

Gas Leak Checker

Model SP-220 series

Safety is always in your hand

- *For fumigation gases* **TYPE FUM**
- *For general gases* **TYPE SC**
(Toxic, Combustible and CFC)
- *For town-gas & LP gas*
TYPE M **TYPE L** **TYPE ML**

Easy grip & Robust structure

Ingress proof IP 55, Protection rubber cover is available.

High speed low conc. reading

A new sensor can be detected a low concentration.

Data logging function available

Year/Month/Date/Time, Gas conc., Gas name. "256 data" recordable.

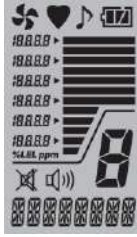
LED light available

Easy to measure gas leakage at a dark place.



● Wealth of information

Easy to confirm what is going on with SP-220



● Built-in LED light

It can help for measuring leakage at a dark place



● Ingress proof IP55

IP5X : Dust protected
IPX5 : Water Jets



Specification for Type FUM & SC

| Model | SP-220 TYPE FUM (Fumigation) | SP-220 TYPE SC (Toxic, Combustible, CFC) |
|----------------------------|--|--|
| Target gas | Refer to the gas list | |
| Detection principle | Hot-wire semiconductor method | |
| Sensor | SH-8662 | |
| Measuring range | Depends on target gas | |
| Alarm set point | Depends on target gas | |
| Accuracy | Displays 0.1 ppm-bar when applied PH3 0.3 ppm. | |
| Alarm pattern | Gas alarm : Gas concentration reached or over the setting point. Trouble alarm: Sensor connection / breaking, Low battery, Low flow Circuit error, Calibration error | |
| Alarm method | Non-latching | |
| Display of alarm | Gas alarm: Flashing LED, Buzzer Trouble alarm: Flashing LED, Buzzer, Display of error message | |
| Alarm delay time | 0 sec. | |
| Sampling method | Sample draw | |
| Response time | 10 sec.: Time to reach 0.1 ppm when applied PH3 0.3 ppm. | |
| Output signal | IrDA | |
| Switch | [AIR][MODE][POWER] | |
| Display device | LCD | |
| Display contents | Gas name, Gas concentration, Time, Battery, Pilot indicator, Pump driving indicator | |
| Power source | 2 AA dry cell batteries | |
| Continuous operation | More than 12 hrs. | |
| Operating temp. & humidity | -20~+55°C (-4°F~+131°F), 0~95%RH (Non-condensing) | |
| Dimension & weight | 200mm(H) x 43mm(D) x 47mm(W) (Taper nozzle not included), 215g | |
| Ingress proof | IP 55 | |
| Function | Manual LCD backlight (Automatically ON when alarming), Peak value, Snap logging, Time, Cal alarm | |

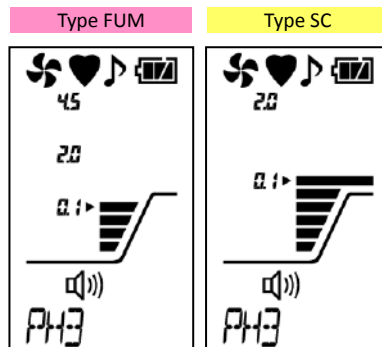
● Standard accessories

- Hand strap
- Protection rubber cover
- Taper nozzle
- 2 x Alkaline battery

● Gas sensitivity & Display

SP-220 automatically changes gas sensitivity level depends on target gas.

Gas sensitivity level can be set on 2 (Type SC) or 3 (Type FUM) scales.
*Refer to right figures.



● SP-220 (TYPE FUM) GAS LIST

| No. | Gas name | Display | Conc. Display1 (ppm) | Display2 (ppm) | Display3 (ppm) |
|-----|--------------------|---------|----------------------|----------------|----------------|
| 1 | Phosphine | PH3 | 0.1 | 2 | 4.5 |
| 2 | Methyl bromide | CH3Br | 1 | 20 | 100 |
| 3 | Carbon disulfide | CS2 | 0.1 | - | - |
| 4 | Methyl iodide | CH3I | 1 | 10 | 30 |
| 5 | Hydrogen cyanide | HCN | 1 | - | - |
| 6 | Sulfuryl fluoride | SO2F2 | - | - | 800 |
| 7 | Ethylene dibromide | C2H4Br2 | 1 | 10 | 30 |

