SMART Gas Detector/Transmitter(4~20mA) with builtin TFT LCD & explosion proof

DA-600S-VOC

Auto - Sampling Type

GASDNA

GASDNA Co.,Ltd 101, Bukhang-ro 193beon-gil, Seo-gu, Incheon, 22856, Republic of Korea
Tel: +82-32-584-7420 Fax: +82-32-584-7424 E-mail: sales@gasdna.com Web: www.gasdna.com

http://www.gasdna.com

CONTENTS

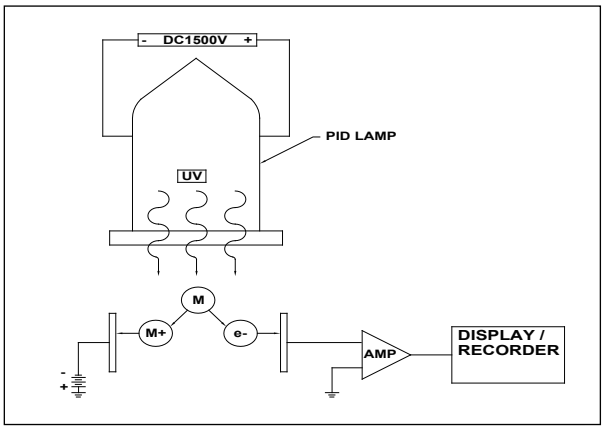
1. Product Overview

The DA-600S-VOC meter is a photoionization detector that uses a full-color LCD and RGB LED to enhance visibility and light display.

The DA-600S-VOC meter measures VOCs and other substances as a photoionization detector.

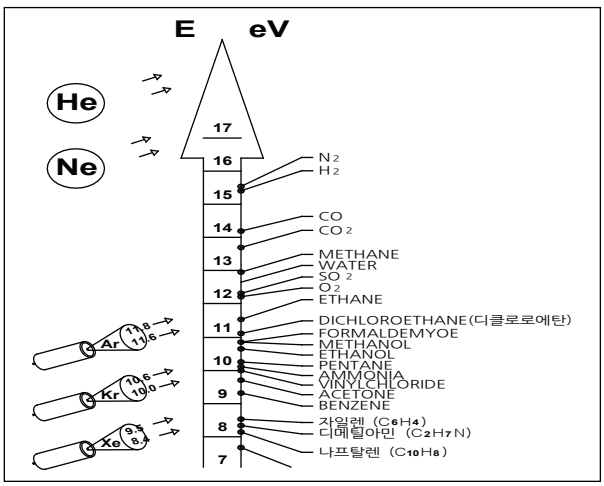
It is a very wide spectrum meter that measures from low concentrations of ppb (one billionth) up to 10,000 ppm (one millionth). The photoionization detector (PID) uses an ultraviolet (UV) light source to easily break down chemicals into positive and negative ions. Ionization occurs when a molecule absorbs UV energy, which causes the molecule to become excited, temporarily losing negatively charged electrons and forming positively charged ions.

DA-600S-VOC(Photolonization Dectector) Measurement Principle



PID Principle of Operation

1. Apply 5V voltage to the PID lamp filled with Clapton gas.
2. Clapton gas emits UV (ultraviolet) of 10.6eV by molecular resonance.
3. Molecules are separated into positive charge (+) and negative charge (-).
4. All molecules have energy levels.



The figure above shows the energy level values of gas molecules, and when voltage is applied to a lamp filled with Kr, 10.6 eV ultraviolet rays are emitted, and gas molecules with lower energy levels can be ionized + and -, while gas molecules with higher energy levels cannot be ionized.

For example, CO gas has an energy level of 14.0 eV, so it cannot be ionized, but benzene gas has an energy level of 9.2 eV, so benzene molecules can be ionized + and -, so gas measurement is possible

2. Product Features

- **Sampling Type**
  By continuously sucking and detecting leaked gas with a micro pump, seamless gas detection becomes possible, even in challenging environments where traditional gas sensors are difficult to install or maintain.

- **Digital Process**
  The built-in microprocessor-based digital processor implements various artificial intelligence functions to provide a convenient gas monitoring environment.

- **Non- Open Automatic Calibration Function**
  The device's non-open automatic calibration function eliminates the need to open the detection unit cover during calibration. Instead, users can use a magnetic bar to touch the cover window, ensuring a safe and efficient calibration process, even in the explosive area.

- **Noise Blocking Circuit (Isolation Circuit)**
  The stability of sensor output was strengthened by configuring an isolation circuit directly within the circuit to effectively block electrical noise.

- **User Programming**
  The device allows users to customize various settings, such as the detection range and other functions, according to their specific requirements and preferences. This feature provides flexibility and adaptability to meet diverse monitoring needs.

- **Built-in HD (high resolution) A/D Converter:**
  The device is equipped with a high-resolution analog-to-digital (A/D) converter, ensuring precise and accurate conversion of analog signals into digital output. This technology enhances the accuracy of the output signal, resulting in reliable and trustworthy measurements.

- **Analog 4-20mA Transmitter**
  With the analog 4-20mA output, the device enables stable and long-distance signal transmission of up to 2.5 kilometers. This ensures reliable communication and allows for extended signal transmission distances while maintaining signal integrity.

- **Modbus RTU based on RS-485**
  The Modbus RTU protocol, implemented over RS-485, provides a robust and dependable method for signal communication. With Modbus RTU, the device supports reliable, safe and long-distance signal transmission of up to 1.2 kilometers.

- **Alarm Output**
  It is equipped with relay contact that provides a two-step alarm functionality (Alarm 1 & Alarm 2).

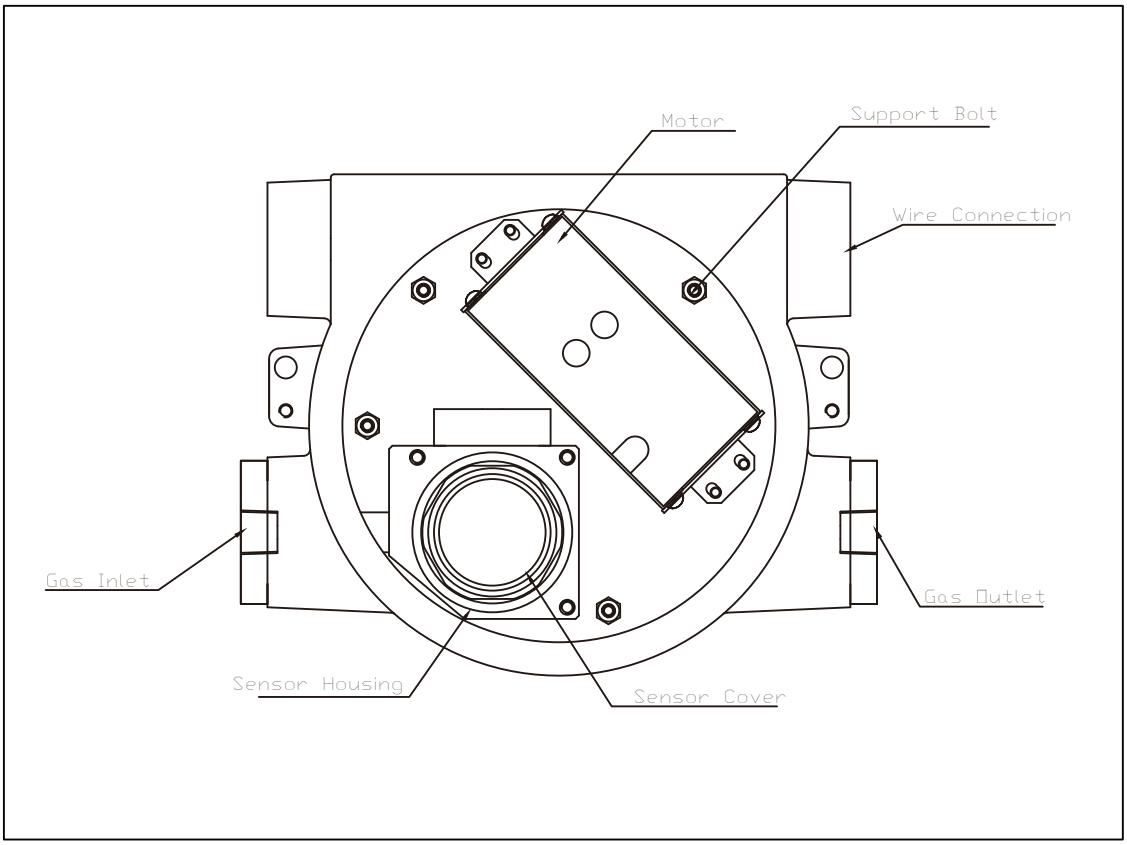
- **TFT Display**
  2.4″ color TFT display shows gas concentration in real time and is easy to read even in dark places.

3. Product Specifications:

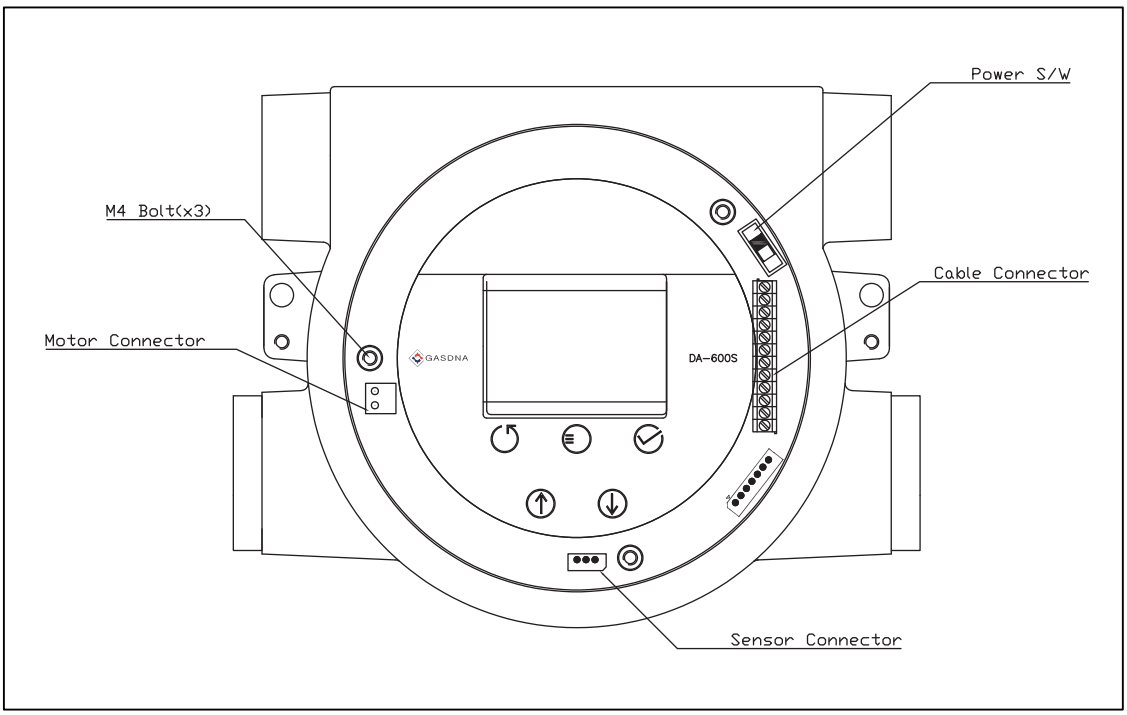
Specification	Detail
Measuring Range	0~9999 PPB, 0~200 PPM, 0~1000 PPM, 0~10000 PPM
Size	191(W) x 158(H) x 135(D)
Weight	3.8kg
Display	2.4″ TFT LCD
Screen size	48.96mm × 36.72mm(2.4inch)
Screen display	5magnetic switches with led confirmation
Warning light	RGB Color :RED, Orange, Green
Measuring principle	PID(Photo-ionization)
Measuring gas	See the gas list
Detection Time(T90)	〉15 Sec
Temperature	-40℃~55℃
Humidity	0~95%RH(Non condensing)
Mechanical interface	2 x 3/4″ NPT
INPUT POWER	DC 20~30V, Maximum power of 10Watts
Outputs	4-20mA, Rs485 modbus, Relay x 2SPST(220V AC : 0.3A)
Certification	Ex db IIC T6 Gb(IP6X), Ex tb IIIC T85℃ Db(IP6X)
Measuring method	Sampling

4. Product Parts & Names

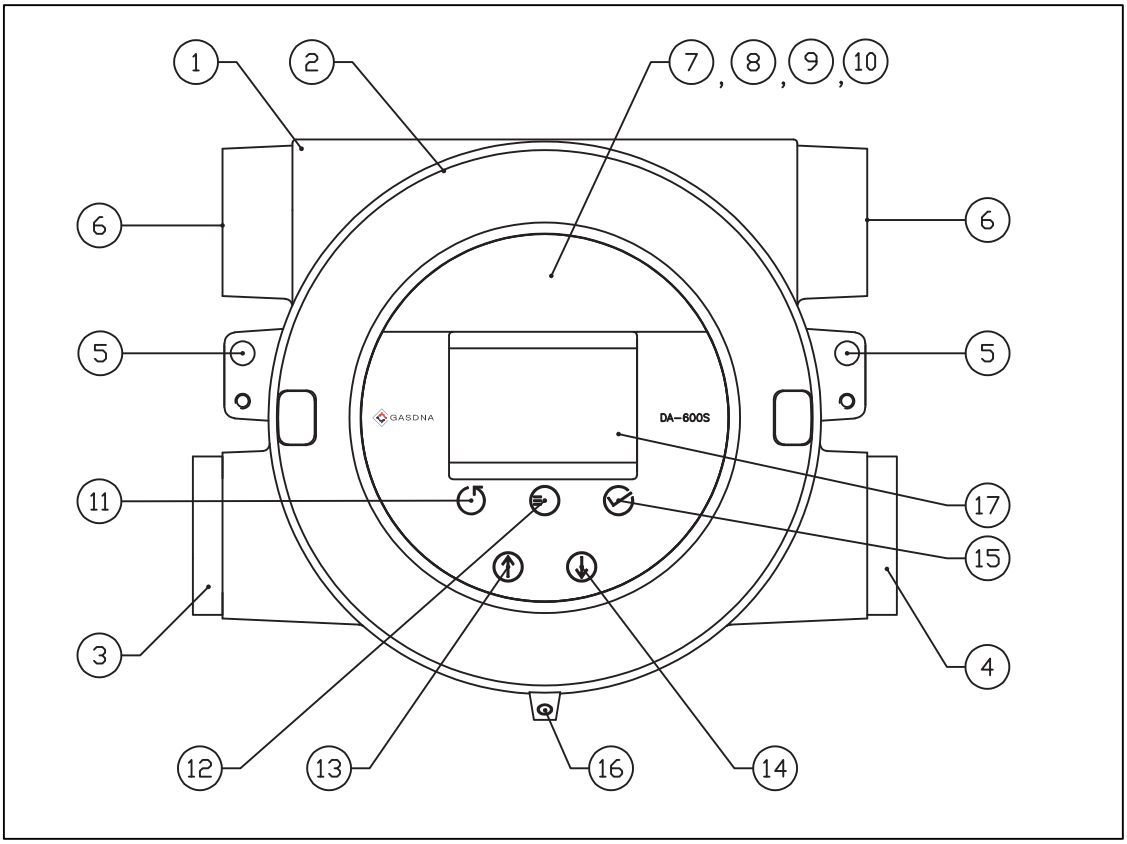
4.1 Internal Components of Detector



4.2 Function Module Board (TFT Display + Main Board)

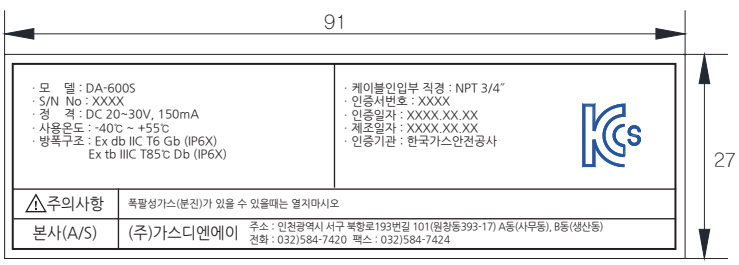


4.3 Each Part Names and Explanation



1. Detector Housing Body	10. AL-2 LED Light
2. Sensor Housing Cover	11. Reset Key
3. Gas Inlet (PT 1/4")	12. Mode Key
4. Gas Outlet (PT 1/4")	13. UP Key
5. MOUNT Whole	14. DOWN KEY
6. Pipe Connection	15.Enter Key
7. Power LED Light	16. HEADLESS Bolt (Housing Cover)
8. Fault KED Light	17. TFT Screen
9. AL-1 LED Light	

