



INSTRUMENTS

**AirLink 9100
Signal Strength Meter
Operator's Manual**

Part Number: 71-0544

Revision: P1

Released: 3/31/21

Product Warranty

RKI Instruments, Inc. warrants gas alarm equipment sold by us to be free from defects in materials, workmanship, and performance for a period of one year from date of shipment from RKI Instruments, Inc. Any parts found defective within that period will be repaired or replaced, at our option, free of charge. This warranty does not apply to those items which by their nature are subject to deterioration or consumption in normal service, and which must be cleaned, repaired, or replaced on a routine basis. Examples of such items are:

- a) Absorbent cartridges
- b) Pump diaphragms and valves
- c) Fuses
- d) Batteries
- e) Filter elements

Warranty is voided by abuse including mechanical damage, alteration, rough handling, or repair procedures not in accordance with the operator's manual. This warranty indicates the full extent of our liability, and we are not responsible for removal or replacement costs, local repair costs, transportation costs, or contingent expenses incurred without our prior approval.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESSED OR IMPLIED, AND ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF RKI INSTRUMENTS, INC. INCLUDING BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL RKI INSTRUMENTS, INC. BE LIABLE FOR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL LOSS OR DAMAGE OF ANY KIND CONNECTED WITH THE USE OF ITS PRODUCTS OR FAILURE OF ITS PRODUCTS TO FUNCTION OR OPERATE PROPERLY.

This warranty covers instruments and parts sold to users by authorized distributors, dealers, and representatives as appointed by RKI Instruments, Inc.

We do not assume indemnification for any accident or damage caused by the operation of this gas monitor, and our warranty is limited to the replacement of parts or our complete goods.

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Overview

The AirLink 9100 is a hand held signal strength meter specifically engineered to show the status of any AirLink gas detection device within range.

The AirLink 9100 features a 4-line scrollable display. Using a 4-column layout, the AirLink 9100 indicates the Channel, Reading, Signal Strength, and Time Since Last Message (TSLM) of any AirLink device on site, as well as the Sensor, Gas, and Battery. The AirLink 9100 contains either a 2.4 GHz ISM/100 mW or 900 MHz/200 mW radio, ensuring prompt and accurate communication with other AirLink devices.

This document should be read before initial operation of the product.

Specifications

Operating Power	Two 3.7V lithium-ion rechargeable batteries
Battery Life	16 hours
Fuses	PTC (automatically resetting) type, not user serviceable
Radio	<ul style="list-style-type: none">• 2.4 GHz ISM, 100 mWor• 900 MHz, 200 mW
Enclosure	Black aluminum, powder-coated
Dimensions	4.89" (W) x 4" (H) x 1.19" (D)
Display	4 x 20 character alpha/numeric LCD

Signal Strength Guideline

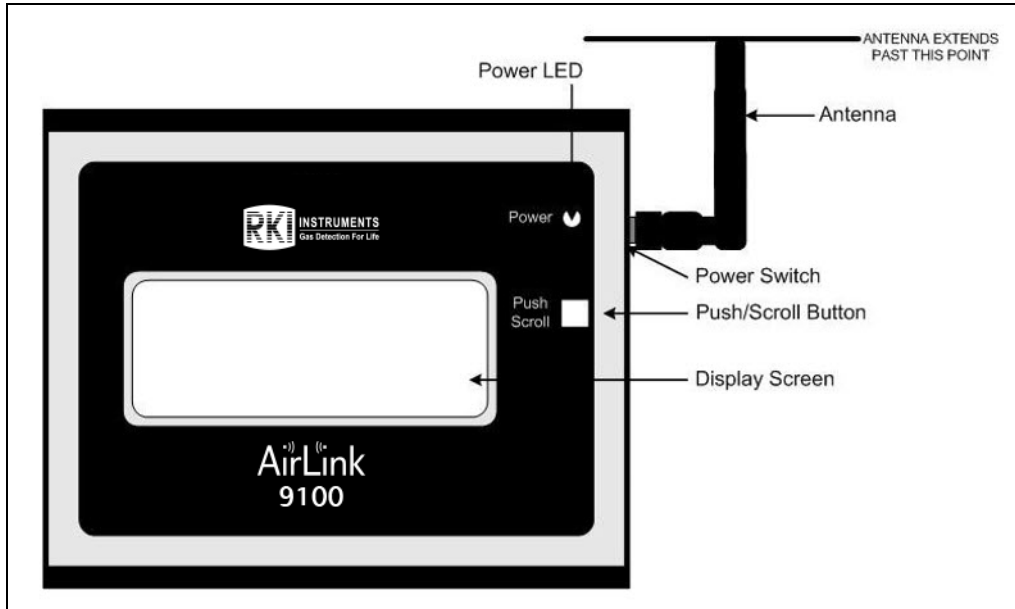
The following guideline's should be used to achieve optimal performance.

