



LENS™ WIRELESS

How many times in a workday do you find yourself trying to do your job without all of the necessary information? How often does that lack of information put your safety at risk? When it comes to working with traditional gas detectors, you are often left to guess about what to do when an instrument starts beeping and flashing. Should you run toward an unidentified alarm to help a peer, or should you evacuate the area and call for help?

With LENS™ Wireless, you will have the information you need to take action in the moment. No more second guessing. No more putting your life in danger.

Experience the Power of the Connected Worker

LENS Wireless is the first gas detection solution that allows personal monitors and area monitors to share gas readings and alarms with one another. Now when a gas hazard, man-down, or panic situation causes an instrument to alarm, all peers in the connected group will instantly be notified of the hazard and the person in danger. When seconds matter, you can rely on help from workers nearby, rather than a control room or call center hundreds of miles away.

Start Communicating with LENS Wireless
www.indsci.com/LENS

Safety Made Simple

Many wireless gas detection products on the market require site surveys, IT setup, extra equipment and license purchases, and extensive training. It's no wonder why many organizations have not even considered wireless as an option.

With LENS Wireless, forming a connected group of monitors is as simple as tapping two Ventis® Pro instruments together, or a Ventis Pro to a Radius™ BZ1 Area Monitor. Connect up to 25 devices to create a dynamic safety web across your worksite. LENSWireless adapts for organizations large and small within minutes. No IT setup. No infrastructure. No configuration.



Average time to deploy 25 LENS Wireless instruments
(Joining 25 instruments into a group)

2 minutes

Average time to implement other wireless solutions
(Instrument, IT, and central controller setup)

2 hours – 2 days



Work Smarter and Safer

Smarter, Faster Decisions – By viewing peer readings and alarms on your own monitor, you will be able to make an informed decision about the hazard, allowing you to avoid needless evacuations or safely move to a designated muster point. There’s no need for a laptop or central controller to view peer readings in real time.

Safer Emergency Response – Make “would be” rescuer fatalities a thing of the past. First responders will know what workers in hazardous areas are exposed to—in real time, allowing them to properly equip themselves the first time, before attempting a rescue. Panic and man-down alarms will be relayed to the first responders if workers become injured or unresponsive.

Better Site-Wide Communication – Gas hazards are not just a local issue for the worker who is exposed. Explosive and toxic gases also pose a threat to those in the vicinity. With LENS Wireless, you have visibility into hazards happening up to a mile away, allowing you to take appropriate safety precautions when gas levels in the area approach dangerous levels.

Get Started with LENS Wireless Today

Any Ventis Pro Series instrument purchased without wireless simply needs an upgrade card and firmware version 2.0 or greater to activate wireless.

VENTIS PRO WIRELESS UPGRADE CARD

PART NO.	DESCRIPTION
18109494	Twenty-instrument upgrade card
18109493	Five-instrument upgrade card
18109492	One-instrument upgrade card

The LENS Wireless Difference

- Share gas readings and alarms between Ventis Pro Series personal monitors and Radius BZ1 Area Monitors
- Enjoy out-of-the-box operation with no site surveys, IT setup, licenses, or additional infrastructure needed
- Identify peer alarm types in real time, enabling a faster, more appropriate response
- View gas readings from other peers in your group on any monitor without needing a central controller to relay the information
- Receive readings from up to 1.5 km (~1 mi) away with wireless hopping between instruments
- Activate the panic alarm on your personal monitor to notify all peers in your group of an emergency
- Depend on self-healing mesh networks to always stay connected, even if a single unit drops off

SPECIFICATIONS*

Optional LENS™ Wireless, proprietary mesh network
 Frequency: ISM license-free band (2.405 - 2.480 GHz)
 Max Peers: 25 devices per network group
 Range: Ventis Pro: 100 m (300 ft) line of sight, face-to-face
 Radius BZ1: 300 m (~1,000 ft) line of sight
 Encryption: AES-128
 Approvals: FCC Part 15, IC, CE/RED, others

*See www.indsci.com/wireless-certifications for country-specific wireless approvals and certifications.

