Operating Manual

LDM150R

Refrigerant Monitor

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

LDM150R

LDM150R

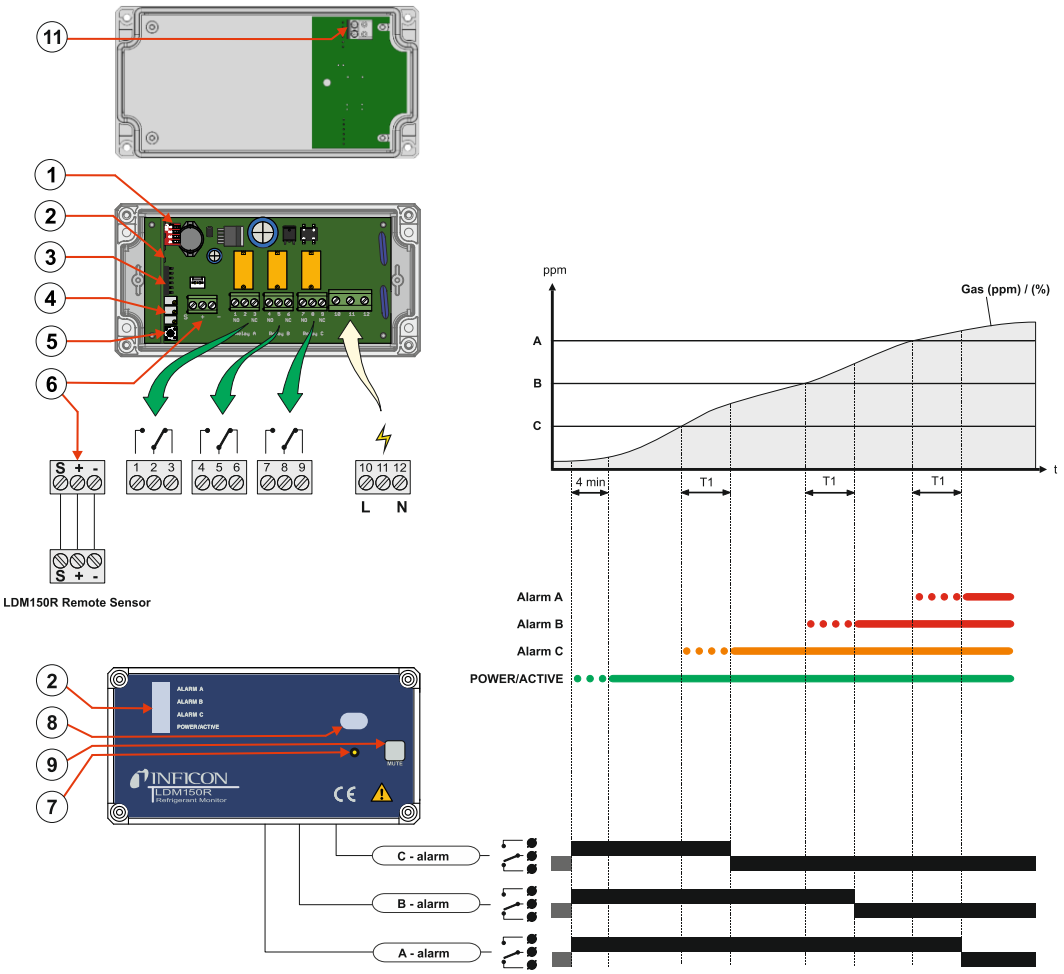

Fig. 1

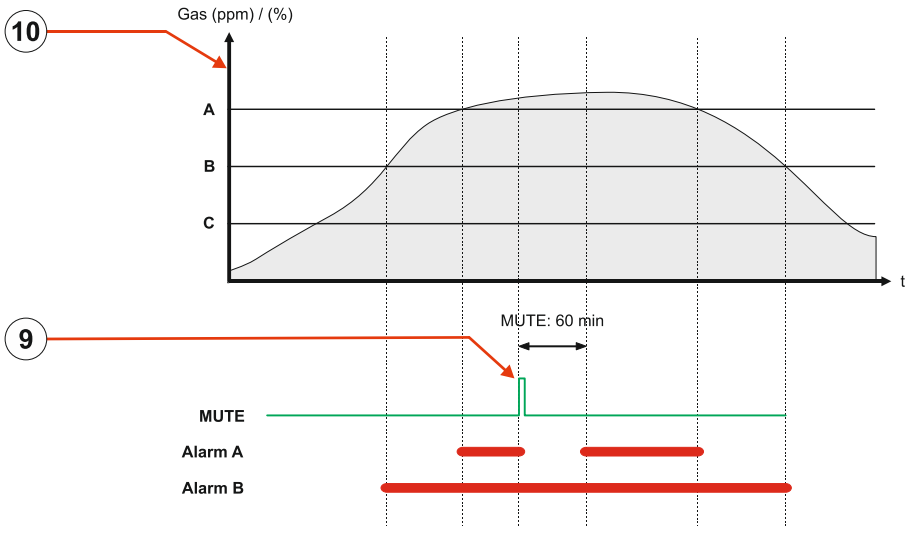

Fig. 2

LDM150R

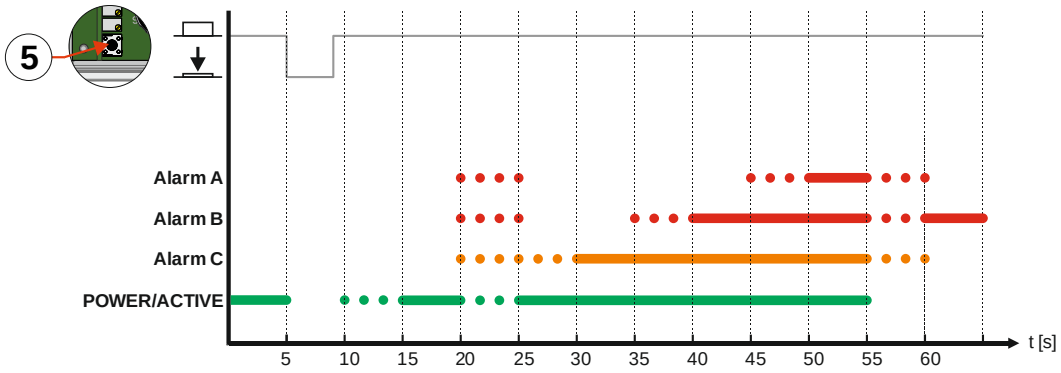

Fig. 3

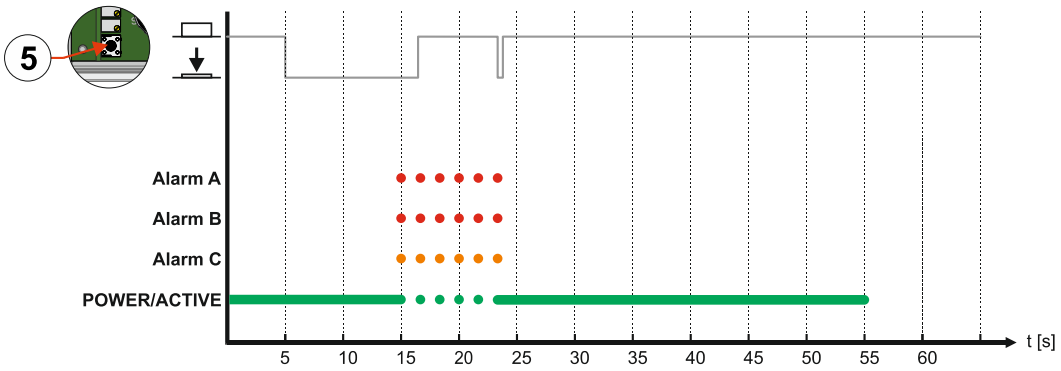

Fig. 4

LDM150R

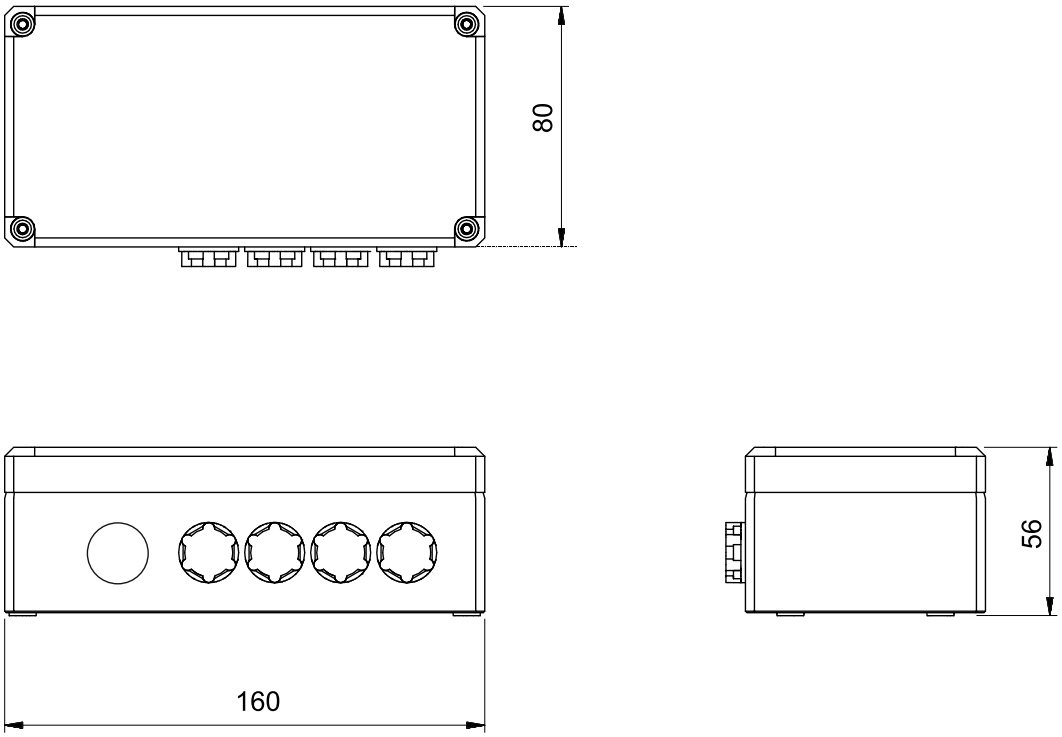

Fig. 5 [mm]

LDM150R

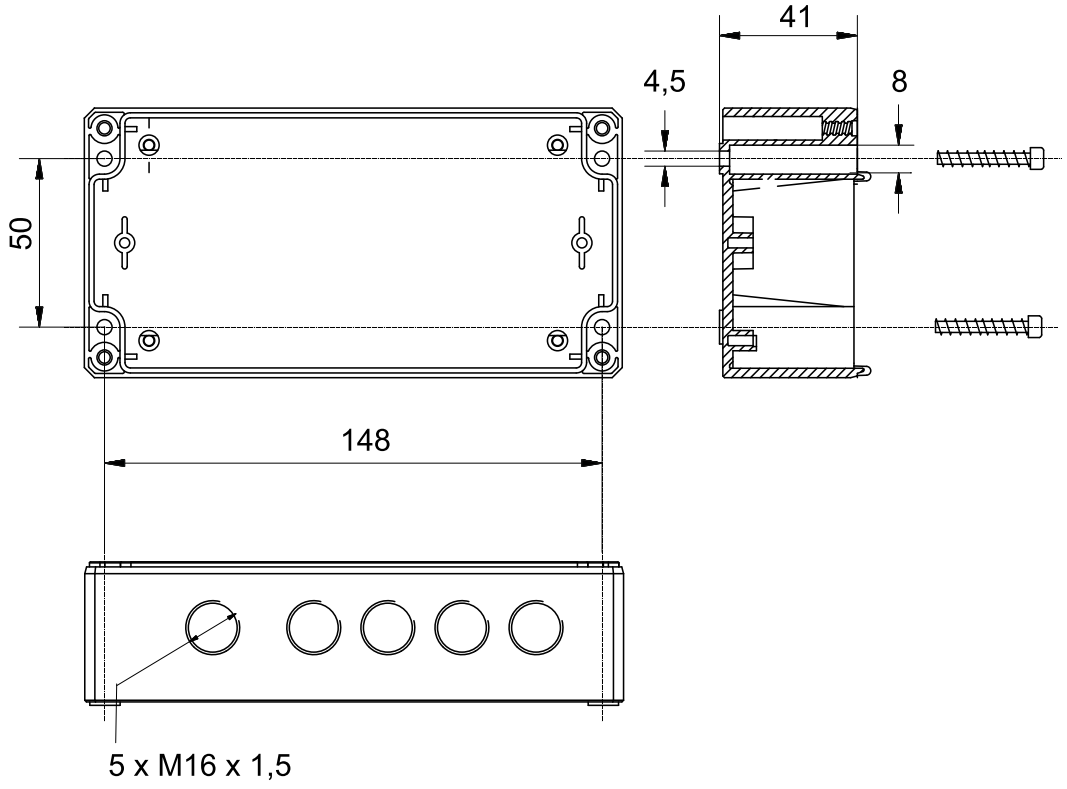

Fig. 6 [mm]

English

LDM150R 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

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Standards applied:
EN 61326-1:2012 (Use in the Industrial environments)

Low Voltage Directive 2014/35/EU:
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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

English

3. Cautions and Warnings

⚠ WARNING

The unit must be opened by authorized personnel only!

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

4. Alarm Levels, Factory Settings

Default 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

SETTING ALARM LEVELS (THRESHOLDS)

The monitoring unit is delivered with default alarm settings as standard.

Settings depend on detector type and are made using the MCT150 Monitor Calibration Tool. MCT150 is to be connected to the test terminal (3 - Fig. 1).

