

# Smoke Detector Control Panel

(CPC-4-24)

DC24V Spec/AC24V Spec

## Operating Instruction Manual

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We highly appreciate your purchasing of NITTAN product.  
Before operation, please read this “Operating Instruction Manual” and use the system in proper manner.

#### 1. Product General Outline



The Smoke Detector Control Panel is a fire detection system to be used combined with the designated smoke detectors (0KB3, 0KB, or 0IB).



When a fire breaks out, this control panel turns on LED indicators and sounds alarm buzzer by receiving fire signal from smoke detectors.





The control panel is equipped with non-voltage C contact for signal transfer function.

#### 2. For Safe and Proper Use

This instruction manual contains various symbols indicating precautions in order to prevent, in advance, safety hazard to our clients and other public as well as damages to properties. Please read the text after you have understood the symbols.

|  |   |
|--|---|
|  <b>WARNING</b> | There is a risk of endangering the health or life of the user, or causing a significant damage to the equipment when the product is mishandled. |
|  <b>CAUTION</b> | There is a risk of causing minor injuries or damage to the equipment when the product is mishandled.  |

|   |                                 |
|---|---------------------------------|
|  <b>PROHIBITED</b> | Action prohibited               |
|  <b>MUST</b>       | Mandatory Action or Instruction |

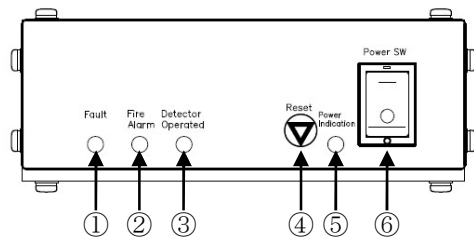
|   |   |
|---|---|
|   |  <b>WARNING</b>   |
| <br>Prohibited         | <ul style="list-style-type: none"><li>• Do not touch the equipment with wet hands or dip into water or splash water. It may cause electrification or trouble.</li><li>• Do not overhaul or modify the equipment. It may cause electrification or trouble.</li><li>• Do not use the equipment in location where operating temperature exceeds its range (0-60°C) and where explosive gas or corrosive gas is generated. It may cause equipment trouble or fire.</li><li>• Do not put anything into the openings. It may cause the equipment trouble or fire.</li></ul> |
| <br>Ensure to comply   | <ul style="list-style-type: none"><li>• Wire connection to each terminal should be properly carried out in accordance with specified rating and polarity. Incorrect wiring may cause trouble or fire.</li><li>• Carry out sufficient checking of operating condition of interlocking devices in case of test operation. Improper operation may cause damages to the equipment or cause danger to personnel.</li><li>• The equipment is for indoor use only. Do not install it outside. It may cause malfunction.</li></ul>  |
| <br>Connect earth wire | <ul style="list-style-type: none"><li>• Make sure to connect an earth wire. Otherwise it may cause electric shock during the use of equipment or in the event of electric leakage.</li></ul>  |

## IMPORTANT

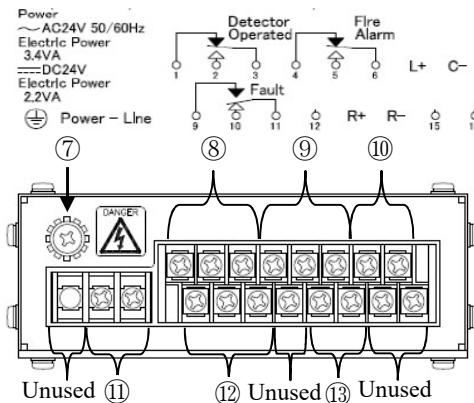
- Please make sure wiring to smoke detector as two-wire connecting arrangement.
- Please connect End-of-Line Resistor (7.5Kohm, 1/4W) to end line of smoke detectors to be connected.
- Maximum number of smoke detectors to be connected is 20. (0KB3 and old model 0KB/ 0IB can be mixed.)
- Smoke detector connection terminals (L+ and C-) have polarity.
- Please use shield cables for wiring in electromagnetic disturbing environment.
- This equipment cannot be connected to detectors in automatic fire alarm system.
- Make sure to check the equipment by activating smoke detectors.

