

## Gas Detection & Alarm System

# NV Series

### Features

- Monitors gas leakage even during a power failure or other lifeline failures. (on models with a built-in backup power supply) Continuously monitors for 30 minutes after a power failure, then intermittently monitors for 2 days. The interval between observations depends on the number of detection points. (NV-500)
- Continuously monitors for 30 minutes after a power failure. (NV-400/410/600HS/010)
- Operated normally in a seismic qualification test equal to intensity of 7 on the Japanese earthquake scale. Earthquake-resistant design considering great earthquakes. A plastic molded case which contains the electronic circuit is hard to break and has substantially improved insulation. The case structure has been refined to increase the strength.
- Gas concentration at the time of an alarm is shown at a glance.  
NV-410 has a scale of 0 to 1.0. (No unit)
- Battery life can be measured by one-touch operation. (Battery life check function)
- Very easy to change the alarm set value. (▲▼ key)
- NV-500/010 has extremely easy zero adjustment and span adjustment. (One-touch calibration function)
- Wide operating voltage range of 85-264V.
- NV-500/010 comes with Zero suppression function.



▲ Indicator unit



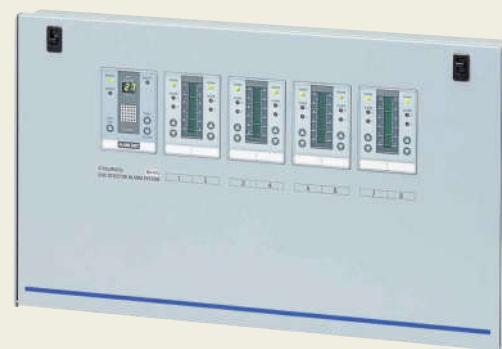
▲ Alarm unit

### System Configuration

#### Indicator/Alarm Unit



LP gas detection & alarm system NV-500



Town gas, Industrial gases detection & alarm system NV-400 NV-410



For hydrogen filling stations NV-600HS



For Ammonia refrigerating facilities NV-010

## Gas Detector Heads

### ■ Diffusion type



KD-5B-N

### ■ Diffusion type



KD-5

### ■ Suction type



PE-2DC

### ■ Diffusion type



KD-7

## Accessories/Options

### ■ Options (sold separately)



KW-22  
Rainproof cap



KW-15  
Rainproof cover



EB-5  
External buzzer

### ■ Options (sold separately)



PW-51/KW-11,12  
Rainproof cover



EB-5  
External buzzer

### ■ Options (sold separately)



KW-71  
Rainproof cover for KD-7



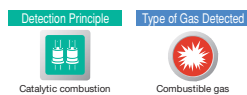
EB-5  
External buzzer

# Multi-Point Type

## Gas Detection & Alarm System

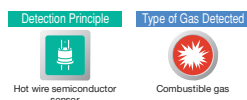
# NV Series

### LP Gas Detection & Alarm System NV-500 Specifications



| Model                                                                       |                                            | NV-500                                                                                                                   |
|-----------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Item                                                                        |                                            |                                                                                                                          |
| Detection Principle                                                         |                                            | Catalytic combustion                                                                                                     |
| Gas Detected                                                                |                                            | LPG                                                                                                                      |
| Detection Points per Unit                                                   |                                            | Monitors 2 points per unit                                                                                               |
| Detection Range                                                             |                                            | 0-100%LEL (isobutane)                                                                                                    |
| Concentration Indicator                                                     |                                            | LCD bar-graph meter (53 dots×2 lines)                                                                                    |
| Alarm Set Value Indication                                                  |                                            | Direct reading scale                                                                                                     |
| Backlight                                                                   |                                            | Yes                                                                                                                      |
| Peak Hold Function (on alarm)                                               |                                            | Holds a peak value on alarm, which is canceled by the Reset                                                              |
| Alarm Set Value(default value)/Change of the Set Value                      |                                            | 24 or 16%LEL/ $\triangle/\nabla$ key                                                                                     |
| Alarm Accuracy                                                              |                                            | ±25% of an Alarm Set Value (under identical conditions)                                                                  |
| Response Time                                                               |                                            | 30s or less at 160% concentration of an Alarm Set Value (excluding sampling delay for suction type)                      |
| Alarm Indication                                                            | Individual Alarm Lamp<br>Self-holding type | On alarm: Flashes red, lights up after the Buzzer Stop<br>Complete lock (Turn off by the Reset after the level declined) |
| Alarm Sound                                                                 | Standard Operation<br>Voice Alarm          | On alarm: Intermittent buzzer, stops after the Buzzer Stop<br>On alarm: Intermittent buzzer                              |
| External Alarm Output                                                       | Individual Alarm Contact                   | 1a no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                             | Individual Voltage Output                  | 0-6-12V DC (20mA or less)                                                                                                |
|                                                                             | Collective Alarm Contact                   | 1c no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                             | Centralized Monitor Panel Output           | 0-6-12V DC (20mA or less)                                                                                                |
|                                                                             | External Buzzer Contact                    | 1a no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                             | External Buzzer Voltage Output             | Intermittent voltage signal (12V DC, 10mA or less)                                                                       |
| Alarm Delay                                                                 |                                            | Selectable by a DIP switch (10s constant)                                                                                |
| Main Power Source                                                           |                                            | 85-264V AC                                                                                                               |
| Power Consumption                                                           | When using KD-5<br>When using PE-2DC       | Diffusion type (15+3.5n)VA<br>Suction type (15+7.5n)VA                                                                   |
| Backup Power Source<br>(only on models with a built-in backup power supply) | Battery Type                               | Sealed lead acid battery                                                                                                 |