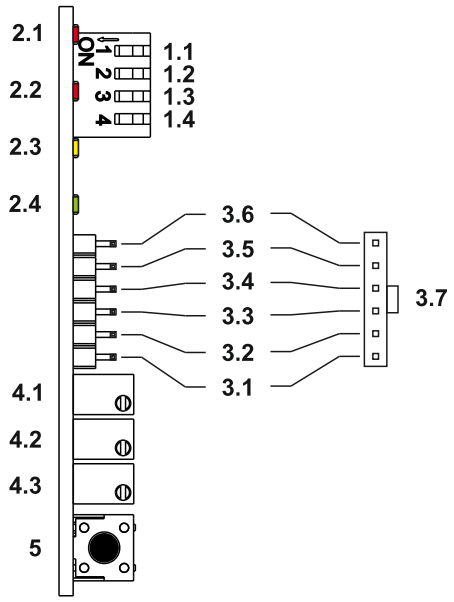
English

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. See Fig. 1.



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

High-intensity LED lights up at B-alarm, buzzer is activated at A-alarm.

NOTE!

The alarm functions in the lid of the LDM150R are not deactivated when in service mode.

The time delay does not apply to LEDs and buzzer in the lid of the LDM150R.

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 LEDs will flash and all relays will be in normal mode position. See Fig. 4.

7. Sound, light & MUTE button

“MUTE” button (9 - Fig. 1) mutes the buzzer for 60 minutes. If gas concentration drops beneath A-level alarm buzzer (7 - Fig. 1) is deactivated and if gas concentration drops beneath B-level alarm LED (8 - Fig. 1) is deactivated. For more details see Fig. 2 (10).

8. Manual activation of all alarm levels

Closed contact/loop gives full sensor signal resulting in all alarm levels getting activated (11 - Fig. 1).

9. Installation

The LDM150R Remote Sensor is connected to the terminals on the main PCB-board (6 - Fig. 1). See the wiring diagram in Fig. 1.

English

10. 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.

11. 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 lid).

