

RRJ Series

H₂S, CO, O₂, SO₂, NH₃ or
Combustible Gases (LEL)

Zero-Maintenance Gas Transmitters

BW Technologies
by Honeywell



An Industry First Maintenance-free 4-20 mA Gas Transmitter



4-20 mA Transmitter with Sensor

FEATURES:

The rugged, zero-maintenance RRJ Series Transmitters for H₂S, CO, O₂, SO₂, NH₃ or combustible gases (LEL) come complete with sensor and provide a 4-20 mA signal that is compatible with any 4-20 mA control system (DCS, PLC, and CR-4000 controllers, etc.).

- ▲ Eliminate maintenance—no calibration required, no sensor replacement required, no downtime
- ▲ Rugged, durable, polyurethane encapsulated transmitter with sensor
- ▲ Quick disconnect with military-style plug-in wiring connector during installation and decommissioning
- ▲ 2 year operational life
- ▲ Daily, automatic, full-function self-test of sensor and circuitry integrity
- ▲ LED red visual alarm
- ▲ Electrochemical sensor for H₂S and catalytic bead sensor (combustible gases)
- ▲ Wide supply voltage range—10 to 28 VDC for industry standard compatibility
- ▲ Low initial cost—competitively priced

Ordering Information

Zero-maintenance, 2-year, 4-20 mA transmitter with sensor, and field-replaceable sensor screen

RRJ-RW1	Combustible (0-100% LEL)
RRJ-RH1	Hydrogen Sulfide (H ₂ S, 0-100 ppm)
RRJ-RH2	Hydrogen Sulfide (H ₂ S, 0-50 ppm)
RRJ-RH3	Hydrogen Sulfide (H ₂ S, 0-20 ppm)
RRJ-RX1	Oxygen (O ₂ , 0-25%v/v)
RRJ-RX2	Oxygen (O ₂ , 0-30%v/v)
RRJ-RM1	Carbon Monoxide (CO, 0-500 ppm)
RRJ-RA2	Ammonia (NH ₃ , 0-100 ppm)
RRJ-RS1	Sulfur Dioxide (SO ₂ , 0-100 ppm)
RRJ-RS2	Sulfur Dioxide (SO ₂ , 0-20 ppm)
RRJ-RS3	Sulfur Dioxide (SO ₂ , 0-10 ppm)

Transmitter kits available (includes sensor, connector lead and connector fitting). Contact BW for details.

Accessories and Options

RRJ-FW1-K	Field Wiring Plug-in Connector Kit
RRJ-FW2-K	Military-style Connector for RRJ Transmitters
RRJ-KEY1	Key - Magnetic Calibration Key for RRJ Toxic gas monitors
RRJ-NPT	Connector Fitting, 1/2 inch NPT for RRJ wiring kits
RRJ-PT1-K	Connector Lead for RRJ transmitters (toxic/O ₂), 2-wire
RRJ-PT1-K2	Connector Lead for RRJ transmitter (3-wire for RRJ LEL sensor)

Compatible with all 4-20 mA Controllers including:
CR-4000 4 Channel AC/DC Controller

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RRJ Transmitters with Sensor

*H₂S, CO, O₂, SO₂, NH₃ or
Combustible Gases (LEL)*

BW Technologies introduces the first zero-maintenance, 4-20 mA transmitters on the market. BW Technologies has applied cutting-edge science developed for the world's most advanced disposable gas detector—the GasAlertClip—to the RRJ Series of transmitters.

Daily Automatic Self-Test

The full function self-test is a unique safety advantage. The sensor integrity is tested as well as the circuitry integrity. The full function sensor integrity test not only advises if the sensor is present, but additionally tests the sensor's response and advises if the sensor is defective.

Operational Life

The operational life is two years in normal use. The life counter is activated when power is applied and runs continuously while the transmitter is operating. If power is interrupted, the counter stops and will resume counting when power is restored.

Life-Ended Warning and Alarm

One month prior to the end of the transmitter's operational life, the LED will begin a slow flash warning. When the 2 year operational life is over, the monitor will send a 2 mA signal to the controller advising that the monitor is now disabled and requires replacement.