|                                                                             | Overdischarge Prevention Function          | Yes                                                                                                                      |
|                                                                             | Battery Life Check Function                | Yes                                                                                                                      |
|                                                                             | Battery Voltage Indication                 | 2-digit LED                                                                                                              |
| Exterior Color                                                              |                                            | Munsell 2.5PB 7.0/1.0                                                                                                    |

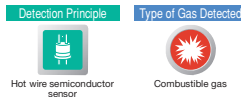
### Town gas, Industrial gases Detection & Alarm System NV-400/NV-410 Specifications



| Model                                                                       |                                            | NV-400/NV-410 *1                                                                                                         |
|-----------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Item                                                                        |                                            |                                                                                                                          |
| Detection Principle                                                         |                                            | Hot wire semiconductor                                                                                                   |
| Gas Detected                                                                |                                            | NV-400:Town gas (Natural gas)<br>NV-410:Town gas or Industrial gases                                                     |
| Detection Points per Unit                                                   |                                            | Monitors 2 points per unit                                                                                               |
| Detection Range                                                             |                                            | NV-400: 0-100%LEL<br>NV-410: As per specifications                                                                       |
| Concentration Indicator                                                     |                                            | LCD bar-graph meter (53 dots×2 lines)                                                                                    |
| Alarm Set Value Indication                                                  |                                            | Direct reading scale(except NV-410)                                                                                      |
| Backlight                                                                   |                                            | Yes                                                                                                                      |
| Peak Hold Function (on alarm)                                               |                                            | Holds a peak value on alarm, which is canceled by the Reset                                                              |
| Alarm Set Value (default value)                                             |                                            | NV-400: 10%LEL for 1st stage, 24%LEL for 2nd stage<br>NV-410: As per specifications                                      |
| Alarm Accuracy                                                              |                                            | ±25% of an Alarm Set Value (under identical conditions)                                                                  |
| Response Time                                                               |                                            | NV-400/410: 30s or less at 160% concentration of an Alarm Set Value (excluding sampling delay for suction type)          |
| Alarm Indication                                                            | Individual Alarm Lamp<br>Self-holding type | On alarm: Flashes red, lights up after the Buzzer Stop<br>Complete lock (Turn off by the Reset after the level declined) |
| Alarm Sound                                                                 |                                            | On alarm: Intermittent buzzer, stops after the Buzzer Stop                                                               |
| External Alarm Output                                                       | Individual Alarm Contact                   | 1a no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                             | Individual Voltage Output                  | 0-6-12V DC (20mA or less)                                                                                                |
|                                                                             | Collective Alarm Contact                   | 1c no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                             | Centralized Monitor Panel Output           | 0-6-12V DC (20mA or less)                                                                                                |
|                                                                             | External Buzzer Contact                    | 1a no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                             | External Buzzer Voltage Output             | Intermittent voltage signal (12V DC, 10mA or less)                                                                       |
| Alarm Delay                                                                 |                                            | Selectable by a DIP switch (10s constant)                                                                                |
| Main Power Source                                                           |                                            | 85-264V AC                                                                                                               |
| Power Consumption                                                           | When using KD-5<br>When using PE-2DC       | Diffusion type (15+3.5n)VA<br>Suction type (15+8n)VA                                                                     |
| Backup Power Source<br>(only on models with a built-in backup power supply) | Battery Type                               | Sealed lead acid battery                                                                                                 |
|                                                                             | Overdischarge Prevention Function          | Yes                                                                                                                      |
|                                                                             | Battery Life Check Function                | Yes                                                                                                                      |
|                                                                             | Battery Voltage Indication                 | 2-digit LED                                                                                                              |
| Exterior Color                                                              |                                            | Munsell 2.5PB 7.0/1.0                                                                                                    |

