



OEM Manual

4042SA™ LEAK DETECTING SPILL ALARM INSTRUCTION MANUAL

These instructions generally describe the installation, operation, and maintenance of, subject equipment. The manufacturer reserves the right to make engineering refinements that have not been described herein. Should any questions arise that may not be answered specifically by these instructions, they should be directed to Scaleton Industries Ltd., or our Sales Agent for a response.

All possible precautions were taken in packaging each piece of equipment to prevent shipping damage. *Carefully inspect each item and report damages immediately. Report damage claims to shipping agent involved for equipment shipped F.O.B. job site. Do not install any damaged equipment!*

All instructions given on any labels, or attached tags, should be followed. Carefully inspect all packing material before discarding, to prevent the loss of accessories, mounting hardware, spare parts, or instructions.

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I. GENERAL DESCRIPTION:

The Scaleton Industries Ltd. Leak Detector™ is a system that can be integrated with our scale indicators using the 12 VDC, or the 5 VDC to power the circuit, or they can be powered externally by either voltage, as specified at the time of order. The leak detector has a normally open or normally closed connection available for operating a light (optional). At the time of order, customer will specify the voltage required for the circuit, either 5 or 12 VDC. The leak detection module is placed in the spill containment basin so that it can detect when a leak has occurred and spilled contents are accumulating. Upon liquid contact, a relay will close and if a light is used, it will be activated, or if there is a connection to a PLC system, an alert can be programmed to show a leak has occurred. The module may be placed at varying height inside the basin if the user wants to allow for some contents in the basin before alert, however, care should be taken that it is not placed so high that the bladder (if ordered) is deployed and the alarm is deactivated. The standard placement of the module is with the sensor dome, face down.

II. SPECIFICATIONS:

PART NUMBER SYSTEM:

(a) (b)

LD - ____ - ____

(a)

I = Indicator powered

Blank = Customer supplied power

(b) 5DC = 5 Volts DC powered

12DC = 12 Volts DC powered

Power Ratings:

LD - I - 5VDC and LD - 5VDC:

Powered by 5 VDC Supplied by our indicator (I) or by the customer's equipment (blank).

Voltage: 5 Volts DC supplied

Contact Ratings: 5 Amps @ 250 VAC; 5 Amps @ 30 VDC

Coil Rating: 125 Ohm

LD - I - 12VDC and LD - 12VDC

Powered by 12 VDC Supplied by our indicator (I) or by the customer's equipment (blank)

Voltage: 12 Volts DC supplied

Contact Ratings: 5 Amps @ 250 VAC, 5 Amps @ 30 VDC

Coil Rating: 720 Ohm

Please note: When controlling equipment (especially AC Voltage), the routing of wires inside the indicator box may cause interference with the electronics. Proper shielding and routing of wires is imperative to proper operation!

Wire length: from module to connection at indicator, 20 feet unless otherwise specified at the time of order.

Option: Light available for connection to system.

III. ASSEMBLY AND START-UP:

1. Unpack contents and check all equipment for any damage. Any damage that has occurred in shipping needs to be reported to the carrier immediately.
2. Make connections for base to indicator, and apply power to equipment. Confirm that unit is properly operating.
3. If using our base and indicator equipment, be sure to read and properly install the base unit and indicator in the proper fashion.
4. Position the sensor in the containment basin. You will need to place the module, with the detection dome facing down, in the bottom of the base. To do this,

remove the cover grate of the basin, and place the detector module in the basin. Feed the wire through the grate in a safe location where it will not be cut or placed under the tank itself. Run the detector wire to the indicator or power supply location.

5. Unplug power to unit and begin wiring necessary connections to the Terminal Block as shown in drawing in manual. It is imperative that you confirm the accuracy of the connections before applying power.
6. Do not modify the factory connections. This unit has been fully tested for functionality before shipment.
7. A strain relief and nut have been supplied to seal the wire entry into the indicator. Carefully drill a hole to mount the strain relief in the indicator and apply the nut. Firmly tighten the nut and snug the strain relief cap to seal the connection to keep gasses and liquids from entering the indicator.
8. If you are using an LD – 5DC, or an LD – 12DC, you will have a remote box with the terminal block, and will not be using a connection in the indicator. The box will come with the similar strain relief fitting and will require you to run wires into the box to supply power. Again, you will need to seal up any entry into the box.
9. Please take the time to double check the electrical connections. Make sure there are no wires touching another or touching the electronics inside of the indicator. On two positions, it will be necessary to have two wires in each position of the terminal block. Be sure both remain properly secured to the terminal block as you add your wiring. This sensor will activate the relay when liquid makes contact with the detection module dome. If you do not wish the unit to respond as quickly, you may place the block on top of something to elevate it and have the unit detect liquid at a higher level. Just be sure that you are aware that the bladder may deploy and drop the fluid level below the detector if it is not mounted at the bottom of the basin.
10. If you wish to test the functionality of the unit, simply touch the dome of the sensor to water. If you detect the contact closure, then the unit is functioning properly. You may connect a meter across the N.O. or N.C. connections to check for relay action.

IV. GENERAL USE & START-UP:

Unit will act and reset as liquid makes contact with, or is removed from the detection dome. There are no specific general use instructions. If circuit is actuated, then removal of the liquid present will stop the activity in the circuit. If you must remove wire connections, please remember to disconnect power to the indicator, or power from your source before doing so.

