

# **INSTRUCTION MANUAL**

## **MODEL RM-580 Series Indicator/Alarm Unit**

The accompanying instrument is sold and serviced in the USA by RKI Instruments, Inc. Please contact RKI Instruments Inc. for any follow up service needs, including questions, warranty issues, repairs, and spare parts and sensors. Any reference in the attached manual to Riken Keiki may be read as RKI Instruments, Inc. Thank you for selecting this fine instrument for your use. With proper care and maintenance, it will provide you with many years of reliable service.

INSTRUCTION MANUAL  
FOR  
INDICAATOR/ALARM UNIT  
RM-580 SERIES.

This series are ;

- 1) EC-583
- 2) GP-583
- 3) NC-583
- 4) NC-583W
- 5) RI-583
- 6) GH-583



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## 1. OUTLINE

### 1-1. System outline

□□-583 or 583W is the gas monitoring panel which belongs to RM-580 series and this is not only to receive the gas signals from the detector head by connecting a variety of gas detector heads.

(A) Multi-color read-out display

The gas concentration signals from gas detector head shall be displayed by bar meter of multi-color (Green, Orange, Red).

(B) Alarm function

When the gas reading comes to the preset point, this retains the alarm condition by flicker of alarm lamp and alarm contact "ON".

By the operation of external signals, alarm lamp lights on and alarm contact gets non-latched.

(C) 2-level alarm method

As model 583 adaptor 2-level alarm method, it can make the phase-in management at gas alarm.

This can be used for 1-level alarm gas monitor by putting two alarm level into one alarm level.

(D) Detection of disconnection for sensor or detector head

(E) Alarm buzzer and total alarm contacts

By connecting the separate buzzer unit, this gives buzzer sound at alarm and one batch.

## 1-2. System composition

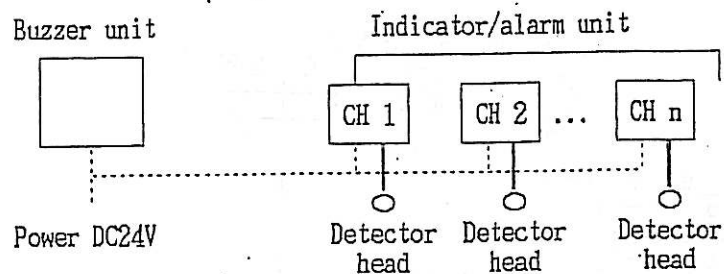
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Basic composition of products consists of following two.

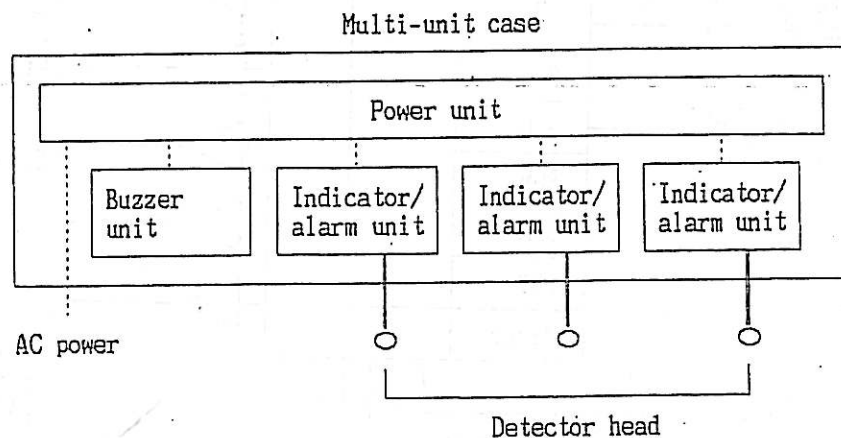
### ◇ Assembly spec with single-unit case

This is used by supplying the power (DC24V) from the external.



### ◇ Assembly spec with multi-unit case

This is a type to assemble a batch of indicator/alarm units into a standard case and 4, 6, 9 and 12-channel multi-unit cases are prepared. This power is for AC use.