*Name Plate



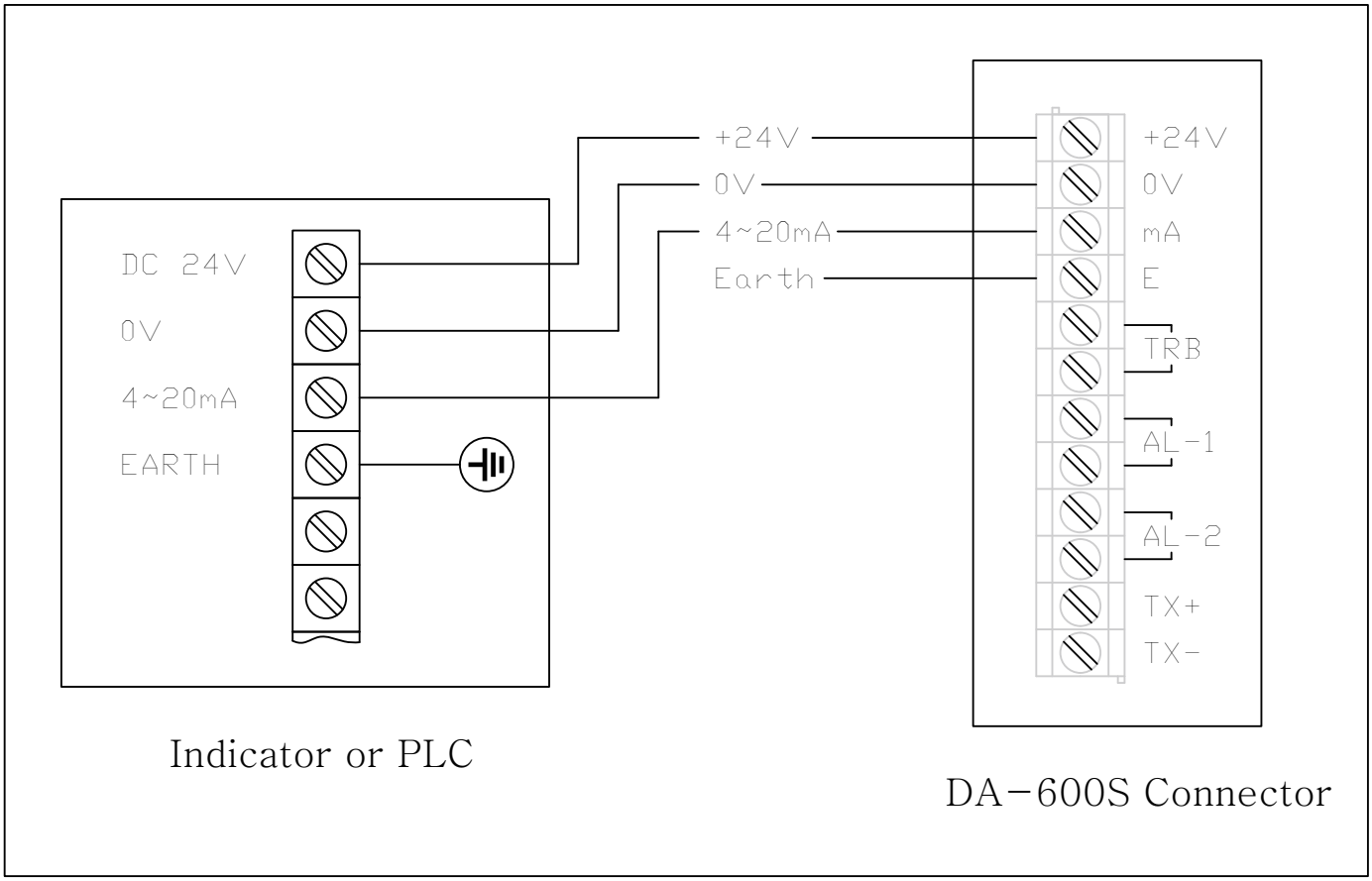
5. Sensor Replacement

The DA-600S sensor has an integrated structure with a sensor cap and sensor filter for sensor protection and explosion-proof functions. Therefore, sensor replacement work is done by replacing the sensor cap, which is an integrated structure with the sensor and filter. To replace the sensor, follow the following procedure, referring to the product configuration and name.

① Turn off the detector Power.
② Open the detector cover by rotating it anticlockwise.
③ Loose the four M4 bolts on the function module board and pull them out onto the support.
④ Disconnect the 3-wire sensor connector of Function Module.
⑤ Remove the mood bolt that is connected to the sensor housing anti clockwise and separate the sensor housing.
⑥ Combine the new sensor housing and connect it by tightening the headless bolt.
⑦ Connect the 3-wire sensor connector located on the power board.
⑧ To connect the function module board, push it accurately into the sidebar and tighten with two M3 bolts.
⑨ Turn the detector cover clockwise and tighten it tightly.
⑩ Turn On the Power
⑪ Start The Sensor Calibration Process.

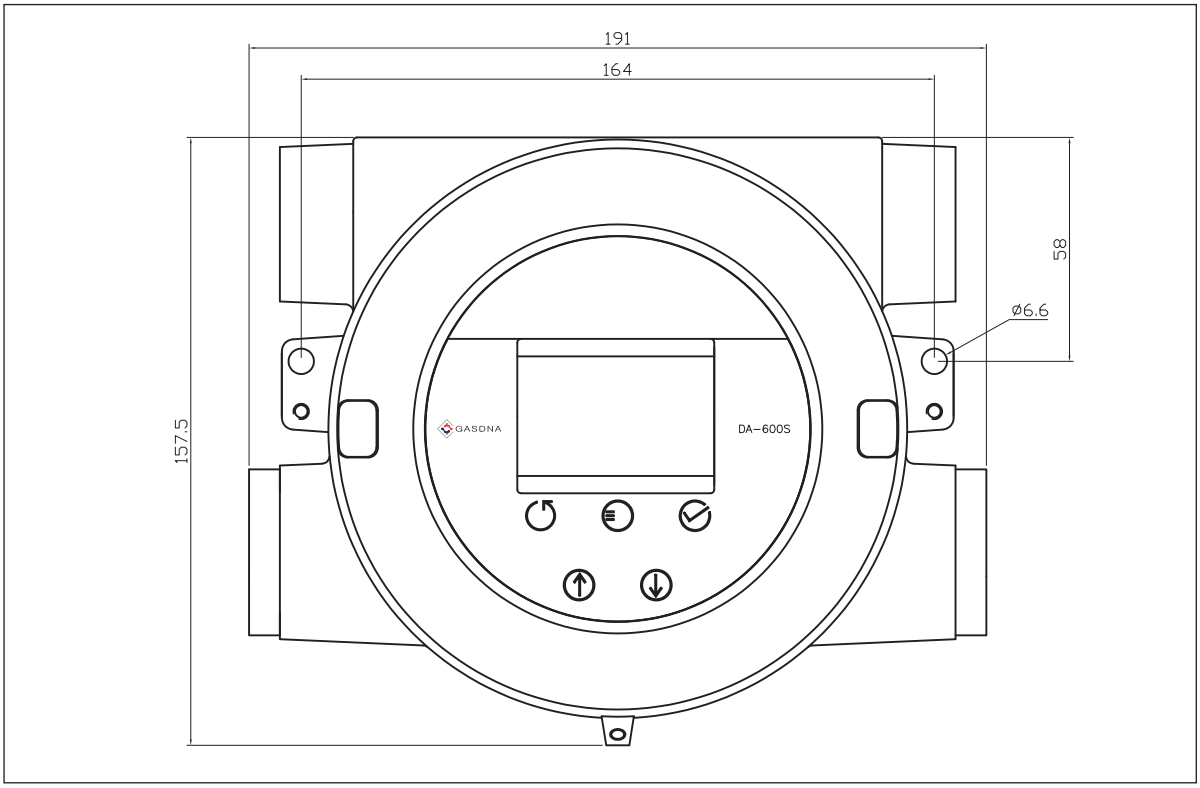
▲ Caution
- Make sure the power is off before replacing the sensor.
- Make sure the connector's socket orientation is correct.
- Fully tighten the sensor cap and front cover to ensure waterproofing.

6.Wiring


DC 24V
0V
4~20mA
EARTH
+24V
0V
4~20mA
Earth
+24V
0V
mA
E
TRB
AL-1
AL-2
TX+
TX-
Indicator or PLC
DA-600S Connector

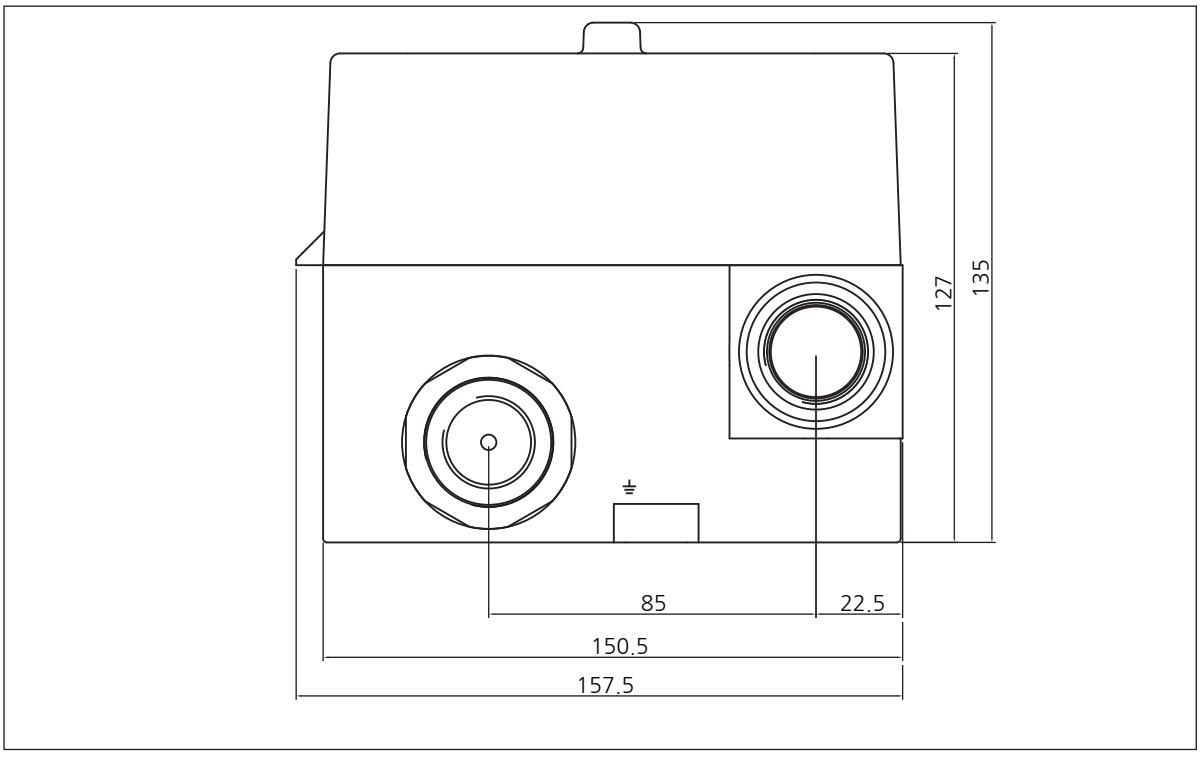
7. Product Installation

1. Front View



Unit: mm

2. Side View



Unit: mm

Cable Conduit and Installation Location

- Cable Conduit: 3/4" PF/NPT
- In open areas, install the DA-600S as close as possible to potential gas leaks, such as gas valves and pipe connections.
- In closed areas,
- Light Gas (Specific Gravity ⟨1): Install DA-600S 20~30 cm away from the ceiling.
- Heavy Gas (Specific Gravity ⟩ 1): Install DA-600S 20~ 30 cm away from the floor.

▲ Caution :

- Avoid potential electrical problems such as raindrops.
- Avoid vibration or physical shock that may affect the output signal value.
- Avoid high temperature or moisture.
- Avoid electrical noise such as motors, pumps or high voltage power lines.
- Please choose a location where repair and maintenance work can be easily performed. If this is not possible, it is recommended to use a suction type detector.

8. Device Operation

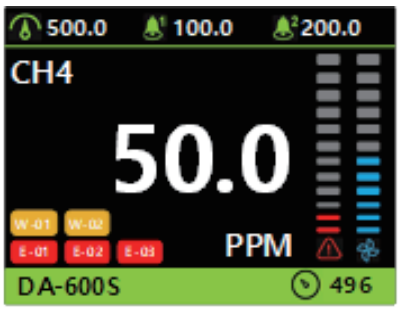
8.1 Startup Routine

When power is supplied, the DA-600S displays the following screen:

- Logo & Product Name screen

- Warming-up Screen: Before working in normal mode, the device must be warmed up so that the sensor output reaches a stable value. This preheating time can be skipped by pressing the DOWN key for 3 seconds.

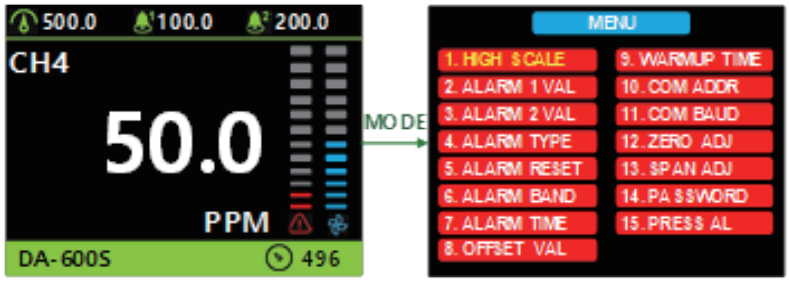
- Normal measurement screen: After preheating, move to the normal measurement screen and display the measured concentration value.



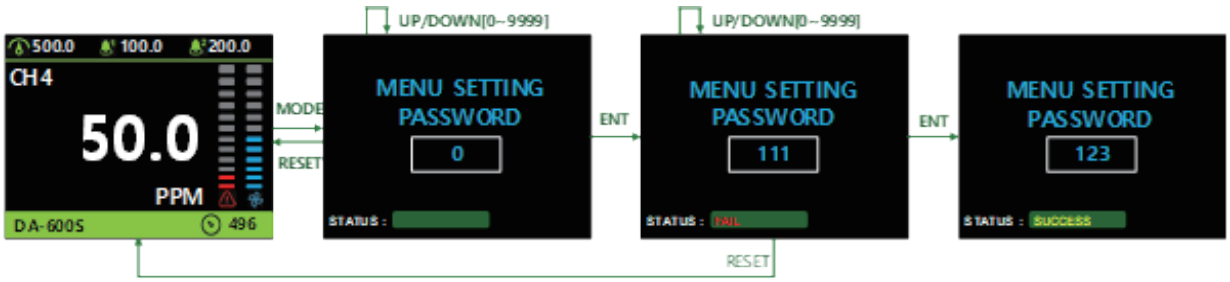
50.0	Measured Concentration Value		Measured Concentration Value
PPM	UNIT		SUCTION Speed value level display
CH4	Gas Name		Pressure Value
DA-600S	ALARM 1 Operation (Setting Value 100.00	W-01	In case of the measured value exceeds the MAX value
	Model Name	W-02	In case of pressure value is lower than the set value.
	ALARM 1 Operation(Setting Value 200.00	E-01	In case of EEPROM error in MCU
	4~20 mA Communication HIGH SCALE Value	E-02	In case of ADC error in MCU
		E-03	In case of sensor connection error

8.2 Settings Menu

There are a total of 15 menus. To enter the menu settings, press the MODE key for 2 seconds.



When the password status is ON, the password screen is displayed.

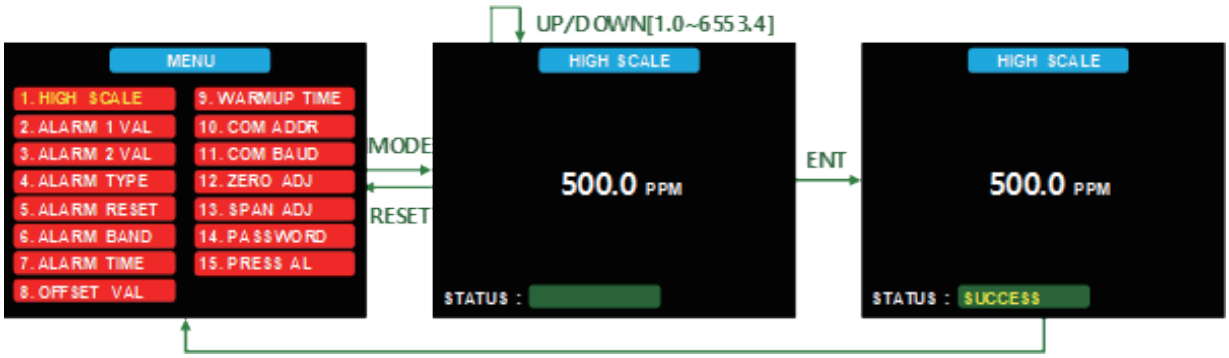


Change the password number using the UP and DOWN keys. Press the ENT key. If the password is correct, [SUCCESS] is displayed. If the password is incorrect, [FAIL] is displayed. Press RESET to return to the normal measurement screen.
Note: To access the menu regardless of your user password, enter the default password "1234".

