

Model GD-K88-4X Supplement to the GD-K88AI Operator's Manual

Part Number: 71-0405

Revision: P1

Released: 2/15/17

WARNING

Read and understand this instruction manual before operating instrument. Improper use of the gas monitor could result in bodily harm or death.

Periodic calibration and maintenance of the gas monitor is essential for proper operation and correct readings. Please calibrate and maintain this instrument regularly! Frequency of calibration depends upon the type of use you have and the sensor types. Typical calibration frequencies for most applications are between 3 and 6 months, but can be required more often or less often based on your usage.

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 the 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. Parts must be returned to RKI Instruments, Inc. for repair or replacement. 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) Pump diaphragms and valves | c) Batteries |
| b) Fuses | d) Filter elements |

Warranty is voided by abuse including mechanical damage, alteration, rough handling, or repair procedures not in accordance with instruction 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 only 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. Warranty covers parts and labor performed at RKI Instruments, Inc. only, and does not cover field labor or shipment of parts back to RKI.

Overview

This supplement describes the differences and additional features of the Model GD-K88-4X compared to the GD-K88AI. It also describes how to install, startup, maintain, and calibrate the GD-K88-4X.

Specifications

Table 1 lists specifications for the GD-K88-4X.

Table 1: Specifications

Target Gas & Range	Refer to the RKI Instruments Inc. List of Detectable Gasses
Enclosure Type	NEMA 4X
Sampling Method	Diffusion
Input Power	24 VDC
Signal Output	4 to 20 mA
Response Time	90% in 60 seconds
Accuracy	See GD-K88AI manual

WARNING: *When using the GD-K88-4X, you must follow the instructions and warnings in this manual to assure proper and safe operation of the GD-K88-4X and to minimize the risk of personal injury. Be sure to maintain and periodically calibrate the GD-K88-4X as described in this manual.*

Description

This section describes the components of the GD-K88-4X. It consists of the enclosure and a GD-K88AI.