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REV 1 0817



RADIUS® BZ1 AREA MONITOR

The Radius® BZ1 Area Monitor is a rugged area monitor that detects up to seven gases and connects your entire worksite. It can be deployed in seconds for emergency response. Radius BZ1 shares readings and alarms with other units and personal gas monitors through LENS Wireless, allowing you to create a dynamic safety network that changes with the needs of your operations.

- Detect up to seven gases simultaneously with 22 sensor options, including PID
- Know what's happening at a distance thanks to the largest display of any area monitor and customizable alarm action messages like "EVACUATE" or "VENTILATE"
- Gain real-time visibility and respond faster in an emergency by pairing with the RGX® Gateway and iNet Now for live monitoring
- DualSense® Technology increases worker safety by using two sensors to detect the same gas
- SafeCore® Module houses all critical technology out of the elements for fewer false alarms

See all features and benefits at
www.indsci.com/radius



SPECIFICATIONS*

WARRANTY

Two-year warranty, including Sensors and Battery

CASE MATERIAL Impact-resistant polycarbonate alloys

DIMENSIONS 29 x 29 x 55 cm (11.5 x 11.5 x 21.5 in)

WEIGHT 7.5 kg (16.5 lb)

POWER SOURCE/RUN TIME

Rechargeable Nickel-Metal Hydride (NiMH) Battery

7 days (168 hours) typical @ 20 °C, without Pump, with Wireless

3.5 days (84 hours) typical @ 20 °C, with Pump, with Wireless

30 days (720 hours) typical @ 20 °C, Electrochemical Sensors only, without Pump, with Wireless

≤8 hour recharge time

ALARMS

108 decibel (dB) at 1 m (3.3 ft) redundant audible alarms

Redundant, visual alarm LEDs (red and blue)

DISPLAY/READOUT

11.2 cm (4.4 in) monochrome backlit graphical Liquid Crystal Display (LCD)

KEYPAD Three buttons

INGRESS PROTECTION IP66

TEMPERATURE RANGE -20 °C to 55 °C (-4 °F to 131 °F)

HUMIDITY RANGE

15% to 95% non-condensing (continuous)

MEASURING RANGES

CATALYTIC BEAD

Combustible Gases: 0-100% LEL in 1% increments

ELECTROCHEMICAL

Ammonia (NH₃): 0-500 ppm in 1 ppm increments

Carbon Monoxide (CO): 0-1,500 ppm in 1 ppm increments

Carbon Monoxide (CO High Range): 0-9,999 ppm in 1 ppm increments

Carbon Monoxide (CO/H₂ Low): 0-1,000 ppm in 1 ppm increments

Carbon Monoxide/Hydrogen Sulfide: CO: 0-1,500 ppm in 1 ppm increments
H₂S: 0-500 ppm in 0.1 ppm increments

Chlorine (Cl₂): 0-50 ppm in 0.1 ppm increments

Chlorine Dioxide (ClO₂): 0-1 ppm, 0.01 ppm increments

Hydrogen (H₂): 0-2,000 ppm in 1 ppm increments

Hydrogen Chloride (HCl): 0-30 ppm, 0.1 ppm

Hydrocarbon (HC): 0-100% LEL, 1% LEL increments

Hydrogen Sulfide (H₂S): 0-500 ppm in 0.1 ppm increments

Hydrogen Cyanide (HCN): 0-30 ppm in 0.1 ppm increments

Nitrogen Dioxide (NO₂): 0-150 ppm in 0.1 ppm increments

Methane (CH₄): 0-100% LEL, 1% LEL increments

Oxygen (O₂): 0-30% vol in 0.1% increments

Sulfur Dioxide (SO₂): 0-150 ppm in 0.1 ppm increments

Phosphine (PH₃): 0-5 ppm in 0.01 ppm increments

Nitric Oxide (NO): 0-1000 ppm in 1 ppm increments

INFRARED

Carbon Dioxide (CO₂): 0-5% vol in 0.01% increments

PHOTOIONIZATION

Volatile Organic Compounds (10.6 eV): 0-2,000 ppm in 0.1 ppm increments

EVENT LOGGING: 60 alarm events

DATA LOG: At least 3 months at 10-second intervals

PUMP: Optional integral pump, up to 30.48 m (100 ft) sample draw

WIRELESS

Optional LENS Wireless, mesh network

Frequency: ISM license-free band (2.405 - 2.480 GHz)

