

RLD-134A

Installation and Operating Instructions

Mounting:

RLD-134A is designed to mount on a utility box. Mount to box using screws supplied with box. Leave screw heads out from wall by approximately 1/8". Place RLD-134A on screws and slide down in place.

Holes to connect 1/2" conduit are available in the back and bottom of the enclosure.

Installation:

Remove back cover by removing four screws in the corner of back of the RLD-134A. RLD-134A is designed for 24 Vac or 24 Vdc supply. It is shipped with the power jumper set for 24 Vac. However, if a 24 Vdc supply is to be used, remove the back cover by removing four screws in the corner of the back of the RLD-134A and move the two jumpers on J2 to the "dc pwr" position (24Vdc - see fig. 5). Wire power to the input terminals marked POWER. If using 24Vdc, connect the "+" and "-" terminals to the correct source wires. Connect a remote alarm, either light or horn, to the alarm terminals. Replace back cover and mount on

wall. Insert the sensor into the socket on the front of the RLD-134A (it does not matter which direction the sensor is inserted). Turn power on. Your RLD-134A is ready to detect leaks and save you money.

Operation:

RLD-134A comes preset for R-134A, alarm point set to 500PPM, a 15 minute alarm delay, alarm reset set to latching, and 24 Vac power. If you desire to change any settings, remove the back cover and refer to Fig. 5 for jumper settings.

MAKE SURE POWER IS OFF ANY TIME THE BACK COVER IS REMOVED.

Next, make sure that the Alarm Setpoint is set to the desired alarm level. A typical starting setpoint is 500 PPM. The markings on the alarm setpoint are in hundreds of parts-per-million (PPM).

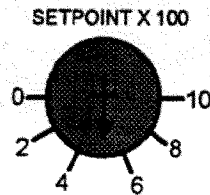


Fig. 2 - Alarm Setpoint (set to 500)

Check to see if J4 is set for the proper alarm delay time. As an example, if J4 is set for 15 minutes and the alarm setpoint set for 500 PPM. The leak must be greater than 500 PPM and last more than 15 minutes at the RLD-134A.

Normally open (NO) or normally closed (NC) outputs are provided for the remote alarm output. When an alarm occurs, the NO output closes. If jumper J5 is set for non-latching, the output will open when the leak goes away. If J5 is set for latching, once an alarm occurs, the reset button must be pressed to turn the alarm off.

Finally, if you have the RLD-134A connected to a monitoring system make sure that the output level from the RLD-134A is correct for the monitoring system being used. Jumper J6 sets the output level. Outputs are available for 4-20 mA, 0-5 Vdc, 0-10 Vdc, and 1-6 Vdc. See Fig. 5 for correct jumper selection.

Once all jumpers and setpoints are set correctly and the RLD-134A has been remounted on the wall, apply power. The unit will take a couple of minutes to warmup. This is indicated by an orange "WARM-UP" LED. If no leaks are present, the "READY" LED will illuminate. When a leak occurs there will be a "WARNING" indication. If the leak is present for a period exceeding the alarm delay time, the "ALARM" LED will turn on and the alarm output relay will

energize. If the unit has been set to latch an alarm (J5), the alarm reset button must be pressed to clear the alarm. This way, maintenance personnel will be able to tell if a leak has occurred.

Connecting an Alarm Output

A remote alarm output may be connected to the dry contact alarm output. To connect a remote horn, buzzer or light, wire as shown in Fig. 3.