- The AirLink 9100 can receive and display a reading as low as 5%, but for proper site setup RKI Instruments recommends a reading of at least 40%. Changing the antenna type or placement at the transmitter (gas sensor) or the receiver may be necessary to achieve this.
- To properly test an monitor's received signal strength that is using a remote antenna, the monitor's antenna cable must be connected to the AirLink 9100 antenna connector (located on the right side of the unit).

NOTE: 40% is an approximate figure. Environmental factors, such as rain or fog, may alter the effectiveness of the unit as this strength.

NOTE: While a sensor assembly with a signal-strength below the minimally needed guideline may not always be seen, it may be seen occasionally.

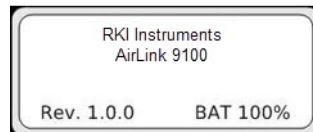
Description



Power On/Off

Power On

1. Locate the Power Switch on the upper right side of the unit's Right Side Panel.
2. Slide the Power Switch up.
3. The boot up information on the Display Screen will show the following for about five seconds.



4. After boot up, the unit is in Normal Operating Mode and appears as shown below.



NOTE: “BAT” indicates the remaining battery power (percentage). When there is approximately 1 hour of battery power left, a “LOW” indicator appears.

Power Off

Powering off the unit shuts down this monitor. When powered off, the unit no longer receives or displays readings from AirLink devices.

1. Slide the Power Switch down.

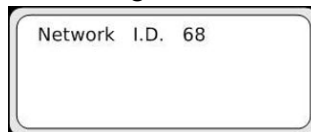
NOTE: Exit all menus before powering off the unit.

Operation Settings

Setting the Network ID

In order to read the status of any AirLink device, the sensor assembly, monitor, and AirLink 9100 must all be set to the same Network ID.

1. Turn the unit off if it is on.
2. Power on the unit.
3. Press and hold *PUSH/SCROLL* during boot up.
4. The display screen shows the following:



NOTE: The actual Network I.D. value displayed on the unit varies depending on what the user has previously selected.

5. Turn *PUSH/SCROLL* several rotations to the left/right to increase/decrease the Network I.D. value.
6. Once the desired Network I.D. value is displayed, press and release *PUSH/SCROLL* to advance to the Controller Type screen.

Setting the Controller Type

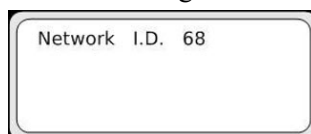
The AirLink 9100 acts as a controller for the detector head(s) it communicates with. In order to establish communication, you must define how the AirLink 9100 is currently being used.

The AirLink 9100 defaults back to **Secondary** each time it is turned off and on. If you need to use the AirLink 9100 as a primary controller, you must adjust this Controller Type setting to **Primary** every time you turn the unit on.

Primary: The AirLink 9100 acts as the primary controller. Used if the detector head is not already communicating with a controller.

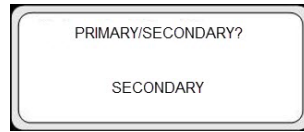
Secondary: The AirLink 9100 acts as a secondary controller. Used if the detector head is already communicating with a controller.

1. If you followed the Network ID instructions above, go to Step 3.
2. If you did not follow the Network ID instructions above:
 - a. Turn the unit off if it is on.
 - b. Power on the unit.
 - c. Press and hold *PUSH/SCROLL* during boot up.
 - d. The display screen shows the following:



- e. Press and release *PUSH/SCROLL* to advance to the Controller Type screen.

- The Controller Type screen appears.

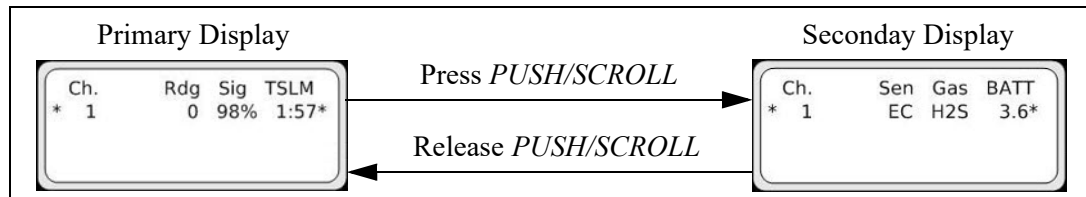


- Turn *PUSH/SCROLL* to display Primary or Secondary.
- Once the desired Controller Type is displayed, press and release *PUSH/SCROLL* to enter Normal Operating Mode.

