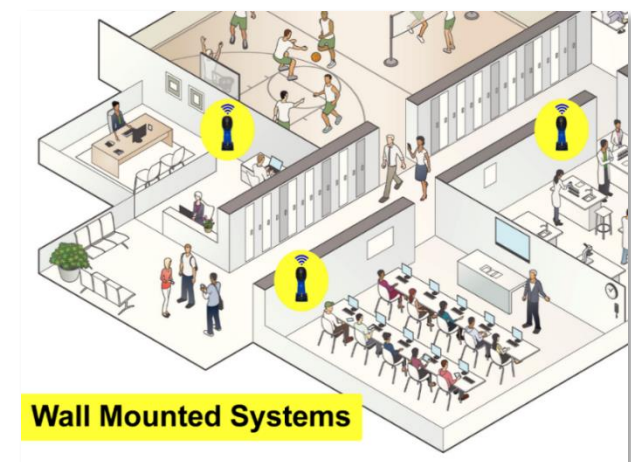
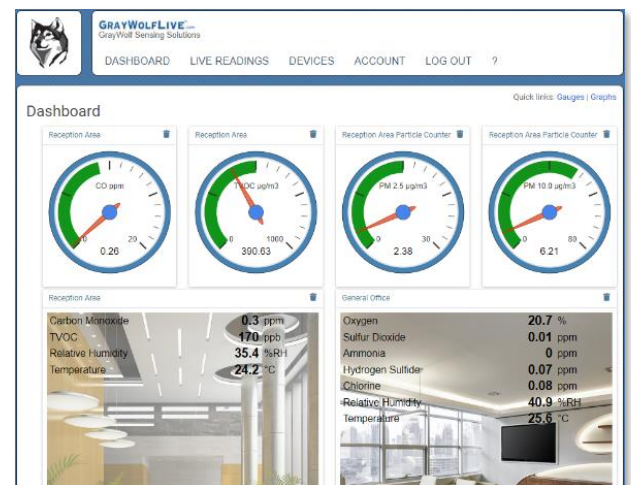
Live readings, updated up to every 15 seconds, can be viewed on customizable dashboards, with gauges and graphs that help the viewer interpret their indoor air quality. Publicly display (or provide a public login) so occupants can access and interact with their indoor air quality. 1-year rolling historical buffer of live data and substantial storage in the cloud allows data to be downloaded for analysis at any time.

Remote Monitoring

With a Wi-Fi connection, GrayWolfLive can provide remote access to readings from anywhere in the world. If setting up a Wi-Fi network at a remote location isn't an option, look to GrayWolf-approved mobile hotspots for providing Wi-Fi via a cellular network of your choice.

GrayWolfLive Alerts

Quick response time to adverse air quality can be critical in maintaining the health and comfort level of occupants. With GrayWolfLive Alerts, facility managers, health departments, or industrial hygienists can stay up to date on the air quality in their buildings without daily inspections. Alerts can be configured to send email or SMS text notifications for live or average readings outside of a user-defined threshold, or probe inactivity.



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Calibration Management & Quality of Readings

There are numerous wall-mounted air quality monitoring devices that can be connected to the cloud. Unfortunately, many manufacturers do not use the appropriate sensor technology nor properly address sensor calibration*. This oversight leads to sensors quickly drifting out of specifications compromising the quality of the data.



GrayWolf starts with high quality sensors and builds them into a unique plug-and-play Smart Sensor technology for use in DirectSense II probes. Sensors can be swapped in the field to change probe configuration or sent individually for recalibration.

With GrayWolfLive, tracking sensor calibration is simplified. Each smart sensor tracks its current calibration and broadcasts status and errors to the cloud for review. View calibration reports for probes connected to GrayWolfLive, and quickly request service or tech support from GrayWolf for help diagnosing reading discrepancies.**

The screenshot shows the GrayWolfLive web dashboard. At the top left is the GrayWolf logo. The navigation menu includes: DASHBOARD, LIVE READINGS, DEVICES, ALERTS, ACCOUNT, LOG OUT, and a help icon. The main content area is titled "Calibration Report" and includes a "Service" section with a "Service Options >>" button. Below this is a table with the following data:

Calibration Report							
Status	Select	Probe	Parameter	Factory Cal Due	Last Factory Cal	Last User Cal	Serial
●	<input type="checkbox"/>	DSII 09-1796	Nitrogen Dioxide	13-Jun-22	02-Oct-21		10212
●	<input type="checkbox"/>		TVOC	07-Jul-22	17-Sep-21	02-Aug-22 05:35:18 PM	10216
●	<input type="checkbox"/>		Carbon Dioxide	19-Jun-22	02-Oct-21	03-Jul-22 04:07:39 PM	10220
●	<input type="checkbox"/>		Oxygen	14-Jun-22	26-Sep-21	03-Aug-22 05:42:42 PM	10224
●	<input type="checkbox"/>		Hydrogen Sulfide	25-Aug-22	30-Jul-21	12-Jun-22 08:22:36 PM	10229
●	<input type="checkbox"/>		Relative Humidity	07-Jul-22	01-Oct-21		10235
●	<input type="checkbox"/>		Temperature	17-Jul-22	18-Sep-21		10239
●	<input type="checkbox"/>	DSII 09-1762	Relative Humidity	14-Jul-22	19-Oct-21	25-Jul-22 09:04:36 PM	10244
●	<input type="checkbox"/>		Temperature	07-Aug-22	12-Aug-21	26-Aug-22 01:28:26 AM	10247
●	<input type="checkbox"/>	DSII 09-1768	Relative Humidity	11-Jun-22	23-Sep-21		10250
●	<input type="checkbox"/>		Temperature	12-Jul-22	21-Sep-21		10252