MENU 1: HIGH SCALE

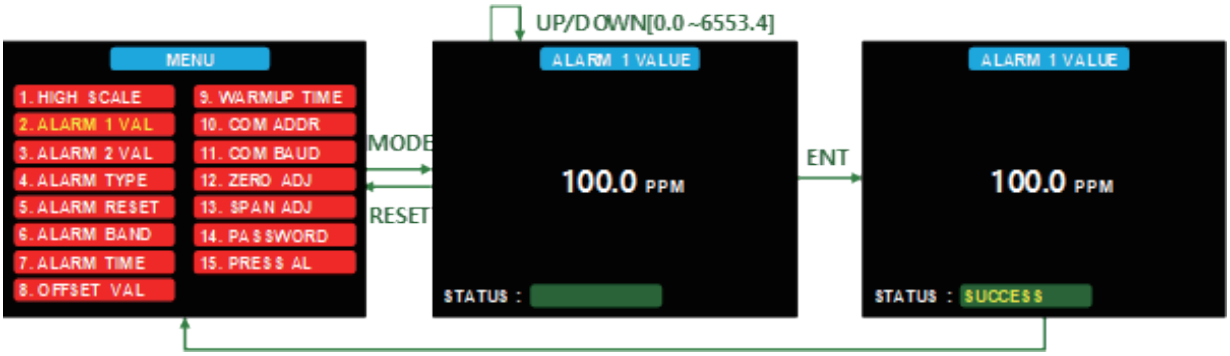
Set the 4~20mA output signal to full scale. The current level is displayed.
EX: If HIGH SCALE is set to 100.0, the 4mA output signal is displayed as '0.0' and the 20mA output signal is displayed as '100.0'.

Note: Please refer to Table 2 for detailed 4-20mA output depending on the operation.



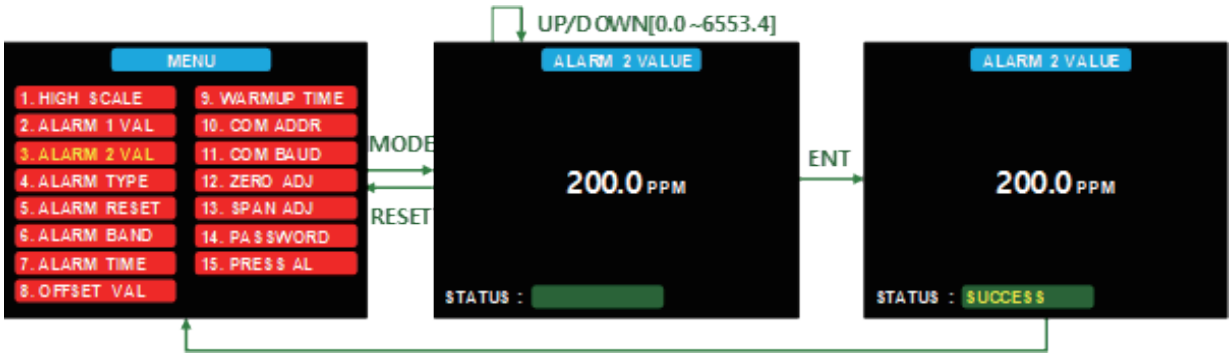
MENU 2: ALARM 1 VAL

Set the alarm to level 1. Present level is displayed.



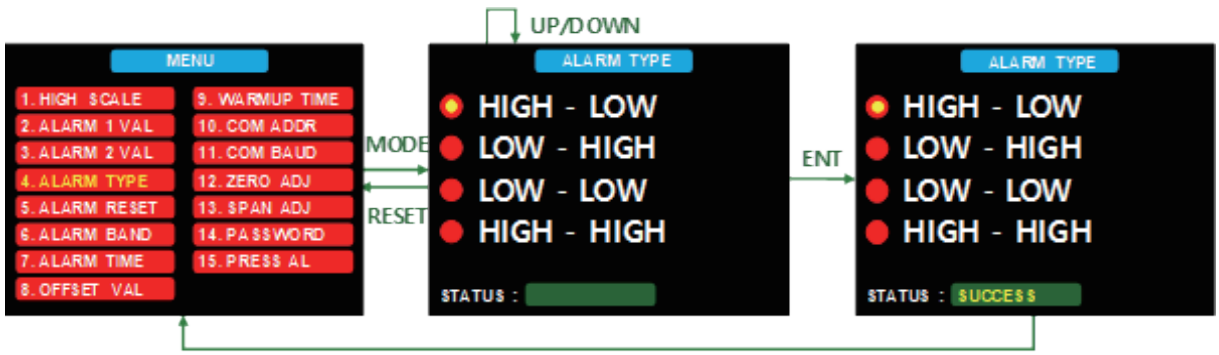
MENU 3: ALARM 2 VAL

Set the alarm to level 1. Present level is displayed.



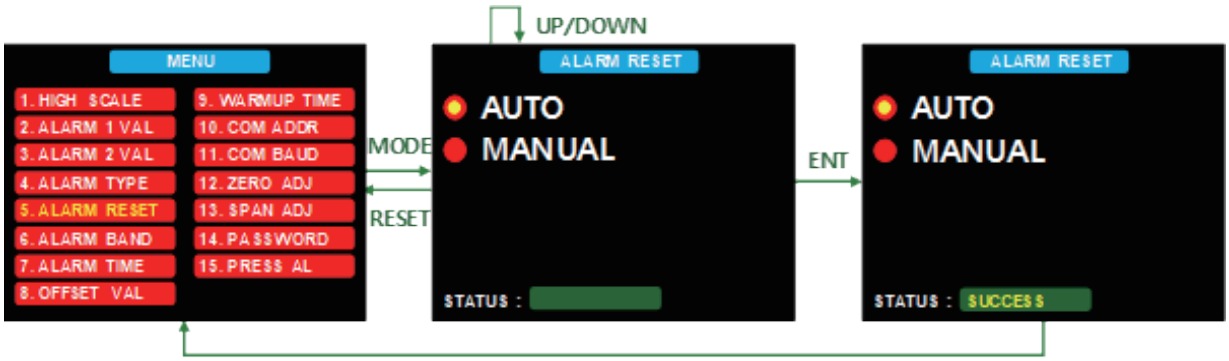
MENU 4: ALARM TYPE

Set the alarm type for each alarm. There are four alarm types: HIGH-LOW, LOW-HIGH, LOW-LOW, HIGH-HIGH.
EX: In the case of HIGH-LOW: ALARM-1 corresponds to High Alarm, ALARM-2 corresponds to Low Alarm.
When an alarm occurs, the corresponding LED and relay are activated.
EX: In the case of ALARM-TYPE set to HIGH-LOW:
- If the measured value is higher than the alarm 1 level, the red LED blinks at a frequency of 2Hz and relay 1 is activated.
- If the measured value is lower than the alarm 2 level, the red LED blinks at a frequency of 4Hz and relay 2 is activated.
Note: Please refer to Table 1 for detailed LED status according to operation.



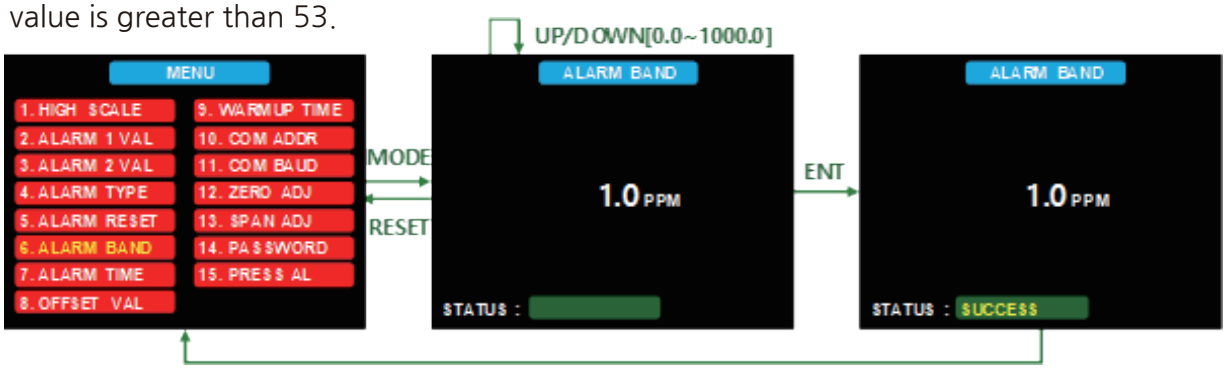
MENU 5: ALARM RESET

Set the alarm release method.
- AUTO - Automatic: The alarm and relay are automatically released when the measured value goes beyond the predefined level according to the alarm type.
- MANUAL - Manual: The alarm and relay are released when the measured value goes beyond the predefined level according to the alarm type and the RESET key is pressed.



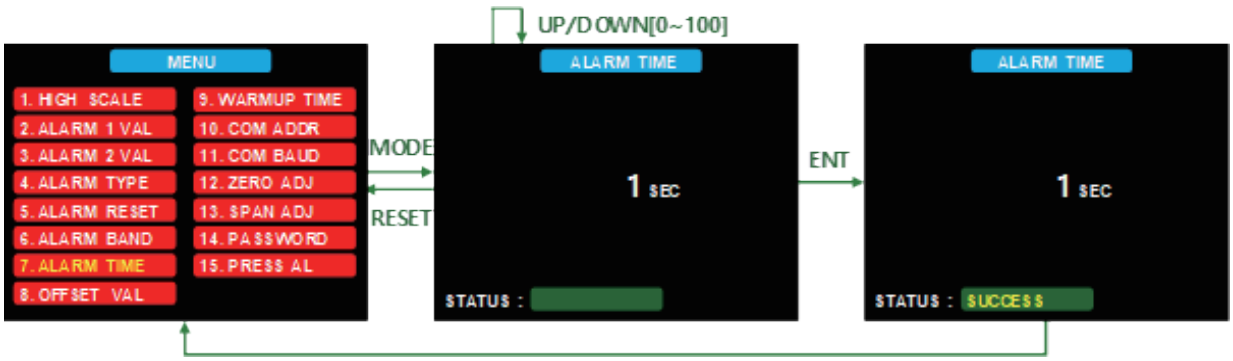
MENU 6: ALARM BAND

Set alarm threshold to prevent repetitive alarms.
EX: If ALARM-1 is set to '20', ALRAM-2 is set to '50', ALARM TYPE is set to 'HIGH-LOW', and ALARM BAND is set to '3', alarm 1 turns on when the measured value is greater than 20 and turns off when the measured value is less than 17.
Alarm 2 turns on when the measured value is less than 50 and turns off when the measured value is greater than 53.



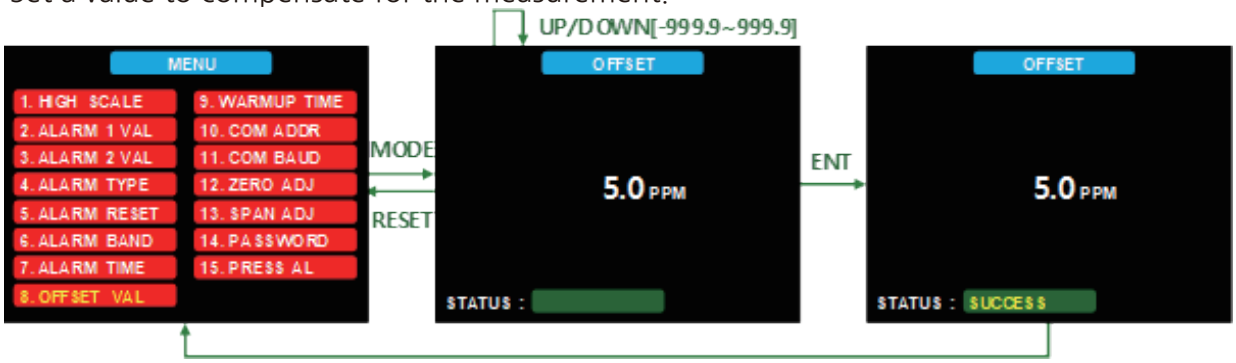
MENU 7: ALARM BAND

Set the alarm delay time to avoid influence by noise.
EX: If ALARM-1 is set to '50' and 'AL-TIME' is set to '5', the alarm will be activated only if the measured value remains higher than 50 for longer than '5' seconds.



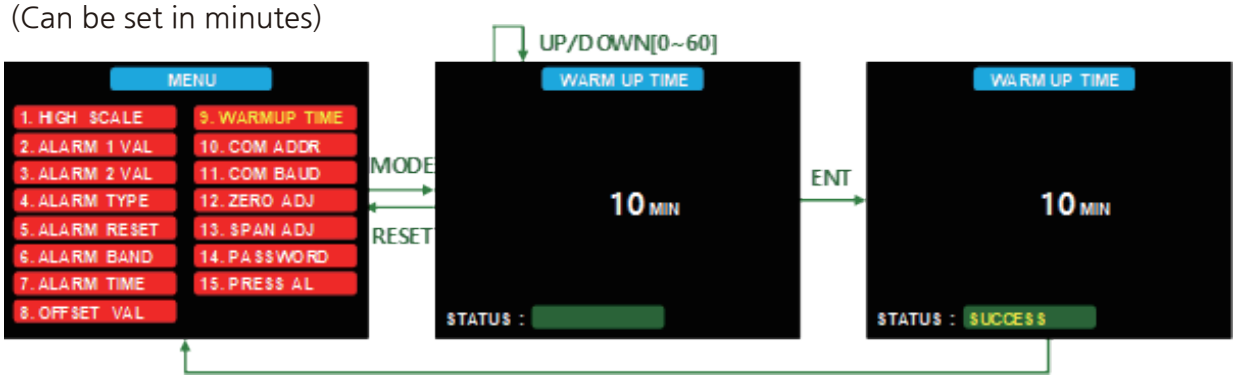
MENU 8: OFFSET VAL

Set a value to compensate for the measurement.



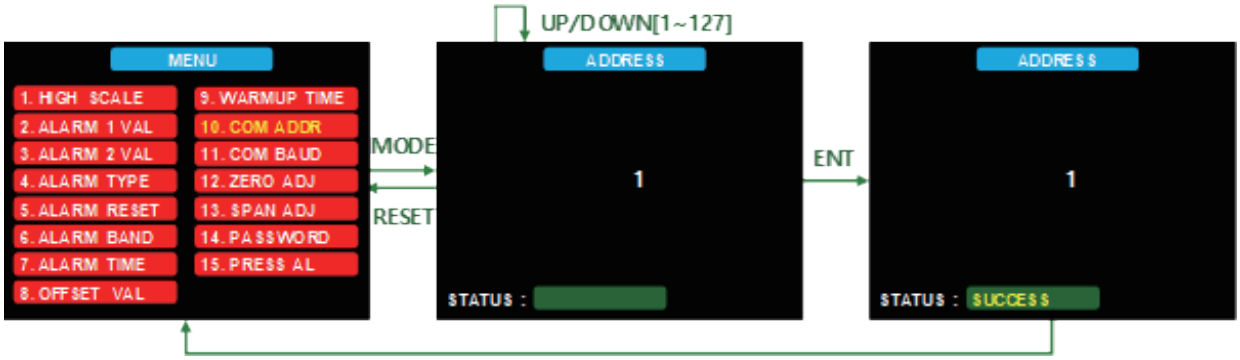
MENU 9: WARMUP TIME

Set the initial time after Power On. This time is to ensure that the sensor output remains stable. (Can be set in minutes)



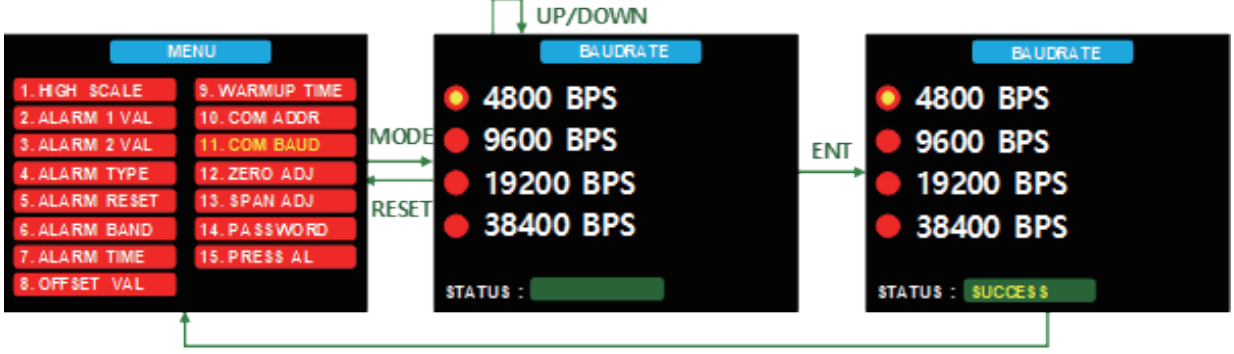
MENU 10: COM ADDR

Setting the address for Modbus communication.



