Honeywell 2104B2111 RX SHORT

Complete Product Information

Honeywell 2104B2111 RX SHORT is a Searchline Excel short-range infrared gas receiver for open-path hydrocarbon detection with a matching transmitter, 4–20 mA output and RS485 service communications.

Operating context

The receiver compares infrared sample and reference channels to distinguish gas absorption from common optical attenuation. This architecture measures gas concentration integrated along the beam; a LEL.m value must be interpreted with the installed path and gas calibration rather than as a point-detector percentage.

Power, analog output and service communications enter through separate identified conductors. The receiver operates from 18–32 V DC at its terminals and provides 4–20 mA measurement plus distinct fault, inhibit and optical-status levels. RS485 supports alignment, initialization, diagnostics and functional checks through the SHC1 interrogator.

A heated optical window, stainless-steel enclosure and IP66/IP67 protection support outdoor service when the equipment is installed correctly. Stable supports and an unobstructed beam are essential: commissioning includes optical alignment, electronic optimization and initialization, followed by gas-response and control-system checks.

Key technical relationships

Product family	Searchline Excel open-path infrared gas detector
Receiver order code	2104B2111; standard short-range ATEX receiver
Optical path	5–40 m with matching short-range transmitter
Measuring range	0–5 LEL.m; path-integrated gas measurement
Nominal supply	24 V DC
Receiver terminal voltage	18–32 V DC
Receiver power consumption	8 W maximum

Technical source: Honeywell Searchline Excel Infrared Gas Detectors Technical Handbook, 2104M0506, MAN0530 Issue 12 (10/12). The handbook lists 2104B2111 as the standard short-range ATEX receiver; system performance requires the matching transmitter and commissioned optical path.

02 Technical specification matrix

Gas signal	4–20 mA
Service interface	RS485 for SHC1 handheld interrogator
System response	T90 less than 3 seconds
Operational warm-up	Less than 5 minutes
Full stabilization	Less than 1 hour
Fault output	0 mA
Inhibit output	2 mA
Beam-block output	2.5 mA
Low-signal output	3 mA
Overrange output	21 mA

Enclosure material	316 stainless steel
Ingress protection	IP66 / IP67
Operating temperature	-40 to +65 °C
Storage temperature	-40 to +65 °C
Humidity	0–99% RH, noncondensing
Optical window	Controlled heater
Power and signal wires	Red +24 V; black 0 V; white 4–20 mA
RS485 wires	Orange A; blue B
Protective earth wire	Green/yellow

Interpretation and application

LEL.m expresses gas concentration integrated over the optical path. It does not directly represent a point concentration. Receiver, transmitter, gas calibration and path length must agree with the installed-system record; alignment and initialization precede release.

03 Applications and installation boundaries

Open-path gas monitoring

Monitor a clear line of sight where a hydrocarbon gas cloud may intersect the beam. Select the optical path to suit the site hazard assessment.

Perimeter and process-area coverage

Position stable transmitter and receiver supports around the protected process area, keeping routine access and moving obstructions clear of the beam.

Analog control-system integration

Use the 4–20 mA channel for gas measurement and recognize fault, inhibit, low-signal and beam-block outputs separately from gas alarms.

Installed receiver maintenance

Retain the original path, paired transmitter and gas-calibration record when planning a receiver exchange; repeat alignment and functional acceptance.

Protect the hazardous-area boundary

Do not open the enclosure in an explosive atmosphere. Use approved glands, termination equipment and installation practices for the actual unit certification.

Preserve the optical path

Keep the beam free of permanent or moving obstructions. Mount both ends on stable supports and avoid alignment during heavy rain or fog.

Check terminal voltage

Measure the supply at the receiver under load. Cable voltage drop must leave 18–32 V DC at the terminals, with the required earth connection.

Align and initialize

Use the correct telescope and SHC1 procedure to optimize both optical and electronic alignment. Do not look at the sun through the alignment telescope.

Clean without damaging optics

Use clean water and a soft cloth; avoid solvents and abrasive materials. Apply the approved inhibit procedure and recheck the clear-path zero afterward.

Prove the whole alarm path

Select the correct test filter for the unit configuration. Confirm the receiver output and control-system response before removing maintenance inhibits.

04 Technical questions and operating decisions

What does 2104B2111 RX SHORT measure?

With a matching transmitter, the Searchline Excel system measures hydrocarbon gas integrated along the optical beam over 0–5 LEL.m. This is a path-integrated reading, not a point-detector gas percentage.

What optical distance applies to 2104B2111 RX SHORT?

The short-range arrangement covers 5–40 m with the corresponding short-range transmitter. Confirm the measured installation distance during alignment and initialization.

What voltage must reach 2104B2111 RX SHORT under load?

The receiver requires 18–32 V DC at its terminals, nominally 24 V DC, with a maximum operating consumption of 8 W. Allow for voltage drop in the installed cable.

How does 2104B2111 RX SHORT report a blocked beam?

The normal beam-block output is 2.5 mA, subject to configured timing. If the signal is lost after a gas level above the internal threshold, the detector can hold the previous gas reading instead; assess the actual configuration.

What is the RS485 connection on 2104B2111 RX SHORT used for?

The orange A and blue B conductors provide the service interface for the SHC1 handheld interrogator. The interface supports alignment, commissioning, functional tests and diagnostics.

Why must 2104B2111 RX SHORT be initialized after alignment?

Optical alignment alone does not establish the commissioned state. Complete electronic optimization and the handbook initialization procedure so the receiver accepts the path configuration and valid operating signal.

How long does 2104B2111 RX SHORT take to warm up?

The handbook specifies less than 5 minutes to become operational and less than 1 hour for full stabilization. Plan zero and acceptance checks around the stabilized condition.

How should the optical window of 2104B2111 RX SHORT be cleaned?

Use clean water and a soft cloth, without solvents or abrasives. Control alarm consequences with the approved inhibit procedure, restore a clear gas-free path, and check zero and normal operation before release.

05 Lifecycle, offered unit and technical handover

Lifecycle status

The current manufacturing and support phase of Honeywell 2104B2111 RX SHORT has not been confirmed by an exact-model lifecycle notice. Check the full order identity with Honeywell before planning long-term maintenance. Quoted availability is separate from manufacturer lifecycle status.

Available unit details

Confirm the receiver, mounting hardware, termination accessories and any transmitter separately in the quotation. Condition and configuration are confirmed in the quotation.

Acceptance record

Prove the normal gas channel, required alarms, fault response and maintenance-state indication. Retain the test result and configuration with the unit record; unresolved diagnostic states prevent service release.

Related products

Portfolio navigation only; no compatibility or substitution is implied.

Honeywell C7061F2001	View product
Honeywell 10101/2/1	View product
Honeywell 10208/2/1	View product

Maintenance handover

Window care

Clean the optics with clean water and a soft cloth. Do not use solvents or abrasive materials. Control alarm consequences during cleaning, restore the clear gas-free path, and recheck zero and normal operation.

Service boundary

The detector has no user-serviceable internal parts. Do not dismantle it as a field repair or open it in an explosive atmosphere. Use the manufacturer service process when diagnostics indicate an internal defect.

Replacement record

A receiver replacement requires confirmation of the matching transmitter, gas calibration, certification and modification state. Re-establish alignment and initialization, then repeat functional acceptance before removing the maintenance inhibit.

Discuss the exact offered unit

Send the complete marking, quantity and available label photos for review. Confirm condition and included items in the quotation.

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