2. BLOCK DIAGRAM

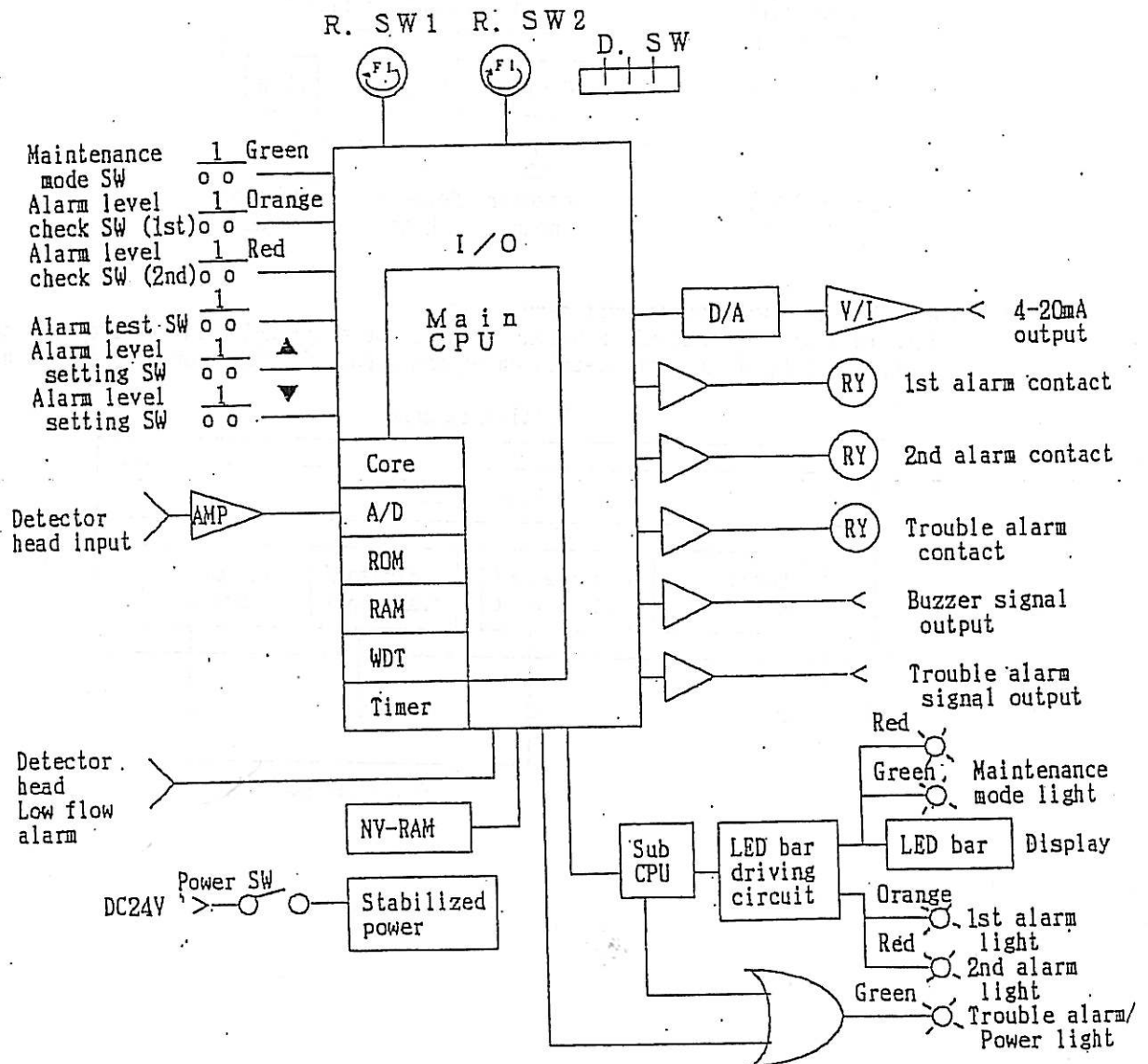
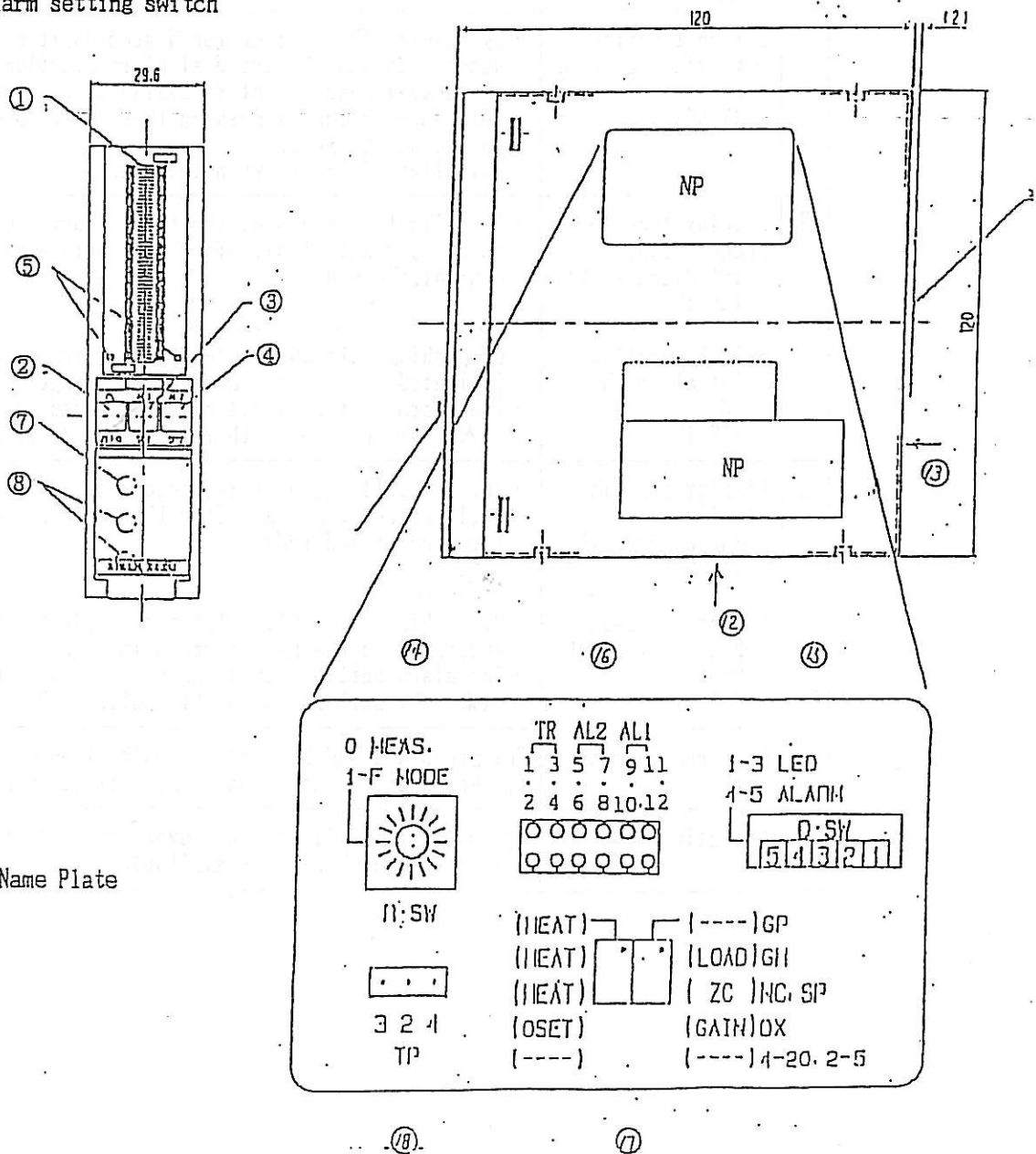


Fig : Block diagram

### 3. DESIGNATION AND FUNCTION OF COMPONENTS

#### 3-1. Appearance of Indicator/alarm unit

- ① Indication panel
- ② Power light (Green) "PL"  
/ Maintenance mode switch
- ③ First alarm light (Orange) "AL1"  
/ First alarm setting confirmation switch
- ④ Second alarm light (Red) "AL2"  
/ Second alarm setting confirmation switch
- ⑤ Maintenance mode light  
/ Range selection light (for dual range)
- ⑥ Cover for operation part and handle to remove inside part
- ⑦ Alarm test switch
- ⑧ Alarm setting switch



|   |  |   |
|---|--|---|
| ① | 3-color LED bargraph meter   |   |
|   |  | <ul style="list-style-type: none"> <li>• The gas concentration is indicated at LED bargraph by checking its color which depends on the concentration.</li> <li>• The alarm setting points are indicated all the time.<br/>First alarm : orange<br/>Second alarm: red</li> <li>• The peak value is indicated by green light in case of peak hold mode.</li> <li>• All the LED flickers when the gas concentration exceeds over measurement range.</li> </ul> |
| ② | Display function/<br>green light <ul style="list-style-type: none"> <li>• Power light</li> <li>• Trouble light</li> </ul> Switch function <ul style="list-style-type: none"> <li>• Maintenance mode SW (ZERO)</li> </ul> | <ul style="list-style-type: none"> <li>• This light turns on when the power is properly supplied.</li> <li>• By pushing this switch for 5 seconds, it comes into maintenance mode and the external alarm function is cancelled. The actual measurement is available by temporary cancelling zero suppression. By pushing this switch once more, it returns to the normal mode.</li> <li>• This light flickers when trouble.</li> </ul>                      |
| ③ | Display function/<br>orange light <ul style="list-style-type: none"> <li>• 1st alarm light (AL 1)</li> </ul> Switch function <ul style="list-style-type: none"> <li>• 1st alarm check SW (SP 1)</li> </ul>               | <ul style="list-style-type: none"> <li>• This light flickers at the first alarm and lights continuously by reset signal after then automatically returns to the Non-latched mode.</li> <li>• By pushing this switch the first alarm setting level is indicated on the LED bargraph in orange.</li> <li>• The alarm setting level can be changed by pushing up/down (▲/▼) switches with this switch (SP1) pressed.</li> </ul>                                |
| ④ | Display function/<br>red light <ul style="list-style-type: none"> <li>• 2nd alarm light (AL 2)</li> </ul> Switch function <ul style="list-style-type: none"> <li>• 2nd alarm check SW (SP 2)</li> </ul>                  | <ul style="list-style-type: none"> <li>• The light flickers at the second alarm and lights continuously by reset signal after then automatically returns to the Non-latched mode.</li> <li>• By pushing this switch the second alarm setting level is indicated on the LED bargraph in red.</li> <li>• The alarm setting level can be changed by pushing up/down (▲/▼) switches with this switch (SP2) pressed.</li> </ul>                                  |
| ⑤ | Maintenance mode light   | The green and red LEDs at the both sides of the bargraph flicker when the maintenance mode is active.   |
| ⑥ | Operation cover  | By pulling and sliding the cover to the front, adjustment with switches⑦ and⑧ will be available.  |