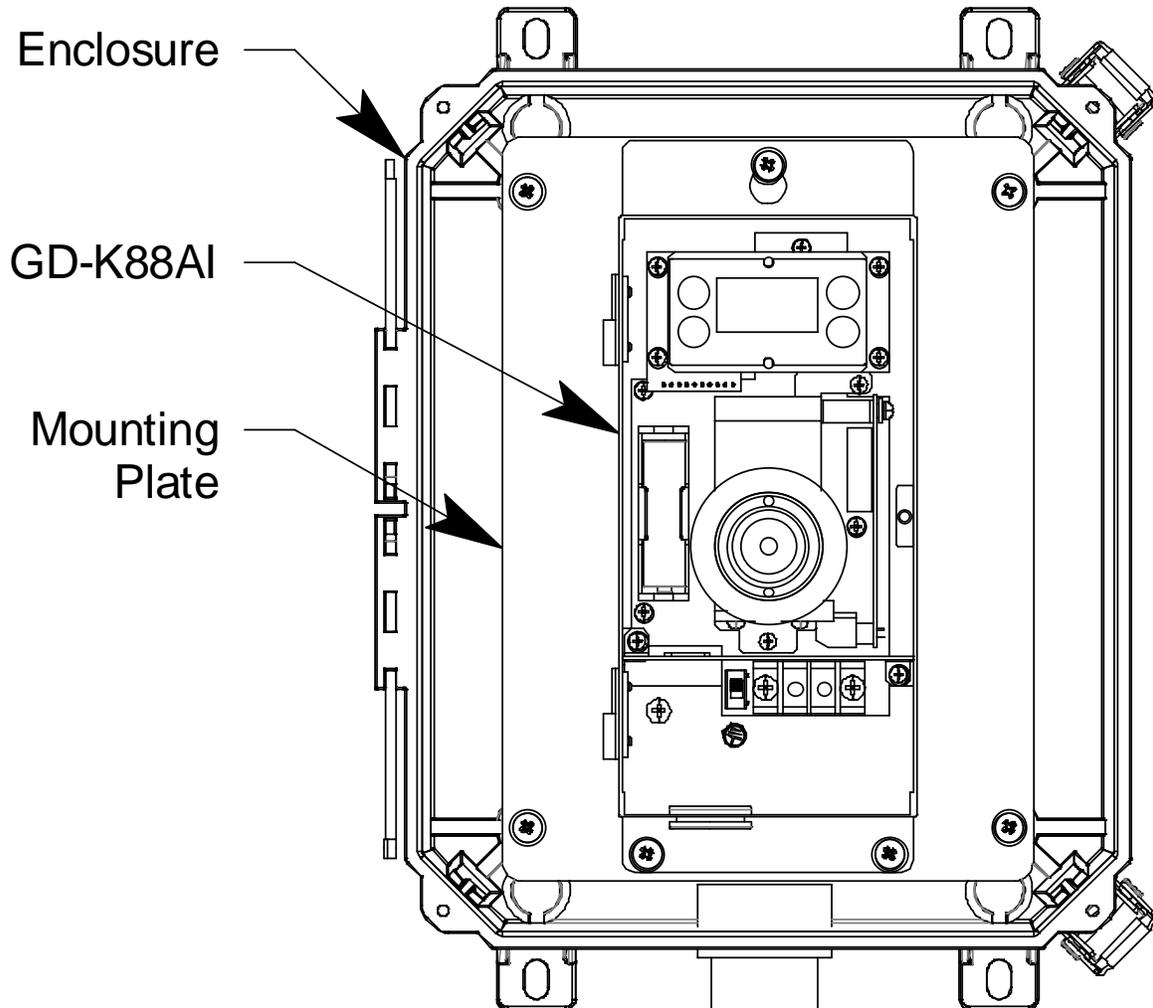


Figure 1: Component Location

Enclosure

The enclosure is a type NEMA 4X plastic enclosure designed for use in areas that are subject to rain or hosing down. A mounting foot is installed in each corner. A hole in the front door allows the sensor to sample the ambient air by diffusion. A rain shield installed over the hole protects the sensor from water. A 3/4" conduit hub is located on the bottom of the enclosure for wire entry.

GD-K88AI

The GD-K88AI smart transmitter is installed on a mounting plate with three standoffs. See the GD-K88AI Operator's Manual for a complete description of the smart transmitter.

Installation

This section describes how to install the GD-K88-4X at the monitoring site.