● SP-220 (TYPE SC) GAS LIST

| No. | Gas name | Display | Conc. Display1 (ppm) | Conc. Display2 (ppm) |
|-----|----------------------------|---------|----------------------|----------------------|
| 1 | Phosphine | PH3 | 0.1 | 2 |
| 2 | Acetone | C3H6O | 1 | 10 |
| 3 | Arsine | AsH3 | 0.2 | - |
| 4 | Ammonia | NH3 | 10 | - |
| 5 | Isobutane | i-C4H10 | 1 | 10 |
| 6 | Isopropyl alcohol | IPA | 1 | 10 |
| 7 | Carbon monoxide | CO | 10 | 30 |
| 8 | Ethyl alcohol | C2H5OH | 1 | 10 |
| 9 | Ethylene | C2H4 | 1 | 10 |
| 10 | Vinyl chloride | VCM | 1 | - |
| 11 | Methyl chloride | CH3CL | 1 | 10 |
| 12 | Xylene | C8H10 | 1 | 10 |
| 13 | Ethylene oxide | EO | 1 | 10 |
| 14 | Silane | SiH4 | 0.5 | - |
| 15 | Methyl bromide | CH3Br | 1 | 20 |
| 16 | Hydrogen | H2 | 1 | 10 |
| 17 | Trichloroethylene | C2HCL3 | 10 | - |
| 18 | Toluene | C7H8 | 1 | 10 |
| 19 | 1,2-Dichloroethane | EDC | 1 | 10 |
| 20 | Sulfur dioxide | SO2 | 1 | - |
| 21 | Propane | C3H8 | 5 | 20 |
| 22 | CFC R-134a | R-134a | 50 | 250 |
| 23 | CFC R-22 | R-22 | 10 | 50 |
| 24 | CFC R-32 | R-32 | 10 | 50 |
| 25 | n-hexane | n-C6H14 | 10 | 50 |
| 26 | Benzene | C6H6 | 0.5 | 10 |
| 27 | Formaldehyde | HCHO | 10 | 50 |
| 28 | Methane | CH4 | 1 | 20 |
| 29 | Methyl alcohol | CH3OH | 1 | 10 |
| 30 | Methyl ethyl ketone | MEK | 1 | 10 |
| 31 | Hydrogen sulfide | H2S | 0.1 | - |
| 32 | Diborane | B2H6 | 0.1 | - |
| 33 | Germane | GeH4 | 0.2 | - |
| 34 | Hydrogen bromide | HBr | 10 | - |
| 35 | Hydrogen chloride | HCL | 10 | - |
| 36 | CFC R-407C | R-407C | 10 | 50 |
| 37 | Hydrogen selenide | H2Se | 0.5 | - |
| 38 | CFC R-410A | R-410A | 10 | 50 |
| 39 | CFC R-404A | R-404A | 10 | 50 |
| 40 | 2,3,3,3-Tetrafluoropropene | CH2CF4 | 10 | 30 |

Note 1) 「-」: It means that have sensitivity, but there is no value.
 Note 2) Alarm accuracy, response time etc. are confirmed with calibration gas(PH3)
 Note 3) The measuring results of the gas selection are intended for guidance only.
 For the most accurate measurement is for calibration gas(PH3).

Specification for Type M, L & ML

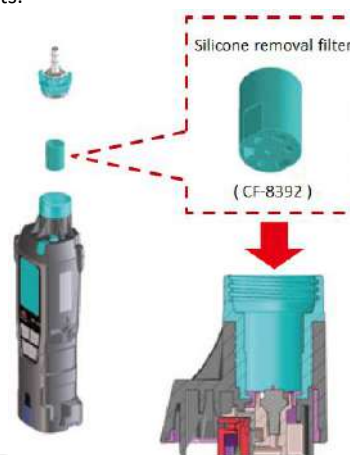
| Model | SP-220(TYPE M) | SP-220(TYPE L) | SP-220(TYPE ML) |
|-----------------------|---|------------------------------|---|
| Detection principle | Hot-wire semiconductor method | | |
| Target gas | Town gas (switchable to LPG) | LPG (switchable to town gas) | Town-gas, LPG (switching) *2 gases are needed for calibration. |
| Concentration display | LCD level meter + Scale | | |
| Measuring range | 10~10000ppm | | |
| Sampling method | Sample draw | | |
| Alarm set point | Default : 30ppm(selectable from 10,30,150,500,2000ppm) | | |
| Display | Operating state disp., Flow check disp., Gas concentration disp., Alarm sound disp., Operation sound disp., Battery level icon, Level meter disp., Mode disp., Gas name and message disp. | | |
| Response time | 3 sec. | | |
| Gas alarm display | Flashing LED, Buzzer | | |
| Gas alarm method | Non-latching | | |
| Trouble alarm | Sensor error, Low battery, Low flow, System error, Calibration error, Clock error, Pump error | | |
| Trouble alarm display | Flashing LED, Buzzer, Trouble message | | |
| Trouble alarm method | Latching | | |
| Power source | 2 AA dry cell batteries | | |
| Continuous operation | Approx. 13 hrs. | | |
| Operating temperature | -20~55°C (-4°F~131°F) | | |
| Operating humidity | 0~95%RH (Non-condensing) | | |
| Safety design | Intrinsically safety ExiallCT4 | | |
| Approvals | Ex-proof: IECEx, ATEX / Other: CE marking | | |
| Ingress proof | IP55 | | |
| Dimension | 200(H) × 43(W) × 39(D)mm (Taper nozzle not included) | | |
| Weight | 215g (Dry cell batteries not included) | | |

Standard accessories

- Hand strap
- Protection rubber cover
- Water proof filter (5 ea.)
- Taper nozzle
- 2 x Alkaline battery
- Silicone removal filter

Built-in Silicone removal filter

Silicone makes a degradation of sensor sensitivity. The SP-220 Type-L, M and ML have a silicone removal filter to prevent effects.



Application



For gas pipe joint



For gas cylinder

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