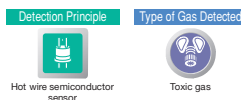
\* 1 Also usable for other gases.

## For Hydrogen filling stations NV600HS Specifications



| Model                                                                    |                                            | NV-600HS                                                                                                                 |
|--------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Item                                                                     |                                            |                                                                                                                          |
| Detection Principle                                                      |                                            | Hot wire semiconductor                                                                                                   |
| Gas Detected                                                             |                                            | Hydrogen and other combustible gases                                                                                     |
| Detection Points per Unit                                                |                                            | Monitors 2 points per unit                                                                                               |
| Detection Range                                                          |                                            | As per specifications                                                                                                    |
| Concentration Indicator                                                  |                                            | LCD bar-graph meter (53 dots×2 lines)                                                                                    |
| Alarm Set Value Indication                                               |                                            | Direct reading scale                                                                                                     |
| Backlight                                                                |                                            | Yes                                                                                                                      |
| Peak Hold Function (on alarm)                                            |                                            | Holds a peak value on alarm, which is canceled by the Reset                                                              |
| Alarm Set Value                                                          |                                            | Adjustable with the detection range                                                                                      |
| Alarm Accuracy                                                           |                                            | ±25% of an Alarm Set Value (under identical conditions)                                                                  |
| Response Time                                                            |                                            | 30s or less at 160% concentration of an Alarm Set Value (excluding sampling delay for suction type)                      |
| Alarm Indication                                                         | Individual Alarm Lamp<br>Self-holding type | On alarm: Flashes red, lights up after the Buzzer Stop<br>Complete lock (Turn off by the Reset after the level declined) |
| Alarm Sound                                                              |                                            | On alarm: Intermittent buzzer, stops after the Buzzer Stop                                                               |
| External Alarm Output                                                    | Individual Alarm Contact                   | 1a no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                          | Individual Voltage Output                  | 0-6-12V DC (20mA or less)                                                                                                |
|                                                                          | Collective Alarm Contact                   | 1c no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                          | Centralized Monitor Panel Output           | 0-6-12V DC (20mA or less)                                                                                                |
| External Buzzer Contact                                                  |                                            | 1a no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                          | External Buzzer Voltage Output             | Intermittent voltage signal (12V DC, 10mA or less)                                                                       |
| Alarm Delay                                                              |                                            | Selectable by a DIP switch (10s constant)                                                                                |
| Main Power Source                                                        |                                            | 85-264V AC                                                                                                               |
| Power                                                                    | When using KD-5                            | Diffusion type (15+3.5n)VA                                                                                               |
| Consumption                                                              | When using PE-2DC                          | Suction type (15+8n)VA                                                                                                   |
| Backup Power Source (only on models with a built-in backup power supply) | Battery Type                               | Sealed lead acid battery                                                                                                 |
|                                                                          | Overdischarge Prevention Function          | Yes                                                                                                                      |
|                                                                          | Battery Life Check Function                | Yes                                                                                                                      |
|                                                                          | Battery Voltage Indication                 | 2-digit LED                                                                                                              |
| Exterior Color                                                           |                                            | Munsell 2.5PB 7.0/1.0                                                                                                    |

