

# twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

## Detector de calidad del aire multifunción O3

### LG-DM50203

[www.twilight.mx](http://www.twilight.mx)



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## Product Specifications

- Display method: 2.8" LCD screen display, 320 x 240 pixels
- Atmospheric pressure: 86Kpa - 106Kpa
- Detection method for PM: Laser Scattering
- Sampling time: 1.5 seconds
- Product Size: 155 x 87 x 35mm
- Detection temperature: -10°C to 50°C; 14°F to 122°F
- Relative humidity: 20% - 85%
- Storage temperature: -10°C to 60°C; 14°F to 140°F
- Concentration unit for TVOC: mg/m<sup>3</sup>
- Concentration unit for O<sub>3</sub>: ppm
- Power source: Lithium battery with 1200 mAh capacity; 5V DC power charging via micro USB port
- Product weight: 350g

## Product Description

This product is a multifunctional air quality detector that detects Ozone( O<sub>3</sub>), Total Volatile Organic Compounds (TVOC), Particulate Matter <2.5 micron-sized particles (PM<sub>2.5/1.0/10</sub>), Temperature, and Humidity with clock and record function. As a scientific air quality detection device, it combines multiple air sensors with a built-in fan to allow real-time monitoring of Ozone(O<sub>3</sub>), total volatile organic compounds (TVOC), PM<sub>2.5/1.0/10</sub>, temperature, and humidity on its digital LCD display.

## Considerations

- Please read the instructions carefully before using this device.
- Please calibrate the device outdoors before use for most accurate results.
- Please keep the manual handy for quick reference and troubleshooting.



### Precautions

- Avoid covering the air intake areas during use to avoid inaccurate measurements.
- Avoid use of solvents to clean the product as residual fumes will skew air quality readings.
- Avoid water or other liquids near the product to avoid electrical damage.
- Do not allow unauthorized modification or repair of this product.

## Features:

- 2.8" color liquid crystal display (LCD), 320x240 pixels
- User adjustable alarm threshold for Ozone(O<sub>3</sub>) to alert user of elevated levels
- Test variables: PM2.5/1.0/10, Ozone ( O<sub>3</sub>), TVOC, temperature, humidity
- Large 1200mAh capacity lithium battery
- On-board fan to draw in ambient air for more accurate real-time results
- 5V Micro USB charging
- Low battery warning

## Instructions

1) Start Up : When you long-press the center I/O or power button, the air quality monitor will boot up. Detector will proceed through its warm-up sequence for about 3 minutes to allow sensors to preheat and fan to draw in fresh ambient air. This is necessary for accurate results. Countdown timer showing remaining time for warm-up sequence is shown in the TVOC display area.



- 1) PM2.5 display area, showing the current PM2.5 level .
- 2) O3 display area, showing the current Ozone level.
- 3) TVOC display area, showing the current Total Volatile Organic Compound level.
- 4) Temperature display area, showing the current temperature either in Celsius or Fahrenheit.
- 5) Battery symbol, showing the battery or charging indicator.
- 6) Humidity display area, showing the current humidity level.
- 7) Air Quality Index, which shows the current AQI pollution index value.
- 8) Up / Switch / Increase Button, used to scroll between interfaces or navigate within menus
- 9) Exit / ESC button, used to exit from menus
- 10) Power (I/O) / OK / Menu Button, used to confirm highlighted options or to turn device on/off by pressing for 3 seconds.
- 11) Down / Switch / Decrease Button, used to scroll between interfaces or navigate within menus

O3(Ozone) ideal range:  $\leq 0.1 \text{ ppm}$

TVOC ideal range:  $\leq 0.6 \text{ mg}/\text{m}^3$  (0.45 ppm/ $\text{m}^3$ )

The Ozone alarm threshold can be set to 0.1, 0.3 or 0.6 ppm. If levels of O3 exceed the set ozone alarm threshold, the device will alarm with short beeps.

## 1. Switching Among Data Display Formats (Figure 1-3)

Press the up or down buttons to switch among data display formats (figures 1-3) that displays air quality readings in various formats:



Figure ①

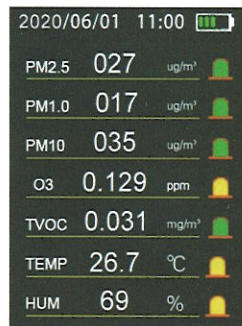


Figure ②

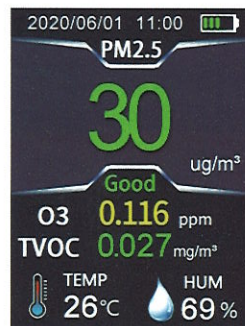


Figure ③

## 2. Menu Interface (Figure 4)

Press center I/O button to enter the Menu or Options screen.