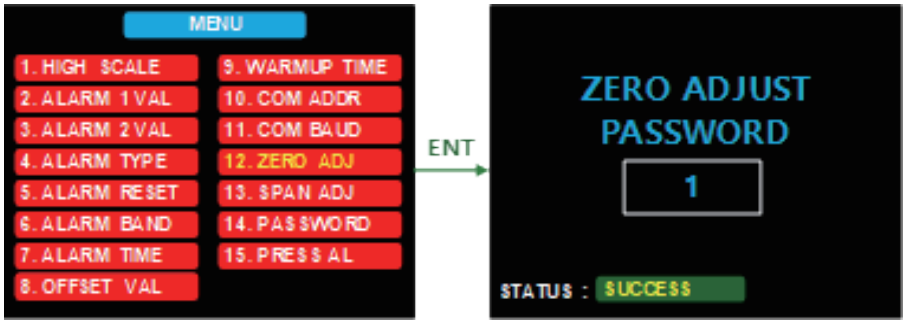
MENU 11: COM BAUD

Setting the BAUD rate for Modbus communication.

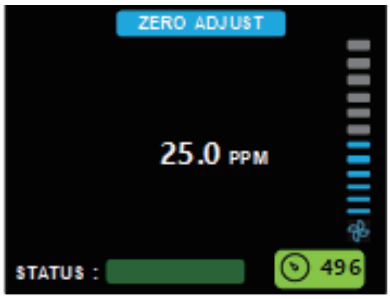


MENU 12: ZERO ADJ

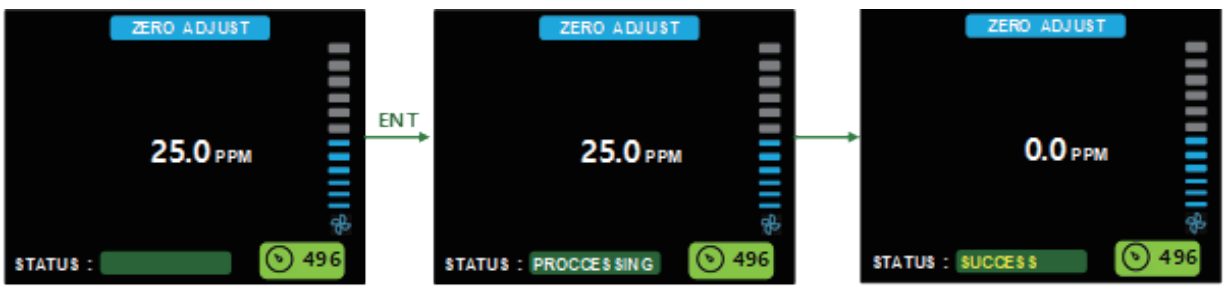
ZERO ADJUST: Zero calibration
① You can enter zero point calibration by selecting the “ZERO ADJ” menu and entering the correct password. (Zero calibration password: 1)



② Inject standard gas such as clean air or nitrogen gas for 1 minute. The current measured value and input value are displayed on the LCD. During calibration, the SUCTION speed can also be adjusted with the UP and DOWN keys.



③ When the measurement value is stable, touch the ENT key. [PROCCESSING] is displayed.
④ If the zero-calibration value is valid, [SUCCESS] is displayed. Then press the RESET key or MODE key to exit.

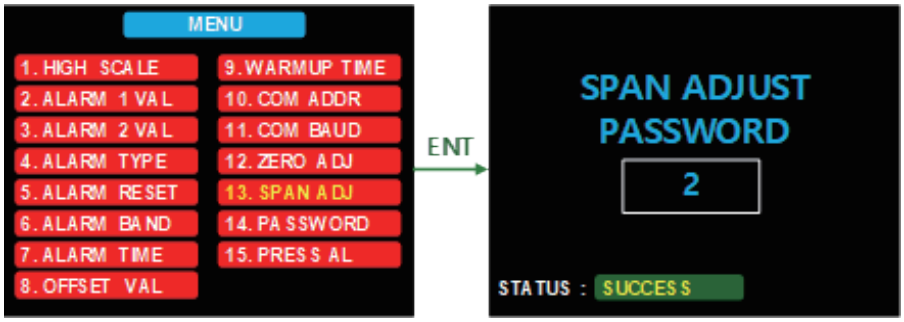


⑤ If the zero calibration value is invalid, [FAIL] is displayed.
⑥ In case of [FAIL], perform step 2 again. Otherwise, press the RESET key or MODE key to exit.

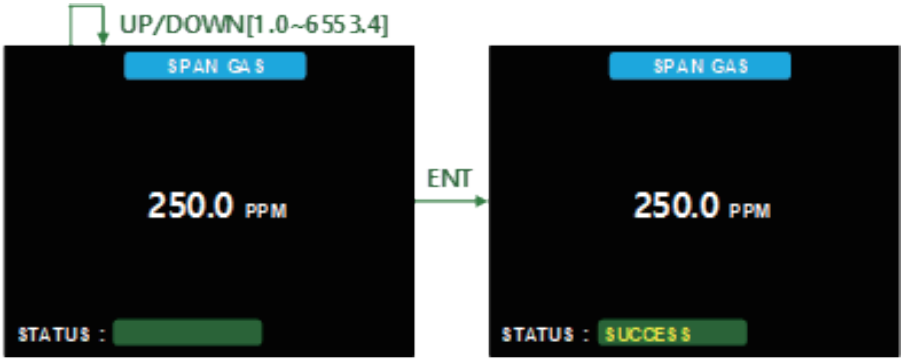
Note: Zero Calibration is performed with clean air or 99% nitrogen gas.
(in case of O2 gas, 99.8% or higher nitrogen gas must be used.)

MENU 13: SPAN ADJ

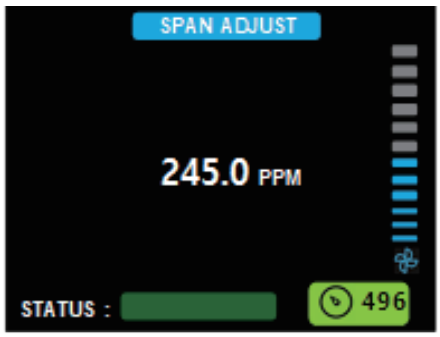
SPAN ADJUST: Span Calibration
① Fix the calibration nipple to the sensor cap.
② Select the “SPAN ADJ” menu and enter the correct password for the span calibration.
(Span Calibration Password: 2)



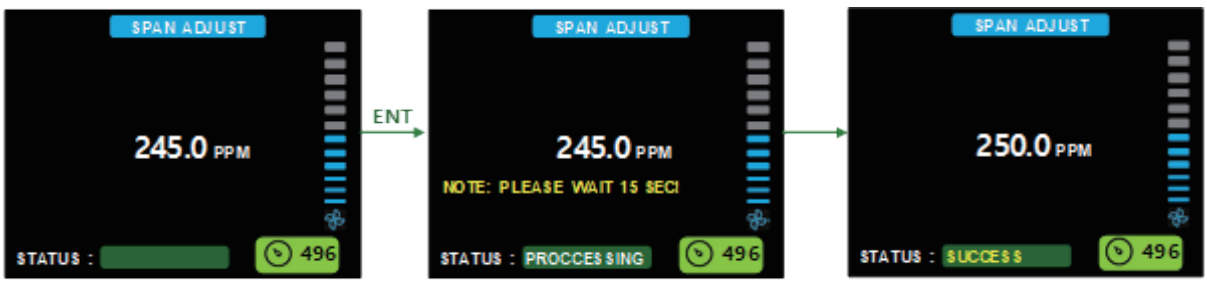
③ Press ENT to display the calibration density range. Press the UP and DOWN keys to enter the calibration gas density. Then press the ENT key to confirm.



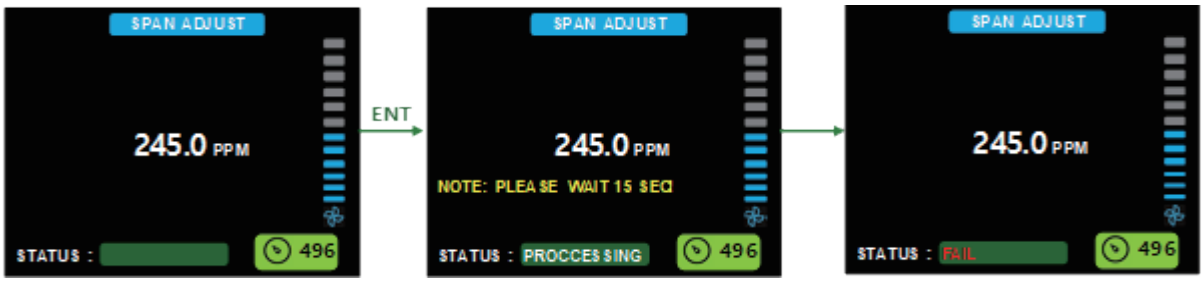
④ Then the screen automatically moves to SPAN ADJUST. Inject the standard gas and the current measured value is displayed on the LCD. During calibration, the SUCTION speed can also be adjusted with the UP and DOWN keys.



⑤ When the measurement value is stable, press the ENT key using the magnetic bar. The waiting time varies depending on the gas being measured (usually from 15 seconds to 5 minutes). If the span calibration value is valid, [SUCCESS] is displayed. Then, press the RESET . key or MODE key to exit.



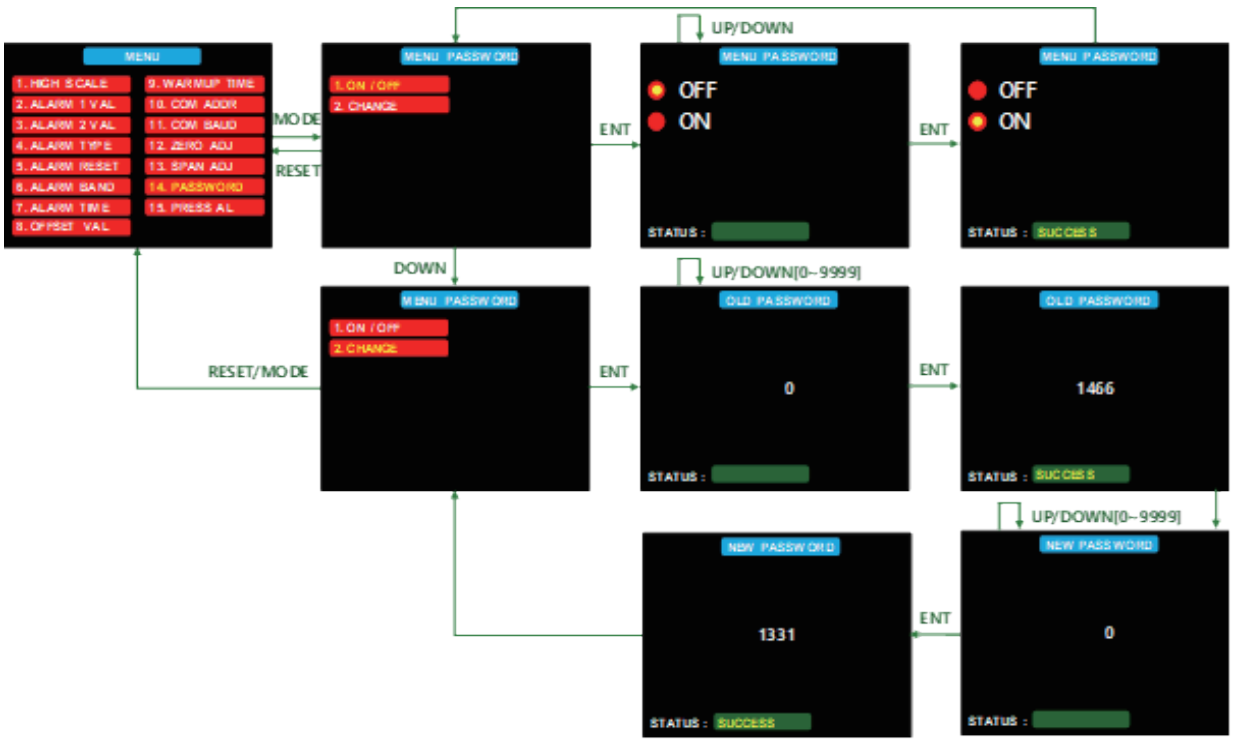
⑥ If the span correction value is invalid, [FAIL] is displayed:



⑦ If [FAIL], repeat step 5. Otherwise, press the RESET key or MODE key to exit.
Caution: After replacing the sensor, wait at least 10 minutes after turning on the power before starting the calibration.

MENU 14: PASSWORD

Set a password to enter Product Menu.



MENU 15: PRESS AL

Set a low pressure warning value.

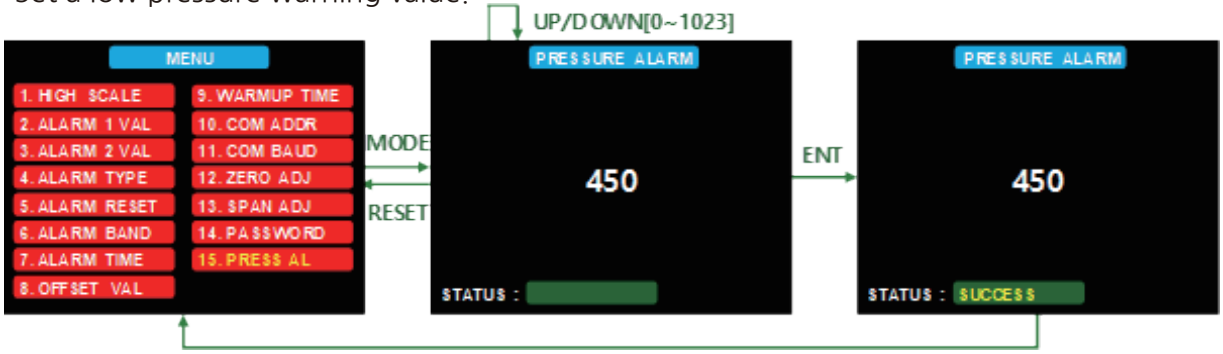


Table 1: LED Status

Status	Color	Frequency
Start	Blue ⇨ Red ⇨ Green	
Warm up	Yellow Color	Blink
Product Setting	Blue Color	Safe
Normal Measurement	Green Color	Safe
Alarm 1	Red Color	Blink 2Hz
Alarm 2	Red Color	Blink 4Hz
Error	Red Color	Safe

Table 2: 4~20Ma Output

Warm Up	4 MA
Normal Measurement	4~20 MA
Exceeded HIGH SCALE Value	21 MA
Error	2 MA

9. MODBUS Registration Address:

9.1 Register Input

Index	Register	Name	Content	Note
0	30001	Gas concentration	Gas concentration	
1	30002	Decimal point	0x0000 = No decimal point (ex: 12345) 0x0001 = First decimal point (ex: 1234.5) 0x0002 = Second decimal point (ex: 123.45) 0x0003 = Third decimal point (ex: 1234.5)	BIT 0~7
		Unit	0x0000 = %Volume 0x0100 = %LEL 0x0200 = ppb 0x0300 = ppm	BIT 8~15 Ex) Second decimal point, ppm → 0x0302
2	30003	System status	0x0000: no error BIT 0 = 1: alarm 1 BIT 1 = 1: alalrm 2 BIT 2 = 1: error BIT 3 = 1: warning	BIT 2 = 1, refer to [30004] BIT 3 = 1, refer to [30005]
3	30004	System error	0x0000: no error BIT 0 = 1: MCU EEPROM error BIT 1 = 1: MCU ADC error BIT 2 = 1: sensor error	
4	30005	System warning	0x0000: no warning BIT 0 = 1: over range BIT 1 = 1: pressure too low	
5~11	30006 ~30012	Reserved		
12	30013	Device name (1)	"DA"	BIT 15~8 = 'D' BIT 0~7 = 'A'
13	30014	Device name (2)	600	
14	30015	Device name (3)	'S'	
15	30016	Firmware version		Ex) "100" → version 1.00
16	30017	Real-time warming up counter		Unit second

9.2 Register Holding

Index	Register	Name	Content	Note
0	40001	Gas concentration	Gas concentration	Read only
1	40002	Decimal point	0x0000 = No decimal point (ex: 12345) 0x0001 = First decimal point (ex: 1234.5) 0x0002 = Second decimal point (ex: 123.45) 0x0003 = Third decimal point (ex: 1234.5)	BIT 0~7
		Unit	0x0000 = %Volume 0x0100 = %LEL 0x0200 = ppb 0x0300 = ppm	BIT 8~15 Ex) Second decimal point, ppm → 0x0302
2	40003	High scale	High scale for 4~20mA output	Range [0 ~ 65000], refer to [40002] decimal point
3	40004	Alarm 1 value		Range [0 ~ 65000], refer to [40002] decimal point
4	40005	Alarm 2 value		Range [0 ~ 65000], refer to [40002] decimal point
5	40006	Alarm type	0: Alarm 1: HIGH, Alarm 2: LOW 1: Alarm 1: LOW, Alarm 2: HIGH 2: Alarm 1: LOW, Alarm 2: LOW 3: Alarm 1: HIGH, Alarm 2: HIGH	
6	40007	Offset		Range [-9999 ~ 9999], refer to [40002] decimal point
7	40008	Alarm reset type	0: Auto 1: Manual	Manual mode: press RESET KEY to reset alarms
8	40009	Modbus Address		Range [1~127] Set [40011] = 1 to unlocked before change After change, set [40011] = 0
9	40010	Modbus Baudrate	0x0000 = 4800 BPS 0x0001 = 9600 BPS 0x0002 = 19200 BPS 0x0003 = 38400 BPS	Set [40011] = 1 to unlocked before change After change, set [40011] = 0
10	40011	Modbus lock	0x0000 = locked 0x0001 = unlocked	
11	40012	Warming up time setting		Unit: minute Range [0~60] minute
12	40013	Warming up force end	1: force end warming up counter	
13	40014	4~20mA output disable	0: enable 1: disable	
14	40015	4mA output set	Adjust output current to 4mA	Range [1~65534] Disable 4~20mA using [40014] before adjusting 4mA output After change, set [40014] = 0
15	40016	20mA output set	Adjust output current to 20mA	Range [1~65534] Disable 4~20mA using [40014] before adjusting 20mA output

10.Installation Precautions

1. In the event that the device experiences a significant impact or is accidentally dropped, it is essential to be cautious, as such incidents could potentially compromise its explosion-proof performance.