12. Alarm Time Delay

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

nº 1	nº 2	Alarm delay (T1)
ON	ON	No alarm delay
OFF	ON	(1) minutes alarm delay
ON	OFF	(10) minutes alarm delay
OFF	OFF	(30) minutes alarm delay

13. Self-Test Function

Press the “Reset/Test/Service” button (5 - Fig. 1) for 5 seconds and the test program will start and check through all LED and all relay functions in five seconds intervals. See Fig. 3.

14. 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 LEDs 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.

15. Fail Safe

Relays are in normal mode energized and will change state in case of power failure or a fault.

16. Technical Data

Housing:	Polycarbonate, (PC) IP67
Power consumption:	Max 3W
Power supply:	LDM150R: 12-24V AC/DC LDM150R,High Voltage: 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:	5 x M16 membrane glands
Screw terminals:	< 1,5 mm^2, fuse, max. 10A

English

Please Note!

The semi conductive sensors used in the LDM150R 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.

Español

LDM150R Manual de functionamento

1. Contenido

Español

Español

2. Declaración de conformidad

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CE

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Español

3. Precauciones y advertencias

ADVERTENCIA

¡La unidad solo debe abrirla personal autorizado!

No importa si se desconecta la fuente de alimentación, la unidad aún puede tener alto voltaje externo sobre los contactos libres de voltaje!

4. Niveles de alarma, configuración de fábrica

Configuración de fábrica:

Amoniaco (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
Dióxido de carbono (CO_2) 0-10000 ppm	C=2000 ppm	B=5000 ppm	A=8000 ppm

AJUSTE DE NIVELES DE ALARMA (UMBRALES)

La unidad de monitoreo se entrega de serie con niveles de alarma básicos establecidos.

Los ajustes dependen del tipo de detector y se realizan utilizando el MCT150 Monitor Calibration Tool. MCT150 se debe enchufar en el terminal de prueba (Fig. 1).

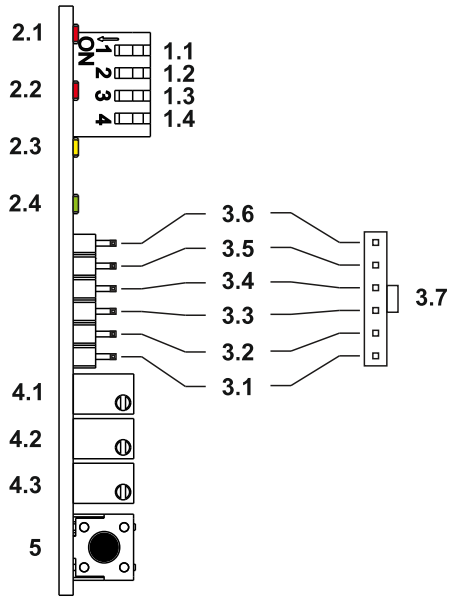
Español

5. Funcionamiento

Cuando se conecta la alimentación, parpadea un LED verde para indicar que está encendido ”ON”. Esto también iniciará el proceso de calentamiento del sensor. Después de aproximadamente 4 minutos el LED verde se encenderá para indicar ”Sensor activo”.

El detector cuenta con un LED amarillo y dos rojos. El LED amarillo indica baja concentración de gas (Alarma C) y los LED rojos indican concentración media de gas (Alarma B) y alta concentración de gas (Alarma A).

Cuando se detecta gas los LED (2 - Fig. 1) se encenderán y el relé corresponda al nivel alarma cambiará de estado. Si se opta por una alarma con retardo (ver a continuación) el LED correspondiente parpadeará y se encenderá (cambiando el retardo de estado) cuando se exceda el tiempo del retardo. Ver Fig. 1.



1.1: n 1 - Retardo de la alarma
1.2: n 2 - Retardo de la alarma
1.3: n 3 - Reestablecer alarma: ON=Auto, OFF=Manual
1.4: n 4 - No utilizado
2.1: LED A
2.2: LED B
2.3: LED C
2.4: Energía
3.1: Establecer GV off
3.2: +5 VDC
3.3: (-)
3.4: Alarm C
3.5: Alarm B
3.6: Alarm A
3.7: Probar terminal
4.1: A ajuste
4.2: B ajuste
4.3: C ajuste
5: Reiniciar/Prueba/Servicio

El LED de alta intensidad se ilumina en la alarma B, el zumbador se activa en la alarma A.

¡NOTA!

Las funciones de alarma en la tapa del LDM150R no se desactivan en modo de servicio.

El retraso de tiempo no se aplica a los LED y el zumbador en la cubierta LDM150R.

Español

6. Función de servicio

Al pulsar el botón ”Reinicio/Prueba/ Servicio” (5 - Fig. 1) durante 10 se bloquearán todas las funciones de alarma durante 60 minutos. Durante este periodo siempre será posible iniciar un nuevo periodo de 60 segundos pulsando de nuevo el botón durante 10 segundos. Al final del periodo de 60 minutos, se regresa al estado activo de forma automática o de forma manual pulsando el botón “Reinicio/Prueba/ Servicio”. Cuando la función de servicio se encuentra activada todos los LED parpadearán y los relés estarán en posición de modo normal. Ver Fig. 4.

7. Botón de sonido, luz y silencio

El botón "MUTE" (9 - Fig. 1) silencia el timbre durante 60 minutos. Si la concentración de gas cae por debajo del nivel A, la alarma sonora (7 - Fig. 1) es desactivado y si la concentración de gas cae por debajo del nivel B, el LED de alarma (8 - Fig. 1) se desactiva. Más detalles en la Fig. 2 (10).

8. Activación manual de todos los niveles de alarma

El contacto / bucle cerrado proporciona una señal de sensor completa que resulta en la activación de todos los niveles de alarma (11 - Fig. 1).

9. Instalación

El detector está conectado a los terminales de tornillo en la placa PCB principal (6 - Fig. 1). Ver el diagrama de cableado Fig. 1.

Español

10. Control de funciones anuales

Se recomienda probar el sistema al menos una vez al año. Se puede realizar una prueba de función básica utilizando el instrumento de servicio MCT150 Monitor Calibration Tool.

11. Reinicio automático/manual de la alarma

La controla el interruptor DIP (1 - Fig. 1) nº 3 en el que “ON” (conectado) significa reinicio automático y “OFF” (desconectado) significa reinicio manual pulsando el botón de “Reinicio/Prueba/Servicio” (5 - Fig. 1 - situado bajo la cubierta).

12. Retardo de la alarma

Lo controlan los interruptores DIP (1 - Fig. 1) nº1 y nº2:

nº 1	nº 2	Retraso de alarma (T1)
ON	ON	Sin retardo en la alarma
OFF	ON	(1) minuto de retardo en la alarma
ON	OFF	(10) minuto de retardo en la alarma
OFF	OFF	(30) minuto de retardo en la alarma

13. Función de autocomprobación

Pulse el botón “Reinicio/Prueba/Servicio” (5 - Fig. 1) durante 5 segundos y el programa de prueba se iniciará y revisará todas las funciones LED y funciones de relé en cinco intervalos. Ver Fig. 3.

14. Función de fallo

Si hubiera una caída de tensión (valor de GV inferior a 0,1V) en el sensor se produce una situación de fallo. Durante las cuatro primeras horas el LED verde se apagará y el resto de LED parpadearán. El relé de alarma C cambiará de estado.
Después de cuatro horas, el LED “Alarma B” se encenderá (el resto de LED se apagarán) y el relé “Alarma B” también cambiará de estado.

15. Seguro contra fallos

Los relés en modo normal tienen energía y cambiarán de estado en caso de fallo de alimentación o si sucede una situación de error.

16. Información técnica

Caja:	Policarbonato, (PC) IP67
Consumo de energía:	Máx 3W
Alimentación:	LDM150R: 12-24V CA/CC LDM150R,High Voltage: 230V CA, 50/60 Hz
Indicaciones:	Conexión/Activo y tres niveles de indicación de alarma.
Relés de salida:	Contactos sin potencial (230V, máx 5A) .
Temperatura ambiente:	-40 °C - + 50 °C (Compensación automática de temperatura)
Humedad:	0-95% Hr (sin condensación)
Juntas:	5 x juntas de membrana M16
Terminales de tornillo:	< 1,5 mm^2, fusible max. 10A

Español

¡Por favor tenga en cuenta!