|       | NAME                              | CONTENTS  |       |   |  |  |  |   |   |   |   |   |
|-------|-----------------------------------|---|-------|---|--|--|--|---|---|---|---|---|
| ⑦     | Alarm test switch (TEST)          | This switch is to be used for testing the alarm operation.<br>Warning: Please arrange properly to eliminate the effects against the alarm which may be given during the test.   |       |   |  |  |  |   |   |   |   |   |
| ⑧     | Alarm set switch (▲/▼)            | To change an alarm level, push the alarm setting switches (▲/▼) with pushing SP1③ and SP2④.   |       |   |  |  |  |   |   |   |   |   |
| ⑫     | Power switch                      | • This switch is to be used for supplying the power source.   |       |   |  |  |  |   |   |   |   |   |
| ⑬     | Fuse                              | • Melt down type fuse at 2.0A.  |       |   |  |  |  |   |   |   |   |   |
| ⑭     | Rotary switch "R. SW"             | • This switch is used for checking the details of the function setting mode.<br>Warning : The functions are set before shipping. Please consult with the service agent when any change is required.   |       |   |  |  |  |   |   |   |   |   |
| ⑮     | Dip switch "D. SW"                | • The function pattern can be set by this switch. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"><p>&lt;Note&gt;<br/>This switch is pre-set before shipment. Please consult us when the function pattern is to be changed.</p></div> <p>Standard setting is shown below.</p> <div style="text-align: center; margin: 10px 0;"><table border="1"><tr><td colspan="5">D. SW</td></tr><tr><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr></table></div> <p>Standard (H. HH)      ON   ON   ON   ON   ON</p> | D. SW |   |  |  |  | 5 | 4 | 3 | 2 | 1 |
| D. SW |                                   |   |       |   |  |  |  |   |   |   |   |   |
| 5     | 4                                 | 3   | 2     | 1 |  |  |  |   |   |   |   |   |
| ⑯     | Pins to change the alarm contacts | • This is used for setting the alarm contact operation. Set to 7.8 and 11.12 for A-contact (normally opened), or 5.6/9.10 for B-contact (normally closed).  |       |   |  |  |  |   |   |   |   |   |
| ⑰     | Volume for internal adjustment    | • This volume is not mounted in this model.   |       |   |  |  |  |   |   |   |   |   |
| ⑱     | Check connector                   | • The check connector is not mounted in this model.   |       |   |  |  |  |   |   |   |   |   |

Note 1 : The excitation of alarm contact for standard set is as follows (excited at trouble)

For every contact : in normal operation - power off (Not charged)  
in alarm condition - charged power on (charged)

Note 2 : Please contact the service agent, if change of the contact pattern is required.  
For every contact, this is available to change the setting of excitation pattern.

## 4. INSTALLATION

### 4-1. Installation place

- (A) Keep the system from direct sun drought or where the temperature is drastically changed.
- (B) This system consists of fine electronics parts. Install them where to be stable not to crush or fall down. But keep the system from the installation at the place of a plenty of dust and high humidity possibly to dew.
- (C) Keep the system from the equipment which may give a high frequency in the surroundings and install it.
  - \* Do not put the system jointly each.
  - \* Do not wire the cable in parallel nor take access.

### 4-2. Caution in the system engineering

The unstable power and noise may cause the error of action and trouble alarm for the system employing this gas monitor, the engineering especially for this point considered shall be requested.

The stable power shall be used in this system engineering

The caution will be taken because the external output and alarm contact may work when power is on or while the system gets stable at the power failure.  
In such case, the stand-by battery shall be used or the appropriate treatment shall be made in the receiver side.

For this system, supply the following power source.

\* Power voltage : DC 24V  $\pm$  10%

\* Standby battery : Approx 10m sec

tolerance time (In case of over 10m sec power failure, it will re-start).

To assure the action or continuous operation, the standby battery etc will be installed.

\* Others ;

Don't use jointly the power including high power load or high frequency noise.

Or according to the requirement, use it by separating the noise source from line filter etc.

Engineering to consider the radiating heat

When use the single channel case by putting them side by side, take care about the radiating heat.  
To be engineered with the following conditions.

- Make a spare for 1 point every 12-channel unit when put it horizontally.
- Make separation for over 220mm between units when put it vertically. Do not block the-up-and-down opening part.
- When mount it in the closed alarm panel etc, put the ventiation fan for every case space.

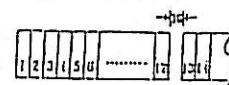


Fig-1

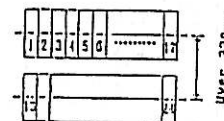


Fig-2

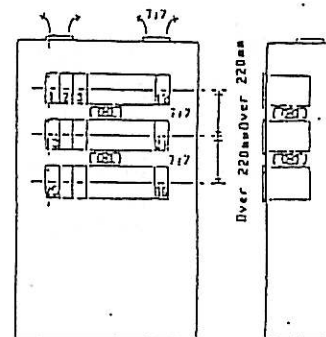


Fig-3

Noise measures shall be taken according to the installation environment

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#### 4-3. Lighting surge

The lighting measures must be considered in the following cases ;

- (A) The cable is connected outdoors in the factory plants etc.
  - (B) Even indoors, the parallel cable distribution is made in the same duct with the cable pulled in from the outdoor.
- If the thunder is a big source, the cable will be its receiver and both apparatus connected to the cable into the cable into the pipe or the underground, the lightning surge could not be protected completely.

#### 4-4. Lightning measures

There is not the complete countermeasure for it but the following method can be considered. Make the suitable treatment accordingly.

- (A) The transmission signal route is arranged for connection by the optical fiber cable etc.
- (B) Countermeasure by the lightning arrester. (Cable safety retainer)  
There is the way to install the lightning arrester just before the field apparatus and the central control station. The position of the lightning arrester installation is at each point if cable laid out from the outdoor to the indoor.  
The lightning arrester builds in the circuit to remove the surge voltage to be the source for the damage of field apparatus (Protection resistor, zero diode etc) and is designed to protect the apparatus. But as the signal may be attenuated due to the lightning arrester, check the action and it is required to use it.

Earth treatment shall be made

Source noise may be generated by the lightning of thunder or other than it.

From this, it is required to ground for the protection.

For RM-570A series, there are cases for signal channel case use and for multi-channel case use, but it is required to ground by use of earth terminal "E" for each grounding.

Do not bring noise to the alarm contacts

- \* Alarm contacts shall be used only for external buzzer and alarm light, and do not use it for the controlling use (such as solenoid valve control etc).

When control the external load, the bad influence may be given to the system according to the load characteristics.

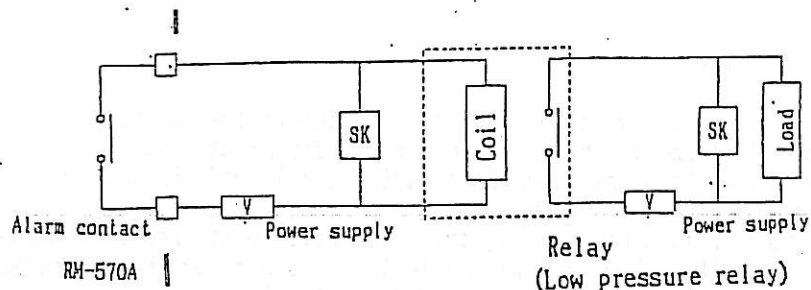
In such case, the following countermeasure shall be taken to stabilize the action and protect the contacts.