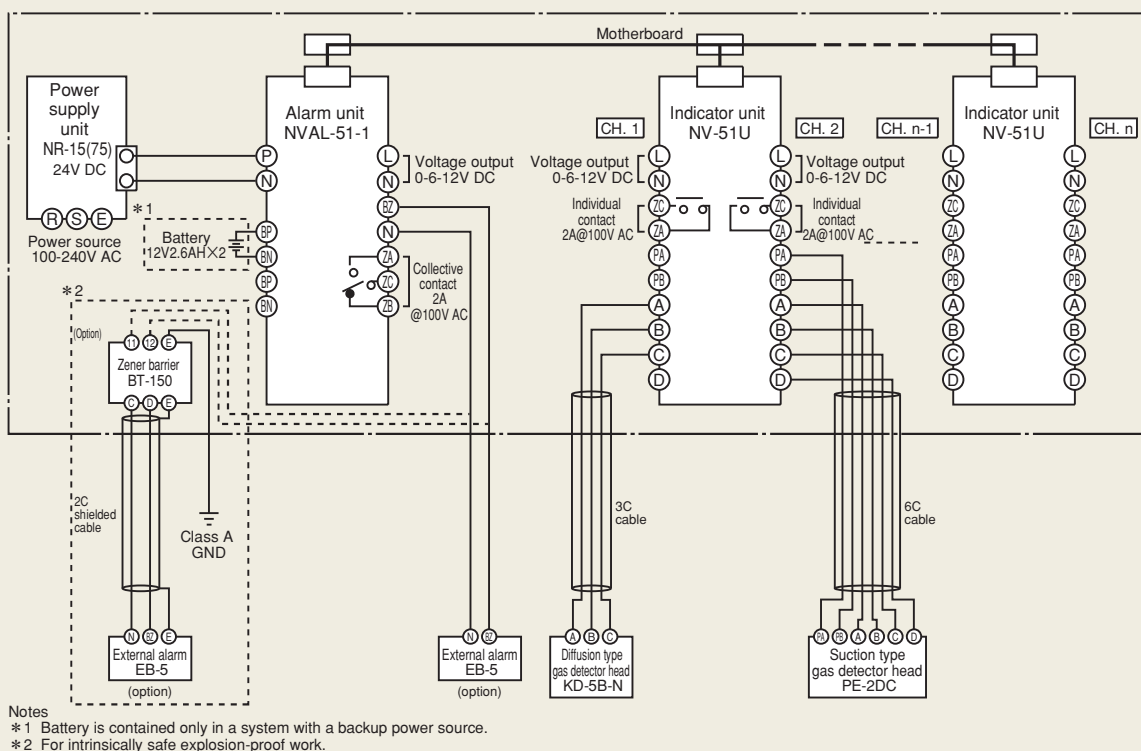
## For Ammonia Refrigerating Facilities NV-010



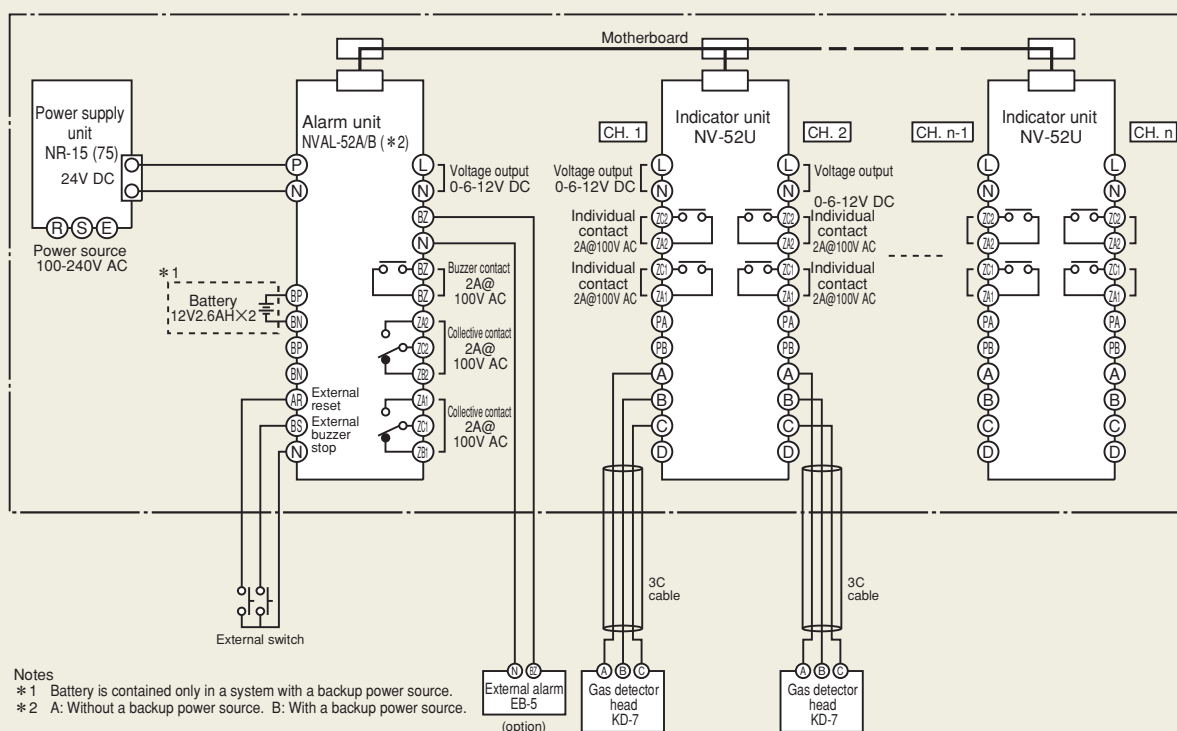
| Model                                                                    |                                            | NV-010                                                                                                                   |
|--------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Item                                                                     |                                            |                                                                                                                          |
| Detection Principle                                                      |                                            | Hot wire semiconductor                                                                                                   |
| Gas Detected                                                             |                                            | Ammonia leaked into the air                                                                                              |
| Detection Points per Unit                                                |                                            | Monitors 2 points per unit                                                                                               |
| Detection Range                                                          |                                            | 0-400ppm                                                                                                                 |
| Concentration Indicator                                                  |                                            | LCD bar-graph meter (53 dots×2 lines)                                                                                    |
| Alarm Set Value Indication                                               |                                            | Direct reading scale                                                                                                     |
| Backlight                                                                |                                            | Yes                                                                                                                      |
| Peak Hold Function (on alarm)                                            |                                            | Holds a peak value on alarm, which is canceled by a reset operation                                                      |
| Alarm Set Value(default value)                                           |                                            | 50 or 100ppm/ △▽ key                                                                                                     |
| Change of the Set Value                                                  |                                            |                                                                                                                          |
| Alarm Accuracy                                                           |                                            | ±30% of an Alarm Set Value (under identical conditions)                                                                  |
| Response Time                                                            |                                            | 60s or less at 160% concentration of an Alarm Set Value                                                                  |
| Alarm Indication                                                         | Individual Alarm Lamp<br>Self-holding type | On alarm: Flashes red, lights up after the Buzzer Stop<br>Complete lock (Turn off by the Reset after the level declined) |
| Alarm Sound                                                              |                                            | On alarm: Intermittent buzzer, stops after the Buzzer Stop                                                               |
| External Alarm Output                                                    | Individual Alarm Contact                   | 1a no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                          | Individual Voltage Output                  | 0-6-12V DC (20mA or less)                                                                                                |
|                                                                          | Collective Alarm Contact                   | 1c no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                          | Centralized Monitor Panel Output           | 0-6-12V DC (20mA or less)                                                                                                |
| External Buzzer Contact                                                  |                                            | 1a no-voltage (Contact capacity: 2A@100V AC)                                                                             |
|                                                                          | External Buzzer Voltage Output             | Intermittent voltage signal (12V DC, 10mA or less)                                                                       |
| Alarm Delay                                                              |                                            | Selectable by a DIP switch (10s constant)                                                                                |
| Main Power Source                                                        |                                            | 85-264V AC                                                                                                               |
| Power Consumption                                                        |                                            | (15+3.5n)VA                                                                                                              |
| Backup Power Source (only on models with a built-in backup power supply) | Battery Type                               | Sealed lead acid battery                                                                                                 |
|                                                                          | Overdischarge Prevention Function          | Yes                                                                                                                      |
|                                                                          | Battery Life Check Function                | Yes                                                                                                                      |
|                                                                          | Battery Voltage Indication                 | 2-digit LED                                                                                                              |
| Exterior Color                                                           |                                            | Munsell 2.5PB 7.0/1.0                                                                                                    |