*For more information on using GrayWolf instruments to verify the readings of low-quality sensors for facility monitoring, review our Application Note: <https://graywolfsensing.com/application-notes/>

** GrayWolfLive Calibration Management tools are currently in development and will be available spring of 2023.

OEM Mode & GrayWolfLive API

OEM mode for the Wi-Fi capable GrayWolf devices such as the DirectSense II, Particle meters with WolfRadio-XM, and Zephyr-XM, provides the user access to an OEM format of the readings for integration into their own platforms or 3rd party systems. The GrayWolfLive API provides similar access to the readings posted to the GrayWolfLive Cloud. Users can pull readings directly from the cloud for integration into their own platforms or 3rd party systems.

Contact your sales representative for help purchasing a GrayWolfLive subscription and setting up account. Please request DSII and WolfRadio QuickStart Guides for instructions on how to connect your equipment, as well as compatibility and technical specifications. Email SalesTeam@GrayWolfSensing.com or submit a request at the following link for additional information. https://graywolfsensing.com/contact_detailed/

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Live Readings

[View Gauges »](#)

[View Graphs »](#)

Show Details

Latest Readings							
Device	When	Last Local Time	Parameter	Probe	Reading	Unit	Live Data
General Office 📱	0 seconds ago	07-Sep-22 11:11:23 AM	Oxygen	DSII 09-1248	20.7	%	View
(General Office 09-1248)	0 seconds ago	07-Sep-22 11:11:23 AM	Sulfur Dioxide		0.01	ppm	
	0 seconds ago	07-Sep-22 11:11:23 AM	Ammonia		0	ppm	
	0 seconds ago	07-Sep-22 11:11:23 AM	Hydrogen Sulfide		0.07	ppm	
	0 seconds ago	07-Sep-22 11:11:23 AM	Chlorine		0.09	ppm	
	0 seconds ago	07-Sep-22 11:11:23 AM	Relative Humidity		41	%RH	
	0 seconds ago	07-Sep-22 11:11:23 AM	Temperature		25.6	°C	
Reception Area 📱	39 seconds ago	07-Sep-22 11:10:44 AM	Carbon Monoxide	DSII 09-1456	0.3	ppm	View
(Reception Area)	39 seconds ago	07-Sep-22 11:10:44 AM	TVOC		170	ppb	
	39 seconds ago	07-Sep-22 11:10:44 AM	Relative Humidity		35.2	%RH	
	39 seconds ago	07-Sep-22 11:10:44 AM	Temperature		24.3	°C	
Reception Area Particle Counter 📱	1 hour ago	07-Sep-22 12:11:41 PM	Barometric	DSII 3504	1004.38	mbar	View
	1 hour ago	07-Sep-22 12:11:41 PM	PM 2.5		2.48	µg/m3	
	1 hour ago	07-Sep-22 12:11:41 PM	PM 10.0		7.01	µg/m3	
	1 hour ago	07-Sep-22 12:11:41 PM	PM 0.3		0	µg/m3	
	1 hour ago	07-Sep-22 12:11:41 PM	PM 0.5		1.2	µg/m3	
	1 hour ago	07-Sep-22 12:11:41 PM	PM 1.0		1.89	µg/m3	
	1 hour ago	07-Sep-22 12:11:41 PM	PM 5.0		4.28	µg/m3	
Server Room 📱	45 seconds ago	07-Sep-22 11:10:38 AM	Relative Humidity	DSII 09-1001	31.8	%RH	View
	45 seconds ago	07-Sep-22 11:10:38 AM	Temperature		30.6	°C	

Multiple devices reporting Live Readings to GrayWolfLive through Wi-Fi

Wi-Fi Capable GrayWolf Devices:

DirectSense II – Send readings from up to 6 smart gas sensors, temperature, and relative humidity directly to GrayWolfLive with built in Wi-Fi card.

WolfRadio-XM-3016 – Provides Wi-Fi connectivity to PC-3016 particle meters for sending particulate readings to GrayWolfLive, including PM 2.5 and PM 10, temperature, and relative humidity.

WolfRadio-XM-3500 – Provides Wi-Fi connectivity to PC-3500, PC-4000, and PC-5000 particle meters for sending particulate readings to GrayWolfLive, including PM 2.5 and PM 10, temperature, and relative humidity.

Zephyr-XM – built in Wi-Fi lets you send differential pressure readings with excellent low-end accuracy to GrayWolfLive. The Zephyr-XM can also be configured with barometric pressure, temperature, and relative humidity.

WolfSense LAP – Running on a Wi-Fi enabled Windows based tablet, WolfSense LAP can send the readings of ANY GrayWolf probe connected to it to GrayWolfLive, including DirectSense I, DirectSense II, all GrayWolf offered particle meters, AS-201/202A airspeed probes, and Zephyr LDP differential pressure monitor.

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GrayWolf Wi-Fi Enabled Devices for use with GrayWolfLive



DirectSense II Smart Probe measures up to 8 Plug n Play parameters including CO₂, TVOC, HCHO, CO, Temperature/ Humidity, O₃, plus many other electrochemical sensors.



Zephyr XM Module measures Differential Pressure, Barometric Pressure, Temperature, Humidity and AirSpeed.



Particulate Meters via WolfRadio XM features mass concentration (as PM_{0.5}, PM_{1.0}, PM_{2.5}, PM_{5.0}, PM₁₀ & TPM in $\mu\text{g}/\text{m}^3$)