Los sensores semiconductores utilizados en la gama de productos LDM150R no son específicos de gas. Se debe tener cuidado al instalar el equipo para minimizar cualquier contaminación cruzada de otros gases o vapores.
Para obtener más orientación sobre aplicaciones específicas, contáctenos.

Este producto se ha diseñado para su uso en aplicaciones industriales.
Las especificaciones están sujetas a cambios. .

Deutsch

LDM150R Betriebshandbuch

1. Inhaltverzeichnis

Deutsch

2. Konformitätserklärung

INFICON

CE

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Deutsch

3. Warnungen und Vorsichtshinweise

WARNUNG

Das Gerät darf nur von autorisiertem Personal geöffnet werden!

Unabhängig davon, ob die Stromversorgung unterbrochen ist oder nicht, kann das Gerät über die potentialfreien Kontakte eine externe Hochspannung führen.

4. Alarmebenen, Werkseinstellungen

Werkseinstellungen:

Ammoniak (NH_3) 0-4000 ppm	C=150 ppm	B=500 ppm	A=3000 ppm
HFKW, HFO, H-FCKW 0-4000 ppm	C=100 ppm	B=1000 ppm	A=2000 ppm
Kohlendioxid (CO_2) 0-10000 ppm	C=2000 ppm	B=5000 ppm	A=8000 ppm

ALARMSTUFEN EINSTELLEN (SCHWELLEN)

Die Überwachungseinheit wird standardmäßig mit Grundeinstellstufen geliefert.

Die Einstellungen hängen vom Detektortyp ab und werden über den MCT150 Monitor Calibration Tool. Das MCT150 befindet sich im Testterminal (Fig. 1).

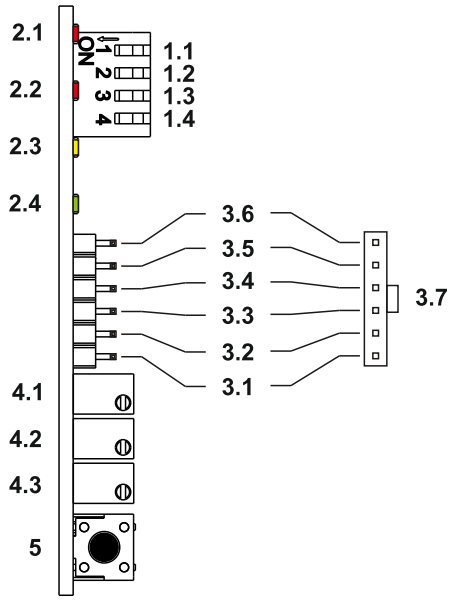
Deutsch

5. Funktion

Bei Einschalten der Stromversorgung blinkt eine grüne LED um Betriebsbereitschaft anzuzeigen. Gleichzeitig startet der Aufwärmprozess des Fühlers. Nach ungefähr vier Minuten leuchtet die grüne LED auf und zeigt „Fühler aktiv“ an.

Der Sensor ist mit einem gelben und zwei roten LEDs verbunden. Die gelbe LED zeigt niedrige Gaskonzentration an (Alarm C), und die roten LEDs zeigen mittlere (Alarm B) bzw. hohe Gaskonzentration (Alarm A) an.

Bei Entdeckung von Gas leuchten die LEDs (2 - Fig. 1) auf und das der Alarmstufe entsprechende Relais ändert seinen Zustand. Ist eine Alarmverzögerung festgelegt (siehe unten), blinkt die entsprechende LED zuerst und geht nach Ablauf der gewählten Zeitverzögerung in dauerndes Leuchten über (und der Relaiszustand ändert sich). Sie auf Fig. 1.



1.1: n 1 - Alarmzeitverzögerung
1.2: n 2 - Alarmzeitverzögerung
1.3: n 3 - Alarm Rücksetzen: ON=Auto, OFF=Manuell
1.4: n 4 - Keine Anw.
2.1: LED A
2.2: LED B
2.3: LED C
2.4: Strom
3.1: GV-Abweichung
3.2: +5 VDC
3.3: (-)
3.4: Alarm C
3.5: Alarm B
3.6: Alarm A
3.7: Testanschluss
4.1: A Einstellung
4.2: B Einstellung
4.3: C Einstellung
5: Rücksetzen/Test/Service

Hochintensive LED leuchtet bei B-Alarm, Summer bei A-Alarm.

ACHTUNG!

Die Alarmfunktionen im Deckel des LDM150R sind im Servicemodus nicht deaktiviert. Die Zeitverzögerung gilt nicht für LEDs und Summer im Deckel des LDM150R.

Deutsch

6. Servicefunktion

Ein 10 Sekunden langes Betätigen der „Rücksetzen/Test/Service“-Taste (5 - Fig. 1) sperrt alle Alarmfunktionen für 60 Minuten. Während dieser Periode ist es immer möglich, durch 10 Sekunden langes Betätigen der Taste eine neue 60-Minuten-Periode zu starten. Die Rückkehr in den aktiven Zustand erfolgt automatisch am ende der 60-Minuten-Periode oder lässt sich durch einmaliges Betätigen der „Rücksetzen/Test/Service“-Taste bewirken. Ist die Servicefunktion aktiviert, blinken alle LEDs und alle Relais sind in Normalfunktion-Position. Sehen Sie im Fig. 4.

7. Ton, Licht & MUTE-Taste

Die Taste "MUTE" (9 - Fig. 1) schaltet den Summer für 60 Minuten stumm. Wenn die Konzentration unter den Alarmsummer A (7 - Fig. 1) abfällt. B-Level Alarm LED (8 - Fig. 1) ist deaktiviert. Weitere Details finden Sie auf Fig. 2 (10).

8. Manuelle Aktivierung aller Alarmstufen

Geschlossener Kontakt / geschlossener Regelkreis gibt das vollständige Sensorsignal aus und führt zu allen Aktivierungsstufen (11 - Fig. 1).

9. Installation

Der Melder ist mit der Leiterplatte (6 - Fig. 1) verbunden. Siehe Schaltplan im Fig. 1.

10. Jährliche Funktionskontrolle

Es wird empfohlen, das System mindestens einmal im Jahr zu testen. Mit dem MCT150 Monitor Calibration Tool kann eine Grundfunktionsprüfung durchgeführt werden.

Deutsch

11. Automatisches/Manuelles Alarmrücksetzen

Wird mit dem DIP-Schalter (1 - Fig. 1) 3 eingestellt, wobei „ON“ automatisches und „OFF“ manuelles Rücksetzen durch Betätigung der „Rücksetzen/Test/Service“-Taste (5 - Fig. 1 - unter der Abdeckung) bedeutet.

12. Alarmzeitverzögerung

Wird mit den DIP-Schaltern (1 - Fig. 1) 1 und 2 eingestellt:

nº 1	nº 2	Alarmverzögerung (T1)
ON	ON	Keine Alarmverzögerung
OFF	ON	(1) Minute Alarmverzögerung
ON	OFF	(10) Minuten Alarmverzögerung
OFF	OFF	(30) Minuten Alarmverzögerung

13. Prüfprogramm

Die „Rücksetzen/Test/Service“-Taste (5 - Fig. 1) 5 Sekunden lang betätigen, wonach das Prüfprogramm startet und alle LED und Relaisfunktionen in Intervallen von 5 Sekunden durchgeht. Sehen Sie im Fig. 3.

14. Fehlfunktion

Entsteht ein Spannungsabfall vom Fühler (GV-Wert unter 0,1 V) besteht eine Fehlersituation.
Während der ersten vier Stunden erlischt die grüne LED und die anderen LEDs blinken. Alarmrelais C ändert seinen Zustand.
Nach vier Stunden leuchtet die LED „Alarm B“ auf (andere LEDs erlischen) und Relaiszustand von „Alarm B“ ändert sich ebenfalls.

