Natural Gas Detector
ML-310CE

User’s Manual

This gas detector detects methane gas.

When gas is detected, an alarm (flashing of red LED, sounding of warning alarm) will be activated.

This device is also equipped with an Itron Network Solutions (INS) communication module that can send information over the network regarding gas alarms, gas detector trouble, low battery, and end of service life. Read, understand and retain this manual for future reference.

Safety Precautions

Read these precautions before using the product and be sure to follow these precautions in order to prevent hazardous situations and property damage. Precautions are classified with the following symbols according to the severity of the hazards and damage that may arise due to incorrect handling of this product.

DANGER

This indicates details for which incorrect handling of the product is expected to lead to situations having a serious chance of hazards leading to death or serious injury.

WARNING

This indicates details for which incorrect handling of the product is expected to lead to situations having a chance of hazards leading to death or serious injury.

CAUTION

This indicates details for which incorrect handling of the product is expected to lead to situations having a chance of injury or property damage.

Target Gas

This gas detector detects methane gas.

Names and Functions of Parts

- **Green LED (power)**: This LED flashes the test switch is pressed.
- **Red LED (alarm)**: This LED flashes when gas is detected.
- **Yellow LED (trouble)**: This LED flashes when trouble occurs, when the battery is low, or when the end of service life has been reached.
- **Alarm speaker**: Sounds an alarm when gas leakage.
- **Test switch**: Used to test power, alarm sounds, and communication.
- **Production serial number label**: Serial No. 18-07-12345
- **MAC ID label**
- **Gas detection unit**: Detects a gas leak.
- **Battery cover (transparent)**: Open to replace a battery.

Gas Detector Functions

**Visual and audible signals will not stop until the product is reset by removing and reinstalling the battery.**

- **When a gas leak occurs**
  - An alarm sounds when the level of gas in the area of the gas detector reaches or exceeds a certain concentration and warning signals are transmitted.
  - An alarm sounds every 6 seconds stating “Beep Beep Beep Beep Danger – gas leak explosion risk – evacuate, then call 911.”
  - Transmits gas alarm signals every 30 seconds.

- **When trouble occurs**
  - When trouble occurs, Yellow LED (trouble) flashes 3 times every 10 seconds and trouble signals are transmitted during the health check.
  - Transmits trouble signals during health checks performed every 8 hours.

- **When the battery is low**
  - When the battery is low, Yellow LED (trouble) flashes every 10 seconds and low battery signals are transmitted during the health check.
  - Transmits low battery signals during health checks performed every 8 hours.
  - * Batteries in this device are not available in retail. Please call Consolidated Edison Company for replacement batteries.

- **When the end of service life is reached**
  - When the end of service life is reached, an end of service life notification is issued and end of service life signals are transmitted during the health check.
  - Transmits end of service life signals during health checks performed every 8 hours.

Usage Instructions

1. Open the battery cover on the back of the gas detector.
2. Connect the included lithium battery.
   - * Once the lithium battery is connected, the gas detector’s green LED (power) will flash once for 1 second.
   - The detector will also search for an access point to connect to the network.
3. Insert the lithium battery and close the cover.
4. A “Beep” will sound 30 seconds after the power is turned on and the detector will begin monitoring.
   - * The device status will be confirmed during that 30 second period.
   - This “Beep” sound is not a notification that a connection with an access point has been established.
   - The time required to connect with the access point will depend upon usage conditions. Perform a communication test to confirm the connection status with the access point.
5. Press and hold the Test Switch for more than 3 seconds to test the alarm.

