Operating Manual

LDM150

Refrigerant Monitor

English · Español · Deutsch · Français · Svenska · Italiano · 中文

LDM150

LDM150

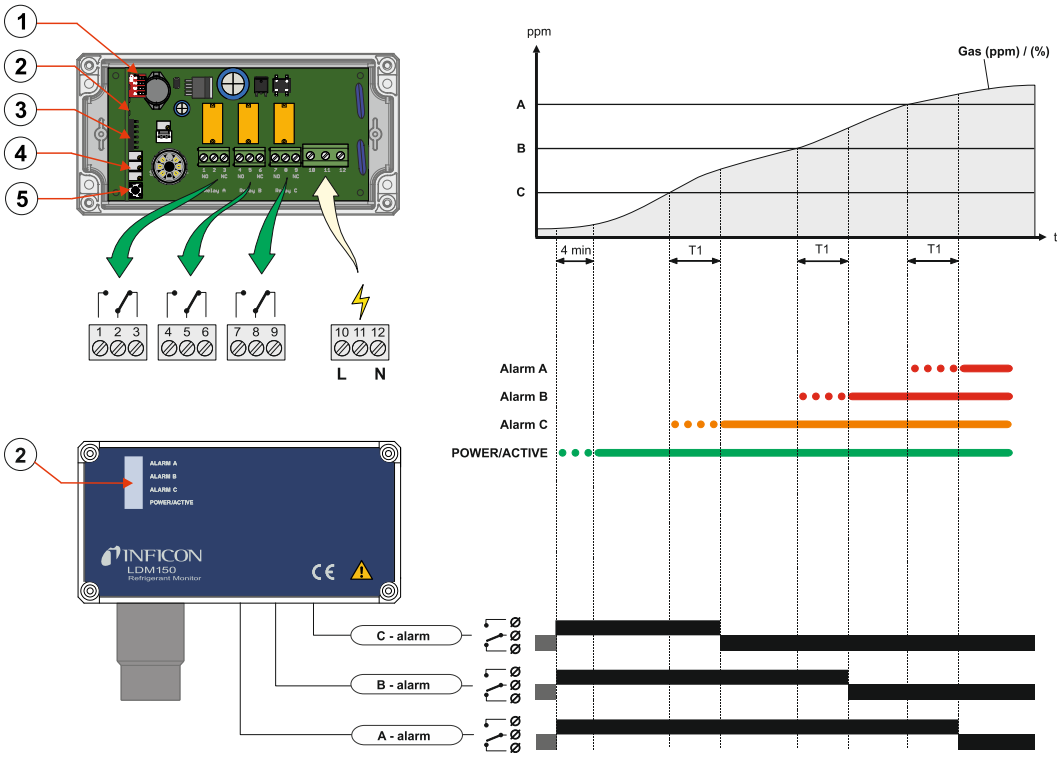

Fig. 1

LDM150

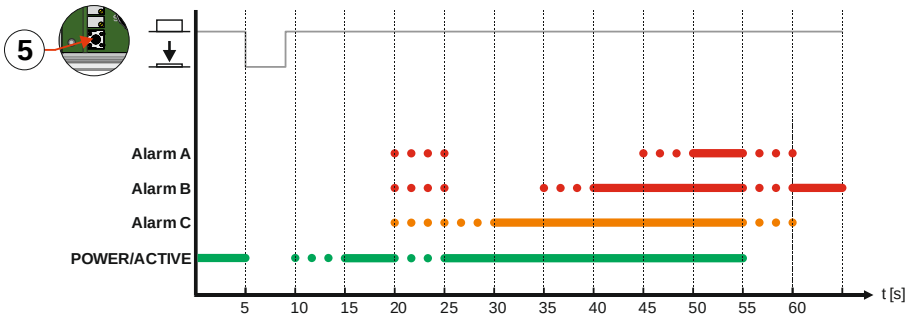

Fig. 2

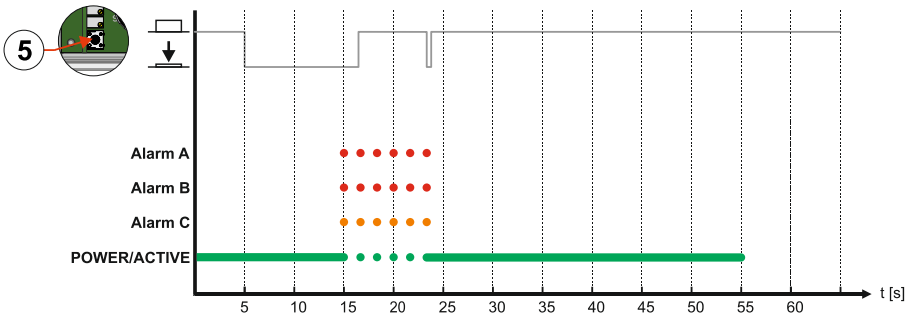

Fig. 3

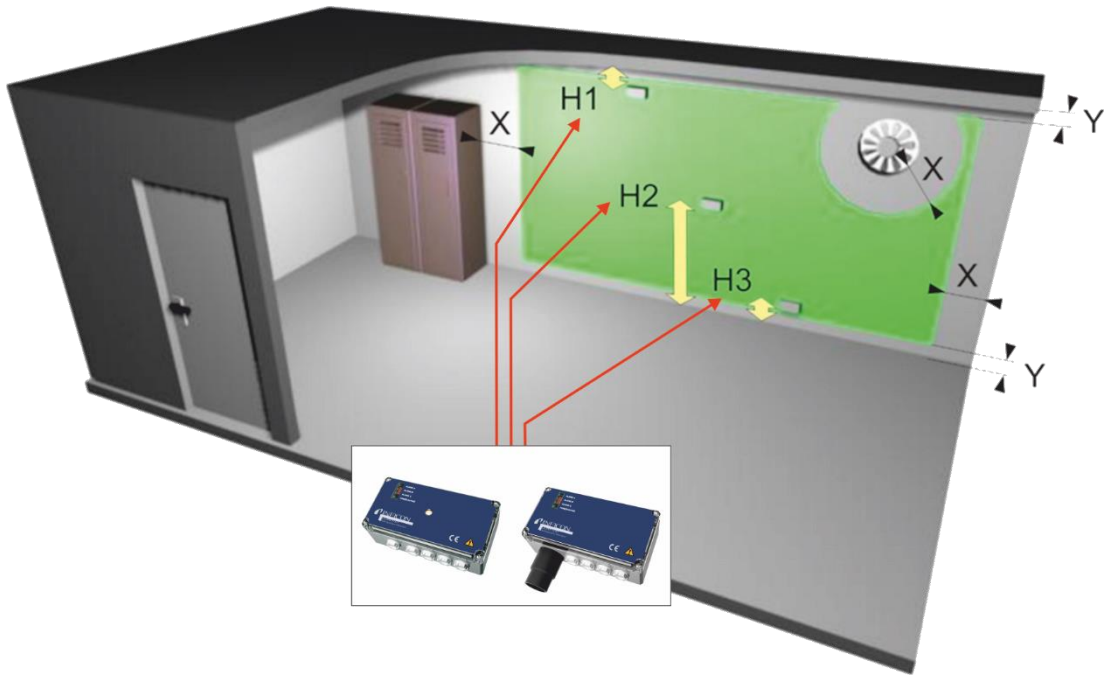

Fig. 4

Ammonia (NH_3) Amoniaco (NH_3) Ammoniak (NH_3) Ammoniac (NH_3) Ammoniak (NH_3) Ammoniaca (NH_3) 氨(NH_3)	H1 = 20 cm	X = 50 cm	Y = 20 cm
HFC, HFO, HCFC HFC, HFO, HCFC HFKW/HFO/H-FCKW HFC, HFO, HCFC HFC, HFO, HCFC	H3 = 20 cm	X = 50 cm	Y = 20 cm
Carbon Dioxide (CO_2) Dióxido de carbono (CO_2) Kohlendioxid (CO_2) Le dioxyde de carbone (CO_2) Koldioxid (CO_2) Anidride carbonica (CO_2) 二氧化碳(CO_2)	H2 = 150 cm	X = 50 cm	Y = 20 cm