15. Eigensicher

In Normalfunktion sind die Relais geschlossen und ändern ihren Zustand bei Stromausfall oder Fehlereintritt.

16. Technische Daten

Gehäuse:	Polycarbonat, (PC) IP67
Leistungsaufnahme:	Max. 3 W
Stromversorgung:	LDM150R: 12-24V AC/DC LDM150R,High Voltage: 230V AC, 50/60 Hz
Anzeigen:	Betriebs-/Aktiv- und Alarmanzeigen in drei Stufen.
Ausgangsrelais:	Potentialfreie Kontakte (230 V, max. 5 A).
Umgebungstemperatur:	-40 °C bis +50 °C (automatischer Temperaturkompensation)
Luftfeuchtigkeit:	0 bis 95 % rel. LF (nicht-kondensierend)
Buchsen:	5 x M16-Membranbuchsen
Schraubklemmen:	< 1,5 mm^2, Sicherung max. 10 A

Deutsch

Bitte beachten!

Die in der LDM150R-Produktreihe verwendeten Halbleitersensoren sind nicht gasspezifisch. Bei der Installation des Geräts ist darauf zu achten, dass keine Kreuzkontamination durch andere Gase oder Dämpfe auftritt.
Für weitere Informationen zu bestimmten Anwendungen kontaktieren Sie uns.

Änderungen bei technischen Spezifikationen vorbehalten.
Dieses Produkt ist für den industriellen Einsatz bestimmt.

Français

LDM150R Manuel d’utilisation

1. Table des matières

Français

Français

2. Déclaration de conformité

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EU DECLARATION OF CONFORMITY

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Français

3. Mises en garde et avertissements

⚠ AVERTISSEMENT

L'unité ne peut être ouverte que par du personnel autorisé !

Peu importe si l'alimentation est coupée, l'unité peut toujours avoir une haute tension externe sur les contacts libres de potentiel.

4. Niveaux d'alarme, réglages d'usine

Réglages d'usine:

Ammoniac (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
Le dioxyde de carbone (CO_2) 0-10000 ppm	C=2000 ppm	B=5000 ppm	A=8000 ppm

RÉGLAGE DES NIVEAUX D'ALARME (SEUILS)

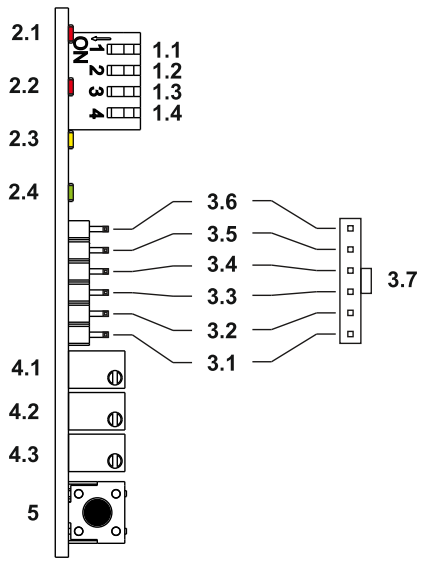
L'unité de surveillance est livrée en standard avec les niveaux d'alarme de.

Les paramètres dépendent du type de détecteur et sont définis à l'aide de MCT150 Monitor Calibration Tool. Le MCT150 doit être branché sur le terminal de test (Fig. 1).

Français

5. Fonctionnement

Lorsque l'alimentation électrique est enclenchée, un voyant DEL vert clignote pour indiquer que le détecteur est sous tension (”ON”). De plus, le processus de chauffe de la sonde est enclenché. Après environ 4 minutes, le voyant DEL vert est allumé et indique ” Sonde active ”.
Le détecteur comporte un voyant DEL jaune et deux voyants DEL rouges. Le voyant DEL jaune indique une faible concentration de gaz (alarme C). Les voyants DEL rouges indiquent une concentration de gaz moyenne (alarme B) et une concentration de gaz élevée (alarme A).
Lorsque du gaz est détecté, les voyants DEL (2 - Fig. 1) s'allument et le relais correspondant au niveau de l'alarme change d'état. En cas de sélection d'une temporisation d'alarme (voir ci-dessous), le voyant DEL correspondant clignote. Il reste allumé en permanence (et le relais change d'état) lorsque la durée de temporisation sélectionnée est dépassée. Voir Fig. 1.



1.1: n 1 - Temporisation des alarmes
1.2: n 2 - Temporisation des alarmes
1.3: n 3 - Réinitialisation de l’alarme : ON=Auto, OFF=Manuel
1.4: n 4 - Non utilisé
2.1: DEL A
2.2: DEL B
2.3: DEL C
2.4: Alimentation
3.1: GV Décalage
3.2: +5 V c.c
3.3: (-)
3.4: Alarme C
3.5: Alarme B
3.6: Alarme A
3.7: Borne d'essai
4.1: Réglage A
4.2: Réglage B
4.3: Réglage C
5: Réinitialiser/Tester/Service

La LED haute intensité s'allume sur l'alarme B, la sonnerie est activée sur l'alarme A.

REMARQUE!

Les fonctions d'alarme dans le couvercle du LDM150R ne sont pas désactivées en mode service.
Le délai ne s'applique pas aux DEL et au buzzer dans le couvercle du LDM150R.

Français

6. Fonction dépannage/entretien

Appuyer sur le bouton "Réinitialiser/Tester/Service" (5 - Fig. 1) pendant 10 secondes pour verrouiller toutes les fonctions d'alarme pendant 60 minutes. Durant cette période, il est toujours possible de lancer une nouvelle période de 60 minutes en appuyant une nouvelle fois sur le bouton pendant 10 secondes.. Le retour à l'état actif se fait automatiquement à l'issue des 60 minutes ou peut être opéré manuellement en appuyant une seule fois sur le bouton "Réinitialiser/Tester/Service". Lorsque la fonction de dépannage/entretien est activée, tous les voyants DEL clignotent et tous les relais sont en position de marche normale. Voir la See Fig. 4.

7. Bouton de son, de lumière et de silence

Le bouton ”MUTE” (9 - Fig. 1) coupe le buzzer pendant 60 minutes. Si la concentration de gaz chute sous la sonnerie d'alarme de niveau A (7 - Fig. 1), désactivée et si la concentration de gaz chute en dessous de l'alarme de niveau B (8 - Fig. 1), la DEL est désactivée. Plus de détails à Fig. 2 (10).

8. Activation manuelle de tous les niveaux d'alarme

Le contact / boucle fermée fournit un signal de capteur complet, ce qui active tous les niveaux d'alarme (11 - Fig. 1).

9. Installation

Le détecteur est connecté aux bornes à vis de la carte de circuit imprimé principale (6). Voir le schéma de câblage Fig. 1.

Français

10. Contrôle annuel de fonction

Il est recommandé de tester le système au moins une fois par an. Un test de fonctionnement de base peut être effectué à l'aide de MCT150 Monitor Calibration Tool.

11. Réinitialisation automatique/manuelle des alarmes

Contrôlée par le commutateur DIP (1 - Fig. 1) nº 3 ; "ON" indique la réinitialisation automatique et "OFF" la réinitialisation manuelle (5 - Fig. 1 - en appuyant sur le bouton "Réinitialiser/Tester/Service", situé sous le couvercle).

12. Temporisation des alarmes

Contrôlée par les commutateurs DIP (1 - Fig. 1) nº 1 et nº 2 :

nº 1	nº 2	Délai d'alarme (T1)
ON	ON	Aucune temporisation d’alarme
OFF	ON	Temporisation de (1) minute
ON	OFF	Temporisation de (10) minutes
OFF	OFF	Temporisation de (30) minutes

13. Fonction d'auto-vérification

Appuyer sur le bouton "Réinitialiser/Tester/Service" (5 - Fig. 1) pendant 5 secondes et le programme d'essai s'enclenche et contrôle toutes les fonctions DEL et toutes les fonctions de relais par intervalles de cinq secondes. Voir la Fig. 3.