2. Whenever it becomes necessary to open the device for installation, inspection, maintenance, or any other related tasks, it is imperative to turn off the power beforehand. Furthermore, adequate security measures must be implemented to prevent any inadvertent supply of power while the device is open.

3. When opening or closing the device, be careful not to scratch the joint surface. Make sure that there is no dust or foreign matter attached to the joint surface, and when tightening bolts, you must use a tool to tighten them completely without missing a single bolt.

4. Do not open while energized.

5. Do not arbitrarily disassemble parts that affect explosion-proof performance.

6. Due to the non-sealed nature of the detection element in the detection unit, it is important to install it in a location that avoids exposure to potential electrical issues, such as rainwater. Regular maintenance is a necessity, so it is advisable to place the unit in a location that allows for easy access and convenient maintenance.

7. Places subject to vibration or impact may affect the output value, so avoid installing in places subject to vibration or impact.

8. This device features a pressure explosion-proof design, making it suitable for use in environments containing GROUP II and GROUP III gases, vapors, and dust, typically found in general workplaces and chemical plants. It has been certified for use in hazardous areas, including Zone 1, Zone 2, Zone 21, and Zone 22

9. When connecting this device and a conduit, ensure that there are more than 5 threads.

10. Ensure that work is conducted in accordance with the established standards for the selection, installation, and maintenance of explosion-proof structural electrical machinery and wiring, in order to maintain a safe workplace.

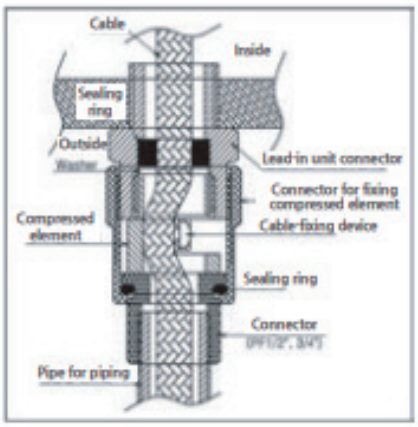
11. All bolts, nuts and washers used during assembly must be supplied by the manufacturer.

12. When connecting the power source, use the “O” type terminal to maintain the performance of the device, except in special cases.

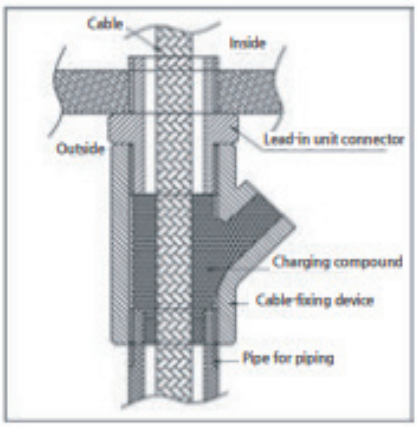
13 The cable connection or terminal that extends from the product and connects to the power cable should utilize a junction box that has obtained separate certification.

14. When conducting wiring connections, it is crucial to employ an explosion-proof cable gland at the cable inlet. Alternatively, if metal conduit wiring is being carried out, the conduit should be sealed to avert the passage of gas and to inhibit flame propagation within a 50 mm radius in the event of an explosion. This sealing process is essential for safety.

- (Require tested and certified products like cable glands and sealing fittings for all cable entry materials.)



[Figure 1. High-Pressure Packing Type]



[Figure 2. Y Sealing Compound]

15. The allowable temperature falls below 85℃, which corresponds to T6.

16. Use in an ambient temperature range of -25℃ to +70℃.

17. Relative humidity: % ~99%, installation location: outdoors and indoor.

18. "Caution - Use fasteners with a yield strength ≥ stainless steel grade (A-70) for screws and nuts" (Minimum yield stress: 450 MPa)
- Reference: KS C IEC 60079-1 Table F.1 - Mechanical properties of screws and nuts

Operation and Precautions

1. Operation method
   A. Check the connection status of the cables installed on the product and the condition of the metal piping.
   B. Apply power to the installed product.
   C. Verify that it is operating normally.
2. Precautions
   A. Be sure to read the user manual before using the product, and use and install it according to the prescribed methods.
   B. This product must be installed by a qualified electrician.

Supply Range

1. Supply includes: DA-600S complete (including grounding)
2. Supply Excludes:
   1. On-site handling, and storage
   2. Connection of external wires and grounding
   3. Connection of external wires and grounding

Product Transportation

A. Packing Method and Procedure

- While packaging the product, we ensure that the exterior is free from foreign substances, completely clean and dry, and apply appropriate anti-corrosion treatment to untreated areas.
- The packaging should be robust and suit the size and weight of the contents, we should not use the material like wheat, rice straw, or rice husk. Instead, use materials like air caps or newspapers to provide cushioning. Proper protection is crucial to prevent rust and corrosion since the product is corrosion-resistant."

B. Transportation Method

- As a general practice, manufacturers are responsible for delivering their products directly or through designated transportation methods. In some cases, such as islands and mountainous regions, courier services may be employed. If equipment is lost, damaged, or if there's a deterioration in quality due to improper manufacturer packaging during transit, the manufacturer bears responsibility for any resulting issues
- When transporting the product, there is a risk of damage if it's thrown or stacked too high and subsequently falls due to its own weight. Therefore, it's essential to implement proper protective measures and equipment during transportation to prevent such damage.
- Although we pack this product with the utmost care, sometimes products may be lost or damaged during transportation, so users are advised to check the condition of the products after receiving the product.
- If there is a defect in the contents, please contact us immediately so that we can take action.

Product Installation

1. Assembly and Disassembly
   A. This product has a pressure explosion-proof structure and is delivered fully assembled at the time of shipment. It does not require separate assembly and disassembly work by the user. (On-site wiring work is required by the constructor.)
   B. On-site construction must be performed by a qualified person or professional electrical contractor approved by the seller.
2. Installation and Precautions
   A. Installation Method
   - Make sure the power is turned off.
   - Use the CABLE coming out of the product's cable gland. Wiring with the power cable is done in a separate certified junction box.
   - Other wiring occurrences are in accordance with KS C IEC 60079-14.
   - Except for the necessary piping holes, the remaining holes are finished with PLUG.

B. Precautions
   - When installing explosion-proof electrical equipment, a technician must first ensure that the following specifications are met. This involves verifying their alignment with the provided terms."

Rated voltage and current rated frequency	Explosion level
Protection level of Container	Temperature Grade
Connecting Method & Type	Cable Entry Location
Surrounding Environment	Screw Dimensions
Types of explosion-proof Structures	Lead-in Type

   - The installation location of electrical equipment in an explosion-proof area must take into account the following matters.
     - It should be installed in a location that is convenient for operation, maintenance, and adjustment.
     - It must be installed in a location where maintenance is easy and the space necessary for inspection or maintenance must be secured.
     - If possible, select a location that is not exposed to moisture, and avoid installing in a place that is always humid.
     - If possible, avoid installation near corrosive gas discharge ports or in locations where corrosive liquids scatter.
     - Avoid installing it in a location where it can be affected by significant vibration from machine and other equipment.

Operational Maintenance

Please check the following thing regularly.

1. Terminal Voltage
2. Please check the ratings and types of each replaceable parts.
3. Please check regularly for e any abnormality in the operation of the entire control system, including control, operation, display, and notification.
4. Please check the presence and degree of vibration.
5. Inspect wiring inlet
   A. Check the metal piping material that meets the standards for the conduit thread section
   B. In order to ensure the explosion-proof performance of the electrical conduit, it is important to effectively install sealing. This involves verifying the proper installation of sealing, ensuring that the compound is filled to a sufficient depth, and confirming that the adhesion and hardening conditions are in good shape.
   C. Check appropriate measures are taken to prevent rainwater from entering the screw joints of the electric machine.
6. Inspecting connections between wiring and electrical equipment
   A. The circuit connection of the terminal symbol and polarity must be correct.
   B. Ensure that the connection point is securely fastened, and measures are in place to prevent any loosening.
   C. For connection points without terminals or similar components, ensure that effective insulation is in place.
7. Checking the container cover
   A. There should be no damage or adhesion of foreign substances to the joint surfaces or threads of the lid, and non-hardening oil should be applied.
   B. If packing is used for dustproofing or waterproofing, it must be installed properly.
   C.The tightening screws must be free of defects and properly tightened.
8. The operational status will be in good condition based on the explosion-proof structure and operating conditions.

Maintenance and Repairs

This product is continuously maintained through regular inspection as per Table 1 (recommended at least once a month).

Table 1 Electrical equipment inspection items for explosion-proof structure

Inspection Items	Method	Inspection Detail	Action Status
Container	Observation	No rust, damage and cracks found	Cleaning and Anti corrosion treatment
Joint surface	Observation	The surface must not be rough due to damage, rust,	Cleaning
Tightening Screw	Observation	No loosening, no adhesion of dust, no rust	Tightening Screw, Cleaning
Gap	Observation	No grease leakage and deterioration	Replacement
Inlet	Observation	No damage, deterioration or loosening	Tightening Screw Replacement
Connection	Observation	No loosening, no contamination on insulating material	Tightening Screws, Taping, Cleaning
Terminal Block	Observation	No loose connection in terminal.	Replace the damaged Screw
Packing	Observation	No breaks or Sagging	Replacement

When inspecting each electrical device with an explosion-proof structure, you must comply with the 'Do not open while energized' rule for the electrical device. After maintenance and before turning on the power, observe, inspect, assemble, and use the product in accordance with the inspection items in Table1.
* Other maintenance and repair matters follow as per KS C IEC60079-17 and KS C IEC60079-19.

Caution

1. Do not open when explosive gas (dust) may present.
2. When performing inspection work while the power is on, the main body (cover) of the explosion-proof electric machine must not be opened.
3. When performing repairs in an explosion-proof area, be sure to avoid generating shock sparks from tools.
4. When performing maintenance and repairs, it is important to note that disassembly and assembly operations related to the explosion-proof performance of the explosion -proof electrical equipment are involved. Therefore, it is necessary to ensure that the explosion-proof performance is not compromised in other areas, not just the maintenance part
5. Maintenance and fault issues should be referred to the manufacturer if the user is unable to address or assess the issue.

Manufacturer's Responsibility

The manufacturer demonstrates his responsibility for the following by marking the device in accordance with Clause 29 of KS C IEC 60079-0.

1. The device has been manufactured in compliance with the requirements of relevant standards regarding safety issues.
2. The routine verification and routine testing of KS C IEC 60079-0 28.1 have been successfully completed and the product complies with the document.

Information about dimensions

Please contact the manufacturer for general requirements according to KS C IEC 60079-1 5.1.

Warranty

1. The product warranty period is one year from the date of product sale.
2. This quality guarantee is only valid in Korea.
3. Be sure to read the user manual before using the product and use it according to the prescribed method.
4. We are not responsible for accidents or other occurrences caused by breakdown, damage, or careless handling by non-qualified workers.

Paid service

1. Breakdown or damage due to user careless handling
2. Malfunction or damage caused by modification or repair by anyone other than the head office or handler.
3. Malfunction or damage due to abnormal power supply or defective connected devices.
4. Malfunction or damage caused by natural disasters (fire, salt damage, earthquake, wind and flood damage, lightning, etc.)
5. Other malfunctions and damage caused by outsourcing, not defects in the product itself.

A/S (free service) and Inquiries

1. If a malfunction occurs during normal handling of this product, first check with the place of purchase for a diagnosis.
2. If the product breaks down under normal handling conditions, the place of purchase will provide free repairs during the warranty period.
3. If the repair service is not processed quickly or you have any inconveniences, please call our customer service center (see phone number on the first page) and we will notify you of the result as soon as possible.

User's Disclaimer

Please be familiar with the contents of the user manual before using the product. We do not take any responsibility if you use it arbitrarily or adjust it.

Safety Certification

This product has obtained safety certification from the Mandatory Safety Certification Notice for Safety Devices (Ministry of Employment and Labor Notice No. 2021-22).

User Guide

User guide
This device has received a conformity assessment for use in a business environment, and may cause radio wave interference if used in a home environment.