Mounting the GD-K88-4X

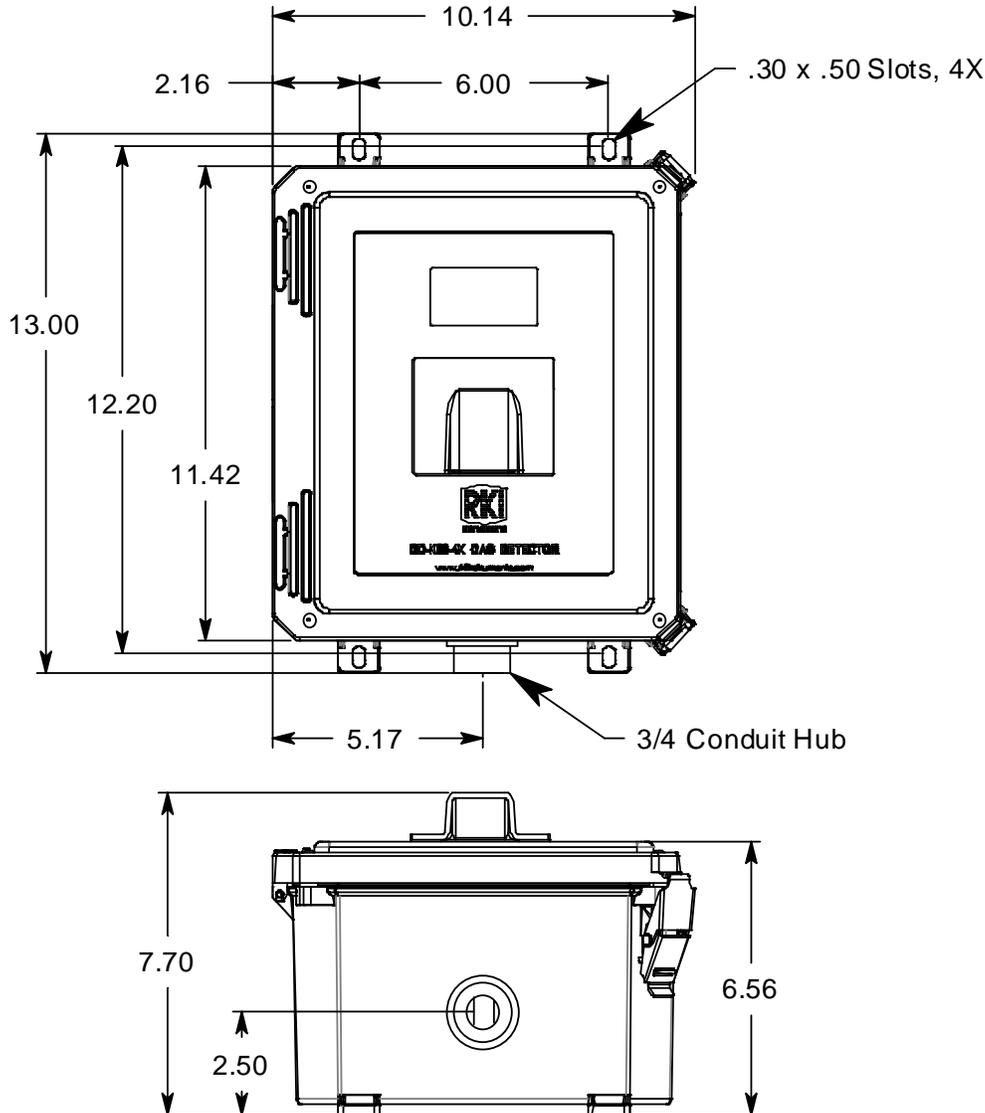


Figure 2: Outline & Mounting Dimensions

1. Select a mounting site that is representative of the monitoring environment. Consider the following when you select the mounting site.
 - Select a site that is easily accessible for servicing.
 - Select a site where the GD-K88-4X is not likely to be bumped or disturbed. Make sure there is sufficient room to make wiring connections at the bottom of the GD-K88-4X. Also make sure there is sufficient room to perform start-up, maintenance, and calibration procedures.
 - Use four 1/4" screws through the mounting feet to mount the GD-K88-4X to a vertical surface. See Figure 2 for the mounting dimensions.

Wiring the GD-K88-4X to a Controller

WARNING: Always verify that power to the GD-K88-4X and to the controller are off and that the controller's power switch is in the off position before making wiring connections or adjustments.

1. Turn off power to the controller.
2. Place the controller's power switch in the OFF position.
3. For installation in a **non-hazardous** location:
 - a. Use shielded cable to connect the GD-K88-4X to the controller. Use the conduit hub on the bottom of the GD-K88-4X to route cable into the enclosure. Connect the cable shield's drain wire to a chassis ground at the GD-K88-4X.

CAUTION: At the controller, do not route power and GD-K88-4X wiring through the same conduit hub. The power cable may disrupt the transmission of the GD-K88-4X's signal to the controller.

- b. See the wiring diagram below for RKI controller connections or see the GD-K88AI Operator's Manual for generic wiring options.