Max Peers: 25 devices per network group / 10 independent, configurable network groups

Range: 300 m (~1,000 ft) line of sight

Encryption: AES-128

Approvals: FCC Part 15, IC, CE/RED, others **

SUPPLIED WITH MONITOR

Calibration Cup (without Pump), Sample Tubing and Pump Inlet Water Barrier (with Pump), Hand Tool, Charging Power Supply and Region-Specific Cord

* These specifications are based on performance averages and may vary by instrument.

** See www.indsci.com/wireless-certifications for country-specific wireless approvals and certifications.

SPECIFICATIONS***SENSORS**

Up to 6 sensors (catalytic bead, photoionization detector, electrochemical, IR, and PID)
Up to 7 simultaneous readings

MEASURING RANGES**CATALYTIC BEAD**

Combustible Gases: 0-100% LEL in 1% increments

ELECTROCHEMICAL

Ammonia (NH₃): 0-500 ppm in 1 ppm increments
Carbon Monoxide (CO): 0-1,500 ppm in 1 ppm increments
Carbon Monoxide (CO High Range): 0-9,999 ppm in 1 ppm increments
Carbon Monoxide (CO/H₂ Low): 0-1,000 ppm in 1 ppm increments
Carbon Monoxide/Hydrogen Sulfide: CO: 0-1,500 ppm in 1 ppm increments
H₂S: 0-500 ppm in 0.1 ppm increments
Chlorine (Cl₂): 0-50 ppm in 0.1 ppm increments
Hydrogen (H₂): 0-2,000 ppm in 1 ppm increments
Hydrogen Sulfide (H₂S): 0-500 ppm in 0.1 ppm increments
Hydrogen Cyanide (HCN): 0-30 ppm in 0.1 ppm increments
Nitrogen Dioxide (NO₂): 0-150 ppm in 0.1 ppm increments
Oxygen (O₂): 0-30% vol in 0.1% increments
Sulfur Dioxide (SO₂): 0-150 ppm in 0.1 ppm increments
Phosphine (PH₃): 0-5 ppm in 0.01 ppm increments
Nitric Oxide (NO): 0-1000 ppm in 1 ppm increments

INFRARED

Carbon Dioxide (CO₂): 0-5% vol in 0.01% increments

PHOTOIONIZATION

Volatile Organic Compounds (10.6 eV): 0-2,000 ppm in 0.1 ppm increments

PUMP

Optional integral pump, up to 30.48 m (100 ft) sample draw

WIRELESS

Optional LENS Wireless, mesh network
Frequency: ISM license-free band (2.405 - 2.480 GHz)
Max Peers: 25 devices per network group
10 independent, configurable network groups; Range: 300 m (~1,000 ft) line of sight
Encryption: AES-128
Approvals: FCC Part 15, IC, CE/RED, others**

CERTIFICATIONS**INGRESS PROTECTION IP66**

ATEX: Ex da ia IIC T4 Ga, Equipment Group and Category II 1G
China EX: Ex d ia IIC T1 Ga; Ex d ia IIC T4 Gb IR sensor
China CPC: China CPC
CSA: CI I, Div 1, G A-D, T4
C22.2 No. 152 applies only to %LEL thermo-catalytic reading
IECEX: Ex da ia IIC T4 Ga
INMETRO: Ex da ia IIC T4 Ga; Ex db ia IIC T4 Gb IR sensor
KC: Ex d ia IIC T4
UL: CI I, Div 1, Gr A-D, T4; CI 1 Zone 0 AEx da ia IIC T4 Ga1

SUPPLIED WITH MONITOR

Calibration cup (without pump), sample tubing and pump inlet water barrier (with pump), hand tool, charging power supply, and region-specific cord

LANGUAGE

English, French, Spanish, German

* These specifications are based on performance averages and may vary by instrument.