- \* Relayed by the low voltage relay and operate by connecting CR circuit (Spark killer : SK) (Diode etc for DC) suited for relay coil directly to relay.

- \* Add CR circuit to the load side of relay relayed on the request.

Reference : By the condition of load, CR circuit may be better to install in the contact side but it is required to put in by checking the action of load.

SK : Surge absorption filter



### How to think alarm contacts against inductive load

The spec for alarm point of RM-580 series is described by the conditions of resistance load.

When use the inductive load for alarm contacts, the very high reverse electromotive voltage may be generated and the following trouble tends to be produced.

- Contact part of relay is melted adhesively and the contacts can not work.
- High voltage is put inside of indicator/alarm unit and then, electrical parts may be damaged.
- As it is big noise, the trouble action may be taken by the reckless drive of CPU.

\* Irrespective of inductive load, there is the possibility of unforeseeable noise intrusion for contacts. (Above trouble may be generated.)

To nip in the bud such obstacle, the following preventive required.

- The inductive load shall not be used in principle (Do not use fluorescent lamp).
- When use the inductive load, make the contact amplification outside, but the outside relay coil belongs to the inductive load, use the relay driven by the low voltage (within AC100V) and it is protected by an appropriate surge killer.
- When control the light inductive load directly, protect the contacts by an appropriate surge killer by all means.

At this time, the contact rating spec shall be lower than 50% of resistance load.

|        |                 |
|--------|-----------------|
| AC100V | less than 0.25A |
| DC 30V | less than 0.75A |

As the inductive load, there are following samples.

• Patlight • External relay • Buzzer • Siren • Fan • Fluorescent lamp • Motor etc.

# 4-5. External signal terminals

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## ○Table of the terminal

In case of the single-channel case

| Name of signal                | Terminal No. |   | Name of signal                              |
|-------------------------------|--------------|---|---|
| Power input +<br>(DC 24V) —   | ⑪            | ① | Alarm relay output<br>(1st)                 |
|                               | ⑫            | ② |   |
| Reset signal                  | ⑬            | ③ | Short-circuit with ④                        |
| Alarm signal output           | ⑭            | ④ | Detector head<br>GND<br>24V<br>Signal input |
| Trouble alarm relay<br>output | ⑮            | ⑤ |   |
|                               | ⑯            | ⑥ |   |
| Open (N.C)                    | ⑰            | ⑦ | Alarm contact output<br>(2nd level)         |
| Trouble signal output         | ⑱            | ⑧ |   |
| Test input                    | ⑲            | ⑨ | + Signal output<br>— (DC4-20mA)             |
| COM - ⑬ ⑭ ⑮ ⑯                 | ⑳            | ⑩ |   |
|                               |              | E | Ground terminal                             |

In case of multi-channel case

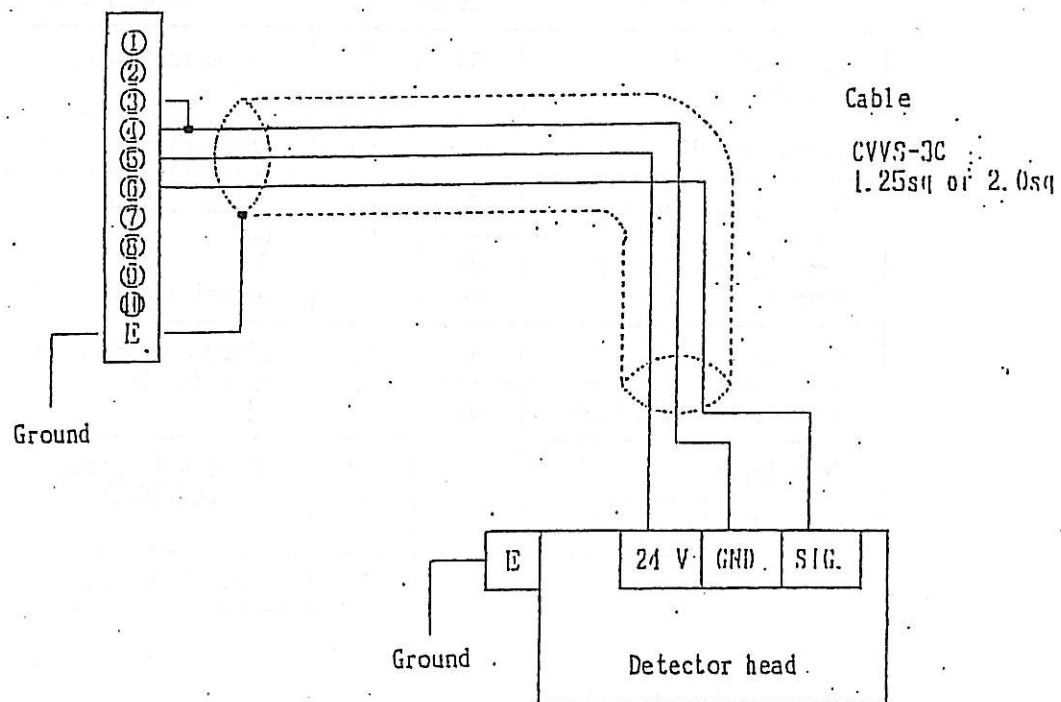
| Name of signal                              | Terminal No. |   | Name of signal                |
|---|--------------|---|-------------------------------|
| AC power for pump                           | ①            | ⑦ | Alarm contact output<br>(1st) |
|   | ②            | ⑧ |                               |
| Short-circuit with ④                        | ③            | ⑨ | Alarm contact output<br>(2nd) |
|   |              | ⑩ |                               |
| Detector head<br>GND<br>24V<br>Signal input | ④            | ⑪ | Trouble alarm contact output  |
|   | ⑤            | ⑫ |                               |
|   | ⑥            | ⑬ |                               |
| Ground terminal                             | E            | ⑭ | + Signal output               |
|   |              |   | — (DC 4-20mA)                 |

4-6. Connections with detector head

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Connection with detector head <3-wire method>



|                         |
|-------------------------|
| 5. CAUTION IN OPERATION |
|-------------------------|

- (A) When use the walking-talky (transceiver) near the cable or instrument, there may affect the reading by the radiation of electric wave and much care for it should be taken. It must be operated where there is no influence for it.
- (B) When turn on the power again, do it again after over 5 seconds have passed. When turn on the power within 5 seconds again, the normal operation cannot be assured.
- (C) At power on and momentary power failure, as the external output and alarm contact may work until the system gets stable, the care for it should be taken.  
In such case, the stand-by battery shall be used or the appropriate treatment shall be done in the receive side.
- (D) When detach the indicator/alarm unit, do it after power switch of unit "OFF" or do it after the main switch "OFF".
- (E) The electrochemical sensor used at model 583 is required to supply a constant potential always against the sensor in the detection principle from the indicator/alarm unit.  
Then, when last the long hour power failure or the power of indicator/alarm unit is suspended, use the sensor keeper connecting to the detector head and arrange to give a constant potential.  
When do not use the sensor keeper, it may take long hours until the readings get stable.  
As there are the required precaution for each sensors, be sure to read the respective manual.