LDM150

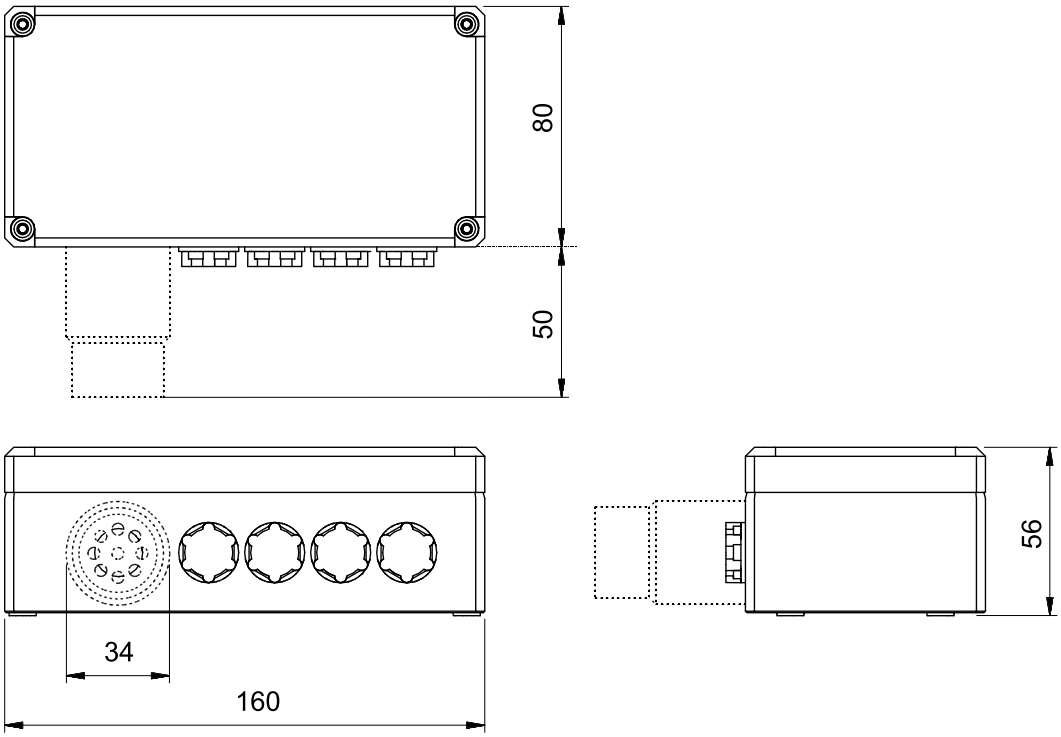

Fig. 5 [mm]