### 3. Name of each Section

(Indication/Operation)



(Terminal)



- ① Fault (Trouble light: Yellow)  
This turns on when detector line (L+, C-) is at fault/short circuit and detector drop-off. Fault is not latched at automatic reset.
- ② Fire Alarm (Fire light: Red)  
This turns on when 2 or more detectors operate. It remains ON until pressing Reset.
- ③ Detector Operated (1 detector op. light: Red)  
This turns on when 1 or more detector operates. It remains ON until pressing Reset.
- ④ Reset (Reset Switch) Switch to reset fire.
- ⑤ Power Indication (Power supply light: Green)  
This turns on when power supply switch is set to ON.
- ⑥ Power SW (Power supply switch)
- ⑦ Earth Terminal (Noise reduction)
- ⑧ Detector Operated (1 or more detectors operate, C contact terminal)
- ⑨ Fire Alarm (Fire, C contact terminal)
- ⑩ L+, C- (Detector connection terminal)
- ⑪ DC24V or AC24V Power Line (Power input terminal)
- ⑫ Fault (Trouble, C contact terminal)
- ⑬ R+, R- (Reset input terminal)  
Terminal to input reset signal from outside.

\* Please use round crimp terminal with insulation coating (RAV11.25-3) when connecting wire to terminal block.

### 4. Operation Specifications

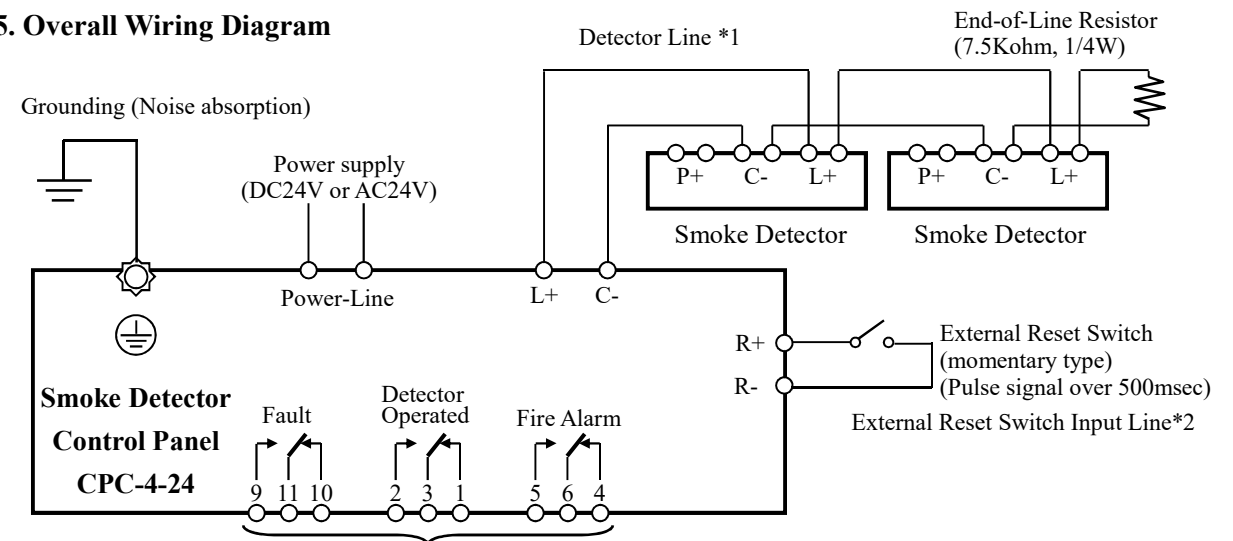
| Condition   | Indicator Light  |          |                   |            | Terminal Indication |       |                   |       |            |       | Buzzer Sound   |
|---|------------------|----------|-------------------|------------|---------------------|-------|-------------------|-------|------------|-------|----------------|
|   | Power Indication | Fault    | Detector Operated | Fire Alarm | Fault               |       | Detector operated |       | Fire Alarm |       |                |
|   | (Green)          | (Yellow) | (Red)             | (Red)      | 9-11                | 10-11 | 1-3               | 2-3   | 4-6        | 5-6   |                |
| Supervision   | ○                | -        | -                 | -          | open                | close | close             | open  | close      | open  | -              |
| Power Cut   | -                | -        | -                 | -          | close               | open  | close             | open  | close      | open  | -              |
| Cable break/<br>Short circuit/<br>Detector drop-off | ○                | ○        | -                 | -          | close               | open  | close             | open  | close      | open  | Intermittent B |
| 1 detector in alarm                                 | ○                | -        | ○                 | -          | open                | close | open              | close | close      | open  | Intermittent C |
| Fire (more than 2 detectors in alarm)               | ○                | -        | ○                 | ○          | open                | close | open              | close | open       | close | Continuous     |