## 6. MAINTENANCE CHECK

Model 583 is important instrument for disaster prevention and the regular maintenance check shall be done to keep the function of instrument at the operation and to enhance the prevention disaster and safety.

### 6-1. Daily check

Basically, this is the check made by users.

(A) Light "ON" check of power lamp

Normal time : Green light "ON"

Trouble time : Green light flicker

(B) Indication check

Check that there is no gas deposited around the detector head (sensor) and the indication of bar graph meter shows the normal read-out.

Expose the gas at 2 ~ 3 times the alarm preset level once in 3 ~ 6 months to the detector head.

Check the performance and check the sensitivity.

(C) Check of alarm circuit action

< Caution >

Make it after having arranged to consider.

Hold pressing the alarm test switch (TEST) on for over 5 seconds and check the alarm circuit performance. (See the item 7.4-f in detail.)

### 6-2. Regulator Maintenance check

(A) Daily check

(B) Instrument cleaning

(C) Gas sensitivity adjustment (Including detector head)

(D) Function check

### 6-3. Parts replacement

Fuse replacement

At trouble time, check the cause and replace it with the designated fuse after treatment.

### 6-4. Maintenance contact

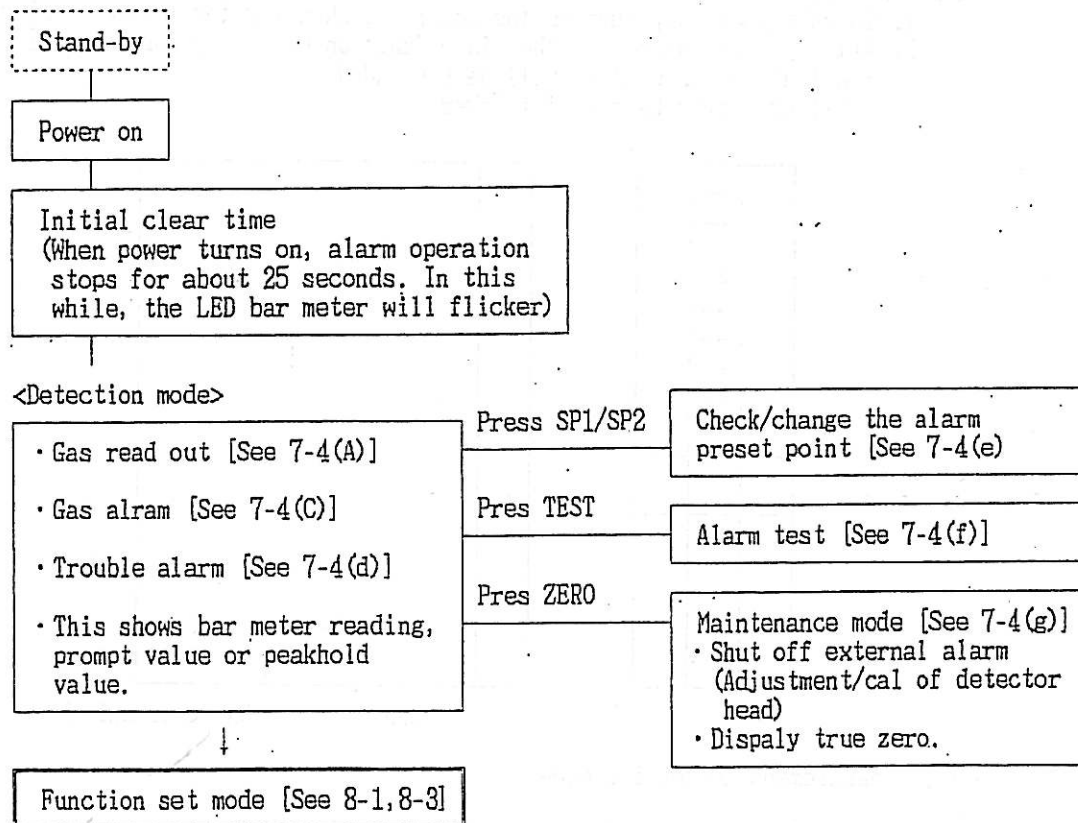
The daily check for this instrument is recommended to be done in user side. However 3 or 6 months and 1 year check including gas calibration shall be recommended to conclude the operational contact of regular check, adjustment and arrangement (check/maintenance) etc so that the continuous measurement can be assured. Contact our nearest service company.



## 7. OPERATION PROCEDURE

7-1. This instrument shall be used in combination with single case or multi-unit case mounted.

7-2. Basic performance flow



### 7-3. Operation stand-by and power on

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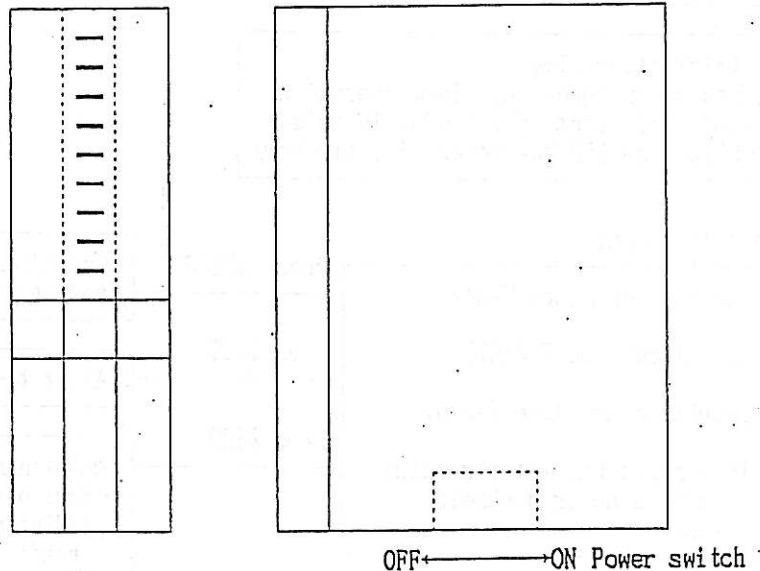
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#### (A) Preparation

1. Check that the wiring with the remote line is made correctly.
2. Check that the power supply and voltage are within the rating.
3. Alarm may be given during the adjustment. Even when alarm is given, see to it that any influence will not be given to remote side.

#### (B) Power on

1. To make power on, turn on the power switch below the indicator/alarm unit.
2. After putting power on, the alarm function will stop for approx 25 seconds.
  - \* All alarm performance will be suspended.
  - \* All LED meter bars will flicker.

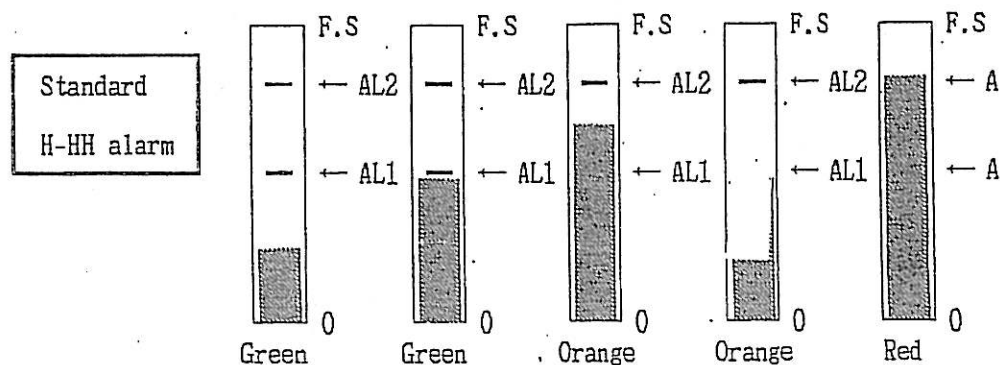


### 7-4. Measurement (Detection mode)

After warming-up, the followings shall be performed in the detection mode.