For further information:

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SPECIFICATIONS

Transmitter with Sensor: 4-20 mA gas transmitter with advanced microprocessor-based circuitry
Supply Voltage: 10 VDC (min.) to 28 VDC (max.)
Power Supply: H₂S: 50 mA; Combustibles: 100 mA;
Power Consumption: H₂S version: 4mA @ 12 VDC; 35mA @ 24 VDC nominal
(Normal Operation) Combustible version: 50mA @ 12 VDC; 35mA @ 24 VDC nominal
EMI/RFI: Complies with EMC Directive 89/336/EEC
TRANSMISSION RANGE: 1,000 feet / 305 m with 22 AWG / 0.64 mm cable

SENSORS:

Gases Monitored	Sensor Type	Measuring Range	Temperature Range	Cable
Combustibles	Catalytic	0-100% LEL	-40 to +140°F; -40 to +60°C	3-wire
H ₂ S	Electrochemical	0-100 ppm 0-50 ppm 0-20 ppm	-40 to +122°F; -40 to +50°C	2-wire
O ₂	Electrochemical	0-25%v/v 0-30%v/v	-4 to +122°F; -20 to +50°C	2-wire
CO	Electrochemical	0-500 ppm	-4 to +95°F; -20 to +50°C	2-wire
NH ₃	Electrochemical	0-100 ppm	-4 to +104°F; -20 to +40°C	2-wire
SO ₂	Electrochemical	0-100 ppm 0-20 ppm 0-10 ppm	-4 to +122°F; -20 to +50°C	3-wire

Humidity: 5 to 90% non-condensing
Calibration: Factory calibrated. Not required for operational life
Enclosure: IP 65

FULL FUNCTION SELF-TEST: Daily (auto) and each time power is applied (auto)

Verifies:

VISUAL ALARM:

STATUS ADVISE:

Advise Signals	LED Indicator	Current Output*
Normal Operation	ON	4-20 mA
Over Range Alarm	ON	21 mA
Fault: Self-Test Fail	Fast flashes (1 per 0.5 seconds)	2 mA
Life Ending Warning	Slow flashes (1 per 2 seconds)	4-20 mA
Operational Life Ended	OFF	2 mA
Power OFF	OFF	0 mA

*Current Output: Signal to control system (DDC, PLC, etc.)

PHYSICAL:

Rugged polyurethane encapsulated enclosure
Size: 2.65 x 2.3 x 3.25 in. / 6.73 x 5.84 x 8.25 cm
Weight: approx. 6.2 oz. / 175 g

Connector:

Plug-in, military-style, 6-pin connector
Accepts field wiring kit, pigtail assembly or optional BW plug-in remote RRJ sensor cables

OPERATING LIFE:

2 years

Warranty:

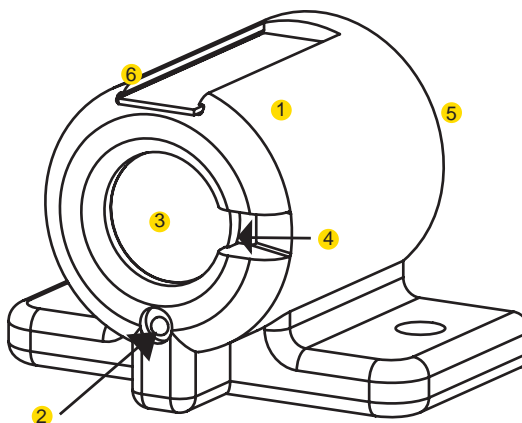
2 years including sensors

DUE TO ONGOING RESEARCH AND PRODUCT IMPROVEMENT, SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

RATINGS AND CERTIFICATIONS:

Approval	Toxics	LEL
Class I, Div. 1, Gr. A, B, C, D*	Class I, Div. 1, Gr. A, B, C, D	
ATEX	CE II 1 G EEx ia IIC T6	CE II 2 G EEx ia d IIC T6
IECEx	Ex ia IIC T6	Ex ia d IIC T6

*intrinsically safe with barrier



- 1 Rugged, encapsulated enclosure with predrilled mounting flanges—only the sensor is exposed
- 2 LED alarm indicator
- 3 Sensor (behind sensor screen)
- 4 Washable, replaceable second sensor screen
- 5 Plug-in field wiring connector
- 6 Magnetic read switch for activating calibration mode

Locally distributed by: