

Smoke Detector Control Panel (CPC-4)

AC100-240 V 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 equipment 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.

 DANGER	In case of improper handling, dangerous condition is anticipated where death or serious injury to operating personnel may be caused and an emergency warning is urgently required when any danger occurs.
 WARNING	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.
 CAUTION	There is a risk of causing minor injuries or damage to the equipment when the product is mishandled.

 PROHIBITED	Action prohibited
 MUST	Mandatory Action or Instruction

 DANGER	
 MUST	Ensure that AC power supply is switched off before starting wiring, and connection is made properly. Otherwise it may cause electric shock.

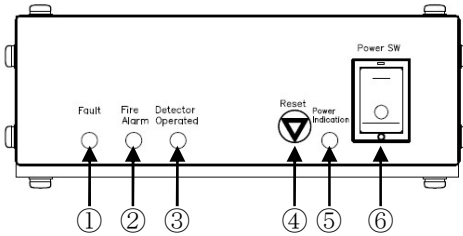
 WARNING	
 Prohibited	<ul style="list-style-type: none"> Do not touch the equipment with wet hands or dip into water or splash water. It may cause electrification or trouble. Do not overhaul or modify the equipment. It may cause electrification or trouble. Do not use the equipment in location where operating temperature exceeds its range (0-60C°) and where explosive gas or corrosive gas is generated. It may cause the equipment trouble or fire. Do not put anything into the openings. It may cause the equipment trouble or fire.
 Ensure to comply	<ul style="list-style-type: none"> The installation work on AC power must be performed by a qualified person. Please ensure that the terminal cover of AC power supply terminal is properly attached after completion of work. Otherwise it may cause electrification. Wire connection to each terminal should be properly carried out in accordance with specified rating and polarity. Incorrect wiring may cause trouble or fire. 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. The equipment is for indoor use only. Do not install it outside. It may cause malfunction.
 Connect earth wire	<ul style="list-style-type: none"> 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.

IMPORTANT

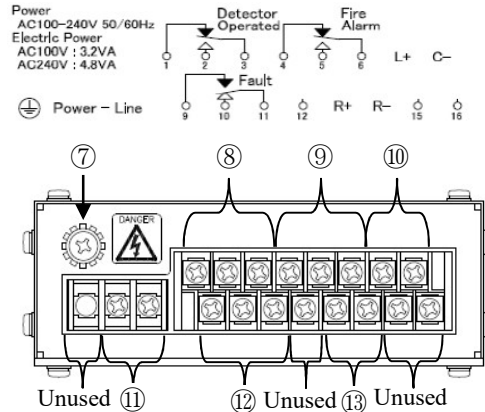
- Please make sure wiring to smoke detector as two-wire connecting arrangement.
- Please connect End-of-Line Resistor(7.5Kohm, 1/4W) to end line of smoke detectors to be connected.
- Maximum number of smoke detectors to be connected is 20. (0KB3 and old model 0KB/ 0IB can be mixed.)
- Smoke detector 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 Alarm or Detector Operated.
- 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
- 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 AC100V-240V 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 (RAV 1.25-3) when connecting wire to terminal block.

4. Operation Specifications

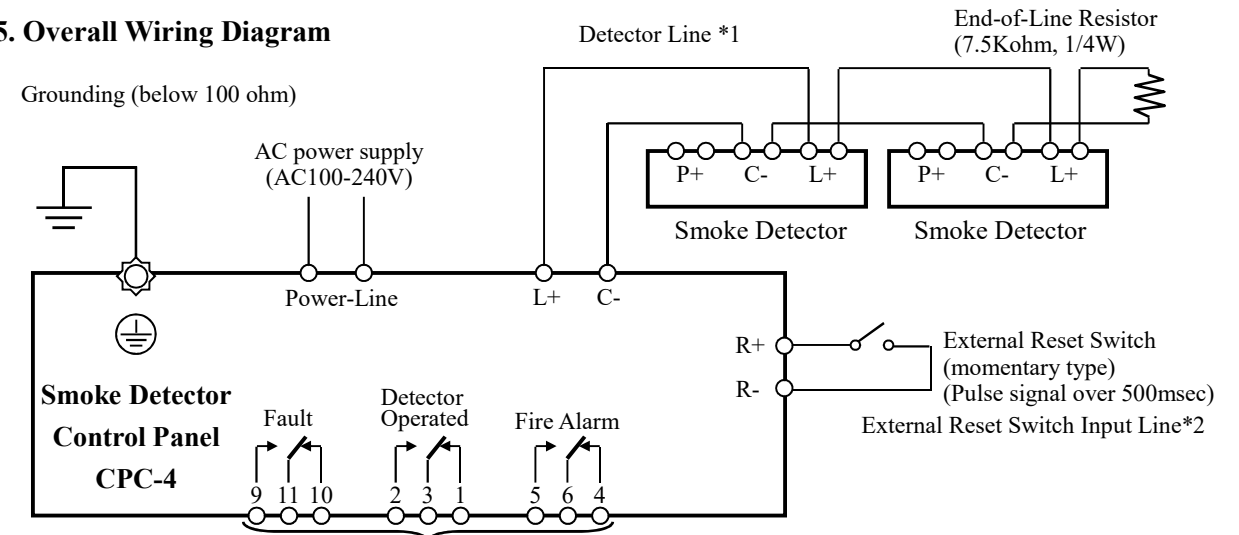
Condition	Indicator Light				Terminal Indication						Buzzer Sound
	Power Indication (Green)	Fault (Yellow)	Detector Operated (Red)	Fire Alarm (Red)	Fault		Detector operated		Fire Alarm		
					9-11	10-11	1-3	2-3	4-6	5-6	
Supervision	○	-	-	-	open	close	close	open	close	open	-
Power Cut	-	-	-	-	close	open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

Note:

*Fault means detector line is at fault, short circuit or 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
Rated Voltage	AC 100V-240V (±10V), 50/60 Hz
Rated Power	Supervisory condition: 1.4VA (AC 100V) / 2.1 VA (AC 240V) Alarm condition: 3.2VA (AC 100V) / 4.8VA (AC 240V)
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 Fault (Trouble Light): Yellow, Fire Alarm (Fire Light): Red Detector Operated (One Detector Operating Light): Red
Relay Contact Point (Non-Voltage C Contact)	Fault, Fire Alarm, Detector Operated 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), One detector operated: intermittent sound (Cycle: 5Hz), More than two detector operated (Fire Alarm): continuous sound
Materials	Body: Aluminium (alumite processing) Cover: Steel plate (Trivalent chrome chemical processing) Screws: Iron and steel (Trivalent chrome chemical processing) 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 approved (UL STD 61010-1 Third Edition/Recognized Component) Insulation characteristics: Pollution degree 2, overvoltage category II
Installation	To use mounting bracket (to be purchased separately)