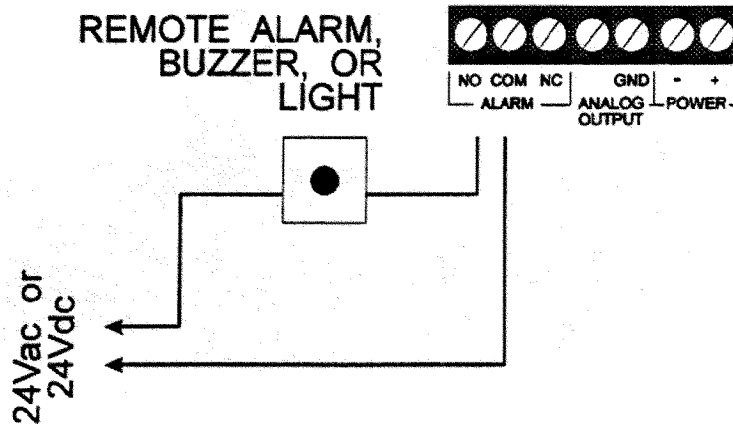


Fig. 3 - Alarm Wiring

Analog Output Voltage Wiring

To connect the RLD-134A to a computerized monitoring system, wire from the terminals marked ANALOG OUTPUT to your monitoring equipment. Several different outputs are available; 4-20 mA, 0-5Vdc, 0-10Vdc, and 1-6Vdc. Select the output level which matches the input of the monitoring equipment used. Check to make sure that the output voltage jumper J6 is set to the desired output. In addition, be sure to observe polarity when wiring to your monitoring equipment.

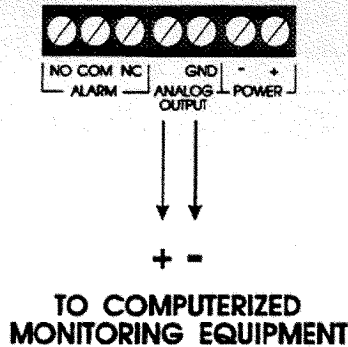


Fig. 4 - Analog Voltage Output Wiring

Sensor Locations

Sensor location will vary with building design, air flow paths and potential leak areas. Mount the unit as low to the floor as possible but no lower than 3 feet. Mount the unit protected from the elements - indoors. If sensors are mounted in areas of air flow, shield them to keep them out of direct flow.

NOTE: Sensor elements can be damaged by liquids. Mount in areas secure from liquids.

Specifications

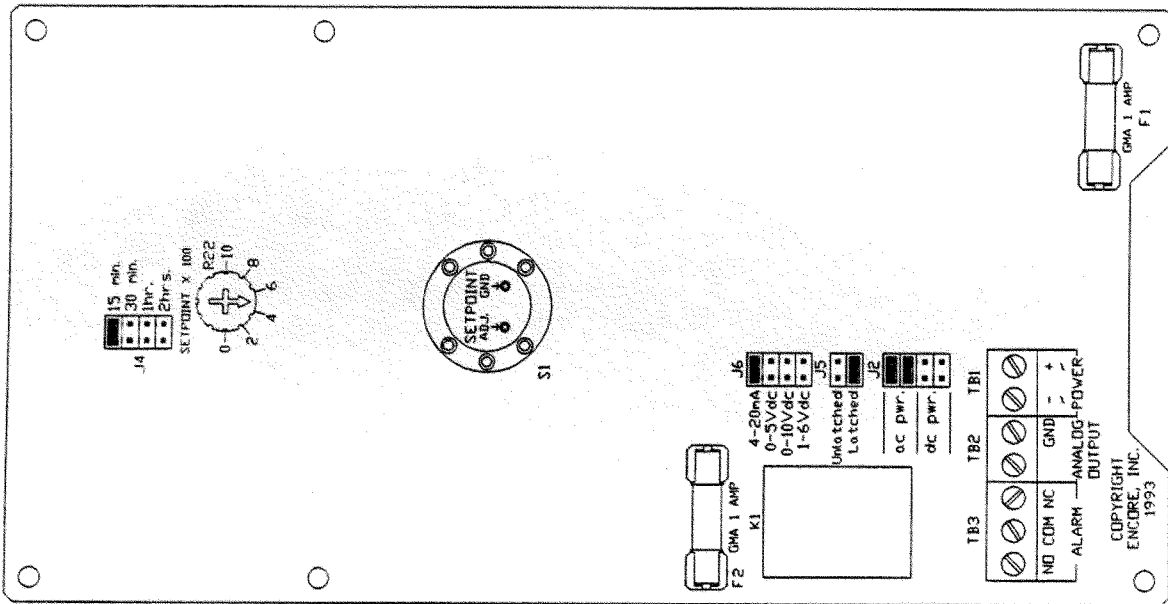
Power Supply 24 Vac or 24 Vdc, (14W).