** See www.indsci.com/wireless-certifications for country-specific wireless approvals and certifications.

*** ISCA does not have certificate to verify



The Radius BZ1 is available with optional LENS Wireless. With LENS Wireless, your instruments will connect seconds after being turned on—with no need for setup or additional infrastructure. You will instantly receive real-time gas readings from other connected instruments on the network, helping your team react faster in emergency situations.



With the Radius BZ1, all critical technology pieces such as sensors, software, pumps, and wireless, live inside the patent-pending SafeCore® Module. Smart sensors are positioned face down to prevent the elements from interfering with gas readings, resulting in fewer false alarms.

The module slides out from the Radius Base for easy docking and automated maintenance, ensuring that your sensors are always ready to provide accurate gas detection.



The Radius Base is made of a durable, weather-resistant plastic. The base has built-in audio and visual alarms that grab workers' attention, even in high-noise environments. A large battery keeps the unit working as long as you do, and side-grip handles help make the base easy to move from location to location.

It is easier than ever to keep your area monitors running in the field. The SafeCore Module and Radius Base work together to provide maximum gas detection ability, while simplifying maintenance of your area monitors.

Build and price your Radius BZ1
online with the Instrument Builder
www.indsci.com/radius-builder

RADIUS BZ1 MOST COMMON INSTRUMENT CONFIGURATIONS

PART NO.	DESCRIPTION
BZ1-K123000x0y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂
BZ1-K123000x1y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , Wireless
BZ1-K123001x0y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , with Pump
BZ1-K123001x1y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , Wireless, with Pump
BZ1-K123500x0y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂
BZ1-K123500x1y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , Wireless
BZ1-K123501x0y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , with Pump
BZ1-K123501x1y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , Wireless, with Pump
BZ1-K1235R0x0y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , PID
BZ1-K1235R0x1y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , PID, Wireless
BZ1-K1235R1x0y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , PID, with Pump
BZ1-K1235R1x1y	Radius BZ1, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , PID, Wireless, with Pump
SC-K123000x0y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂
SC-K123000x1y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , Wireless
SC-K123001x0y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , with Pump
SC-K123001x1y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , Wireless, with Pump
SC-K123500x0y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂
SC-K123500x1y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , Wireless
SC-K123501x0y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , with Pump
SC-K123501x1y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , Wireless, with Pump
SC-K1235R0x0y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , PID
SC-K1235R0x1y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , PID, Wireless
SC-K1235R1x0y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , PID, with Pump
SC-K1235R1x1y	SafeCore Module, LEL (Pentane), CO, H ₂ S, O ₂ , SO ₂ , PID, Wireless, with Pump

x = Agency Certification: 1 = UL/CSA, 2 = ATEX/IECEX | y = Language: 1 = EN, 2 = FR, 3 = ES, 4 = DE

RADIUS BZ1 MAINTENANCE SOLUTIONS

PART NO.	DESCRIPTION
18109396-ABC-ABC	DSX™ Docking Station for SafeCore® A – DSX Mode: 0 = DSX Standalone 1 = DSXi Cloud-connected 2 = DSX-L Local Server B – Number of Gas Inlet Ports: 3 = 3 Ports 6 = 6 Ports C – Power Cord Type: 1 = North America, 2 = EU, 3 = AUS, 4 = UK
18109406	DSXi Cloud-connected Activation Certificate
18109498	Calibration Cup and Tubing Kit
17109919	Fresh air filter
17156983	Hand Tool

RADIUS BZ1 FILTERS AND CAPS

PART NO.	DESCRIPTION
17155932	Intrinsic Safety Power Port Dust Cap
18109444	Speaker Grill
18109445	Speaker Dust Filter (Pack of 2)
18109442	Alarm Muffler (Pack of 2)
17155934	Charging Port Dust Cap
18109455	Pump Inlet Water Barrier (Pack of 3)
18109447	Pump Bottom Dust Filter (Pack of 2)

