

TOKA

**PORTABLE DETECTOR
FOR COMBUSTIBLE GAS**

**P-508
P-510H
GC-708
PTC-608**

**Portable Gas Detector From Low To High Concentration,
Various Combustible Gas!**



TOKA SEIKI CO., LTD.

Detect Gas Easily By a Portable Type

P-508

for General Combustible Gas



High sensitivity for combustible gas and easy operation

— Features of P-508 —

- Easy operation cause of automatic suction pump (built-in type)
- It is possible to measuring low range with switch-over sensitivity
- Alarm display (Buzzer, 20%LEL)
- Long life design of Sensor
- Safety Approval is id2G4
(Sensor part : Flame-proof, Electric part : Intrinsic Safe)
- Drip-proof structure and convenient for out-door use

Safety Approval for Hydrogen

— Features of P-510H —

- Easy operation cause of automatic suction pump (built-in type)
- It is possible to measuring low range with switch-over sensitivity
- Alarm display (Buzzer, 20%LEL)
- Long life design of Sensor
- Safety Approval is id3aG4
(Sensor part : Flame-proof, Electric part : Intrinsic Safe)
- Utilize for hydrogen gas in safety
- Drip-proof structure and convenient for out-door use



P-510H

for General Combustible Gas, Hydrogen Gas

Specifications

Model Name	P-508	P-510H
Principle	Catalytic combustion method	
Gas Sampling	Suction type by built-in pump	
Response	Within 30 sec. (90% response, without sampling tube)	
Measuring Gas	Combustible gases (calibrated by iso-butane gas)	
Measuring Range	0~100/0~20%LEL	
Display	Analogue Meter	
Gas name	<ul style="list-style-type: none"> ● LPG (0~1.8/0~0.36vol%) ● Gasoline (0~1.4/0~0.28vol%) ● Methane (0~5.0/0~1.0vol%) Necessary to choose one type of gas (with range of 0~100/0~20%LEL) ※Possible to customize model for other gases	<ul style="list-style-type: none"> ● LPG (0~1.8/0~0.36vol%) ● Gasoline (0~1.4/0~0.28vol%) ● Hydrogen (0~4.0/0~0.80vol%) Necessary to choose one type of gas (with range of 0~100/0~20%LEL) ※Possible to customize model for other gases
Accuracy	Within ±5% of full scale	
Alarm display	Buzzer	
Alarm setting level	20%LEL (adjustable)	
Operation Conditions	Temperature : -10~+50°C Humidity : at less than 90%RH (No condensation)	
Safety Approval	id2G4 Sensor part : Flame-proof, Electric part : Intrinsic Safe	id3aG4 (hydrogen explosion-proof) Sensor part : Flame-proof, Electric part : Intrinsic Safe
Power source	DC3V : manganese Dry-Cell (R20P) ×2pcs.	DC3V : Alkali Dry-Cell (LR14) ×2pcs.
Battery Life	5 hours minimum under continuous operation	8 hours minimum under continuous operation
Dimension	163 (W) × 137 (H) × 67 (D) mm	
Weight	About 1.5kg (without sampling tube)	About 1.6kg (without sampling tube)
Accessories	Sampling lod with W.S.Filter, Protective Case, Sampling tube (1.5m or 5m) ^{※1}	Sampling lod with W.S.Filter, Protective Case, Sampling tube (5m) ^{※2} , Hexagonal Wrench

※1 : Available for tube length till 30m as option, 5m tube for vessel

※2 : Available for tube length till 30m as option

GC-708

for General Combustible Gas



— Features of GC-708 —

- Easy operation cause of automatic suction pump (built-in type)
- It is possible to measuring low range with switch-over sensitivity
- Long life design of Sensor
- Safety Approval is id2G4
(Sensor part : Flame-proof, Electric part : Intrinsic Safe)
- Drip-proof structure and convenient for out-door use

Easy operation for detection of high concentration gases

Dual mode for measuring range of vol% and %LEL
 Available to measure combustible gas (from %LEL to vol%) in inert gas
 Safe for hydrogen field environment

— Features of PTC-608 —

- Easy operation cause of automatic suction pump (built-in type)
- It is possible to measuring low range with switch-over sensitivity
- Alarm display (Buzzer, 20%LEL)
- Long life design of Sensor
- Safety Approval is id3aG4
(Sensor part : Flame-proof, Electric part : Intrinsic Safe)
- Utilize for hydrogen gas in safety
- Drip-proof structure and convenient for out-door use