#### (A) Read-out

The sample gas detected at the detector head is assorted by color at each alarm level and into 50 divisions.

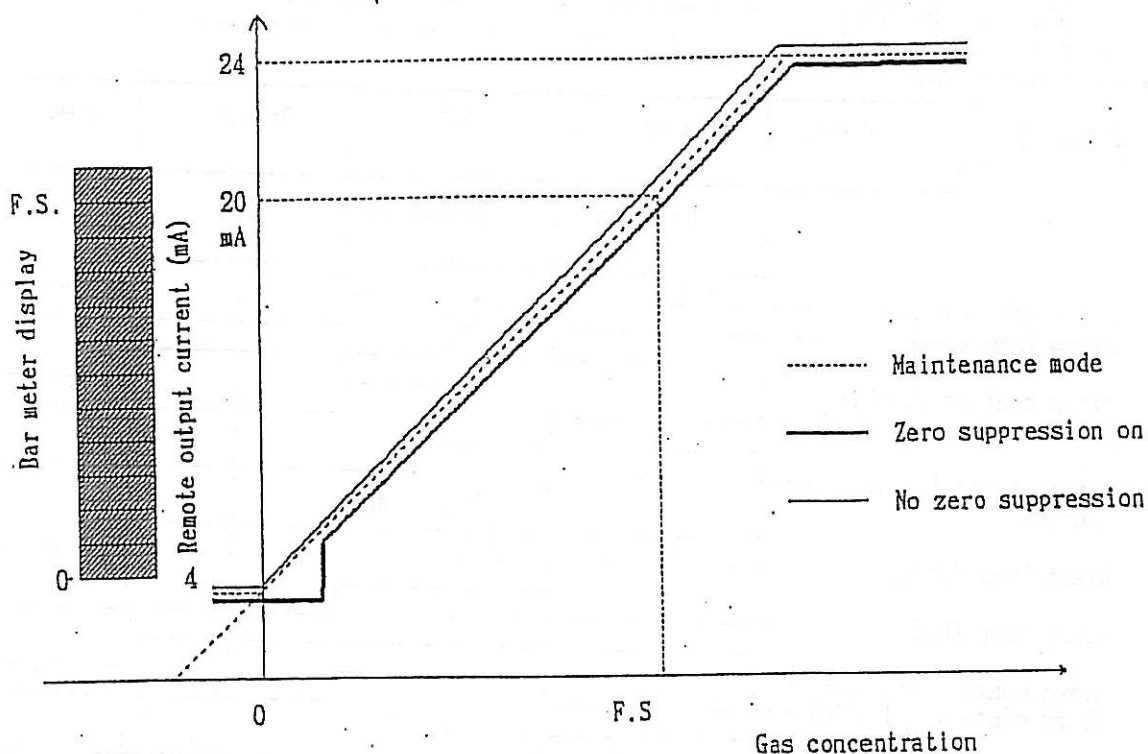


When it gets pill-scale over, all the bar meter shall flicker.

## (B) Remote output (4-20mA output)

The current in direct proportion with the bar meter display shall be given.

## ©Input/output specificity (H-HH alarm)



## &lt;NOTE&gt;

The input/output specificity shall follow the output of detector head. Especially, the input/output specificity in case of using model SD-703NCW or SD-703SCW as a detector head shall be as follows ;

|                  |             |
|------------------|-------------|
| 0 ~ 10%LEL       | : 4 ~ 16mA  |
| 10%LEL ~ 100%LEL | : 16 ~ 20mA |

## (c) Gas alarm

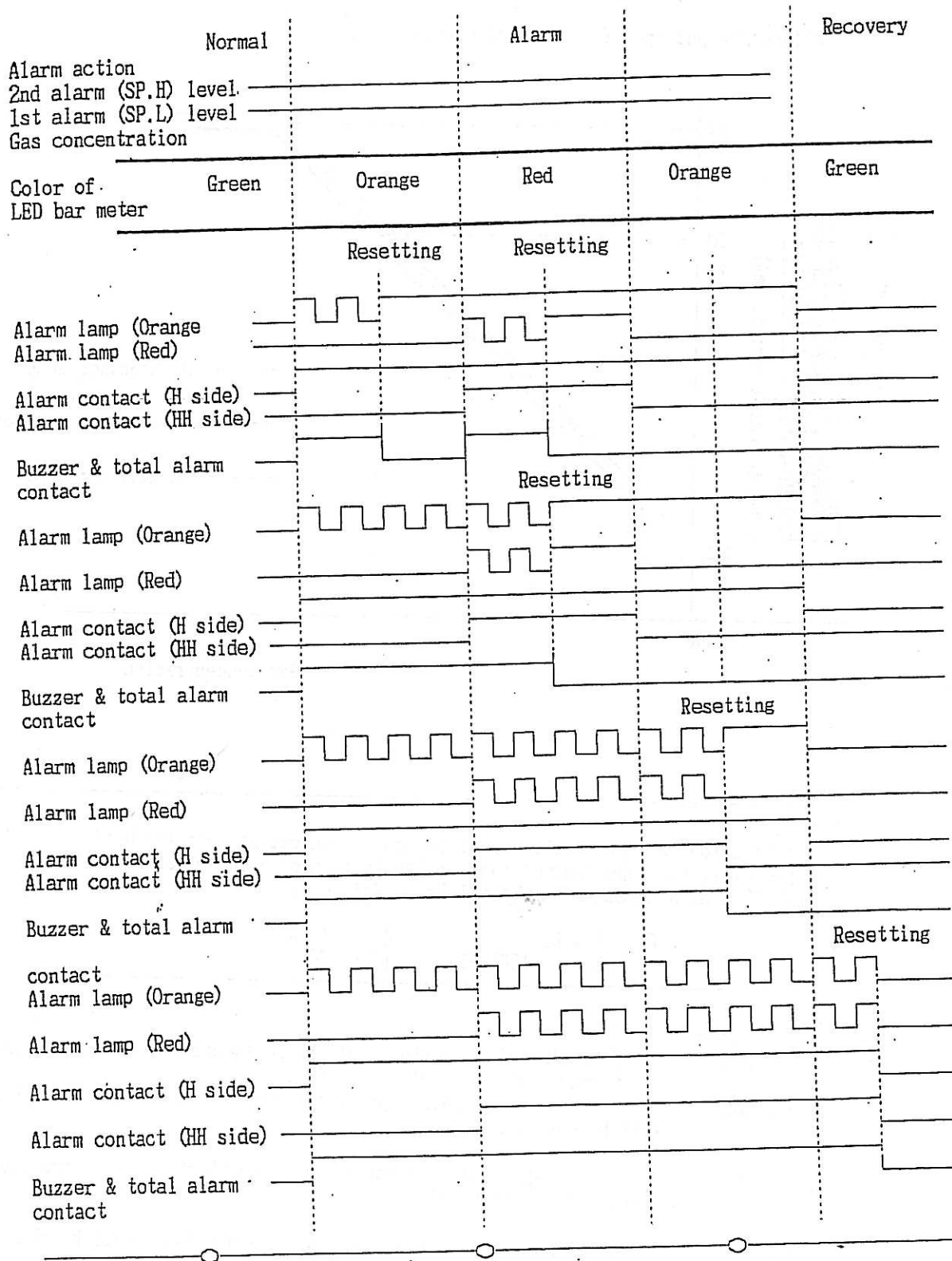
- Function : The following alarm action shall be performed for detection gas at every preset alarm point (SP1, SP2).
- Action : After alarm is activated, press the reset switch (buzzer stop) and it will be self-reset.