Figure ④

### 3. System Settings (Figure 5)

After navigating to and highlighting "System Set" icon with up/down buttons within the Menu screen (figure 4), press center I/O button to select and enter "Configure System" screen.



Figure ⑤

#### Temperature Unit

Navigate to "Temp Unit" using up/down buttons and press center I/O button to enter. Choose between °C or °F with up/down buttons. Press center I/O button to select.

**Exit and save settings by pressing ESC button (slender minus-shaped key) twice.**

#### Alarm Threshold

Navigate to "Alarm HTL" using up/down buttons and press center I/O button to enter. You can choose among 3 alarm threshold levels for O3 0.1, 0.3 or 0.6 ppm. Press center I/O button to select.

#### Record Clearing

Navigate to "Clear Log" using up/down buttons and press center I/O button to enter. Press center I/O button to clear the history after highlighting "clean."

#### Shutdown Time

Navigate to "Off Time" using up/down buttons and press center I/O button to enter. Choose between the following options with up/down buttons to select shutoff time: never, 30 minutes, 60 minutes, 90 minutes. Press center I/O button to select. \*Please note that screen will shut off automatically if there is no user input to help preserve battery life. However, device itself will remain active if set to "never."

#### Interface Style

Navigate to "Style" using up/down buttons and press center I/O button to enter. Choose preferred background style using up/down buttons. Press center I/O button to select.

#### Language Switching

Navigate to "Language" using up/down buttons and press center I/O button to enter. Choose preferred OS language using up/down buttons: "Chinese" or "English." Press center I/O button to select.

#### Screen Brightness

Navigate to "Brightness" using up/down buttons and press center I/O button to enter. You can choose from 10% to 80% brightness. Press center I/O button to select.

#### Buzzer

Navigate to "Buzzer Set" using up/down buttons and press center I/O button to enter. You can select whether to turn the alarm buzzer on/open or off/close. Press center I/O button to select.

### 4. Time Setting (Figure 6)

After navigating to and highlighting "Time Set" icon with up/down buttons within the Menu screen (figure 4), press center I/O button to select and enter "Time Set" screen (figure 6).

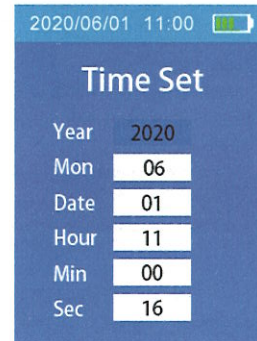
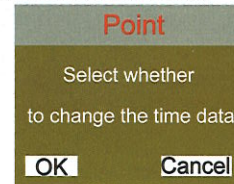


Figure ⑥

Change the Year, Month, Date, Hour, Minute, and Seconds using up/down buttons and confirm each change by pressing center I/O button. When finished, press the Exit key (slender minus-shaped button), after which the following will display:



Press the center I/O button to confirm and save changes. Press the Exit key to cancel any changes.



#### 5. History (Figure 7)

After navigating to and highlighting "History" icon with up/down buttons within the Menu screen (figure 4), press center I/O button to select and enter "History" screen (figure 7). Graph shows the last 10 data values for O3, temperature, humidity, and PM2.5 taken every 10 minutes over the previous 100 minutes.

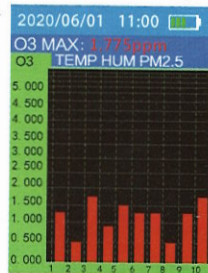


Figure ⑦

#### 6. Real-Time Measurement (Figure 8)

After navigating to and highlighting "Actual Data" icon with up/down buttons within the Menu screen (figure 4), press center I/O button to select and enter "Real-Time Detection" screen (figure 8). This screen shows the raw data from the TVOC and O3 sensors without any averaging over time that reduce variations and signal noise in the air quality readings.

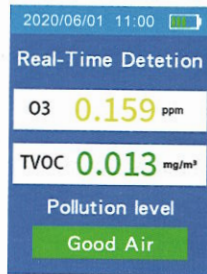


Figure ⑧

#### 7. About Us

After navigating to and highlighting "About Us" icon with up/down buttons within the Menu screen (figure 4), press center I/O button to select and enter "About Us" screen to view our company information.

#### 8. About Charging

When low battery icon is displayed, the device needs to be charged. Insert the included or another compatible micro USB charging cable into the device. Attach the other end to a USB DC charger (such as a smartphone charger) that outputs DC 5V at  $\geq 1000\text{mA}$ . Fully charge for at least 2-3 hours before use. Avoid charging with a USB computer port which only outputs 500mA.



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