# NV Series

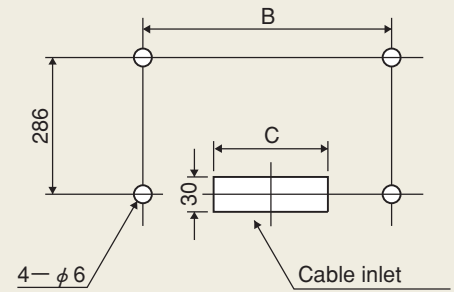
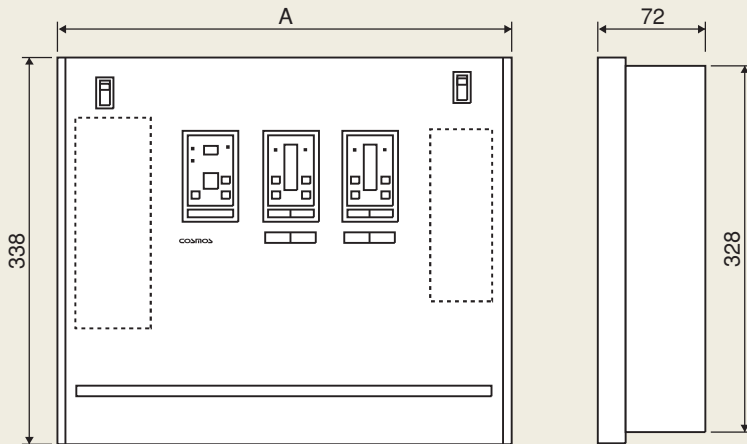
### V-500/NV-400/NV-410/NV-010 Terminal Arrangements



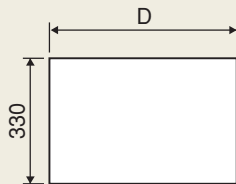
### NV-010 Terminal Arrangements



## NV Series Dimensions



Mounting hole dimensions for wall mounting



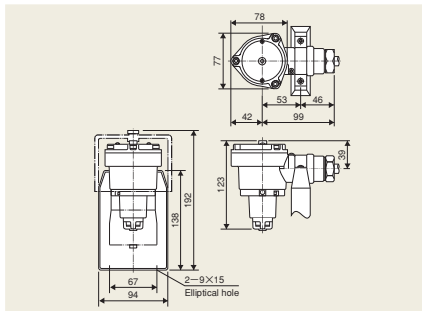
Panel cutout dimensions for panel mounting