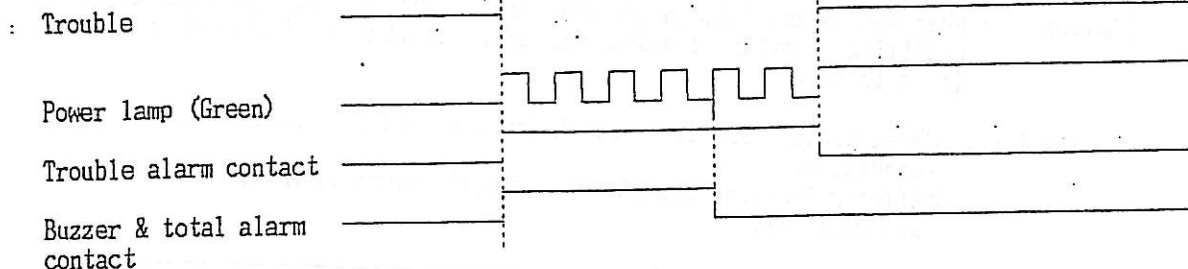
[Note 1] Buzzer, total alarm contacts and trouble alarm contacts are good when connect the buzzer unit.

[Note 2] Incase of maintenance mode, all the alarm points shall be shut off.

- (Example) : H · HH Alarm action -

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#### (D) Trouble alarm

When make the following operation, the trouble alarm will trigger.

- ① When the transmission line with detector head was disconnectd ;  
The indicator/alarm unit is non-latched mode.  
As the buzzer of buzzer unit and total alarm contact are latched mode, press the reset switch and cancell the buzzer sound.

The output to teh outside shall be as follows.

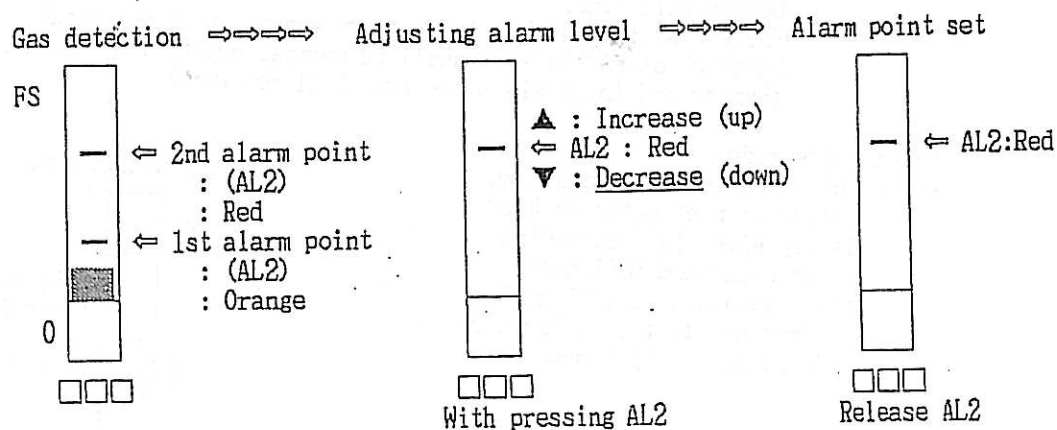
The trouble alarm contact works  
Power lamp flickers  
Trouble lamps give output (Received by buzzer unit)  
4-20mA shall be 1mA  
Bar meter display shall be zero

- ② When there is a trouble in COU,

(E) When change the alarm preset value, this procedure is as follows.

#### Operation

- ① Press holding the alarm level check switch (SP1 or SP2),
- ② Push "▲" or "▼" switch on the operation panel,
- ③ Set the indicator on the LED bar meter to the required alarm level.
- ④ Release the alarm level check switch (SP1 or SP2) from holding.
- ⑤ The maintenance mode lamp flickers for a few seconds after the above operation.  
At this time, after the alarm points are set to the memory, it returns to the detection mode.



Example : Setting of the second alarm level (For H-HH alarm)

## (F) Alarm test

- Function : Check the function of alarm circuit.  
For alarm test, there are two types for A type (standard) and B type.

[Caution] : When wake alarm test in the maintenance mode or alarm set mode under the condition of external alarm shut-off, the alarm contact shall not work if it is B-type.

- Operation : ①When press alarm TEST switch for 5 seconds, this shall get to test condition.  
②After releassing the finger, it will return to the detection mode automatically.

## &lt; Caution &gt;

When make alarm test, gas alarm may trigger. This must be made by cinsidering the influence to the outside beforehand or the shut-off of external alarm with the maintenance mode switch on.

[See it for the item 7-4.(g)]

|                             | Alarm TEST  | A type                                   | B type                                | Maintenance Mode                         |
|-----------------------------|---|--|---------------------------------------|--|
| Indicator/<br>alarm<br>unit | Bar meter<br>Alarm lamp (AL1/AL2)<br>Gas alarm point (AL1/AL2)<br>4-20mA output | Flicker<br>Flicker<br>No working<br>20mA | Flicker<br>Flicker<br>Working<br>20mA | Flicker<br>Flicker<br>No working<br>20mA |
| Buzzer<br>unit              | Buzzer<br>Total alarm contact   | Sounding<br>Working                      | Sounding<br>Working                   | Not Sound<br>Not work                    |

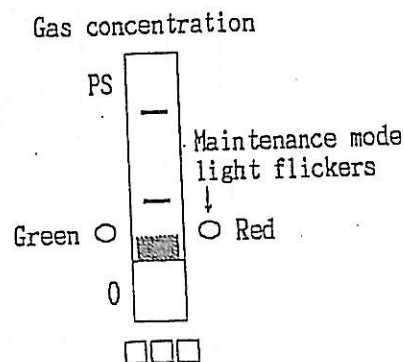
[Note 1] : The workof buzzer, total and alarm contact is a condition to connect buzzer.

[Note 2] : The method to shut off gas alarm contact and not to work the alarm contact of buzzer unit shall be as follows.

- When use TAN-580 to buzzer unit, turn on the maintenance switches of buzzer unit side.  
(Buzzer will sound but total alarm contact will not work)
- External alarm shut-off shall be carried out by the function set mode.  
(Buzzer and total alarm contact shall not work)

## (G) Maintenance mode

- Use : When make the adjustment and calibration of detector head, it may give alarm exceeding alarm point and influence alarm to alarm receiving side. To prevent it, the calibration is made at maintenance mode.



- Operation : ①Hold pressing the maintenance mode switch (ZERO) for 5 seconds and it turns to the maintenance mode.  
②The maintenance mode light will flicker at maintenance mode.  
③When press for over 5 seconds, it returns to the detection mode again.
- Action : ①All the alarm contacts shall be shut-off at maintenance mode.  
②Zero suppression shall be cancelled during the maintenance mode.  
③The buzzer of buzzer unit and total alarm contact will not work during the maintenance mode.  
(But alarm test time will be excluded.)

