

2.4 GHz Wireless Sensor System - 1102 Sensors

The 1101 series IDEAL Wireless Sensors are battery powered sensors for HVAC used for monitoring and controlling of indoor air quality (IAQ), energy savings, and occupant safety. The CO₂ sensor is self-calibrating and the Differential Pressure sensor requires no calibration. Both sensors have adjustable data reporting interval options. They are wall mountable, powered with long life replaceable batteries providing battery life up to 15 years.

Data is transmitted to a G1 Series wireless gateway or repeaters, which extends operation to unlimited distance. The G1 Series gateway receives data from up to 100 sensor devices and interfaces to a wide range of standard BAS protocols including BACnet®, Modbus, LonWorks®, and Metasys® N2. SNMP and XML protocols are available for IT systems.



CO₂

Wireless CO₂ Sensor

- 15+ year battery life
- Self-calibrating, 0-5000ppm range
- Internal antenna
- Low maintenance-free
- Easy installation: No wiring or conduit
- No interference with or from Wi-Fi
- Off-site or on-site configuration
- 3-Year Warranty



Differential Pressure

Wireless Differential Pressure Sensor

- Up to 15-year battery life
- No calibration, stable long-life performance
- Internal antenna
- Maintenance-free; long-battery life
- Easy installation: No wiring or conduit
- No interference with or from Wi-Fi
- Off-site or on-site configuration
- 3-Year Warranty



Specifications

Radio	2.4 GHz, internal antenna
Regulatory Approvals	FCC Part 15 and Industry Canada Contains FCC ID: OA3MRF24J40MA Contains IC: 7693A-24J40MA
Transmit Range	100 ft. indoors to G1 Series gateway/repeater in typical open commercial office building
Accuracy	Filtered: +/- 15ppm (S1 value) Unfiltered: +/- 40ppm (S2 value)
Response Time	T90 < 3 minutes
Measurement Range	0 - 5000 ppm CO ₂
Power	3xAA batteries, Energizer L91 recommended (included) 1 min. interval: 3.5 yrs., 2 min. interval: 7 yrs. 3 min. interval: 10 yrs., 5 min. interval: 15 yrs.
Enclosure	ABS, UL94-5VA rating, bone color
Configuration Port	Internal USB mini-B connector for connection to G2 Series gateway
Mounting	Wall mount, vertical, indoor use only
Dimensions	5.8 x 3.2 x 1.5 inches
Operating Temp.	0 to 120°F, indoor use only
Storage Temp.	-20 to 120°F
Transmitted Data	Node ID, CO ₂ data, Battery voltage Selectable intervals: 1, 2, 3, 5 or 10 minutes
Weight	7.5 oz.

Specifications

Radio	2.4 GHz, internal antenna
Regulatory Approvals	FCC Part 15 and Industry Canada Contains FCC ID: OA3MRF24J40MA Contains IC: 7693A-24J40MA
Transmit Range	100 ft. indoors to G1 Series gateway/repeater in typical open commercial office building
Zero point Accuracy	0.001" H ₂ O or 0.2 Pa
Span Accuracy	±3.0% of reading
Stability	+/- 0.25% FS/year
Process Connection	Barbed fittings for 5/32"ID flexible tubing
Measurement Range	(± 2" W.C. / ± 500pa) Resolution: 1pa
Allowable overpressure	400" W.C./100 kPa
Rated Burst Pressure	>500 kPa
Media Compatibility	Air, Nitrogen (N ₂), Oxygen (O ₂)
Power	3xAA batteries, Energizer L91 recommended (included) 15 year battery life @ 30 second intervals
Enclosure	ABS, UL94-5VA rating, Bone color
Configuration Port	Internal USB mini-B connector for connection to G1 Series gateway
Mounting	Wall mount, vertical, indoor use only
Dimensions	5.8 x 3.2 x 1.5 inches
Operating Temp.	0° to 120°F, indoor use only
Storage Temp.	-20° to 120°F
Transmitted Data	Node ID, pressure data, Battery voltage Selectable intervals: 30 sec., 1, 2, 4 or 8 minutes
Weight	7.5 oz.

2.4 GHz Wireless Sensor System

Ordering Information

Wireless Sensor	
58-N-1102-CO2-R	915 MHz Wireless CO ₂ Sensor
58-N-1102-DP1-R	Wireless Differential Pressure Sensor
Related Products*	
58-N-1101-T-N	Wireless temperature sensor, 25+ year battery
58-N-1101-TH-N	Wireless temperature and humidity/dew point sensor, 25+ year battery
58-N-1101-TX-N	Wireless temperature sensor, 25+ year battery – internal temperature, 2 external 10K RTD ports
58-N-1101-C-N	Wireless dry contact closure (2 inputs), 25+ year battery
58-N-1101-L-N	Wireless light level sensor, 25+ year battery

*Substitute suffix -N with -R for replaceable battery version (1101 Series only).

Sensor Data Reporting

Sensor Type - 1102 Series			
Sensing Points		CO ₂	Differential Pressure
	S1	Average CO ₂ ppm, rolling weighted average of previous CO ₂ readings	Differential pressure in milli-water columns
	S2	Instantaneous CO ₂ reading (ppm)	Differential pressure in pascals
	S3		
	S4		
	S5		
	S6		
	S7		
	S8		

Gateway/Repeater

- Supports up to 100 devices
- Connects to virtually any BAS
- Integrated antenna
- No interference with or from Wi-Fi
- 24VAC/DC power
- 3-Year Warranty



Specifications		
Frequency	2.4 GHz	
Approvals	FCC Part 15 and Industry Canada Contains FCC ID: OA3MRF24J40MA Contains IC: 7693A-24J40MA	
Antenna	Internal, 360° pattern	
Range	100 ft. indoor in typical commercial office building	
Power	24VAC/DC, removable terminal block	
Configuration Ports	USB Type B – PC Interface USB Type A – Sensor Interface	
Network Port	Ethernet, RS-485 or FTT-10	
Enclosure	ABS plastic, UL94-5VA rating, color – bone	
Mounting	Wall mount, vertical, indoors	
Dimensions	6.6" x 4.4" x 1.75"	
Environment	0 to 120°F, indoor use only	
Weight	8.5 oz.	
Gateway/Repeater		
Part Number	Protocol	Interface
58-G1-BACNETIP	BACnet®/IP	Ethernet
58-G1-MOVBUSTCP	Modbus TCP	Ethernet
58-G1-SNMP	SNMP	Ethernet
58-G1-XML	XML	Ethernet
58-G1-BACNTMSTP	BACnet®/MSTP	RS-485
58-G1-METASYSN2	Metasys® N2	RS-485
58-G1-MOVBUSRTU	Modbus RTU	RS-485
58-G1-LON	LonWorks®	FTT-10
58-G1-SERIAL	Serial Gateway/Repeater	USB
58-PS-24V-T	24V Power Supply	–

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