LDM150

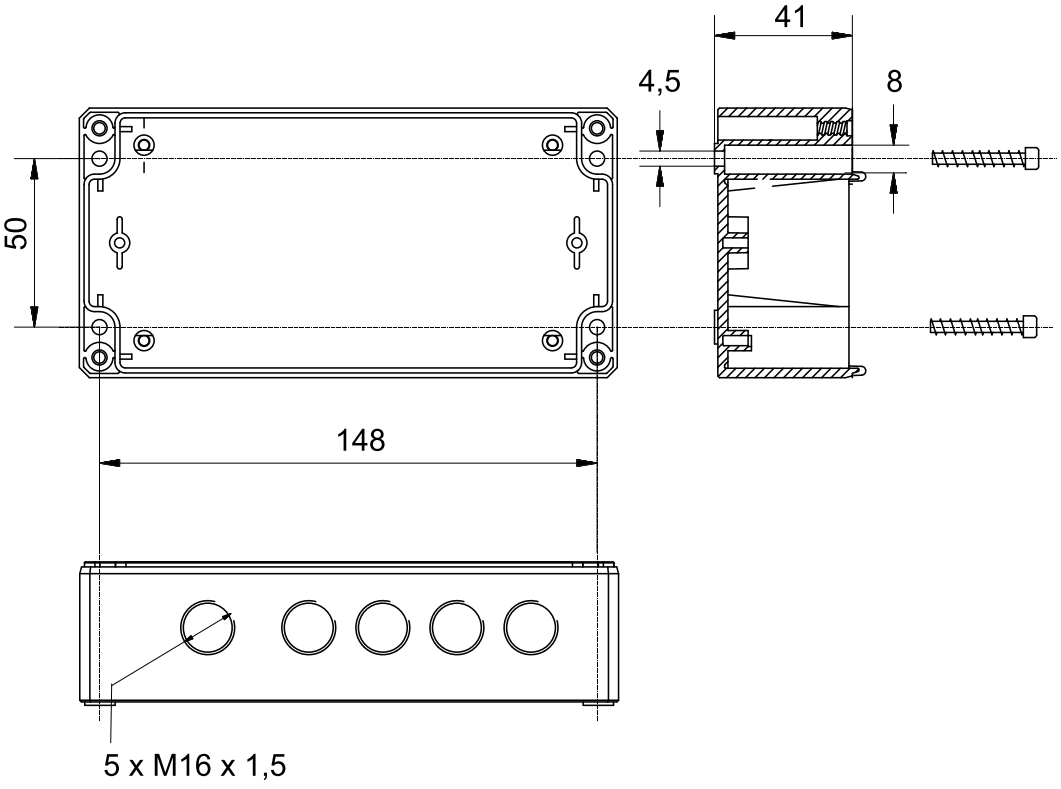

Fig. 6 [mm]

English

LDM150 Operating Manual

1. Table of Contents

English

English

2. Declaration Of Conformity

INFICON

CE

EU DECLARATION OF CONFORMITY

This declaration is issued under the sole responsibility of the manufacturer INFICON. The object of the declaration is to certify that this equipment, designed and manufactured by INFICON, is in conformity with the relevant Community harmonization legislation. It has been constructed in accordance with good engineering practice in safety matters in force in the Community and does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was made.

Equipment Description: LDM150 and LDM150R

Model Number: 743-XXX-XXX (Applicable to all Group numbers)

Applicable Directives: EMC Directive 2014/30/EU
Low Voltage Directive 2014/35/EU
RoHS Directive 2011/65/EU

Applicable Standards:

EMC Directive 2014/30/EU:
Standards applied:
EN 61326-1:2012 (Use in the Industrial environments)

Low Voltage Directive 2014/35/EU:
Standards applied:
EN 61010-1:2010

Hazardous Substances Directive 2011/65/EU:
Standards applied:
EN 50581-2013

CE Implementation Date: 2020-01-15

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ANY QUESTIONS RELATIVE TO THIS DECLARATION OR TO THE SAFETY OF INFICON'S PRODUCTS SHOULD BE DIRECTED, IN WRITING, TO THE AUTHORIZED REPRESENTATIVE AT THE ABOVE ADDRESS.

English

3. Cautions and Warnings

⚠ WARNING

The unit must only be opened by authorized personnel!

No matter if power supply is removed the unit can still have external high voltage over the volt free contacts.

4. Alarm Levels, Factory Settings

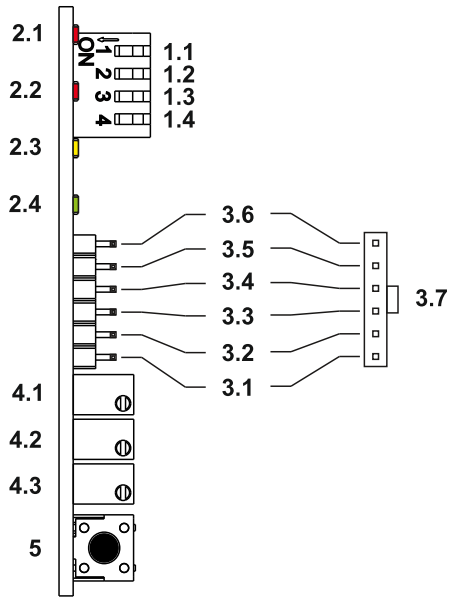
Ammonia (NH_3) 0-4000 ppm	C=150 ppm	B=500 ppm	A=3000 ppm
HFC, HFO, HCFC 0-4000 ppm	C=100 ppm	B=1000 ppm	A=2000 ppm
Carbon Dioxide (CO_2) 0-10000 ppm	C=2000 ppm	B=5000 ppm	A=8000 ppm

5. Function

When power supply is switched on, a green LED will flash to indicate power ”ON”. This will also start the heating process of the sensor. After approximately 4 minutes the green LED will light and indicate ”Sensor Active”.

The detector has one yellow and two red LEDs. The yellow LED indicates low gas concentration (Alarm C) and the red LEDs indicate medium gas concentration (Alarm B) and high gas concentration (Alarm A).