14. Défaillance

Par "défaillance", il est entendu les cas où l'alimentation électrique de la sonde chute (valeur GV inférieure à 0,1 V). Pendant les quatre premières heures, le voyant DEL vert est éteint et les autres voyants DEL clignotent. Le relais d'alarme C change d'état.
Après quatre heures, le voyant DEL "Alarme B" s'allume (les autres voyants DEL s'éteignent) et le relais “Alarme B” change d'état.

15. Sécurité intégrée

En mode de marche normal, les relais sont sous tension et change d'état en cas de panne de courant ou défaillance.

16. Spécifications techniques

Boîtier:	Polycarbonate, (PC) IP67
Consommation électrique:	Max. 3 W
Alimentation électrique:	LDM150R: 12-24V c.a./c.c. LDM150R,High Voltage: 230V c.a., 50/60 Hz
Indications :	Indication de mise sous tension/actif et d'alarme sur trois niveaux.
Relais de sortie :	Interrupteurs neutres (230 V, max. 5 A)
Temp. ambiante :	-40 ° C - + 50 ° C (compensation de température automatique)
Humidité :	0-95 % HR (sans condensation)
Presse-étoupes :	5 x presse-étoupes à membrane M16
Bornes à vis :	< 1,5 mm^2, fusible max. 10 A

Français

Remarque !

Les capteurs semi-conducteurs utilisés dans la gamme de produits LDM150R ne sont pas spécifiques au gaz. Lors de l'installation de l'équipement, il convient de veiller à minimiser toute contamination croisée par d'autres gaz ou vapeurs.
Pour plus de conseils sur des applications spécifiques, contactez-nous.

Ce produit est destiné à une utilisation dans le domaine industriel.
Sous réserve de modifications.

Svenska

LDM150R Bruksanvisning

1. Innehållsförteckning

2. Försäkran om överensstämmelse

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Svenska

3. Försiktighets- och varningsanvisningar

VARNING

Apparaten får endast öppnas av behörig personal!

Oavsett om strömförsörjningen tas bort kan enheten fortfarande ha extern spänning över de spänningsfria reläerna.

4. Fabriksinställda larmnivåer

Standard fabrik leveransinställningar:

Ammoniak (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
Koldioxid (CO_2) 0-10000 ppm	C=2000 ppm	B=5000 ppm	A=8000 ppm

INSTÄLLNING AV LARMNIVÅER

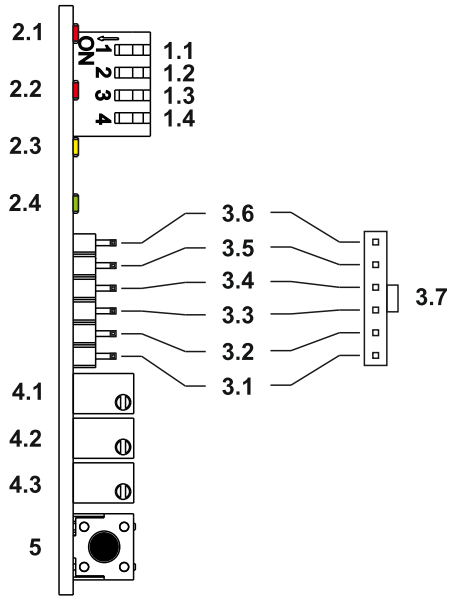
Centralen levereras som standard med grundinställda larmnivåer.

Inställningar beror på detektortyp och utförs med hjälp av MCT150 Monitor Calibration Tool. MCT150 ansluts på testuttaget. (Fig. 1)

Svenska

5. Funktion

Vid uppstart blinkar en grön lysdiod som anger "Spänning till". Efter ca 4 minuter tänds den gröna lysdioden med fast sken vilket indikerar att sensorn är i drift "AKTIV".
Detektorn har även en gul och två röda lysdioder som indikerar låg gaspåverkan (Larm C), medel gaspåverkan (Larm B) och hög gaspåverkan (Larm A).
Vid gaspåverkan tänds respektive lysdiod (2 - Fig. 1) och motsvarande reläkontakt växlar. Om larmfördröjning valts (enligt nedan) blinkar respektive lysdiod under den valda fördröjningstiden, efter tidsfördröjning övergår lysdioden till fast sken och reläkontakten växlar. Se Fig. 1.



1.1: n 1 - Tidsfördröjning
1.2: n 2 - Tidsfördröjning
1.3: n 3 - Larm återställning: ON=Auto, OFF=Manuell
1.4: n 4 – Används inte
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: Testterminal
4.1: A justering
4.2: B justering
4.3: C justering
5: Återställning/Test/Service

Högintensiva LED tänds vid B-larm, summer aktiveras vid A-larm. Tidsfördröjningen gäller ej ljud & ljus lock.

OBSERVERA
Larmfunktionerna i locket på LDM150R inaktiveras inte i serviceläge.
Tidsfördröjningen gäller inte LED och summer i LDM150R-locket.

6. Servicefunktion

Genom ett tio sekunders långt tryck på "Återställning/Test/Service"-knappen (5 - Fig. 1) blockeras alla larmfunktioner under 60 minuter. När som helst kan en ny 60-minuts period startas genom ett nytt tio sekunders tryck på knappen. Återgång sker automatiskt då tiden är ute alternativt manuellt genom ett kort tryck på knappen. När servicefunktionen är aktiverad blinkar samtliga lysdioder och samtliga reläer är i normalläge. Se Fig. 4.

Svenska

7. Ljud, ljus och MUTE Knapp

”MUTE” knapp (9 - Fig. 1) tystar summer under 60 minuter. Om gaskoncentrationen återgår under A-larmnivå avaktiveras summer (7 - Fig. 1) och när gaskoncentrationen återgår under B-larmnivå avaktiveras LED ljuset (8 - Fig. 1). För mer information se på Fig. 2 (10).

8. Manuell aktivering av alla alarmnivåer

Stängd kontakt / slinga ger full sensorsignal vilket resulterar i att alla larmnivåer aktiveras (11 - Fig. 1).

9. Installationsanvisning

Detektorn ansluts på skruvplint på centralens moderkort (6 - Fig. 1).
Se Fig. 1.

10. Årlig funktionskontroll

Detektorn bör kontrolleras minst en gång per år.
Ett enkelt funktionsprov kan utföras med hjälp av ett MCT150 serviceinstrument.

11. Automatisk / manuell larmåterställning av larm

Styrs med DIP-switch (1 - Fig. 1) nº 3 där "ON" anger automatisk larmåtergång och "OFF" manuell larmåtergång via tryck på "Återställning/Test/Service"-knappen (5 - Fig. 1 - knappen åtkomlig under locket) .

Svenska

12. Tidsfördröjning av larm

Styrs av DIP-switch (1 - Fig. 1) nº 1 och nº 2 enligt följande:

nº 1	nº 2	Tidsfördröjning (T1)
ON	ON	Ingen fördröjning
OFF	ON	1 minuts fördröjning
ON	OFF	10 minuters fördröjning
OFF	OFF	30 minuters fördröjning

13. Testprogram

Genom ett fem sekunder långt tryck på "Återställning/Test/ Service"-knappen (5 - Fig. 1) startar testprogrammet och går igenom samtliga lysdiods- och reläfunktioner i fem-sekunders intervaller.
Se Fig. 3.

14. Felfunktion

Om signalen från sensorn (GV-värdet) sjunker under 0,1V utgår fellarm vilket indikeras, under de första fyra timmarna, med att lysdioden för "Aktiv" slocknar och samtliga larmdioder blinkar. Relät för Larm C växlar. Efter fyra timmar tänds lysdioden för larm B med fast sken (övriga är släckta) och även relä för larm B växlar.

15. Failsafe

Reläer är i normal drift dragna vilket innebär att vid fel eller vid spänningsbortfall så växlar samtliga reläer och indikerar larm.