Alarm Relay Contacts NO/NC - 24Vac/24Vdc, 0.5A Max - pilot duty only.

Analog Output 4-20 mA., 0-5Vdc, 0-10Vdc, or 1-6Vdc
(voltage outputs rated at 10 mA).

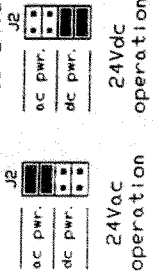
All wiring and connections are field supplied and installed.

All wiring must meet NEC and local codes

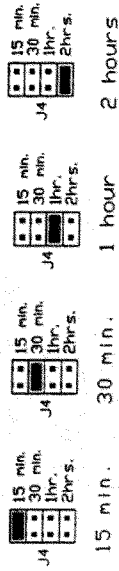


Jumper Settings:

J2: J2 determines 24Vdc or 24Vdc operation.



J4: J4 determines the Alarm Delay Time.



J5: J5 determines the Alarm Reset Option.



Non-Latching Latching, Reset by switch

J6: J6 determines the Analog Output Option.

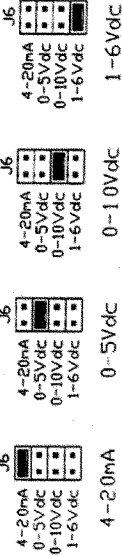


Fig. 5

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RLD-134A Analog Output Calibration Procedure:

Note: This procedure will calibrate the low end of the Analog Output. For example the 4mA of the 4-20A, 0Vdc of the 0-5Vdc, and the 1Vdc of the 1-6 Vdc output scales.

Step 1 Disconnect power to the RLD-134A.

Step 2 Remove the RLD-134A from the wall or where ever it is located.

Step 3 Remove the back cover from the RLD-134A by removing the four corner screws on the back of the cover.

Step 4 Turn the RLD-134A over until the circuit board can be seen and locate the potentiometer as shown in **Figure 1**.

Step 5 Connect power to the RLD-134A and take the necessary precautions to avoid being shocked while performing the rest of the steps in this procedure.

Step 6 Wait for the "WARM-UP" LED to turn off.

Step 7 Measure the Analog Output with a voltmeter or a mili-ammeter (depending on the range selected at jumper J6, i.e. a voltage output or a current output).

NOTE: If the Analog Output range selected is 4-20 mA do Steps 8 and 9.

If the Analog Output range selected is 0-5Vdc or 0-10 Vdc do Steps 10 and 11.

If the Analog Output range selected is 1-6 Vdc do Steps 12 and 13.

4mA Adjust:

Step 8 Turn the potentiometer fully clockwise making sure not to force the potentiometer.

Step 9 Slowly turn the Analog Output Calibration Potentiometer shown in **Figure 1** counter-clockwise until the Analog Output reads 4.0mA. Now continue to Step 14.

0-5Vdc and 0-10Vdc Adjust:

Step 10 Turn the potentiometer fully clockwise making sure not to force the potentiometer.

Step 11 Slowly turn the potentiometer counter-clockwise to desired output level.

Note: There will be a point about midway where the Analog Output reading will not change anymore. This point indicates that the output will not go any lower and that the potentiometer should not be turned beyond this point. Look at the potentiometer to see about where this point is and repeat Steps 10 and 11. Now continue to Step 14.

Page Two:

1-6Vdc Adjust:

Step 12 Turn the potentiometer fully counter-clockwise making sure not to force the potentiometer.

Step 13 Slowly turn the potentiometer clockwise to the desired output level.

NOTE: There will be a point about midway where the Analog output reading will not change anymore. This point indicates that the output will not go any lower and that the potentiometer should not be turned beyond this point. Look at the potentiometer to see about where this point is and repeat Steps 12 and 13. Now continue to Step 14.

Step 14 Disconnect power to the RLD-134A.

Step 15 Replace the back cover of the RLD-134A and remount the unit.

Step 16 Connect power to the RLD-134A.