GASDNA

101, Bukhang-ro 193beon-gil, Seo-gu, Incheon, 22856, Republic of Korea

Tell: 032)584-7420 Fax: 032)584-7424 E-mail: gasdna@gasdna.com Web: http://www.gasdna.com

Accuracy of the Table

- **Response Factor: The response ratio of other cross gases when isobutylene is set as 1.**
  Example) When measuring 1000 ppm of isobutylene, the displayed value is 1000
  When measuring 1000 ppm of acetamide, the displayed value is 2000
  (Since the response coefficient is 2, multiply by 2)
  - Conversely, when measuring acetamide, if the displayed value is 1000, the concentration is 500 ppm (Since the displayed value must be divided by the response coefficient of 2)

No.	Chemical name	Formula	CAS no.	10.6 eV
1	Acetaldehyde	C2H4O	75-07-0	5.5
2	Acetamide	C2H5NO	60-35-5	2
3	Acetic acid	C2H4O2	64-19-7	28
4	Acetic anhydride	C4H6O3	108-24-7	4
5	Acetoin	C4H8O2	513-86-0	1
6	Acetone	C3H6O	67-64-1	1.17
7	Acetophenone	C8H8O	98-86-2	0.6
8	Acetyl bromide	C2H3BrO	506-96-7	8
9	Acetylglycine, N-	C4H7NO3	543-24-8	2
10	Acrolein	C3H4O	107-02-8	3.2
11	Acrylic Acid	C3H4O2	79-10-7	21
12	Allyl acetoacetate	C7H10O3	1118-84-9	1.5
13	Allyl alcohol	C3H6O	107-18-6	2.3
14	Allyl bromide	C3H5Br	106-95-6	3
15	Allyl chloride	C3H5Cl	107-05-1	4.5
16	Allyl glycidyl ether	C6H10O2	106-92-3	0.8
17	Allyl propyl disulfide	C6H12S2	2179-59-1	0.4
18	Ammonia	NH3	7664-41-7	8.5
19	Amyl acetate	C7H14O2	628-63-7	1.8
20	Amyl alcohol	C5H12O	71-41-0	2.6
21	Amyl alcohol, tert-	C5H12O	75-85-4	1.5
22	Anethole	C10H12O	104-46-1	0.4
23	Aniline	C6H7N	62-53-3	0.5
24	Anisole	C7H8O	100-66-3	0.59
25	Anisyl aldehyde	C8H8O2	123-11-5	0.4
26	Arsine	AsH3	7784-42-1	2.5
27	Asphalt, petroleum fumes		8052-42-4	1
28	Benzaldehyde	C7H6O	100-52-7	0.7
29	Benzene	C6H6	71-43-2	0.5
30	Benzene thiol	C6H5SH	108-98-5	0.7
31	Benzoic acid	C7H6O2	65-85-0	0.7
32	Benzonitrile	C7H5N	100-47-0	0.7
33	Benzoquinone, o-	C6H4O2	583-63-1	1
34	Benzoquinone, p-	C6H4O2	106-51-4	1
35	Benzoyl bromide	C7H5BrO	618-32-6	2
36	Benzyl 2-phenylacetate	C15H14O2	102-16-9	0.5
37	Benzyl acetate	C9H10O2	140-11-4	0.6
38	Benzyl alcohol	C7H8O	100-51-6	1
39	Benzyl chloride	C7H7Cl	100-44-7	0.7
40	Benzyl formate	C8H8O2	104-57-4	0.8
41	Benzyl isobutyrate	C11H14O2	103-28-6	0.5
42	Benzyl nitrile	C8H7N	140-29-4	1
43	Benzylamine	C7H9N	100-46-9	0.6
44	Biphenyl	C12H10	92-52-4	0.4
45	Borneol	C10H18O	507-70-0	0.8
46	Bromine	Br2	7726-95-6	15
47	Bromo-2,2-dimethylpropane, 1-	C5H11Br	630-17-1	2
48	Bromo-2-chloroethane, 1-	C2H4BrCl	107-04-0	3
49	Bromo-2-methylpentane, 1-	C6H13Br	25346-33-2	2
50	Bromoacetone	C3H5BrO	598-31-2	1
51	Bromoacetylene	C2HBr	593-61-3	4
52	Bromobenzene	C6H5Br	108-86-1	0.32
53	Bromobutane, 1-	C4H9Br	109-65-9	1.6
54	Bromobutane, 2-	C4H9Br	78-76-2	0.97
55	Bromocyclohexane	C6H11Br	108-85-0	2
56	Bromoethane	C2H5Br	74-96-4	1.6
57	Bromoethanol, 2-	C2H5BrO	540-51-2	2
58	Bromoethyl methyl ether, 2-	C3H7OBr	6482-24-2	2.5

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
59	Bromoform	CHBr3	75-25-2	2.8
60	Bromopentane, 1-	C5H11Br	110-53-2	1.1
61	Bromopropane, 1-	C3H7Br	106-94-5	1.5
62	Bromopyridine, 3-	C5H4BrN	625-55-1	2
63	Bromopyridine, 4-	C5H4BrN	1120-87-2	2
64	Bromotrimethylsilane	C3H9BrSi	2857-97-8	2
65	But-2-ynal	C4H4O	1119-19-3	3
66	But-3-ynal	C4H4O	52844-23-2	1.5
67	Butadiene diepoxide, 1,3-	C4H6O2	1464-53-5	4
68	Butadiene, 1,3-	C4H6	106-99-0	0.8
69	Butane, n-	C4H10	106-97-8	40
70	Butanedione, 2,3-	C4H6O2	431-03-8	0.84
71	Butanoic acid	C4H8O2	107-92-6	5
72	Butanol, 1-	C4H10O	71-36-3	3.9
73	Butanol, 2-	C4H10O	78-92-2	3
74	Buten-3-ol, 1-	C4H8O	598-32-3	1.8
75	Butene nitrile, 3-	C4H5N	109-75-1	~3
76	Butene, 1-	C4H8	106-98-9	1.5
77	Butene, 2-	C4H8	107-01-7	1.3
78	Butene, cis-2-	C4H8	590-18-1	1.3
79	Butene, trans-2-	C4H8	624-64-6	1.3
80	Butenoic acid, 3-	C4H6O2	107-93-7	2
81	Butoxyethanol, 2-	C6H14O2	111-76-2	1.1
82	butoxyethoxyethanol	C8H18O3	112-34-5	1
83	Butoxyethylacetate, 2-	C8H16O3	112-07-2	3
84	Butyl acetate	C6H12O2	123-86-4	2.5
85	Butyl acetate, sec-	C6H12O2	105-46-4	1.8
86	Butyl acetate, tert-	C6H12O2	540-88-5	1.05
87	Butyl acrylate	C7H12O2	141-32-2	1.5
88	Butyl butyrate	C8H16O2	109-21-7	1.8
89	Butyl chloroformate	C5H9ClO2	592-34-7	3.2
90	Butyl cyclohexan-1-ol, 4- tert-	C10H20O	98-52-2	1.4
91	Butyl cyclohexyl acetate, 2- tert-	C12H22O2	88-41-5	0.9
92	Butyl ether, n-	C8H18O	142-96-1	0.82
93	Butyl glycidyl ether	C7H14O2	2426-08-6	2
94	Butyl iodide	C4H9I	542-69-8	1
95	Butyl isocyanate	C5H9NO	111-36-4	2.5
96	Butyl lactate	C7H14O3	138-22-7	2.5
97	Butyl mercaptan, n-	C4H10S	109-79-5	0.5
98	Butyl mercaptan, tert-	C4H10S	75-66-1	0.4
99	Butyl methacrylate	C8H14O2	97-88-1	1
100	Butyl propionate, n-	C7H14O2	590-01-2	1.9
101	Butylamine, n-	C4H11N	109-73-9	1
102	Butylamine, sec-	C4H11N	513-49-5	0.9
103	Butylamine, tert-	C4H11N	75-64-9	1.2
104	Butylbenzene	C10H14	104-51-8	0.5
105	Butylbenzene, sec-	C10H14	135-98-8	0.4
106	Butylbenzene, tert-	C10H14	98-06-6	0.4
107	Butylene carbonate, 1,2-	C5H8O3	4437-85-8	18
108	Butylphenol, o-sec-	C10H14O	89-72-5	0.9
109	Butyn-1-ol, 2-	C4H6O	764-01-2	1.5
110	Butyn-2-one	C4H4O	1423-60-5	3
111	Butyraldehyde	C4H8O	123-72-8	1.7
112	Butyrolactone, gamma-	C4H6O2	96-48-0	15
113	Butyryl chloride	C4H7ClO	141-75-3	3
114	Camphene	C10H16	565-00-4	0.5
115	Camphor	C10H16O	76-22-2	0.4
116	Carbon disulfide	CS2	75-15-0	1.4
117	Carbon suboxide	C3O2	504-64-3	10
118	Carbon tetrabromide	CBr4	558-13-4	3
119	Carene	C10H16	13466-78-9	0.5
120	Carvacrol	C10H14O	499-75-2	0.8
121	Carvone, R-	C10H14O	6485-40-1	1.6
122	Caryophyllene	C15H24	13877-93-5	0.4
123	Chloramine	ClH2N	10599-90-3	2
124	Chloro-1,1-difluoroethene, 2-	C2HClF2	359-10-4	1.5
125	Chloro-2-propanone, 1-	C3H5ClO	78-95-5	1
126	Chloroacetaldehyde	C2H3OCl	107-20-0	3

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
127	Chlorobenzene	C6H5Cl	108-90-7	0.45
128	Chlorobutane, 1-	C4H9Cl	109-69-3	10
129	Chlorobutane, 2-	C4H9Cl	78-86-4	5.8
130	Chlorocyclohexane	C6H11Cl	542-18-7	2
131	Chloroethanol, 2-	C2H5ClO	107-07-3	10
132	Chloroethyl methyl ether, 2-	C3H7ClO	627-42-9	2.6
133	Chloromethoxyethane	C3H7ClO	3188-13-4	4
134	Chloroprene	C4H5Cl	126-99-8	1.3
135	Chloropyridine, 2-	C5H4ClN	109-09-1	1
136	Chlorostyrene, o-	C8H7Cl	2039-87-4	0.4
137	Chlorotoluene, m-	C7H7Cl	108-41-8	0.5
138	Chlorotoluene, o-	C7H7Cl	95-49-8	0.5
139	Chlorotoluene, p-	C7H7Cl	106-43-4	0.4
140	Chlorotrifluoroethylene	C2ClF3	79-38-9	1
141	Cinnamic aldehyde	C8H8O	104-55-2	0.4
142	Cinnamyl acetate	C11H12O2	21040-45-9	0.4
143	Cinnamyl alcohol	C9H10O	104-54-1	0.4
144	Citral	C10H16O	5392-40-5	1.7
145	Citronellal	C10H18O	106-23-0	0.9
146	Citronellol	C10H20O	26489-01-0	1
147	Citronellol acetate	C12H22O2	150-84-5	1.5
148	Citronellol formate	C11H20O2	105-85-1	1.5
149	Citronellyl isobutyrate	C14H26O2	97-89-2	0.9
150	Coumarin	C9H6O2	91-64-5	0.4
151	Cresol, m-	C7H8O	108-39-4	2.2
152	Cresol, o-	C7H8O	95-48-7	1.1
153	Cresol, p-	C7H8O	106-44-5	1.1
154	Cresyl acetate, p-	C9H10O2	140-39-6	1
155	Cresyl ethyl ether, p-	C9H12O	622-60-6	0.8
156	Cresyl methyl ether	C8H10O	104-93-8	0.8
157	Crotonaldehyde	C4H6O	4170-30-3	1
158	Crotonyl alcohol	C4H8O	6117-91-5	0.8
159	Cyclobutanone	C4H6O	1191-95-3	1.2
160	Cyclobutene	C4H6	822-35-5	3
161	Cycloheptane	C7H14	291-64-5	1.1
162	Cyclohex-2-enedione, 1,4-	C6H6O2	4505-38-8	1
163	Cyclohexane	C6H12	110-82-7	1.3
164	Cyclohexanethiol	C6H12S	1569-69-3	0.5
165	Cyclohexanol	C6H12O	108-93-0	1.6
166	Cyclohexanone	C6H10O	108-94-1	1
167	Cyclohexene	C6H10	110-83-8	0.9
168	Cyclohexyl acetate	C8H14O2	622-45-7	1.2
169	Cyclohexylamine	C6H13N	108-91-8	1
170	Cyclooctadiene	C8H12	29965-97-7	1
171	Cyclopentadiene	C5H6	542-92-7	0.8
172	Cyclopentane	C5H10	287-92-3	10
173	Cyclopentanone	C5H8O	120-92-3	0.9
174	Cyclopentene	C5H8	142-29-0	1.5
175	Cyclopentene-1,3-dione, 4-	C5H4O2	930-60-9	1
176	Cyclopropylamine	C3H7N	765-30-0	1.5
177	Cymene, p-	C10H14	99-87-6	0.4
178	Decahydronaphthalene	C10H18	91-17-8	0.9
179	Decanal	C10H20O	112-31-2	0.9
180	Decane, n-	C10H22	124-18-5	1.2
181	Decanol	C10H22O	112-30-1	1.2
182	Decyne, 1-	C10H18	764-93-2	0.43
183	Diacetone alcohol	C6H12O2	123-42-2	0.9
184	Diazine, 1,2-	C4H4N2	289-80-5	3
185	Diazine, 1,3-	C4H4N2	289-95-2	3
186	Dibenzoyl peroxide	C14H10O4	94-36-0	0.8
187	Dibromoacetylene	C2Br2	624-61-3	2
188	Dibromochloromethane	CHBr2Cl	124-48-1	10
189	Dibromocyclohexane, 1,2-	C6H10Br2	5401-62-7	3
190	Dibromocyclopentane	C5H8Br2	33547-17-0	3
191	Dibromodichloromethane	CBr2Cl2	594-18-3	4
192	Dibromoethane, 1,2-	C2H4Br2	106-93-4	2
193	Dibromoethene, 1,1-	C2H2Br2	593-92-0	1.5
194	Dibromoethene, 1,2-	C2H2Br2	540-49-8	1.5

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
195	Dibromomethane	CH2Br2	74-95-3	1.9
196	Dibutyl hydrogen phosphate	HC8H18PO4	107-66-4	4
197	Dichloro-1,2-difluoroethene, 1,2- (cis)	C2Cl2F2	598-88-9	2
198	Dichloro-1-propene, 2,3-	C3H4Cl2	78-88-6	1.4
199	Dichloro-2,2,-difluoroethene, 1,1-	C2Cl2F2	79-35-6	1
200	Dichloroacetylene	C2Cl2	7572-29-4	5
201	Dichlorobenzene, o-	C6H4Cl2	95-50-1	0.5
202	Dichlorobenzene, p-	C6H4Cl2	106-46-7	0.5
203	Dichloroethene, 1,1-	C2H2Cl2	75-35-4	1
204	Dichloroethene, 1,2-	C2H2Cl2	540-59-0	0.4
205	Dichloroethene, cis-1,2-	C2H2Cl2	156-59-2	0.8
206	Dichloroethene, trans-1,2-	C2H2Cl2	156-60-5	0.4
207	Dichloromethane	CH2Cl2	75-09-2	70
208	Dichloromethylamine	CH3Cl2N	7651-91-4	2
209	Dicyclohexylamine	C12H23N	101-83-7	0.9
210	Dicyclopentadiene	C10H12	77-73-6	0.9
211	Diesel fuel		68334-30-5	0.8
212	Diethoxyethane, 1,1-	C6H14O2	105-57-7	1.5
213	Diethyl carbonate	C5H10O3	105-58-8	7
214	Diethyl ether	C4H10O	60-29-7	1.1
215	Diethyl maleate	C8H12O4	141-05-9	2
216	Diethyl malonate	C7H12O4	105-53-3	4
217	Diethyl phosphite	C4H11O3P	762-04-9	2
218	Diethyl phthalate	C12H14O4	84-66-2	1
219	Diethyl sulfate	C4H10SO4	64-67-5	3
220	Diethyl sulfide	C4H10S	352-93-2	0.6
221	Diethyl sulfone	C4H10O2S	597-35-3	2
222	Diethylacetylene	C6H10	928-49-4	2
223	Diethylamine	C4H11N	109-89-7	1.4
224	Diethylaminoethanol, 2-	C6H15ON	100-37-8	2.7
225	Diethylaminopropylamine, 3-	C7H18N2	104-78-9	5
226	Diethylene glycol monoethyl ether	C6H14O3	111-90-1	0.6
227	Diethylenetriamine	C4H13N3	111-40-0	1
228	Diethylhydroxylamine	C4H11NO	3710-84-7	1.5
229	Diethylsilane	C4H12Si	542-91-6	2
230	Dihydrogen selenide	H2Se	7783-07-5	1
231	Diglycidyl ether	C6H10O3	2238-07-5	3
232	Dihydroeugenol	C10H14O2	2785-87-7	0.4
233	Dihydrojasmone	C11H18O	1128-08-1	0.6
234	Dihydromyrcenol	C10H20O	18479-58-8	0.8
235	Dihydroxybenzene, 1,2-	C6H6O2	120-80-9	1
236	Dihydroxybenzene, 1,3-	C6H6O2	108-46-3	1
237	Diiodomethane	CH2I2	75-11-6	1.2
238	Diisobutyl ketone	C9H18O	108-83-8	0.8
239	Diisobutylene	C8H16	107-39-1	0.7
240	Diisopropyl ether	C6H14O	108-20-3	0.92
241	Diisopropylamine	C6H15N	108-18-9	0.7
242	Diisopropylbenzene	C12H18	25321-09-9	0.5
243	Diketene	C4H4O2	674-82-8	2.2
244	Dimethoxybenzene, 1,4-	C8H10O2	150-78-7	1.3
245	Dimethoxyethane, 1,2-	C4H10O2	110-71-4	0.9
246	Dimethoxymethane	C3H8O2	109-87-5	2.8
247	Dimethyl carbonate	C3H6O3	616-38-6	60
248	Dimethyl disulfide	C2H6S2	624-92-0	0.2
249	Dimethyl ether	C2H6O	115-10-6	1.3
250	Dimethyl phosphite	C2H7O3P	868-85-9	8
251	Dimethyl phthalate	C10H10O4	131-11-3	1
252	Dimethyl sulfoxide	C2H6OS	67-68-5	20
253	Dimethylacetamide N,N-	C4H9NO	127-19-5	1.3
254	Dimethylacetylene	C4H6	503-17-3	1
255	Dimethylamine	C2H7N	124-40-3	1.5
256	Dimethylaminoethanol, 2-	C4H11NO	108-01-0	1.5
257	Dimethylaniline, NN-	C8H11N	121-69-7	0.6
258	Dimethylboron bromide	C2H6BBr	5158-50-9	4
259	Dimethylbutyl acetate	C8H16O2	108-84-9	1.6
260	Dimethylcycloheptane, 1,2-	C9H18	13151-50-3	1.3
261	Dimethylcyclohexane,1,2-	C8H16	583-57-3	0.55
262	Dimethylcyclopentane	C7H14	1192-18-3	1.2