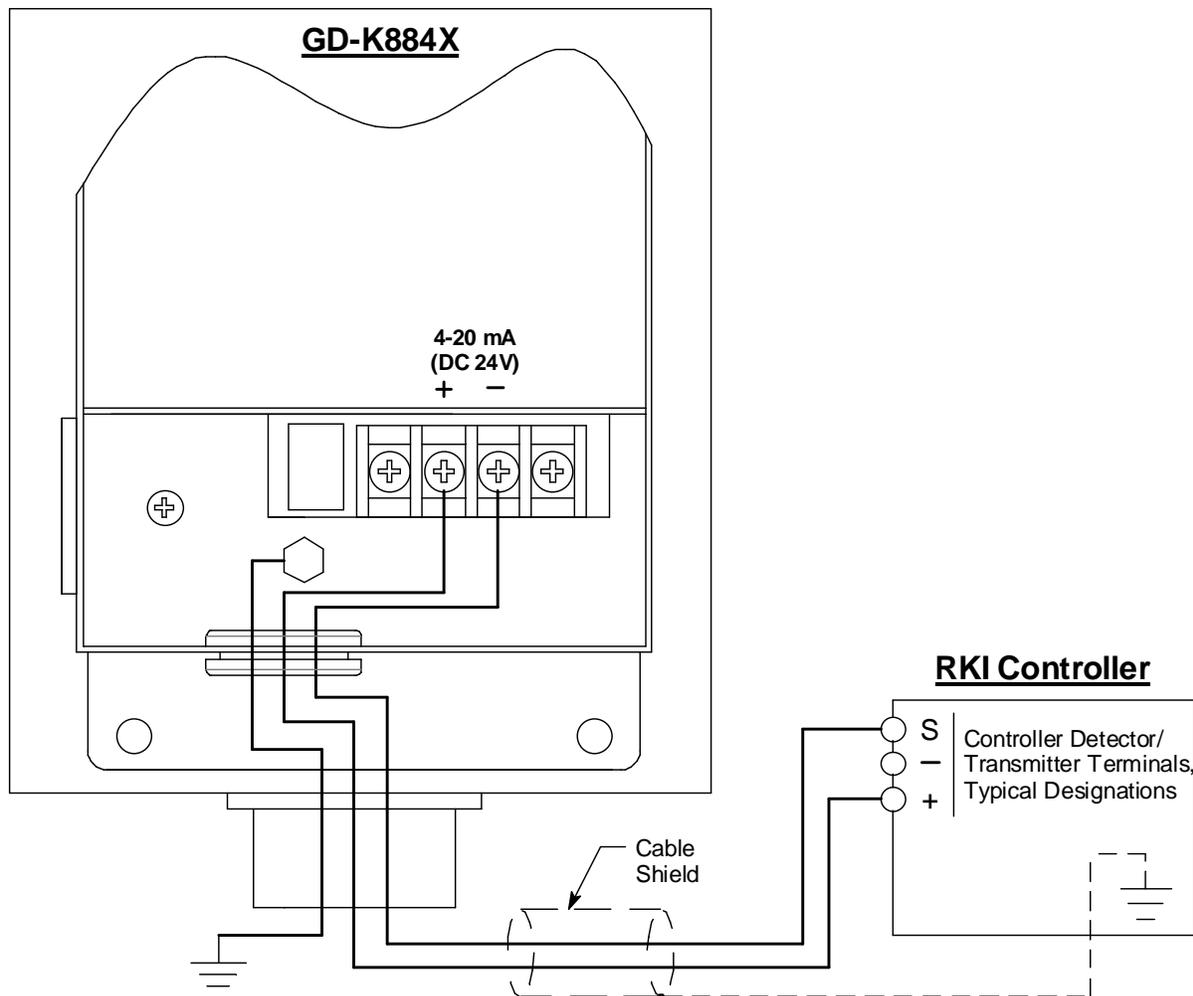


Figure 3: Non-Hazardous Location Wiring

4. For installation in a **hazardous** location, an I.S. barrier must be used and that I.S. barrier must be installed in an enclosure in a non-hazardous location. RKI offers both an I.S. barrier and an enclosure but they are not sold as standard with the GD-K88-4X.
 - a. Use shielded cable to connect the GD-K88-4X to the I.S. barrier. Use the conduit hub on the bottom of the GD-K88-4X to route cable into the enclosure. Connect the shielded cable's drain wire to a chassis ground at the GD-K88-4X.
 - b. Use shielded cable to connect the I.S. barrier to the controller. Connect the shielded cable's drain wire to a chassis ground the controller.

CAUTION: At the controller, do not route power and GD-K88-4X wiring through the same conduit hub. The power cable may disrupt the transmission of the GD-K88-4X's signal to the controller.

- c. See the wiring diagram below for RKI controller and I.S. barrier connections or see the GD-K88AI Operator's Manual for generic connections.