When gas is detected the LEDs (2 - Fig. 1) will light and the relay corresponding to the alarm level will change state. If alarm delay is chosen (see below) the respective LED will flash, and it will light (and the relay will change state) when the chosen delay time is exceeded.



1.1: n 1 - Delay
1.2: n 2 - Delay
1.3: n 3 - Alarm reset: ON=Auto, OFF=Manual
1.4: n 4 - Not used
2.1: LED A
2.2: LED B
2.3: LED C
2.4: Power
3.1: GV Offset
3.2: +5 VDC
3.3: (-)
3.4: ALARM C
3.5: ALARM B
3.6: ALARM A
3.7: Test terminal
4.1: A adjustment
4.2: B adjustment
4.3: C adjustment
5: Reset/Test/Service

English

English

6. Service Function

Pressing the ”Reset/Test/Service” button (5 - Fig. 1) for 10 seconds will disengage all alarm functions for 60 minutes. During this period, it is always possible to start a new 60-minutes period by pressing the button for 10 seconds again. Return to active status happens automatically at the end of the 60-minutes period or may be done manually by a single press on the “Reset/Test/Service”-button. When the service function is activated all LED’s will flash and all relays will be in normal mode position.
See Fig. 3

7. Installation/Positioning

The general rule is that the detector should be placed as close to the potential leak as possible, and at the same time consider the gas density and any air movements in the room. The detector must also be positioned in such a way that it is easily accessible for service. See Fig. 4 for suggestions on suitable placement.

8. Calibration, Alarm Setting

The detectors are delivered for a specific gas type and other calibrations are normally not necessary. The detector is named with the required gas type being detected. It is, however, very easy to change the thresholds by using MCT150 Monitor Calibration Tool.
MCT150 Monitor Calibration Tool is connected to the test terminal. (3 - Fig. 1)

9. Annual Function Control

Testing the system is recommended to be done at least once a year. A basic function test can be made using the MCT150 Monitor Calibration Tool.

English

10. Automatic/Manual Alarm Reset

Is managed by DIP switch (1 - Fig. 1) nº 3 where “ON” means automatic reset and “OFF” means manual reset by pressing the “Reset/Test/Service” button (5 - Fig. 1 - located under the cover).

11. Alarm Time Delay (T1)

Is managed by DIP-switches (1 - Fig. 1) nº1 and nº2:

nº 1	nº 2	Alarm delay
ON	ON	No alarm delay
OFF	ON	(1) minutes alarm delay
ON	OFF	(10) minutes alarm delay
OFF	OFF	(30) minutes alarm delay

12. Self-Test Function

Press the “Reset/Test/Service” button (5 - Fig. 1) for 5 seconds and the test program will start and go through all LED functions and all relay functions in five seconds intervals. See Fig. 2.

13. Fault Function

If there is a voltage drop (GV-value below 0,1V) from the sensor there is a fault situation. During the first four hours the green LED will be deactivated, and the other LED's will flash. Alarm relay C will change state. After four hours the LED "Alarm B" will light (other LED's will be deactivated) and relay "Alarm B" will also change state.

14. Fail Safe

Relays are in normal mode energized and will change state if power failure or if a fault situation occurs.

15. Technical Data

Housing HFC & NH3:	Polycarbonate, (PC) IP54
Power consumption:	Max 2W
Housing CO2:	Polycarbonate, (PC) IP67
Power consumption:	Max 3W
Power supply:	LDM150: 12-24V AC/DC LDM150,HFC/NH3, High Voltage: 230V AC, 50/60 Hz LDM150, CO2, High Voltage: 85-230V AC, 50/60 Hz
Indications:	Power/Active and alarm indication on three levels.
Outputs relay:	Potential free contacts (230V, max 5A) .
Ambient temp:	-40 °C - + 50 C (Automatic temperature compensation)
Humidity:	0-95% RH (non-condensing)
Glands:	4 of M16 membrane glands
Screw terminals:	< 1,5 mm2, fuse < 10A

Please Note!

The semi conductive sensors used in the LDM150 range of products are not gas specific. Care should be taken when installing the equipment to minimize any cross contamination from other gases or vapors.

For further guidance on specific applications contact us.

This product is intended for use in the industrial area.

Specifications subject to change.

English

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