16. Specifikationer

Kapsling:	Polykarbonat (PC) IP67
Strömförbrukning:	Max 3W
Strömförsörjning:	LDM150R: 12-24V AC/DC LDM150R,High Voltage: 230V AC, 50/60 Hz
Lysdioder (LED):	Power/Aktiv samt indikering på tre nivåer.
Utgångar:	3 potentialfria kontakter (230V, max 5A)
Omgivningstemperatur:	-40 °C till +50 °C
Luftfuktighet:	0-95% RH (ej kondenserande)
Kabelgenomföring:	5 x M16 (membrantätningar)
Skruvplintar:	<1,5 mm^2, avsäkras max. 10A

OBSERVERA

Halvledar-baserade sensorerna som används i LDM150R produktsortimentet är inte gasspecifika. Var noga med att installera utrustningen för att minimera korskontaminering från andra gaser eller ångor.
För ytterligare vägledning om specifika applikationer, kontakta oss.

Den här produkten är avsedd att användas inom industrin.
Med reservation för tekniska ändringar.

Svenska

Italiano

Manuale operativo per LDM150R

1. Indice

Italiano

2. Dichiarazione di conformità

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Italiano

3. Avvertenze e precauzioni

⚠ AVVERTIMENTO

L'unità deve essere aperta esclusivamente da personale autorizzato!

Non importa se l'alimentazione viene interrotta, può sempre essere presente un'alta tensione esterna sui contatti dei relè.

4. Livelli di allarme, impostazioni di fabbrica

Impostazioni predefinite di fabbrica:

Ammoniaca (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
Anidride carbonica (CO_2) 0-10000 ppm	C=2000 ppm	B=5000 ppm	A=8000 ppm

IMPOSTAZIONE DEI LIVELLI DI ALLARME (SOGLIE)

L'unità di monitoraggio viene fornita di serie con impostazioni di allarme predefinite.

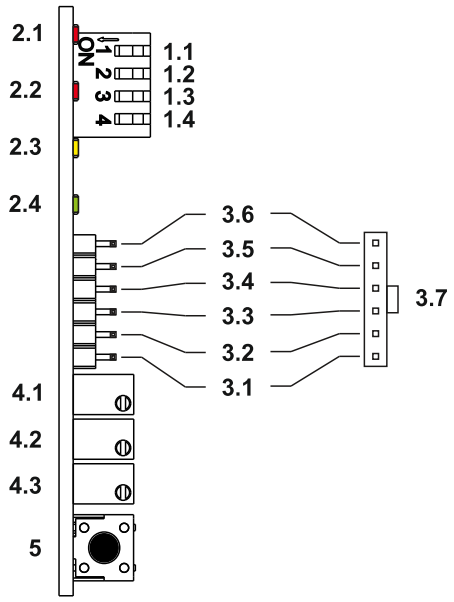
Le impostazioni dipendono dal tipo di rilevatore e vengono eseguite usando lo Strumento di calibrazione monitor MCT150. Lo strumento MCT150 deve essere collegato al terminale di prova (3 - Fig. 1).

Italiano

5. Funzionamento

Quando l'alimentazione è inserita, un LED verde lampeggia a indicare che l'alimentazione è "ON". Verrà anche avviato il processo di riscaldamento del sensore. Dopo circa 4 minuti il LED verde si illumina in modalità fissa per indicare "Sensore attivo".

Il rilevatore dispone di un LED giallo e due LED rossi. Il LED giallo indica una bassa concentrazione di gas (Alarm C) e i LED rossi indicano una concentrazione di gas media (Alarm B) e alta (Alarm A). Quando viene rilevato del gas, i LED (2 - Fig. 1) si illuminano e il relè corrispondente al livello di allarme cambierà stato. Se viene scelto il ritardo dell'allarme (vedere più avanti), il LED corrispondente lampeggerà e si illuminerà in modalità fissa (e il relè cambierà stato) quando viene superato il tempo di ritardo selezionato. Vedere la Fig. 1.



1.1: n 1 - Ritardo
1.2: n 2 - Ritardo
1.3: n 3 - Ripristino allarme: ON=Automatico, OFF=Manuale
1.4: n 4 - Non usato
2.1: LED A
2.2: LED B
2.3: LED C
2.4: Alimentazione
3.1: Offset GV
3.2: +5 VDC
3.3: (-)
3.4: ALARM C
3.5: ALARM B
3.6: ALARM A
3.7: Terminale di prova
4.1: Regolazione A
4.2: Regolazione B
4.3: Regolazione C
5: Ripristino/Prova/Assistenza

Il LED ad alta intensità si illumina con l'allarme B, il cicalino viene attivato con l'allarme A.

NOTA!

Le funzioni di allarme nel coperchio del rilevatore LDM150R non vengono disattivate quando è impostata la modalità di assistenza.

Il ritardo temporale non si applica ai LED e al cicalino nel coperchio del rilevatore LDM150R.

Italiano

6. Funzione Assistenza

La pressione del tasto "Ripristino/Prova/Assistenza" (5 - Fig. 1) per 10 secondi disinserisce tutte le funzioni di allarme per 60 minuti. Durante questo periodo è sempre possibile avviare un nuovo periodo di 60 minuti premendo nuovamente il tasto per 10 secondi. Il ritorno allo stato attivo avviene automaticamente al termine del periodo di 60 minuti oppure può essere determinato manualmente premendo una volta il tasto "Ripristino/Prova/Assistenza". Quando la funzione di assistenza è attivata, tutti i LED lampeggiano e tutti i relè sono in posizione di modalità normale.
Vedere la Fig. 4.

7. Suono, illuminazione e tasto MUTE

Il tasto "MUTE" (9 - Fig. 1) silenzia il cicalino per 60 minuti. Se la concentrazione di gas scende al di sotto del livello A, il cicalino di allarme (7 - Fig. 1) viene disattivato e se la concentrazione di gas scende al di sotto del livello B, il LED di allarme (8 - Fig. 1) viene disattivato. Per maggiori dettagli, vedere la Fig. 2 (10).

8. Attivazione manuale di tutti i livelli di allarme

Un contatto o circuito chiuso invia un segnale pieno del sensore con conseguente attivazione di tutti i livelli di allarme (11 - Fig. 1).

9. Installazione

Il Sensore remoto LDM150R viene collegato ai terminali sulla scheda PCB principale (6 - Fig. 1). Vedere lo schema elettrico nella Fig. 1.

Italiano

10. Controllo annuale del funzionamento

Si consiglia di eseguire una verifica del sistema almeno una volta all'anno. Una prova del funzionamento di base può essere eseguita usando lo Strumento di calibrazione monitor MCT150.

11. Ripristino automatico/manuale dell'allarme

Viene gestito dal commutatore DIP switch (1 - Fig. 1) nº 3, dove "ON" indica un ripristino automatico e "OFF" un ripristino manuale, premendo il tasto "Ripristino/Prova/Assistenza" (5 - Fig. 1 - ubicato sotto il coperchio).

12. Ritardo del tempo di allarme

Viene gestito dai commutatori DIP switch (1 - Fig. 1) nº 1 e nº 2:

nº 1	nº 2	Ritardo dell'allarme (T1)
ON	ON	Nessun ritardo dell'allarme
OFF	ON	(1) minuto di ritardo dell'allarme
ON	OFF	(10) minuti di ritardo dell'allarme
OFF	OFF	(30) minuti di ritardo dell'allarme

13. Funzione di auto-test

Premere il tasto "Ripristino/Prova/Assistenza" (5 - Fig. 1) per 5 secondi per avviare il programma di prova e controllare ciclicamente il funzionamento di tutti i LED e di tutti i relè a intervalli di cinque secondi. Vedere la Fig. 3.