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
263	Dimethylethylamine, NN-	C4H11N	598-56-1	1.6
264	Dimethylformamide	C3H7NO	68-12-2	1.3
265	Dimethylhydrazine, 1,1-	C2H8N2	57-14-7	1
266	Dinitrobenzene, m-	C6H4N2O4	99-65-0	3
267	Dinitrobenzene, p-	C6H4N2O4	100-25-4	5
268	Dinonyl phthalate	C26H42O4	84-76-4	1
269	Dimethylmethylphosphonate	C3H9O3P	756-79-6	5
270	Dimethyloctan-1-ol, 3,7-	C10H22O	106-21-8	1.2
271	Dimethyloctan-3-ol, 3,7-	C10H22O	78-69-3	1.2
272	Dimethylpentane, 2,4-	C7H16	108-08-7	1
273	Dimethylsilane	C2H8Si	1111-74-6	2
274	Dimethylthiophosphoryl chloride	C2H6ClO2PS	2524-03-0	1
275	Di-n-butylamine	C8H19N	111-92-2	6
276	Di-n-propylamine	C6H15N	142-84-7	1.5
277	Dioxane, 1,4-	C4H8O2	123-91-1	1.45
278	Dioxolane	C3H6O2	646-06-0	2.7
279	Dipentene	C10H16	138-86-3	0.9
280	Diphenyl ether	C12H10O	101-84-8	1.5
281	Dipropylene Glycol Diacrylate	C12H18O5	57472-68-1	NV
282	Dipropyl ether	C6H14O	111-43-3	1
283	Dipropylene glycol	C6H14O3	110-98-5	4
284	Disilane	Si2H6	1590-87-0	2
285	Disulfur dibromide	S2Br2	13172-31-1	1.5
286	Disulfur dichloride	S2Cl2	10025-67-9	3
287	Di-tert-butyl-p-cresol	C11H16O	2409-55-4	1
288	Di-tert-butyl-p-cresol	C15H24O	128-37-0	0.3
289	Divinylbenzene	C10H10	1321-74-0	0.4
290	Divinylbenzene, 1,3-	C10H10	108-57-6	0.3
291	Dodecane	C12H24	112-40-3	1
292	Dodecanol	C12H26O	112-53-8	0.9
293	Dodecanol, ethoxylated	(C2H4O)nC12H26O	9002-92-0	NV
294	Epichlorohydrin	C3H5ClO	106-89-8	5
295	Epoxypropyl isopropyl ether, 2,3-	C6H12O2	4016-14-2	1.2
296	Estagole	C10H12O	140-67-0	0.7
297	Ethanol	C2H6O	64-17-5	11
298	Ethanolamine	C2H7NO	141-43-5	3
299	Ethoxy-2-methylpropane, 1-	C6H14O	627-02-1	1
300	Ethoxy-2-propanol, 1-	C5H12O2	-120859	2.4
301	Ethoxy-butane, 2-	C6H14O	19316-73-5	1
302	Ethoxyethanol, 2-	C4H10O2	110-80-5	2
303	Ethoxyethyl acetate, 2-	C6H12O3	111-15-9	3
304	Ethyl 2,2,2-trifluoroethyl ether	C4H7F3O	461-24-5	5
305	Ethyl 2-methylbutyrate	C7H14O2	7452-79-1	1.4
306	Ethyl acetate	C4H8O2	141-78-6	4.5
307	Ethyl acetoacetate	C6H10O3	141-97-9	3
308	Ethyl acrylate	C5H8O2	140-88-5	2.3
309	Ethyl benzoate	C9H10O2	93-89-0	0.9
310	Ethyl butyrate	C6H12O2	105-54-4	1.4
311	Ethyl chloroformate	C3H5O2Cl	541-41-3	80
312	Ethyl cyanoacrylate	C6H7O2N	7085-85-0	1.5
313	Ethyl decanoate	C12H24O2	110-38-3	1.8
314	Ethyl formate	C3H6O2	109-94-4	35
315	Ethyl hexanoate	C8H16O2	123-66-0	1.6
316	Ethyl hexanol, 2-	C8H18O	104-76-7	1.5
317	Ethyl hexyl acrylate, 2-	C11H20O2	103-11-7	1
318	Ethyl iodide	C2H5I	75-03-6	0.3
319	Ethyl isopropyl ketone	C6H12O	565-69-5	0.8
320	Ethyl lactate	C5H10O3	97-64-3	2.1
321	Ethyl mercaptan	C2H6S	75-08-1	0.6
322	Ethyl methacrylate	C6H10O2	97-63-2	1.06
323	Ethyl methyl carbonate	C4H8O3	623-53-0	18
324	Ethyl morpholine, 4-	C6H13NO	100-74-3	0.6
325	Ethyl octanoate	C10H20O2	106-32-1	2.3
326	Ethyl phenyl acetate	C10H12O2	101-97-3	1.2
327	Ethyl propanoate	C5H10O2	105-37-3	2.5
328	Ethyl tert-butyl ether	C6H14O	637-92-3	0.8
329	Ethyl-2-methyl benzene, 1-	C9H12	611-14-3	0.5
330	Ethyl-3-ethoxypropionate	C7H14O3	763-69-9	3

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
331	Ethylacetylene	C4H6	107-00-6	3
332	Ethylamine	C2H7N	75-04-7	1
333	Ethylbenzene	C8H10	100-41-4	0.56
334	Ethylcyclohexane	C8H16	1678-91-7	0.8
335	Ethylene	C2H4	74-85-1	8
336	Ethylene carbonate	C3H4O3	96-49-1	40
337	Ethylene glycol	C2H6O2	107-21-1	9
338	Ethylene glycol diacetate	C6H10O4	111-55-7	4
339	Ethylene glycol monopropylether	C5H12O2	2807-30-9	3
340	Ethylene oxide	C2H4O	75-21-8	15
341	Ethylenediamine	C2H8N2	107-15-3	10
342	Ethyleneimine	C2H5N	151-56-4	2
343	Ethylhexanal, 2-	C8H16O	123-05-7	1.5
344	Ethylhexanoic acid, 2-	C8H16O2	149-57-5	5
345	Ethylhexenal, 2-	C8H14O	645-62-5	1.3
346	Eucalyptol	C10H18O	470-82-6	0.6
347	Eugenol	C10H12O2	97-53-0	0.4
348	Eugenol methyl ether	C11H14O2	93-15-2	0.4
349	Fenchol	C10H18O	1632-73-1	0.4
350	Ferrocene	C10H10Fe	102-54-5	0.8
351	Fluorobenzene	C6H5F	462-06-6	0.74
352	Fluorobenzoic acid, 4-	C7H5FO2	456-22-4	2
353	Formamide	CH3ON	75-12-7	2
354	Furan	C4H4O	110-00-9	0.4
355	Furfural	C5H4O2	98-01-1	0.8
356	Furfuryl alcohol	C5H6O2	98-00-0	2
357	Furfuryl mercaptan	C5H6OS	98-02-2	0.5
358	Gasoline		8006-61-9	0.9
359	Geranial	C10H16O	141-27-5	0.6
360	Geraniol	C10H18O	106-24-1	0.7
361	Geranyl acetate	C12H20O2	105-87-3	1.2
362	Germane	GeH4	7782-65-2	10
363	Glutaraldehyde	C5H8O2	111-30-8	0.9
364	Glycerol Propoxy Triacrylate	C12H14O6	52408-84-1	NV
365	Glycidyl methacrylate	C7H10O3	106-91-2	1.2
366	Glycolaldehyde	C2H4O2	141-46-8	5
367	Glyoxal	C2H2O2	107-22-2	1
368	Guaiacol	C7H8O2	90-05-1	0.8
369	Heptan-2-one	C7H14O	110-43-0	0.85
370	Heptan-3-one	C7H14O	106-35-4	0.73
371	Heptane, n-	C7H16	142-82-5	2.2
372	Heptanol	C7H16O	53535-33-4	1.7
373	Heptene, 1-	C7H14	592-76-7	0.88
374	Heptylcyclopentan-1-one, 2-	C12H22O	137-03-1	0.8
375	Heptyne, 1-	C7H12	628-71-7	2
376	Hex-1-en-3-ol	C6H12O	4798-44-1	0.9
377	Hexachlorodisilane	Cl6Si2	13465-77-5	8
378	Hexamethyldisilazane,1,1,1,3,3,3-.	C6H18NSi2	999-97-3	1
379	Hexamethyldisiloxane	C6H18OSi2	107-46-0	0.3
380	Hexamethylene diisocyanate	C8H12N2O2	822-06-0	1.5
381	Hexamethyleneimine	C6H13N	111-49-9	1.1
382	Hexan-2-one	C6H12O	591-78-6	0.8
383	Hexane, n-	C6H14	110-54-3	3
384	Hexanoic acid	C6H12O2	142-62-1	4
385	Hexanol	C6H14O	111-27-3	2
386	Hexene, 1-	C6H12	592-41-6	0.98
387	Hexenyl acetate, cis-3-	C8H14O2	3681-71-8	1
388	Hexenyl butyrate, cis-3-	C10H18O2	16491-36-4	1.5
389	Hexylaldehyde	C6H12O	66-25-1	1.2
390	Hydrazine	H4N2	302-01-2	3
391	Hydrogen iodide	HI	10034-85-2	5
392	Hydrogen peroxide	H2O2	7722-84-1	4
393	Hydrogen selenide	H2Se	7783-07-5	2
394	Hydrogen sulfide	H2S	7783-06-4	4
395	Hydroquinone	C6H6O2	123-31-9	0.8
396	Hydrogen telluride	H2Te	7783-09-7	2
397	Hydroxybutanal, 3-	C4H6O2	107-89-1	2
398	Hydroxycitronellal	C10H20O2	107-75-5	1

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
399	Hydroxyethyl acrylate	C5H8O3	818-61-1	1.2
400	Hydroxylamine	H3NO	7803-49-8	2
401	Hydroxypropyl acrylate, 2-	C6H10O3	999-61-1	1.5
402	Iminodiethanol 2,2'-	C4H11NO2	111-42-2	1.6
403	Indene	C9H8	95-13-6	0.5
404	Indole	C8H7N	120-72-9	0.4
405	Iodine	I2	7553-56-2	0.2
406	Iodobenzene	C6H5I	591-50-4	0.2
407	Iodoethene	C2H3I	593-66-8	1.2
408	Iodoform	CHI3	75-47-8	1.5
409	Iodomethane	CH3I	74-88-4	0.4
410	Isoalkanes, C10-C13	C8H18O	68551-17-7	1
411	Isoamyl acetate	C7H14O2	123-92-2	1.5
412	Isoamyl salicylate	C12H16O3	87-20-7	1
413	Isoamylene	C5H10	513-35-9	0.82
414	Isobornyl acetate	C12H20O2	125-12-2	0.5
415	Isobutane	C4H10	75-28-5	8
416	Isobutanol	C4H10O	78-83-1	3
417	Isobutyl acetate	C6H12O2	110-19-0	2
418	Isobutyl acrylate	C7H12O2	106-63-8	1.2
419	Isobutylbenzene	C10H14	538-93-2	0.4
420	Isobutylene	C4H8	115-11-7	1
421	Isobutylene epoxide	C4H8O	558-30-5	3
422	Isobutyraldehyde	C4H8O	78-84-2	1.2
423	Isobutyric acid	C4H8O2	79-31-2	4.4
424	Isodecanol	C10H22O	25339-17-7	0.9
425	Isoeugenol	C10H12O2	97-54-1	0.4
426	Isoheptane	C7H16	591-76-4	1.2
427	Isojasmone	C11H18O	95-41-0	0.7
428	Isomenthone	C10H18O	1196-31-2	0.6
429	Isononanal	C9H18O	5435-64-3	0.9
430	Isononanol	C9H20O	3452-97-9	1.5
431	Isooctane	C8H18	540-84-1	1.1
432	Isooctanol	C8H18O	26952-21-6	1.7
433	Isopentane	C5H12	78-78-4	4
434	Isopentanol	C5H12O	137-32-6	2
435	Isopentene	C5H10	563-46-2	0.8
436	Isophorone	C9H14O	78-59-1	0.8
437	Isophorone diisocyanate	C12H18N2O2	4098-71-9	0.6
438	Isoprene	C5H8	78-79-5	0.8
439	Isopropanol	C3H8O	67-63-0	4
440	Isopropanolamine	C3H9NO	78-96-6	1.5
441	Isopropoxyethanol, 2-	C5H12O2	109-59-1	1.2
442	Isopropyl acetate	C5H10O2	108-21-4	2.4
443	Isopropyl chloroformate	C4H7O2Cl	108-23-6	1.6
444	Isopropyl mercaptan	C3H8S	75-33-2	0.6
445	Isopropyl nitrite	C3H7NO2	541-42-4	4
446	Isopropylamine	C3H9N	75-31-0	1
447	Isopropylaminoethanol, 2-	C5H13NO	109-56-8	2
448	Isopropylcyclohexane	C9H18	696-29-7	0.7
449	Isopropylglycol acetate	C7H14O2	19234-20-9	1.2
450	Isothiazole	C3H3NS	288-16-4	3
451	Isovaleraldehyde	C5H10O	590-86-3	1.3
452	Isovaleric Acid	C5H10O2	503-74-2	5.5
453	Jasmal	C11H22O3	1322-17-4	1.4
454	Jasmone, cis-	C11H16O	488-10-8	0.5
455	Jet Fuel Jp-4			0.8
456	Jet Fuel Jp-5			0.7
457	Jet Fuel Jp-8			0.7
458	Kerosene		8008-20-6	0.8
459	Ketene	C2H2O	463-51-4	3
460	Linalool oxide	C10H18O2	14049-11-7	0.6
461	Linalyl acetate	C12H20O2	115-95-7	1.1
462	Maleic anhydride	C4H2O3	108-31-6	2
463	Mandelic acid	C8H8O3	90-64-2	0.8
464	Menthol	C10H20O	-149652	0.5
465	Menthone	C10H18O	89-80-5	0.4
466	Mercaptoacetic acid	C2H4O2S	68-11-1	1

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
467	Metaldehyde	C8H16O4	108-62-3	2
468	Methacrylamide	C4H7NO	79-39-0	2
469	Methacrylic acid	C4H6O2	79-41-4	2.3
470	Methacrylonitrile	C4H5N	126-98-7	5
471	Methoxy-1-butanol, 3-	C5H12O2	2517-43-3	3
472	Methoxy-1-propanol, 2-	C4H10O2	1589-47-5	2
473	Methoxy-2,2-dimethylpropane	C6H14O	1118-00-9	0.9
474	Methoxybutyl acetate, 3-	C7H14O3	4435-53-4	2
475	Methoxyethane	C3H8O	540-67-0	1
476	Methoxyethanol, 2-	C3H8O2	109-86-4	2.7
477	Methoxyethene	C3H6O	107-25-5	1
478	Methoxyethoxyethanol, 2-	C5H12O3	111-77-3	1.4
479	Methoxyethyl acetate	C5H10O3	110-49-6	2.7
480	Methoxyethyl ether, 2-	C6H14O3	111-96-6	1
481	Methoxymethylethoxy-2- propanol	C7H16O3	34590-94-8	1.3
482	Methoxypropan-2-ol, 1-	C4H10O2	107-98-2	1.6
483	Methoxypropane, 2-	C4H10O	598-53-8	1.2
484	Methoxypropyl acetate	C6H12O3	108-65-6	1.6
485	Methyl 2-methylpropanoate	C5H10O2	547-63-7	2
486	Methyl acetate	C3H6O2	79-20-9	7
487	Methyl acetoacetate	C5H8O3	105-45-3	3
488	Methyl acrylate	C4H6O2	96-33-3	3.6
489	Methyl anthranilate	C8H9NO2	134-20-3	0.4
490	Methyl benzoate	C8H8O2	93-58-3	1.2
491	Methyl bromide	CH3Br	74-83-9	1.9
492	Methyl dimethylacrylate	C6H10O2	924-50-5	2.5
493	Methyl ethyl ketone	C4H8O	78-93-3	0.96
494	Methyl ethyl ketone peroxides	C8H18O6	1338-23-4	0.8
495	Methyl heptyne carbonate	C9H14O2	111-12-6	1.3
496	Methyl ionone	C14H22O	1335-46-2	0.4
497	Methyl isobutyl ketone	C6H12O	108-10-1	0.9
498	Methyl isocyanate	C2H3NO	624-83-9	5
499	Methyl isopropyl ketone	C5H10O	563-80-4	0.99
500	Methyl isothiocyanate	C2H3NS	556-61-6	0.6
501	Methyl mercaptan	CH4S	74-93-1	0.7
502	Methyl methacrylate	C5H8O2	80-62-6	1.31
503	Methyl phenyl acetate	C9H10O2	101-41-7	0.4
504	Methyl propargyl ether	C4H6O	627-41-8	2
505	Methyl propionate	C4H8O2	554-12-1	3.8
506	Methyl propynoate	C4H4O2	922-67-8	10
507	Methyl salicylate	C8H8O3	119-36-8	0.8
508	Methyl sulfide	C2H6S	75-18-3	0.8
509	Methyl tert-butyl ether	C5H12O	-97059	1
510	Methyl thiocyanate	C2H3NS	556-64-9	2
511	Methyl thioglyconate	C3H6O2S	2365-48-2	1
512	Methyl undecanal, 2-	C12H24O	110-41-8	1.1
513	Methyl vinyl ketone	C4H6O	78-94-4	0.6
514	Methyl-1-butene, 3-	C5H10	563-45-1	0.8
515	Methyl-2-butanol, 3-	C5H12O	598-75-4	3.3
516	Methyl-2-hexenoic acid, trans-3-	C7H12O2	027960-21-0	1.5
517	Methyl-2-propen-1-ol, 2-	C4H8O	513-42-8	1.3
518	Methyl-2-pyrrolidinone, N-	C5H9NO	872-50-4	0.9
519	Methyl-4,6-dinitrophenol, 2-	C7H6N2O5	534-52-1	3
520	Methyl-5-hepten-2-one, 6-	C8H14O	110-93-0	0.63
521	Methylamine	CH5N	74-89-5	1.5
522	Methylbutan-1-ol, 3-	C5H12O	123-51-3	2.3
523	Methylbutanal, 2-	C5H10O	96-17-3	1.2
524	Methylbutyric acid, 2-	C5H10O2	116-53-0	6
525	Methylcyclohexane	C7H14	108-87-2	1.1
526	Methylcyclohexanol	C7H14O	25639-42-3	2.4
527	Methylcyclohexanol, 4-	C7H14O	589-91-3	2.4
528	Methylcyclohexanone, 2-	C7H12O	583-60-8	1
529	Methylcyclopentane	C6H12	96-37-7	1.5
530	Methylenepentane, 3-	C6H12	760-21-4	0.9
531	Methylheptan-3-one, 5-	C8H16O	541-85-5	0.77
532	Methylhexan-2-one, 5-	C7H14O	110-12-3	0.7
533	Methylhydrazine	CH6N2	60-34-4	1.3
534	Methyl-N-2,4, 6-tetranitroaniline, N-	C7H5N5O8	479-45-8	3