General Maintenance

This detector has been designed to be maintenance-free as possible, but there are a few simple things you must do to keep it working properly:

- Test it at least once a week.
- Clean the detector at least once a month; gently vacuum the outside of the detector using your household vacuum’s soft brush attachment.
- Test the alarm. Never use water, cleaners or solvents since they may damage the unit.
- Relocate the unit if it sounds frequent unwanted alarms. See “Where This Alarm Should Not Be Installed” for details.
- If product enters low battery mode, the batteries must be replaced.
- Batteries in this device are not available in retail. Please call Consolidated Edison Company for replacement batteries.
Test Functions

| Power check function | A “Beep” sound when the switch is pressed. If the switch is then released in less than 3 seconds, the green LED will flash twice every second (for 3 seconds) to indicate that the power is on.
| Alarm push button function | If the switch is pressed for approximately 3 seconds, both a “Beep” and a “Beep Beep” will sound. If the switch is then released in less than 10 seconds, the red LED will flash once every 2 seconds and the gas alarm “Beep Beep Beep Beep Danger – gas leak explosion risk – evacuate”, then call 911.” will sound twice.
| Communication test function | If the switch is pressed for approximately 10 seconds, a “Beep”, “Beep Beep”, and “Beep Beep Beep” will sound. If the switch is then released, the green LED will flash 3 times every second and the gas detector will enter communication test mode. Communication test mode will automatically end after 5 minutes.

Communication test mode

The signals in the following table are transmitted.

| Green LED (power) | Flashes 3 times every second
| Red LED (alarm) | Flashes once every 2 seconds

What to do when the alarm “Beep Beep Beep Danger” will sound twice.

1. Do not re-enter the area until the source of the leak is found and corrected. Follow directions from utility employees or emergency responders who are on site.

How to Install

Natural gas detectors should be installed above the point where a gas leak may occur. They should be located near the ceiling, typically 12 inches (0.3 meters) from the ceiling.

Air movement around the detector must not be impeded by items hanging from the ceiling.

The detector should not be installed in the peak of a cathedral ceiling.

They should be located near the ceiling, typically 12-inches (0.3 meters) from the ceiling.

If a pipe in the meter room meets these requirements, then install this gas detector on the pipe using a cable tie as described below.

1. Pass the cable tie through the hole in the gas detector.
2. Wrap the cable tie around the pipe and tie off.

Troubleshooting

- Battery is low: Replace the gas detector.
- Low battery: Replace the gas detector.
- Gas alarm: Plug in the battery connector plugged in.
- Gas alarm: Replace the gas detector.
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Disposal

When disposing of this product, do so in accordance with local laws and regulations. Also, remove the lithium battery when disposing.

Wireless notes

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Contact Details

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Specifications

| Conforming standards | UL standard (UL1484), FCC certified
| Detection principle | MEMS hot wire semiconductor sensor
| Target gas | Methane gas
| Gas immunity | Acetone, ethanol, bleach solution
| Operating temperature range | 32°F (0°C) to 122°F (50°C)
| Operating humidity range | 5% to 95%, no condensation
| Power supply | CTR7408-R-2-CN DC3V, 300mA (dedicated connection)
| Battery warranty | 5 years
| Alarm level | 10%LEL
| Response time | 120 sec. (25/35 LEL)
| Sound pressure | Gas alarm : 85 dbA/10 feet
| Initial power-up timer | Approx. 30 seconds
| Power indicator | A “Beep” will sound once when the switch is pressed for less than 3 seconds and the green LED will flash twice every second (for 3 seconds)
| Gas alarm | Red LED flashes once every 2 seconds.
| Low battery | Yellow LED flashes once every 10 seconds
| Alarm push button function | Product produces Gas alarm signal when the switch is pressed for more than 3 seconds.
| Communication test function | Communication test is performed when the switch is pressed for more than 10 seconds.
| End of service life | Yellow LED flashes twice every 10 seconds
| Battery removal indicator | The battery removal indicator will consist of a transparent battery cover that when a battery is not present exposes a warning flag label with the following markings: WARNING: NO BATTERY! Alarm is non-operational.
| Weight and dimensions | Approx. 140 g, W 85 x H 100 x D 22 mm (excluding protrusions)
| Installation pipe mount by cable ties or wall mount with hardware
| Accessories | User’s Manual (this manual)