#### 7-5. Adjustment and calibration of detector head

The calibration of detector head is made by using the zero adjusting potentiometer and sensitivity adjusting potentiometer. See the detail for the separate instruction manual of detector head.

< Caution >

When make alarm test, gas alarm may trigger. This must be made by considering the influence to the outside beforehand or the shut-off external alarm with the maintenance mode switch on.

[See it for the item 7-4.(g)]

## 8. Each function (Function set mode)

This has a variety of set function expect the following three etc, and they are factory-set according to the calibration of instrument.  
When it returns the charge, contact our nearest service station.

- © The items available to change by function set mode are ;
- ON or OFF peakhold
  - Set of alarm delay time
  - Zero suppression level set

### 8-1. Peakhold action

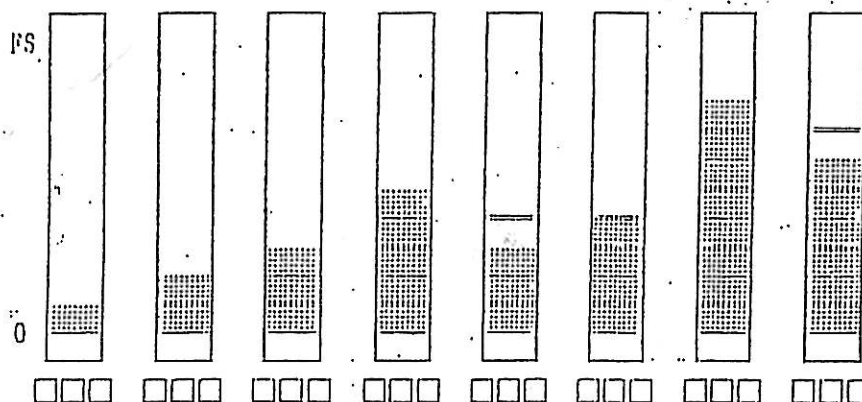
#### (A) Function

Gas leak shall leak normally or discharge abruptly. By use of this instrument, the peak value of gas can be returned (held).

After gas alarm and when the reading goes down, it can be seen what level gas has generated.

The peak value can be cleared by pressing the RESET switch (buzzer unit) and the value at that time can be held.

- The peak value is displayed by green bar graph meter.
- At over scale time, the top bar line of LED shall flicker.
- When the peak value and alarm point has been overlapped, this lights on alternatively.



#### (B) Standard setting : Non-Hold



## 8-2. Alarm delay time

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### (A) Function

According to the installation place, the external noise may affect the instrument. By considering such case, the function of alarm delay shall be provided (By comparing gas reaction interval of sensor, it is a function to prevent the error of action through short time noise and big level noise).

The items of alarm action to be delayed shall be as follows

- Alarm light (AL1/AL2)
- Gas alarm contact (AL1/AL2).
- Buzzer pulse

### (B) Set-up time

- 0-12.5 seconds (standard set : 2 seconds, Bar meter display is 0.5 sec/digit)

## 8-3. Zero suppression

### (A) Function

This instrument is provided with zero suppression function (function to shade off the variation of zero level).

The items of zero suppression shall be as follows.

- Bar meter display
- 4-20mA external output

### (B) Adjustment level

- : 0 - F.S (Factory-set by the model)

## 9. SPECIFICATIONS

ET2225E  
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|                     | EC-583          | GP-583               | NC-583          | NC-583W         |
|---------------------|-----------------|----------------------|-----------------|-----------------|
| Detection principle | Electrochemical | Catalytic combustion | New ceramic     | New ceramic     |
| Measuring gas       | Toxic gas       | Combustible gas      | Combustible gas | Combustible gas |

| RI-583                         | GR-583         |
|--------------------------------|----------------|
| NDIR (Non dispersive infrared) | Semi-conductor |
| Combustible gas                | Hydrogen       |

- \* Indication method : Multi-color LED bar meter (Peakhold display)
- \* Adjustment method : Zero and span shall be adjusted on the detector head side.
- \* Detector head signal
  - Method : 3-wiring 4-20mA transmission (0-F.S)
  - Transmission distance : This is defined by the kind of detector head.
- \* External output : (4-20)  $\pm$  1mA / (0-F.S) : Adjustable
- load resistance : Below 300  $\Omega$  (Non-insulation)
- \* Alarm action : Latched mode, non-latched after resetting (standad)
  - Display : 1st level, Orange LED flicker, light on after resetting
  - 2nd level, Red LED flicker, light on after resetting
  - Contact : 1a or 1b (Specify either of them when ordering.)
  - < Contact capacity : Resistance load...[Caution] >
    - AC100V 0.5A
    - DC30V 1.5A
- \* Alarm delay : Adjustable between 0 to 12.5 seconds (Standard : 2 sec)
- \* Trouble alarm : Display, green lamp flicker
- \* Alarm contact : 1a or 1b (Specify either of them when ordering.)
  - < Contact capacity : Load resistance...[Caution] >
    - AC100V 0.5A
    - DC30V 1.5A
- \* Initial clear time : Approx 25 seconds
- \* Zero suppression : 0 ~ F.S
- \* Ambient temperature : 0 ~ 40  $^{\circ}$ C
- \* Ambient humidity : 10~90% RH (Non-condensing)
- \* Power consumption : 6W MAX (DC)
- \* Mounting method : Used by combination with single case or multi- unit case.

< Caution >

For this operation, check the cautions of instruction manual.

4-1. Caution at installation

5. Caution at operation

< Caution >

Specifications subject to change without notice.





## Product Warranty

1/1/2006

RKI Instruments, Inc. warrants gas alarm equipment sold by us to be free from defects in materials, workmanship, and performance for a period of one year\* from the date of shipment from RKI Instruments, Inc. Any parts found defective within that period will be repaired or replaced, at our option, free of charge. Parts must be returned to RKI Instruments, Inc. for repair or replacement. This warranty does not apply to those items which by their nature are subject to deterioration or consumption in normal service, and which must be cleaned, repaired or replaced on a routine basis.

Examples of such items are:

- a) . . . . . Pump diaphragms and valves
- b) . . . . . Fuses
- c) . . . . . Batteries
- d) . . . . . Filter elements

Warranty is voided by abuse including mechanical damage, alteration, rough handling, or repair procedures not in accordance with instruction manual. This warranty indicates the full extent of our liability, and we are not responsible for removal or replacement costs, local repair costs, transportation costs, or contingent expenses incurred without our prior approval.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESSED OR IMPLIED, AND ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF RKI INSTRUMENTS, INC. INCLUDING BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL RKI INSTRUMENTS, INC. BE LIABLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE OF ANY KIND CONNECTED WITH THE USE OF ITS PRODUCTS OR FAILURE OF ITS PRODUCTS TO FUNCTION OR OPERATE PROPERLY.

This warranty covers instruments and parts sold to users only by authorized distributors, dealers and representatives as appointed by RKI Instruments, Inc.

We do not assume indemnification for any accident or damage caused by the operation of this gas monitor and our warranty is limited to the replacement of parts or our complete goods. Warranty covers parts and labor performed at RKI Instruments, Inc. only, and does not cover field labor or shipment of parts back to RKI Instruments, Inc.

\* The Models GX-2001, GX-2003, GasWatch 2, and 01 Series carry a two year warranty. The two year warranty applies to the instrument including original sensors. Replacement parts and sensors have a standard one year warranty.