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
535	Methylpent-3-en-2-one, 4-	C6H10O	141-79-7	0.6
536	Methylpentan-2-ol, 4-	C6H14O	108-11-2	1.4
537	Methylpentane, 2-	C6H14	107-83-5	3
538	Methylpentane, 3-	C6H14	96-14-0	2.5
539	Methylpentane-2,4-diol, 2-	C6H14O2	107-41-5	4
540	Methylpropanoyl chloride, 2-	C4H7ClO	79-30-1	6
541	Methylpyrrole, N-	C5H7N	96-54-8	0.9
542	Methylstyrene	C9H10	25013-15-4	0.5
543	Methylthiopropional, 3-	C4H8OS	3268-49-3	2
544	Mineral oil		8042-47-5	0.8
545	Mineral spirits		64475-85-0	0.8
546	Monoisobutanolamine	C4H11NO	124-68-5	1.6
547	Morpholine	C4H9NO	110-91-8	4
548	Myrcene	C10H16	123-35-3	0.5
549	Naphtha, hydrotreated heavy	CnH(2n+2)	64742-48-9	1
550	Naphthalene	C10H8	91-20-3	0.4
551	Naphthol methyl ether, 2-	C11H10O	93-04-9	0.5
552	Neopentane	C5H12	207-343-7	3
553	Neopentyl alcohol	C5H12O	75-84-3	2
554	Nitric oxide	NO	10102-43-9	8
555	Nitroaniline 4-	C6H6N2O2	100-01-6	0.8
556	Nitrobenzene	C6H5NO2	98-95-3	1.7
557	Nitrogen trichloride	NCl3	10025-85-1	1
558	Nitrogen dioxide	NO2	10102-44-0	10
559	N-Methylolacrylamide	C4H7NO2	924-42-5	2
560	Nonane	C9H20	111-84-2	1.4
561	Nonanol (mixed isomers)	C9H20O	143-08-8	1.2
562	Nonene (mixed isomers)	C9H18	27215-95-8	0.6
563	Nonene, 1-	C9H18	124-11-8	0.6
564	Norbornadiene, 2,5-	C7H8	121-46-0	0.6
565	Ocimene	C10H16	502-99-8	0.6
566	Octachloronaphthalene	C10Cl8	2234-13-1	1
567	Octamethylcyclotetrasiloxane	C6H12O4Si4	556-67-2	0.3
568	Octamethyltrisiloxane	C8H24O2Si3	107-51-7	0.3
569	Octane	C8H18	111-65-9	1.6
570	Octanol (mixed isomers)	C8H18O	111-87-5	1.5
571	Octene (mixed isomers)	C8H16	25377-83-7	0.7
572	Octene, 1-	C8H16	111-66-0	0.7
573	Oxalyl bromide	C2Br2O2	15219-34-8	5
574	Oxydiethanol, 2,2-	C4H10O3	111-46-6	2
575	Paraffin wax, fume		8002-74-2	1
576	Paraffins, normal		64771-72-8	1
577	Paraldehyde	C6H12O3	123-63-7	2.2
578	Pentacarbonyl iron	FeC5O5	13463-40-6	1
579	Pentan-2-one	C5H10O	107-87-9	0.99
580	Pentan-3-one	C5H10O	96-22-0	0.77
581	Pentanal	C5H10O	110-62-3	1.5
582	Pentandione, 2,4-	C5H8O2	123-54-6	1.2
583	Pentane	C5H12	109-66-0	7
584	Pentanoic acid	C5H10O2	109-52-4	8
585	Pentanol, 2-	C5H12O	6032-29-7	2
586	Pentanol, 3-	C5H12O	584-02-1	1.7
587	Pentene, 1-	C5H10	109-67-1	0.92
588	Pentylcyclopentan-1-one, 2-	C10H18O	4819-67-4	1
589	Pentylcyclopentane	C10H20	3741-00-2	1.1
590	Pentyne, 1-	C5H8	627-19-0	3
591	Peracetic acid	C2H4O3	79-21-0	2
592	Perfluorobutadiene	C4F6	685-63-2	3
593	Perfluoro-tert-butylamine	C4H2F9N	2809-92-9	5
594	Petroleum ether		8032-32-4	0.9
595	Phellandrene	C10H16	99-83-2	0.8
596	Phenethyl methyl ether, 2-	C9H12O	3558-60-9	0.6
597	Phenol	C6H6O	108-95-2	1.2
598	Phenoxyethanol, 2-	C8H10O2	122-99-6	4.5
599	Phenyl chloroformate	C7H5ClO2	1885-14-9	1.1
600	Phenyl ethyl isobutyrate, 2-	C12H16O2	103-48-0	1.5
601	Phenyl propene, 2-	C9H10	98-83-9	0.4
602	Phenyl-2,3-epoxypropyl ether	C9H10O2	122-60-1	0.8

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
603	Phenylenediamine, p-	C6H8N2	106-50-3	0.6
604	Phenylacetaldehyde	C8H8O	122-78-1	0.7
605	Phenylacetic acid	C8H8O2	103-82-2	1
606	Phenylcyclohexane	C12H16	827-52-1	0.4
607	Phenylethyl acetate, 1-	C10H12O2	93-92-5	0.7
608	Phenylethyl alcohol, 2-	C8H10O	60-12-8	1.2
609	Phosphine	PH3	7803-51-2	2
610	Phthalonitrile	C8H5N2	91-15-6	1.2
611	Picoline, 3-	C6H7N	108-99-6	0.7
612	Pinene, α-	C10H16	2437-95-8	0.34
613	Pinene, β-	C10H16	127-91-3	0.5
614	Piperazine	C4H10N2	110-85-0	0.8
615	Piperidine	C5H11N	110-89-4	1
616	Piperylene	C5H8	504-60-9	0.9
617	Prop-2-yn-1-ol	C3H4O	107-19-7	3.7
618	Propadiene	C3H4	463-49-0	1
619	Propan-1-ol	C3H8O	71-23-8	5.4
620	Propanamide	C3H7NO	79-05-0	2
621	Propane-1,2-diol	C3H8O2	57-55-6	3
622	Propanolamine	C3H9NO	156-87-6	1.5
623	Propargyl chloride	C3H3Cl	624-65-7	2
624	Propen-1-imine, 2-	C3H5N	73311-40-7	2
625	Propene	C3H6	115-07-1	1.4
626	Propiolic acid	C3H2O2	471-25-0	8
627	Propionaldehyde	C3H6O	123-38-6	1.7
628	Propionic acid	C3H6O2	79-09-4	8
629	Propoxy-2-propanol, 1-	C6H14O2	-120891	1.2
630	Propyl acetate, n-	C5H10O2	109-60-4	3
631	Propyl benzene	C9H12	103-65-1	0.5
632	Propyl benzene, 2-	C9H12	98-82-8	0.6
633	Propyl butanoate	C7H14O2	105-66-8	1.3
634	Propyl formate	C4H8O2	110-74-7	19
635	Propyl iodide	C3H7I	107-08-4	1
636	Propylamine, n-	C3H9N	107-10-8	1.1
637	Propylbenzene (all isomers)	C9H12	74296-31-4	0.5
638	Propylene carbonate	C4H6O3	108-32-7	15
639	Propylene glycol ethyl ether acetate	C7H14O3	98516-30-4	1.2
640	Propylene oxide	C3H6O	75-56-9	6
641	Propyleneimine	C3H7N	75-55-8	1.4
642	Propyne	C3H4	74-99-7	4
643	Pyrazine	C4H4N2	290-37-9	3
644	Pyridine	C5H5N	110-86-1	0.7
645	Pyridinol, 4-	C5H5NO	626-64-2	3
646	Pyridylamine, 2-	C5H6N2	504-29-0	0.8
647	Pyrrole	C4H5N	109-97-7	0.6
648	Pyrrolidine	C4H9N	123-75-1	4
649	Pyruvaldehyde	C3H4O2	78-98-8	0.7
650	Rose oxide, cis-	C10H18O	16409-43-1	0.8
651	Sec-amyl acetate	C7H14O2	626-38-0	5
652	Stibine	SbH3	7803-52-3	1.5
653	Styrene	C8H8	100-42-5	0.45
654	Sulfur dichloride	Cl2S	10545-99-0	2
655	Terphenyl, p-	C18H14	92-94-4	0.6
656	TAC			0.5
657	Terpineol, α-	C10H18O	98-55-5	0.8
658	Terpinolene	C10H16	586-62-9	0.6
659	Terpinyl acetate, α-	C12H20O2	80-26-2	1.2
660	Tert-amyl methyl ether	C6H14O	994-05-8	0.8
661	Tert-butanol	C4H10O	75-65-0	1.6
662	Tert-butyl bromide	C4H9Br	507-19-7	0.99
663	Tert-butyl formate	C5H10O2	762-75-4	8
664	Tetrabromoethane, 1,1,2,2-	C2H2Br4	79-27-6	2
665	Tetracarbonylnickel	NiC4O4	13463-39-3	1
666	Tetrachloroethylene	C2Cl4	127-18-4	0.4
667	Tetrachloronaphthalene, 1,2,3,4-	C10H4Cl4	20020-02-4	1
668	Tetrachloropyridine, 2,3,5,6-	C5HNCl4	2402-79-1	1
669	Tetraethyl orthosilicate TEOS, ethyl orthosilicate, ethyl silicate	C8H20O4Si	78-10-4	3
670	Tetraethylenepentamine	C8H23N5	112-57-2	0.6

Accuracy of the Table

No.	Chemical name	Formula	CAS no.	10.6 eV
671	Tetrafluoroethylene	C2F4	116-14-3	15
672	Tetrahydrofuran	C4H8O	109-99-9	2.3
673	Tetrahydronaphthalene	C10H12	119-64-2	0.4
674	Tetrahydropyran	C5H10O	142-68-7	3
675	Tetrahydrothiophene	C4H8S	110-01-0	0.7
676	Tetramethyl orthosilicate	C4H12O4Si	681-84-5	2
677	Tetramethyl succinonitrile	C8H12N2	3333-52-6	1
678	Tetramethylbenzene, 1,2,4,5-	C10H14	95-93-2	0.3
679	Tetramethylbutane, 2,2,3,3-	C8H18	594-82-1	1
680	Tetramethylgermane	C4H12Ge	865-52-1	2
681	Tetramethylguanidine, N,N,N',N'	C5H13N3	80-70-6	0.6
682	Tetramethylsilane	C4H12Si	75-76-3	2
683	Thioacetic acid	C2H4OS	507-09-5	2
684	Thiocarbonyl fluoride	CSF2	420-32-6	6
685	Thiocyanogen	C2S2N2	505-14-6	8
686	Thioformaldehyde trimer	C3H6S3	291-21-4	1.5
687	Thiophene	C4H4S	110-02-1	0.5
688	Thiophosgene	CSCl2	463-71-8	1
689	Thymol	C10H14O	89-83-8	0.7
690	Titanium-n-propoxide	C12H28O4Ti	3087-37-4	3
691	Toluene	C7H8	108-88-3	0.56
692	Toluene-2,4-diisocyanate	C9H6N2O2	584-84-9	1.6
693	Toluenesulfonyl chloride, p-	C7H7SO2Cl	98-59-9	3
694	Toluidine, o-	C7H9N	95-53-4	0.5
695	Tolylaldehyde, p-	C8H8O	104-87-0	0.8
696	Triazine, 1,3,5-	C3H3N3	290-87-9	6
697	Tributyl phosphate	C12H27O4P	126-73-8	5
698	Tributylamine	C12H27N	102-82-9	1.3
699	Trichlorobenzene, 1,2,4-	C6H3Cl3	120-82-1	0.6
700	Trichloroethylene	C2HCl3	79-01-6	0.6
701	Trichlorophenoxyacetic acid, 2,4,5-	C8H5O3Cl3	93-76-5	1
702	Triethyl phosphate	C6H15P04	78-40-0	3.5
703	Triethyl phosphite	C6H15O3P	122-52-1	1.5
704	Triethyl silane	C6H16Si	617-86-7	2
705	Triethylamine	C6H15N	121-44-8	1.3
706	Triethylbenzene	C12H18	25340-18-5	0.4
707	Triethylene aluminum	C6H15Al	97-93-8	1
708	Trifluoroethene	C2HF3	359-11-5	5
709	Trifluoroethyl methyl ether, 2,2,2-	C3H5F3O	460-43-5	10
710	Trifluoroiodomethane	CF3I	2314-97-8	2
711	Trimethoxymethane	C4H10O3	149-73-5	4
712	Trimethoxyvinylsilane	C5H12O3Si	2768-02-7	1
713	Trimethylamine	C3H9N	75-50-3	0.5
714	Trimethylbenzene mixtures	C9H12	25551-13-7	0.3
715	Trimethylbenzene, 1,3,5-	C9H12	108-67-8	0.4
716	Trimethylcyclohexane, 1,2,4-	C9H18	2234-75-5	1
717	Trimethylolpropane triacrylate	C15H20O6	15625-89-5	NV
718	Trimethylene oxide	C3H6O	503-30-0	1.5
719	Trimethylsilane	C3H10Si	993-07-7	1
720	Trioxane	C3H6O3	110-88-3	2
721	Turpentine	C10H16	9005-90-7	0.6
722	Turpentine oil	C10H16	8006-64-2	0.6
723	Undecane	C11H24	1120-21-4	1.1
724	Vanillin	C8H8O3	121-33-5	1
725	Vinyl acetate	C4H6O2	108-05-4	1.5
726	Vinyl bromide	C2H3Br	593-60-2	1.5
727	Vinyl chloride	C2H3Cl	75-01-4	2.1
728	Vinyl ethyl ether	C4H8O	109-92-2	1
729	Vinyl fluoride	C2H3F	75-02-5	2
730	Vinyl-2-pyrrolidinone, 1-	C6H9NO	88-12-0	4.5
731	Vinylcyclohexene	C8H12	100-40-3	0.47
732	Vinylene carbonate	C3H2O3	872-36-6	3.5
733	Vinylidene difluoride	C2H2F2	75-38-7	5
734	Vinylsilane	C2H6Si	7291-09-0	1.5
735	Xylene mixed isomers	C8H10	1330-20-7	0.54
736	Xylene, m-	C8H10	108-38-3	0.5
737	Xylene, o-	C8H10	95-47-6	0.5
738	Xylene, p-	C8H10	106-42-3	0.55
739	Xylidine, all	C8H11N	1300-73-8	0.7