RLD-134A Sensor Replacement and Field Calibration Procedure:

- Step 1** Disconnect power to the RLD-134A.
- Step 2** Remove the sensor on the front of the RLD-134A by pulling the sensor from its socket.
- Step 3** Insert the new sensor into the empty socket (it does not matter which direction the sensor is inserted).
- Step 4** Connect power to the RLD-134A.
- Step 5** Wait for the "WARM-UP" LED to go out.
- Step 6** With a small screwdriver turn the calibration potentiometer labeled "CAL" on the front of the RLD-134A fully clockwise (making sure not to force the potentiometer). The green "READY" LED should now be off.
- Step 7** Slowly turn the potentiometer counter-clockwise until the green "READY" LED turns on.
- Step 8** For best results, repeat Steps 7 and 8 approximately 30 minutes later to allow the sensor a little more time to warm up.

NOTE: The Analog Output may need to be recalibrated anytime the sensor is changed. If so, refer to the "RLD-134A Analog and Output Calibration Procedure".

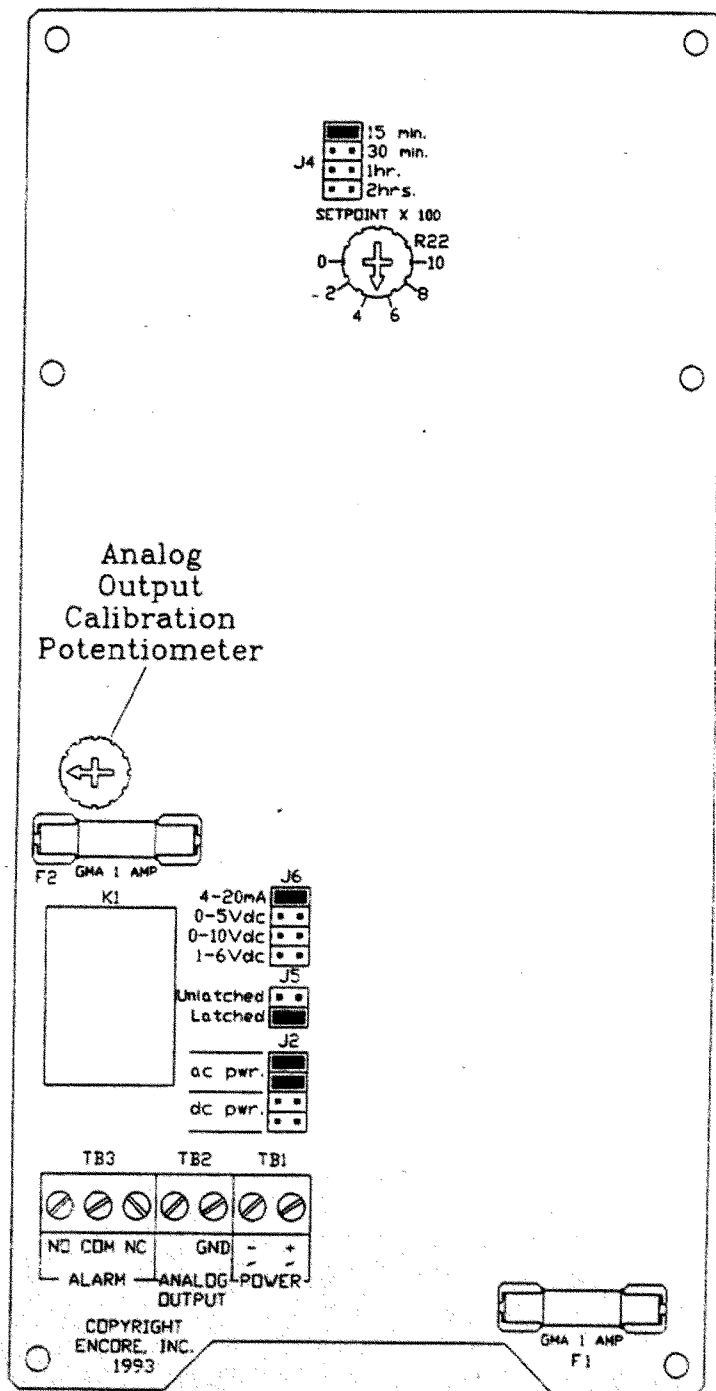


Figure 1