RADIUS BZ1 ACCESSORIES

PART NO.	DESCRIPTION
18109431-AB	Radius BZ1 Base (Without SafeCore) A = Approvals: 1 = UL/CSA, 2=ATEX/IECEX B = Language: 1 = English, 2 = French, 3 = Spanish, 4 = German
17134701	Sensor Plug
18109455	Pump Inlet Water Barrier (Pack of 3)
18109447	Pump Bottom Dust Filter (Pack of 2)
18109448	Boot
17156465	Backup Battery
17155888	Sensor Collar
18109446	Module Cover

RADIUS BZ1 CHARGERS AND POWER CORDS

PART NO.	DESCRIPTION
18109388-1A	Extended Run Time Power Supply A = Power Cord, where 1 = North America, 2 = Europe, 3 = Australia, 4 = UK
18109516	Intrinsically Safe Extended Run Time Power Supply (CSA)
17156261	50m Replacement Intrinsically Safe Cable
17155923	Charging Power Supply (Without Power Cord)
17155000	Power Cord (North America)
17155003	Power Cord (Europe)
17155001	Power Cord (Australia)
17155005	Power Cord (UK)

RADIUS BZ1 REPLACEMENT SENSORS

PART NO.	DESCRIPTION
17156650-1	Replacement Sensor, SafeCore, Carbon Monoxide (CO)
17156650-2	Replacement Sensor, SafeCore, Hydrogen Sulfide (H ₂ S)
17156650-3	Replacement Sensor, SafeCore, Oxygen (O ₂)
17156650-4	Replacement Sensor, SafeCore, Nitrogen Dioxide (NO ₂)
17156650-5	Replacement Sensor, SafeCore, Sulfur Dioxide (SO ₂)
17156650-6	Replacement Sensor, SafeCore, Ammonia (NH ₃)
17156650-7	Replacement Sensor, SafeCore, Chlorine (Cl ₂)
17156650-8	Replacement Sensor, SafeCore, Chlorine Dioxide (ClO ₂)
17156650-A	Replacement Sensor, SafeCore, Hydrogen Chloride (HCL)
17156650-B	Replacement Sensor, SafeCore, Hydrogen Cyanide (HCN)
17156650-C	Replacement Sensor, SafeCore, Hydrogen (H ₂)
17156650-G	Replacement Sensor, SafeCore, Carbon Monoxide/Hydrogen Low (CO/H ₂ low)
17156650-H	Replacement Sensor, SafeCore, Carbon Monoxide (CO) High
17156650-J	Replacement Sensor, SafeCore, Carbon Monoxide/Hydrogen Sulfide (CO/H ₂ S)
17156650-K	Replacement Sensor, SafeCore, LEL, Pentane
17156650-L	Replacement Sensor, SafeCore, LEL, CH ₄
17156650-P	Replacement Sensor, SafeCore, Hydrocarbon IR (HC IR)
17156650-R	Replacement Sensor, SafeCore, PID (VOCs)
17156650-S	Replacement Sensor, SafeCore, Methane IR (CH ₄ IR)
17156650-9	Replacement Sensor, SafeCore, Phosphine (PH ₃)
17156650-D	Replacement Sensor, SafeCore, Nitric Oxide (NO)
17156650-Q	Replacement Sensor, SafeCore, Carbon Dioxide IR (CO ₂)
18109472	DualSense Pack, SafeCore, Carbon Monoxide (CO)
18109473	DualSense Pack, SafeCore, Hydrogen Sulfide (H ₂ S)
18109474	DualSense Pack, SafeCore, Oxygen (O ₂)
18109475	DualSense Pack, SafeCore, Nitrogen Dioxide (NO ₂)
18109476	DualSense Pack, SafeCore, Sulfur Dioxide (SO ₂)
18109486	DualSense Pack, SafeCore, Carbon Monoxide/Hydrogen Low (CO/H ₂ low)