Normal Operating Mode

The primary display shows a numerically ordered, scrollable list of detected AirLink devices and their Address, Reading, Signal Strength, and Time Since Last Message (TSLM).

The secondary display shows a numerically ordered, scrollable list of detected AirLink devices and their Sensor, Gas, and Battery Voltage.



- Allow up to 6 minutes for an AirLink device to connect.
- If the signal from a displayed AirLink device is not received for 6 minutes, the device is removed from the list.
- While viewing the primary display, twist *PUSH/SCROLL* to scroll through detected devices. Each twist moves the “*” down a line.
- Press *PUSH/SCROLL* to view the secondary display.
- Continue to press and hold *PUSH/SCROLL* and then twist *PUSH/SCROLL* to scroll through detected devices in the secondary display. Each twist moves the “*” down a line.

NOTE: If detector heads are not displaying, confirm that the Network ID is set correctly and that the Controller Type setting is correct (see page 6). Also make sure that there is at least 6 feet of distance between the detector head and the AirLink 9100.

- If you press and hold *PUSH/SCROLL* for too long, “ALARM MODE OFF” appears which means the alarm indications described below are disabled. To enable the alarm indications again, press and hold *PUSH/SCROLL* until “ALARM MODE ON” appears.

Alarm Indication

NOTE: Alarm indications are always enabled at startup but pressing and holding *PUSH/SCROLL* until “ALARM MODE OFF” appears disables the alarm indications. To enable alarm indications without restarting the AirLink 9100, press and hold *PUSH/SCROLL* until “ALARM MODE ON” appears.

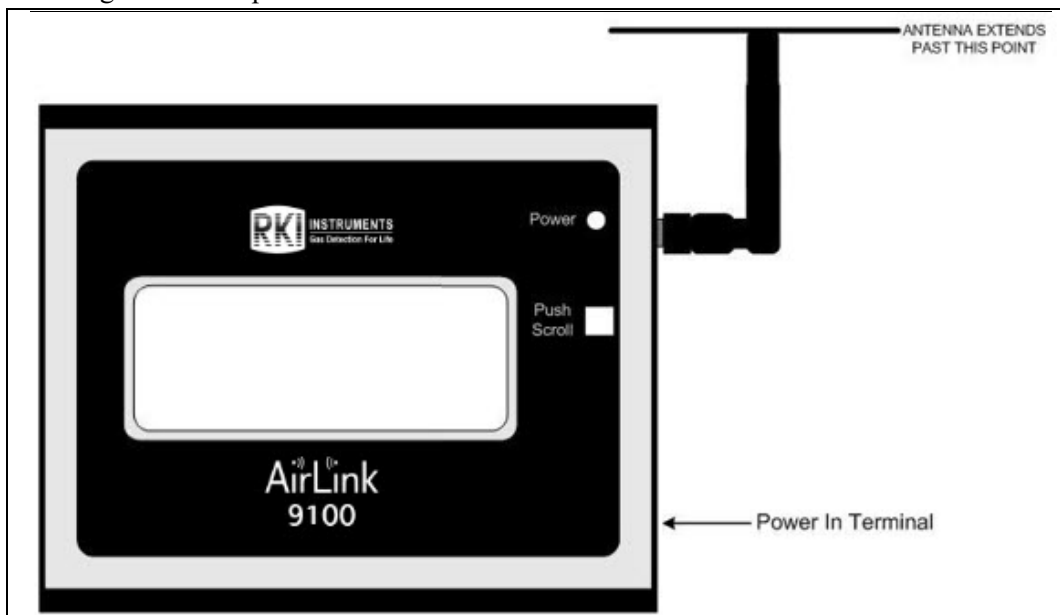
The AirLink 9100 features a red flashing light to indicate that the gas reading for a connected device has risen above the background gas level (set at the sensor assembly).

- The red flashing light activates when two elevated gas level transmissions are sent to the AirLink 9100 within 25 consecutive seconds.
- While the AirLink 9100's red light is flashing, only the channels for sensor assemblies reading elevated gas levels are displayed on the screen.
- If several sensor assemblies are sending reports of elevated gas levels, twist *PUSH/SCROLL* to view the other channels.
- When the gas level drops below the background, the light stops flashing red and the unit returns to Normal Operating Mode.

Recharging the Batteries

Charge the unit before initial operation and between uses.

1. Plug the AC adapter into the Power In Terminal.



2. Plug the other end of the AC adapter into a wall socket.

NOTE: The unit remains “On” during charging.

3. Wait to unplug the unit until the display shows “BAT 100%” when powered Off and then back On.