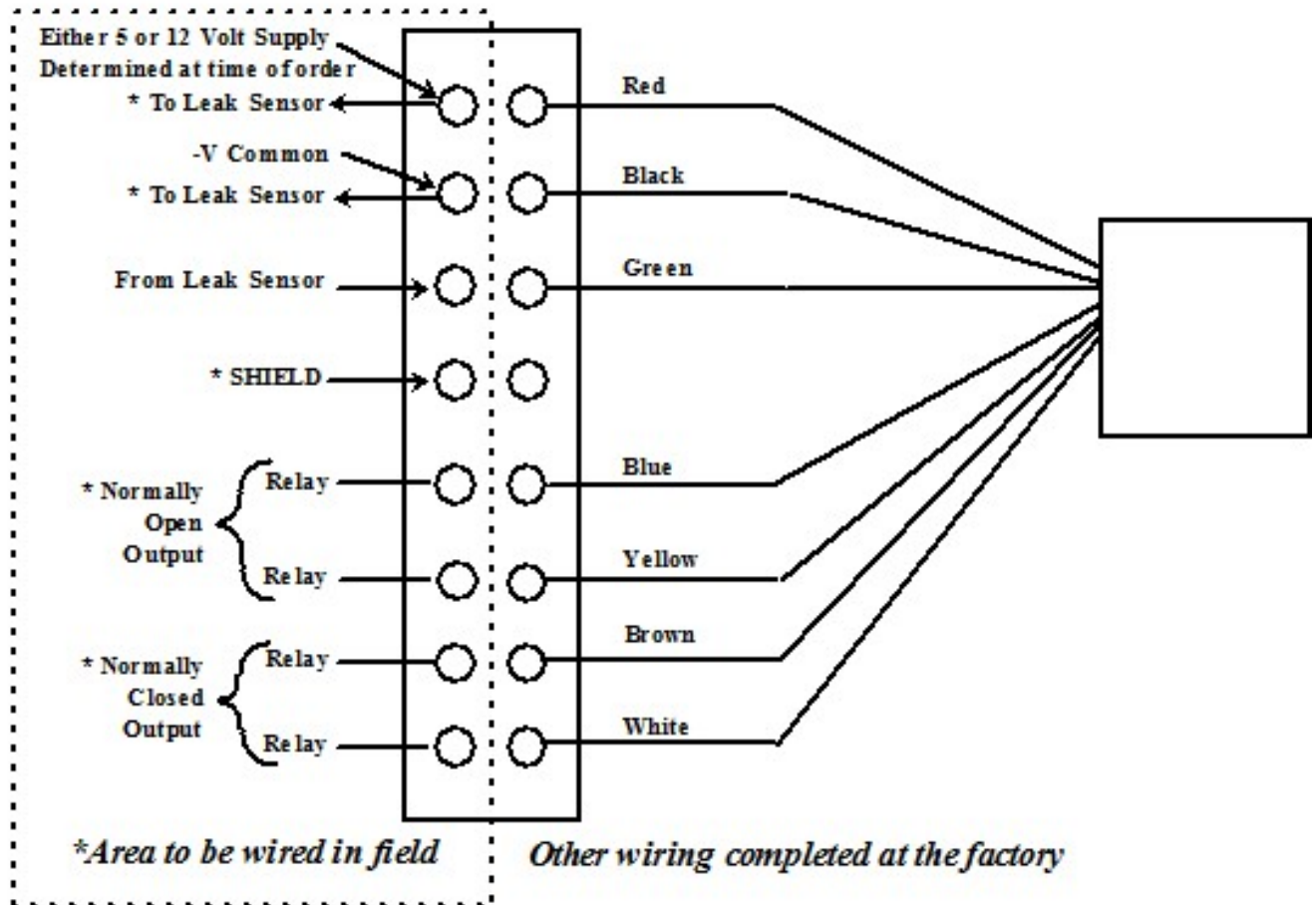
V. TROUBLESHOOTING:

1. If the unit will not actuate, make sure that your connections from the terminal block are correct.
2. Make sure that you have chosen Normally Open, or Normally Closed as needed.
3. Check that power is being delivered to the circuit. Measure the VDC being supplied to be sure it is receiving the proper voltage.

4. Check all wires to be sure no damage has been caused to the wiring.
5. Check that there are no loose connections at the terminal block.
6. If needed, remove the detector unit from the base and check the detection dome:
 - a. Make sure there is liquid actually making contact with the unit.
 - b. Make sure there is no damage to the detection dome.
7. If a leak has occurred, and damage has occurred to the unit's detection module, replacement is recommended.

If problems persist, **PLEASE CALL THE FACTORY!** If in the U.S.A., call: 1 (800) 257-5911. Outside of the U.S.A. (215) 766-2670.

TERMINAL BLOCK FOR INTERCONNECTIONS ON CABLE FROM SENSOR



IF ORDERED WITH INDICATOR TO SUPPLY POWER:

For Model 1020™ & 1099™, 5 Volt Supply lines are already in connector, as the red (+5 Volt) and Black (Common) lines that are soldered at power supply. Do not attempt to modify!

For 3 1/2 Digit Indicators: 12 Volt Supply lines are already in connector, as the red (+12 Volt) and Black (Common) lines that are soldered at power supply. Do not attempt to modify!