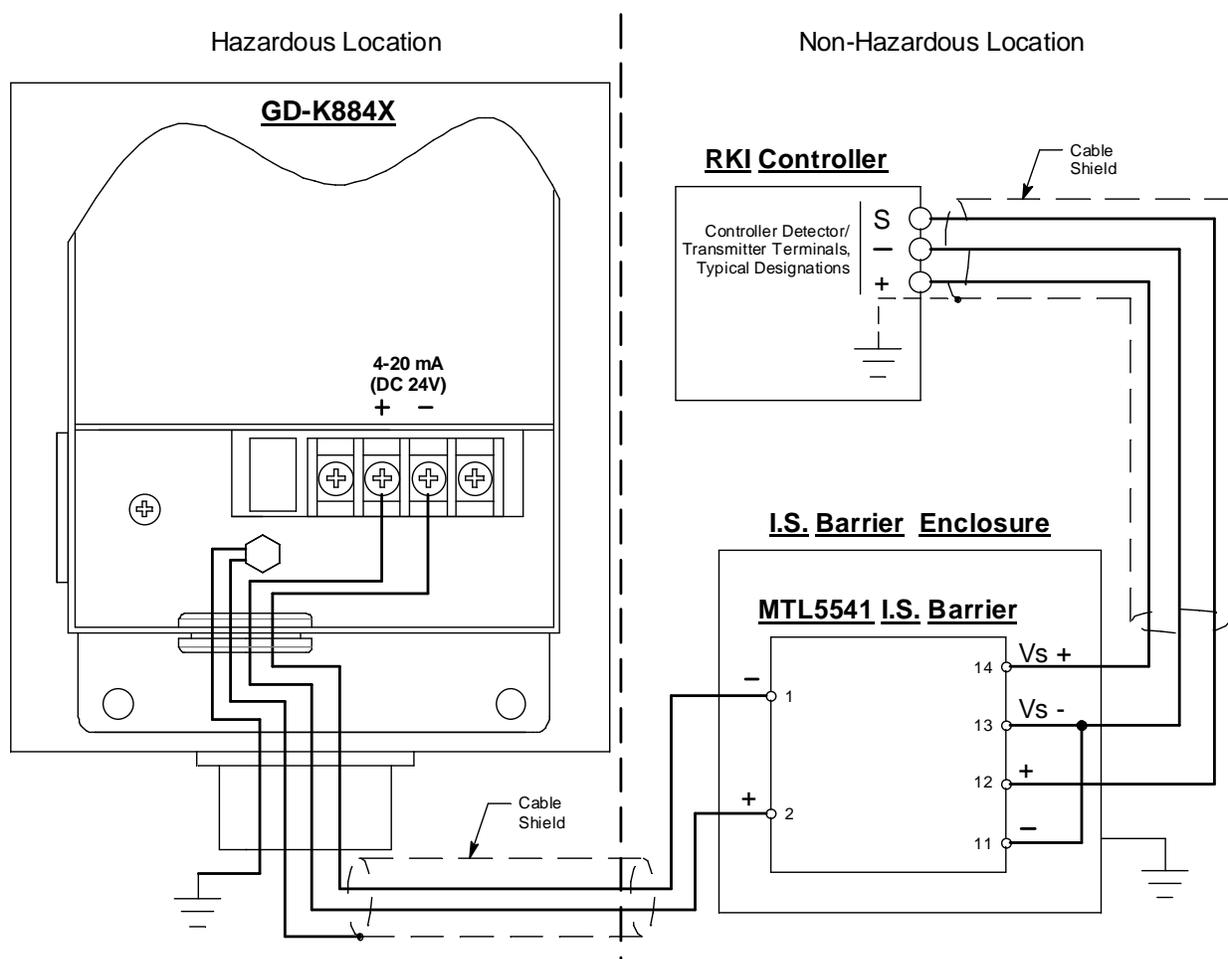


Figure 4: Hazardous Location Wiring with Optional RKI I.S. Barrier

Start Up

See the GD-K88AI Operator's Manual for GD-K88AI startup instructions.

Operation

See the GD-K88AI Operator's Manual for an operational description of the GD-K88AI smart transmitter that is mounted inside the enclosure.

Maintenance/Calibration

See the GD-K88AI Operator's Manual for maintenance and calibration instructions. Open the enclosure door to gain access to the sensor for calibration.

Parts List

Table 2 lists replacement parts and accessories for the GD-K88-4X. See the GD-K88AI Operator's manual for other spare parts.

Table 2: Parts List

Part Number	Description
18-0107RK	3/4" conduit hub
21-0401	Housing for up to 4 MTL5541 IS barriers
21-0402	Housing for up to 10 MTL5541 IS barriers
43-7013	IS barrier, MTL5541