Note:

\*Fault means detector line is at fault, short circuit and detector drop-off.

\*Intermittent sound B: cycle 0.5Hz (bi- -tu, bi- -tu, bi- -tu), Intermittent sound C: cycle 5Hz (bi-tu, bi-tu, bi-tu)

### 5. Overall Wiring Diagram



Non-Voltage C Contact: The labels indicate a condition when power is supplied.

- \* 1 It is recommended to use either AE cable or CPEV cable with conductor diameter over 0.65mm. It is recommended to use shielded CPEV-S cable where electromagnetic noise causes disturbance. Connect the shielded part of cable to the earth terminal.
- \* 2 After connection, please operate the detectors and confirm that the Smoke Detector Control Panel will be restored from operating condition to normal monitoring condition by External Reset Switch input.

### 6. Product Specifications

|   |  |
|---|--|
| Model Name                                  | CPC-4-24   |
| Rated Voltage                               | DC24V (DC23.0V-DC26.8V) or AC24V(AC20V-AC27V), 50/60 Hz  |
| Rated Power                                 | Supervisory condition: 0.9VA (DC24V) / 1.6 VA (AC 24V)<br>Alarm condition: 2.2VA (DC24V) /3.4VA (AC 24V)   |
| Detector Power Voltage                      | Rated DC 19V   |
| Max. No. of Detector                        | 20 Max   |
| External Wire Resistance                    | Below 20ohm (between Control Panel and distal Smoke Detector)  |
| Connectable Detector                        | 0KB3, 0KB (old model) and 0IB (old model)  |
| Detector End-of Line Resistor               | 7.5K ohm, 1/4W (attached to body)  |
| Switch                                      | Power SW (Power Supply Switch): Latching Type, Reset (Reset Switch): Momentary Type  |
| Indicator Light                             | Power Indication (Power Supply Light): Green<br>Fault (Trouble Light): Yellow, Fire Alarm (Fire Light): Red<br>Detector Operated (One Detector Operating Light): Red   |
| Relay Contact Point (Non-Voltage C Contact) | Fault, Fire Alarm, Detector Operated<br>Contact Point Ratings: DC30V, 1A / AC 125V, 0.3A (resistance load)   |
| Buzzer Sound (Electronic Buzzer)            | Trouble (short circuit/cable break/detector drop-off): intermittent sound (Cycle:0.5Hz)<br>One detector operated: intermittent sound (Cycle: 5Hz)<br>Two or more detectors operated (Fire Alarm): continuous sound                         |
| Materials                                   | Body: Aluminium (alumite processing)<br>Cover: Steel plate (Trivalent chrome chemical processing)<br>Screws: Iron and steel (Trivalent chrome chemical processing)<br>Mounting Bracket: Steel plate (Trivalent chrome chemical processing) |
| Outside Dimension                           | 110 W x 195 D x 40 H (Body only)   |
| Weight                                      | Approx 560g (Body only)  |
| Operating Environment                       | Temperature: 0°C to +60°C, Humidity: below 85% RH (non- condensation)  |
| Storage Temperature Range                   | -20°C to +70°C   |
| RoHS Directive                              | Complied   |
| Safety Standard                             | ETL (UL STD 61010-1 Third Edition/Recognized Component)<br>Insulation characteristics: Pollution degree 2, overvoltage category I<br>KC (R-R-nkt-CPC-4-24) * 3   |
| Installation                                | To use mounting bracket (to be purchased separately)   |

\*3 0KB3 is KC (MSIP-REM-nkt-0KB3) certified.