14. Funzione di guasto

Se si verifica un calo di tensione (valore GV al di sotto di 0,1 V), il sensore segnala una situazione di guasto. Durante le prime quatto ore il LED verde sarà disattivato e gli altri LED lampeggeranno. Il relè di allarme C cambierà stato. Dopo quattro ore il LED "Alarm B" si illuminerà in modalità fissa (gli altri LED saranno disattivati) e anche il relè "Alarm B" cambierà stato.

15. Fail safe

In modalità normale i relè sono alimentati e cambieranno stato se si verifica un'interruzione dell'alimentazione o un guasto.

16. Dati tecnici

Alloggiamento:	Policarbonato, (PC) IP67
Potenza assorbita:	Max 3 W
Alimentazione:	LDM150R: 12-24V CA/CC LDM150R,High Voltage: 230V CA, 50/60 Hz
Indicazioni:	Indicazione Power/Active (alimentazione/sensore attivo) e indicazione di allarme a tre livelli.
Relè di uscita:	Contatti liberi da potenziale (230 V, max 5 A)
Temperatura ambiente:	-40°C - + 50°C (compensazione automatica della temperatura)
Umidità:	0-95% di umidità relativa (senza condensa)
Pressacavi:	5 pressacavi a membrana M16
Morsetti a vite:	< 1,5 mm^2, fusibile max. 10 A

Nota bene!

I sensori semi-conduttivi usati nella linea di prodotti LDM150R non sono specifici per il gas. È necessario usare cautela quando si installa l'apparecchiatura, per ridurre al minimo eventuali contaminazioni incrociate con altri gas o vapori.
Per ulteriori informazioni sulle specifiche applicazioni, si invita a contattarci.

Questo prodotto è destinato all'uso nell'area industriale.
Specifiche soggette a modifica.

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LDM150R操作手册

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2. 符合性声明

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.

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3. 注意和警告

⚠ 警告

本装置只能由经过授权的人员打开！

无论电源是否切断，该装置的继电器触点上均带有外部高压。

4. 报警级别，出厂设置

默认出厂设置：

氨(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
二氧化碳(CO_2) 0-10000 ppm	C=2000 ppm	B=5000 ppm	A=8000 ppm

设置报警级别 (阈值)

本监控设备以默认报警设置作为标准设置交付。

设置值取决于检测器类型，通过MCT150监控校准工具进行设置。MCT150连接到测试端子 (3 - 图 1Fig. 1)。

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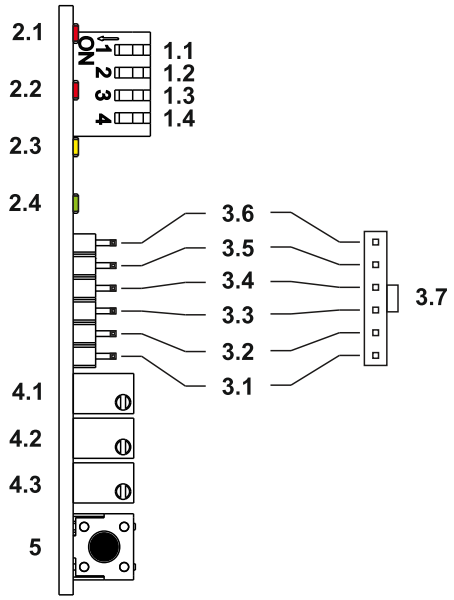
5. 功能

当电源接通时，一个绿色LED灯会闪烁，表示电源“ON”。传感器预热程序同时启动。约4分钟后，绿色LED灯常亮，并指示“传感器激活”。

本检测器有一个黄色LED灯和两个红色LED灯。黄色LED灯指示低气体浓度(报警C)，红色LED灯指示中气体浓度(报警B)和高气体浓度(报警A)。

当检测到气体时，LED灯 (2 - 图 1Fig. 1) 将亮起，与报警级别相对应的继电器将改变状态。如果选择了报警延时(参见下文)，相应的LED灯将闪烁，当超过选择的延时时间时，该LED灯将亮起(继电器状态将改变)。参见图 1 Fig. 1。



1.1：n 1 - 延时
1.2：n 2 - 延时
1.3：n 3 - 报警重置：ON=自动，OFF=手动
1.4：n 4 - 未使用
2.1：LED A
2.2：LED B
2.3：LED C
2.4：电源
3.1：GV补偿值
3.2：+5 VDC
3.3：(-)
3.4：报警C
3.5：报警B
3.6：报警A
3.7：测试端子
4.1：A调整
4.2：B调整
4.3：C调整
5：重置/测试/维护

高亮度LED在出现B报警时亮起，蜂鸣器在出现A报警时激活。

注意！

LDM150R盖子中的报警功能在维护模式下不可取消。

延时不适用于LDM150R盖子中的LED和蜂鸣器。

6. 维护功能

按下“重置/测试/维护”按钮 (5 - 图 1Fig. 1) 10秒，这将解除所有报警功能60分钟。在此期间，随时可以再次按下按钮10秒来开始一个新的60分钟周期。在60分钟结束时自动返回激活状态，也可以单击“重置/测试/维护”按钮进行手动恢复。当激活维护功能时，所有LED将闪烁，所有继电器将位于正常模式位置。

参见图 4 Fig. 4。

7. 声音、灯光和静音按钮

“静音”按钮 (9 - 图 1Fig. 1) 使蜂鸣器保持静音60分钟。如果气体浓度低于A级报警值，蜂鸣器 (7 - 图 1Fig. 1) 取消激活；如果气体浓度低于B级报警值，LED (8 - 图 1Fig. 1) 取消激活。详细信息参见图 2Fig. 2 (10).

8. 手动激活所有报警级别

闭合触点/回路产生完整的传感器信号，导致所有报警级别激活 (11 - 图 1Fig. 1)。

9. 安装

LDM150R远程传感器连接到PCB板的端子上 (6 - 图 1Fig. 1)。参见图 1Fig. 1中的接线图。

10. 年度功能测试

建议每年至少对本系统进行一次测试。可使用MCT150监测器校准工具进行基本功能测试。

11. 自动/手动报警重置

通过DIP开关 (1 - 图 1Fig. 1) nº3进行管理，其中“ON”表示自动重置，“OFF”表示手动重置，按下“重置/测试/维护”按钮 (5 - 图 1Fig. 1 - 位于盖板下方)即可。

12. 报警延时

通过DIP开关 (1 - 图 1Fig. 1) nº1和nº2进行管理：

nº 1	nº 2	报警延时(T1)
ON	ON	无报警延时
OFF	ON	(1)分钟报警延时
ON	OFF	(10)分钟报警延时
OFF	OFF	(30)分钟报警延时

13. 自检功能

按下“重置/测试/维护”按钮 (5 - 图 1Fig. 1) 5秒，测试程序将启动，在5秒钟内对所有LED功能和所有继电器功能进行测试。参见图 3Fig. 3.

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14. 故障功能

如果传感器出现电压下降(GV值低于0.1V)，则为故障状态。在最初4小时内，绿色LED灯将失效，另一些LED将闪烁。报警继电器C将改变状态。4小时后，“报警B”LED灯将亮起(其他LED灯将无效)，“报警B”继电器也将改变状态。

15. 故障安全

如果电源出现故障或发生故障状况，处于通电正常模式的各继电器将改变状态。

16. 技术参数

壳体：	聚碳酸酯，(PC) IP67
耗电量：	最大3W
电源：	LDM150R: 12-24V AC/DC LDM150R,High Voltage: 230V AC, 50/60 Hz
指示：	电源/激活和报警指示分三个级别。
输出继电器：	无源触点(230V，最大5A)
环境温度：	-40 °C - + 50 C (自动温度补偿)
湿度：	0-95% RH (无冷凝)
气封：	5个M16膜片气封
螺丝接线端：	< 1.5 mm^2，保险丝，最大10A

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请注意！

LDM150R系列产品中使用的半导体传感器不是特定气体专用传感器。安装设备时应小心，尽量减少来自其他气体或蒸汽的交叉污染。

如需了解针对特定应用的进一步指导，请与我们联系。

本产品适用于工业领域。

技术规范有可能更改。

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