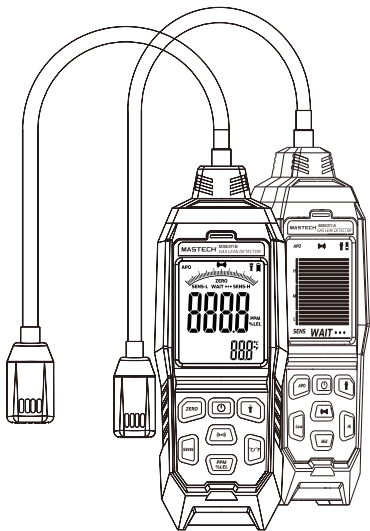


MASTECH®

MS6311A/B

Combustible GAS
Detector
User Manual



Thank you very much for your patronage and choosing our products. Before you use this product please read this manual carefully as it will familiarize you with the correct operating procedure of our MASTECH product.

⚠ Notice:

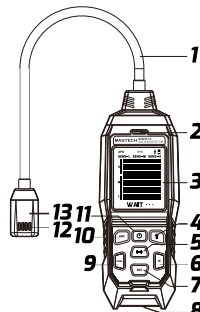
- Please read this manual carefully before using this instrument;
- Please make sure you are turning on the meter under a "clean air" environment away from the test place, and wait for the preheating countdown to complete;
- Please make sure the sensor cover is fastened securely;
- Do not place the meter or the sensor at or near the heat sources.

Product Features

- High, medium and low sensitivity (only MS6311A);
- High and low sensitivity (only MS6311B);
- With flashlight on the detection probe;
- Buzzer and indicator light alarm;
- Auto power off and cancel auto power off;
- Low battery indication and battery charging indication;
- Analog bar scale indication;
- %LEL or PPM unit (only MS6311B);
- Ambient temperature (only MS6311B).

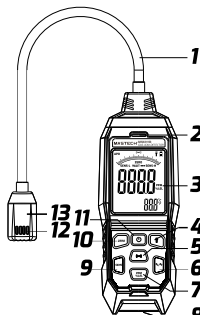
Panel Instruction

MS6311A



- 1 Gooseneck
- 2 Alarm indicator
- 3 LCD screen
- 4 Flashlight button
- 5 Sound and Light alarm button
- 6 High sensitivity
- 7 Medium sensitivity
- 8 USB charging interface
- 9 Low sensitivity
- 10 Auto power off
- 11 Power
- 12 Semiconductor sensor
- 13 Flashlight

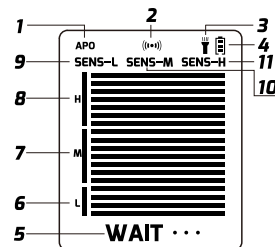
MS6311B



- 1 Gooseneck
- 2 Alarm indicator
- 3 LCD screen
- 4 Flashlight button
- 5 Sound and Light alarm button
- 6 Temperature units switching
- 7 Gas units switching
- 8 USB charging interface
- 9 Alarm sensitivity selection
- 10 Auto zero
- 11 Power
- 12 Semiconductor sensor
- 13 Flashlight

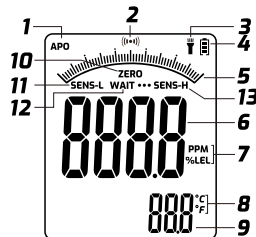
Display

MS6311A



- 1 Auto power off
- 2 Alarm symbol
- 3 Light symbol
- 4 Battery level indication
- 5 Power on waiting
- 6 Low concentration
- 7 Medium concentration
- 8 High concentration
- 9 Low sensitivity
- 10 Medium sensitivity
- 11 High sensitivity

MS6311B



- 1 Auto power off
- 2 Alarm symbol
- 3 Light symbol
- 4 Battery level indication
- 5 Analog bar
- 6 Combustible value
- 7 Gas unit
- 8 Temperature unit
- 9 Temperature value
- 10 Auto zero
- 11 Low sensitivity
- 12 Power on waiting
- 13 High sensitivity

Specification

Model	MS6311A MS6311B	
Range	%LEL : 0 ~ 20% PPM : 0 ~ 9999PPM	
Resolution	-	%LEL: 0 ~ 20.0%(0.1) PPM: 0 ~ 999PPM(0.1) 1000 ~ 9999PPM(1)
Accuracy	-	±10%F.S.(CH4)
Display	Analog bar	Analog bar and value
Sensitivity	50PPM (CH4)	
Alarm mode	Display, sound & light alarm	
Auto zero	Auto-zero during warm-up process(in clean air)	
Sensor	Semiconductor sensor	
Ambient temp	range	- 0 ~ 60°C
	accuracy	- ±2°C
Auto power off	10 mins (can be canceled manually)	
Detectable gas	Acetone,acetylene,alcohol, ammonia, benzene,butane, ethanol,oxirane, gasoline, hexane,hydrogen,methane, naphtha,natural gas, paint thinner,propane, solvent and etc.	
Working environment	-10 ~ 50°C, max 80%RH, indooraltitude<2000m	
Storage environment	-10~50°C , max 70%RH ,	
Product size	192 x 70 x 35mm (gooseneck not included)	
Screen size	53 x 44mm	
Gooseneck length	Approx. 20cm	
Weight	Approx. 275g (Battery included)	
Power	3.7V /1000mAh LI-ION	
USB charging	USB micro interface (DC 5V/1A)	

Button Function Description

- ⏻ : Power button, long press to turn-on and tap to turn-off;
- 🔊 : Alarm setting; tap to turn on or turn off the sound alarm and indicator light alarm function;
- 🔦 : Flashlight, tap to turn on or turn off;
- °C/°F : Temperature unit, tap to switch between °C and °F (only MS6311B);
- Hi : High sensitivity button (only MS6311A);
- Mid : Medium sensitivity button (only MS6311A);
- Low : Low sensitivity button (only MS6311A);
- APO : Auto power off, tap to turn on or turn off the auto power off function (only MS6311A);
- ZERO : Auto zero (only MS6311A);
- SENS : Sensitivity selection, tap to select the low sensitivity or high sensitivity (only MS6311B);
- PPM %LEL : Gas concentration units, tap to select PPM or %LEL units (only MS6311B).

