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 ºC, without Pump, with Wireless
3.5 days (84 hours) typical @ 20 ºC, with Pump, with Wireless
30 days (720 hours) typical @ 20 ºC, 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 (NH_3):	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/H_2 Low):	0-1,000 ppm in 1 ppm increments
Carbon Monoxide/Hydrogen Sulfide:	CO: 0-1,500 ppm in 1 ppm increments
	H_2S: 0-500 ppm in 0.1 ppm increments
Chlorine (Cl_2):	0-50 ppm in 0.1 ppm increments
Chlorine Dioxide (CLO_2)	0–1 ppm, 0.01 ppm increments
Hydrogen (H_2):	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 (H_2S):	0-500 ppm in 0.1 ppm increments
Hydrogen Cyanide (HCN):	0-30 ppm in 0.1 ppm increments
Nitrogen Dioxide (NO_2):	0-150 ppm in 0.1 ppm increments
Methane (CH_4)	0–100% LEL, 1% LEL increments
Oxygen (O_2):	0-30% vol in 0.1% increments
Sulfur Dioxide (SO_2):	0-150 ppm in 0.1 ppm increments
Phosphine (PH_3):	0-5 ppm in 0.01 ppm increments
Nitric Oxide (NO):	0-1000 ppm in 1 ppm increments

INFRARED
Carbon Dioxide (CO_2):	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
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Carbon Monoxide (CO):	0-1,500 ppm in 1 ppm increments
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Carbon Monoxide (CO/H_2 Low):	0-1,000 ppm in 1 ppm increments
Carbon Monoxide/Hydrogen Sulfide:	CO: 0-1,500 ppm in 1 ppm increments
	H_2S: 0-500 ppm in 0.1 ppm increments
Chlorine (Cl_2):	0-50 ppm in 0.1 ppm increments
Hydrogen (H_2):	0-2,000 ppm in 1 ppm increments
Hydrogen Sulfide (H_2S):	0-500 ppm in 0.1 ppm increments
Hydrogen Cyanide (HCN):	0-30 ppm in 0.1 ppm increments
Nitrogen Dioxide (NO_2):	0-150 ppm in 0.1 ppm increments
Oxygen (O_2):	0-30% vol in 0.1% increments
Sulfur Dioxide (SO_2):	0-150 ppm in 0.1 ppm increments
Phosphine (PH_3):	0-5 ppm in 0.01 ppm increments
Nitric Oxide (NO):	0-1000 ppm in 1 ppm increments

INFRARED
Carbon Dioxide (CO_2):	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

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

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.

RADIUS BZ1 MOST COMMON INSTRUMENT CONFIGURATIONS

PART NO.	DESCRIPTION
BZ1-K123000x0y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2
BZ1-K123000x1y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, Wireless
BZ1-K123001x0y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, with Pump
BZ1-K123001x1y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, Wireless, with Pump
BZ1-K123500x0y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, SO_2
BZ1-K123500x1y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, SO_2, Wireless
BZ1-K123501x0y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, SO_2, with Pump
BZ1-K123501x1y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, SO_2, Wireless, with Pump
BZ1-K1235R0x0y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, SO_2, PID
BZ1-K1235R0x1y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, SO_2, PID, Wireless
BZ1-K1235R1x0y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, SO_2, PID, with Pump
BZ1-K1235R1x1y	Radius BZ1, LEL (Pentane), CO, H_2S, O_2, SO_2, PID, Wireless, with Pump
SC-K123000x0y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2
SC-K123000x1y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, Wireless
SC-K123001x0y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, with Pump
SC-K123001x1y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, Wireless, with Pump
SC-K123500x0y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, SO_2
SC-K123500x1y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, SO_2, Wireless
SC-K123501x0y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, SO_2, with Pump
SC-K123501x1y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, SO_2, Wireless, with Pump
SC-K1235R0x0y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, SO_2, PID
SC-K1235R0x1y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, SO_2, PID, Wireless
SC-K1235R1x0y	SafeCore Module, LEL (Pentane), CO, H_2S, O_2, SO_2, PID, with Pump
SC-K1235R1x1y	SafeCore Module, LEL (Pentane), CO, H_2S, 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_2S)
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 (CLO2)
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_2S)
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 (CH4 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_2S)
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)