Dimensions table

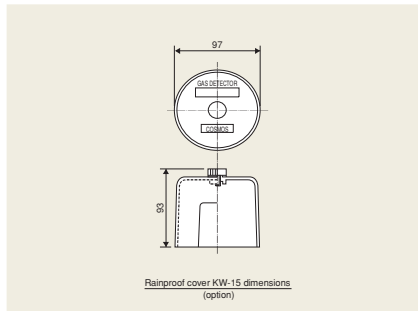
(Unit : mm)

| Number of points | A   | B   | C   | D   | Remarks                                                   |
|------------------|-----|-----|-----|-----|-----------------------------------------------------------|
| 2-point          | 220 | 152 | 100 | 214 | Without a backup power source                             |
| 2-point          | 298 | 230 | 100 | 292 | With a backup power source                                |
| 4-point          | 421 | 343 | 240 | 415 | With or without a backup power source (common dimensions) |
| 6-point          | 495 | 417 | 240 | 489 |                                                           |
| 8-point          | 569 | 491 | 240 | 563 |                                                           |
| 10-point         | 643 | 565 | 360 | 637 |                                                           |
| 12-point         | 717 | 639 | 360 | 711 |                                                           |

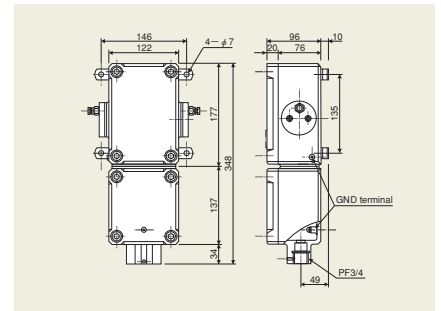
## KD-5 Dimensions



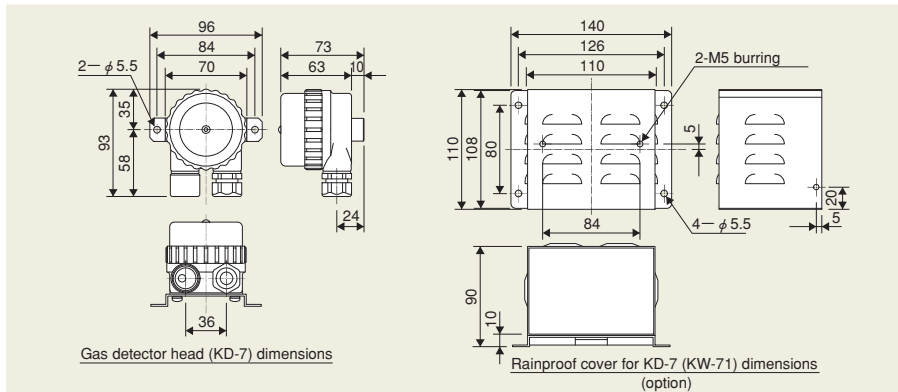
## KW-15 Dimensions



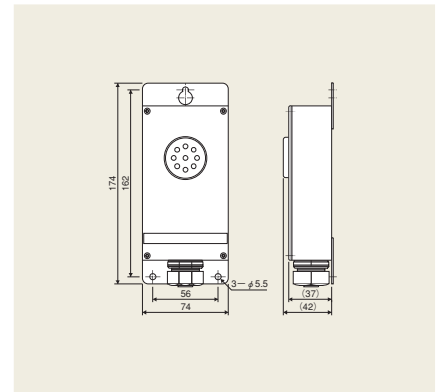
## PE-2DC Dimensions



## KD-7/KW-71 Dimensions



## EB-5 Dimensions



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