Alarm Concentration Selection

SENS-H : With slow alarm sound when the concentration of combustible gas in the environment is greater than 1000 PPM, and change to rapid alarm sound when greater than 3500 PPM ;

SENS-M : With medium-speed alarm sound when the concentration of combustible gas in the environment is greater than 2000PPM, and change to rapid alarm sound when greater than 3500PPM (only MS6311A);

SENS-L : With rapid alarm sound when the concentration of combustible gas in the environment is greater than 3500PPM.

Measurement Method

⚠ Notice:
Please make sure you are turning on the meter under a "clean air" environment away from the test place, and wait for the preheating countdown to complete to avoid detection errors.

MS6311A Operation Procedures

- Press ⏻ to turn on the meter; the meter will start a preheating countdown of 30s, and the display will flash with "WAIT"; the sensor is performing self-test and reset during the countdown, a buzzer "beeps" indicates the preheating is over, it will enter the normal working state and ready for detection;
- Locate the leak source and move along the pipeline to be detected (or other detected objects);
- Alarm sound will be emitted If the leakage concentration is higher than the

- Alarm selection: Press Hi, Mid and Low button to select alarm sensitivity;
- Mute: Press 🔊 to turn on or turn off the alarm sound and indicator light ;
- Press 🔦 to turn on and turn off the light on the sensor.

MS6311B Operation Procedures

- Press ⏻ to turn on the meter; the meter will start a preheating countdown of 30s, and the display will flash with "WAIT"; the sensor is performing self-test and reset during the countdown, a buzzer "beeps" indicates the preheating is over, it will enter the normal working state and ready for detection;
- Locate the leak source and move along the pipeline to be detected (or other detected objects);
- Alarm sound will be emitted If the leakage concentration is higher than the alarm value (alarm function is on);
- Alarm selection: Press SENS button to select high and low alarm sensitivity;
- Mute: Press 🔊 to turn on or turn off the alarm sound and indicator light ;
- Press 🔦 to turn on and turn off the light on the sensor.

Common Flammable Gas and Lower Explosion Limit Table

Name	Formula	Lower explosion limit (volume%)
Methane	CH ₄	5.0%
Butane	C ₄ H ₁₀	1.8%
Heptane	C ₇ H ₁₆	1.1%
Acetylene	C ₂ H ₂	2.3%
Xylene	C ₈ H ₁₀	1.0%
Methanol	CH ₃ OH	5.5%
Ethanoic acid	CH ₃ COOH	4.0%
Hydrogen	H ₂	4.0%
Protane	C ₃ H ₈	2.2%
Pentane	C ₅ H ₁₂	1.7%
Styrene	C ₈ H ₈	1.1%
Toluene	C ₇ H ₈	1.2%
Acetone	C ₃ H ₆ O	2.5%
Ethanol	C ₂ H ₅ OH	3.3%
Ethyl acetate	CH ₃ COOC ₂ H ₅	2.0%

Auto Power Off and Cancel Auto Power Off

- The auto power off function switches on by default , the screen shows the APO symbol when turning on the meter. Only if you stop using it for 15 minutes will it trigger the automatic power off mode;
- If you need to cancel the auto power off, press APO button under measurement mode, the APO symbol will not appear and the auto power off function is canceled. The auto power off function can be restored as long as restart the meter (only M56311A);
- If you need to cancel the auto power off, press SENS and Power button together to turn the meter, the APO symbol will not appear and the auto power off function is canceled. The auto power off function can be restored as long as restart the meter (only M56311B);
- When the meter turns on the auto power off function, the display screen shows the APO symbol, APO symbol will disappear once canceled the auto power off function.

Battery Charging

(Note: Battery replacemet needs to be returned to the factory)

- The battery level shows empty when battery less than 3.4V , indicating that the battery needs to charge;
- Charging by DC 5V / 1A power adapter (built-in 3.7V / 1000mAH lithium battery, model: 523450-1000mAh);
- Power interface is MICRO USB IN.

Maintenance

- Do not measure for a long time under high temperature and high humidity environment;
- Regular calibrated is needed to maintain the accuracy of the device;
- If your device does not work properly, and the repair requirements was confirmed by the manufacturer or dealer. The user should provide a text failure description and packing list , and the packaging.



APAC
MGL APPA Corporation
cs.apac@mgl-intl.com

EMEA
MGL EUMAN S.L.
cs.emea@mgl-intl.com

MEXICO & LATAM
MGL LATAM S.A DE CV
cs.latam@mgl-intl.com

UNITED KINGDOM
POWER PROBE GROUP LIMITED
cs.uk@mgl-intl.com

中国
广东迈世测量有限公司
客服信箱: cs.cn@mgl-intl.com

亚太
邁世國際瑞星股份有限公司
客服信箱: cs.apac@mgl-intl.com

USA
MGL AMERICA, INC.
cs.usa@mgl-intl.com