PTC-608

for General Combustible Gas

Specifications

Model Name	GC-708	PTC-608
Principle	Thermal conductivity method	VOL% mode : Thermal conductivity method %LEL mode : Catalytic combustion method
Gas Sampling	Suction type by built-in pump	
Response	Within 30 sec. (90% response, without sampling tube)	
Measuring Gas	Butane, Propane, Methane	LPG, Combustible gases (calibrate by isobutane)
Measuring Range	0~100/0~20vol%	VOL% mode : 0~100vol%, %LEL mode : 0~100%LEL
Display	Analogue Meter	
Gas name	<ul style="list-style-type: none"> ● Butane (0~100/0~20vol%) ● Propane (0~100/0~20vol%) Necessary to choose one type of gas ※ Available to customize for carbon dioxide and other gases	<ul style="list-style-type: none"> ● LPG (0~100vol%, 0~100%LEL) ● Carbonic gas (CO₂) and another gases ※ Available to customize for other gases
Accuracy	Within ±5% of full scale	
Alarm display	None	VOL% mode : None, %LEL mode : Red LED and Buzzer
Alarm setting level	None	20%LEL (could be chosen)
Operation Conditions	Temperature : -10~+50°C Humidity : at less than 90%RH (without condensation)	
Safety Approval	id2G4 Sensor part : Flame-proof, Electric part : Intrinsic Safe	id3aG4 (hydrogen explosion-proof) Sensor part : Flame-proof, Electric part : Intrinsic Safe
Power source	DC3V : Alkali Dry-Cell (LR14) × 2pcs.	
Battery Life	4 hours minimum under continuous operation	8 hours minimum under continuous operation
Dimension	163 (W) × 137 (H) × 67 (D) mm	
Weight	About 1.5kg (without sampling tube)	About 1.6kg (without sampling tube)
Accessories	Sampling lod with W.S.Filter, Protective Case, Sampling tube (1.5m or 5m) ^{※1}	Sampling lod with W.S.Filter, Protective Case, Sampling tube (5m) ^{※2} , Hexagonal Wrench, Diluter, Sampling bag(2L)

※1 : Available for tube length till 30m as option, 5m tube for vessel ※2 : Available for tube length till 30m as option

Principle

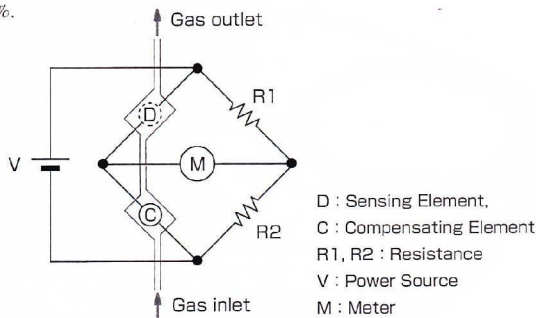
●Catalytic combustion method (P-508, P-510H and PTC-608)

In the sensor unit, there is a pair of platinum wire elements (D: sensing element, C compensating element) and the compensating element has the structure that cannot react to combustible gases. The elements (D & C) are heated to relatively low temperature by electric current. The combustible gases in sample are oxidized or burned catalytically on the surface of platinum wire (D). Electrical resistance will increase cause of the heat generated from this combustion. A change of electrical resistance will be proportional to the density of combustible gas in the sample. It can display the gas density by detecting a change of electrical resistance and has the range which measure from 0 to 100%LEL. 100%LEL means the density of LEL (Lower Explosion Limit).

●Thermal conductivity method (GC-708 and PTC-608)

In the sensor unit, there is a pair of platinum wire element (D: sensing element and a compensating element (C). The compensating element has the structure that cannot come in contact with the sample gas. Thermal conductivity of gas consists of sort and composition rate of gas. In case density of combustible gas in the sample is different the electrical resistance of sensing element is increasing and decreasing by calorific change of sensing element.

A change of electrical resistance will be proportional to the density of combustible gas in the sample. It can display the gas density by detecting a change of electrical resistance. Measurement range is from 0 to 100vol%.



P-508

TIIS JAPAN : Technology Institution of Industrial Safety
N K : Class NK (Nippon Kaiji Kyokai)
H K : The Ship Equipment Inspection Society of Japan

P-510H

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GC-708

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PTC-608

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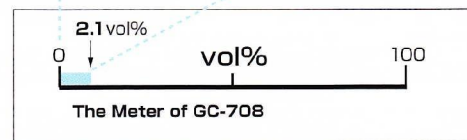
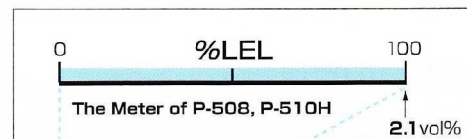
LEL (Lower Explosion Limit) of combustible gases

Name of combustible gases	vol%
Acetylene	2.5
Acetone	2.1
Isooctane	1.1
Isobutane	1.8
Ethanol	3.3
Ethylene	2.7
Xylene	1.1
Ethyl acetate	2.0
Buthyl acetate	1.7
Cyclohexane	1.3
Hydrogen	4.0
Toluene	1.2
Butane	1.8
Propane	2.1
Propylene	2.0
Hexane	1.1
Benzene	1.3
Methanol	6.0
Methane	5.0
Methyl ethyl ketone	1.8

※The values of LEL refer to the National Institute of Industrial Safety or The High Pressure Gas Safety Institute of Japan

● A difference of a measurement range

in case of propane (2.1 vol%)



※ Specifications are subject to change without any prior notification.

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