

# PHOTOELECTRIC SMOKE DETECTOR

# FDK SERIES

**FEATURES**

- (1) Small monitoring current of 45  $\mu$ A
- (2) 2-wire system
- (3) Alarm response lamp (LED)
- (4) Simple mounting
- (5) Very easy maintenance
- (6) Very low profile
- (7) Conventional type

**DESCRIPTION**

The FDK series photoelectric smoke detectors detect combustion products (smoke) generated by a fire, and transmit an alarm signal to the fire alarm control panel. The photoelectric smoke detector can detect a fire in an earlier stage than a heat detector. Generally, this detector is installed in the spaces such as basements, ordinary floors, corridors, staircases, elevator shafts.

**OPERATING PRINCIPLE AND FUNCTION**

The photoelectric smoke detector is composed of a light source, light sensing element, light shielding element and detecting chamber. The light source (a light-emitting diode) emits light at intervals of about 3.5 seconds, which does not reach the light sensing element (photo diode) under normal conditions because of the light shielding mold. If smoke enters the detecting chamber, the light from the light source is scattered by smoke particles and reaches the light sensing element. The light reaching the light sensing element varies with smoke density and if it exceeds the predetermined level, the detector operates and automatically holds its operation.

The detector then transmits the alarm signal to the fire alarm panel and the response lamp of the detector turns on.

**WITH SURFACE MOUNTING BASE****WITH RECESS MOUNTING BASE****SPECIFICATIONS**

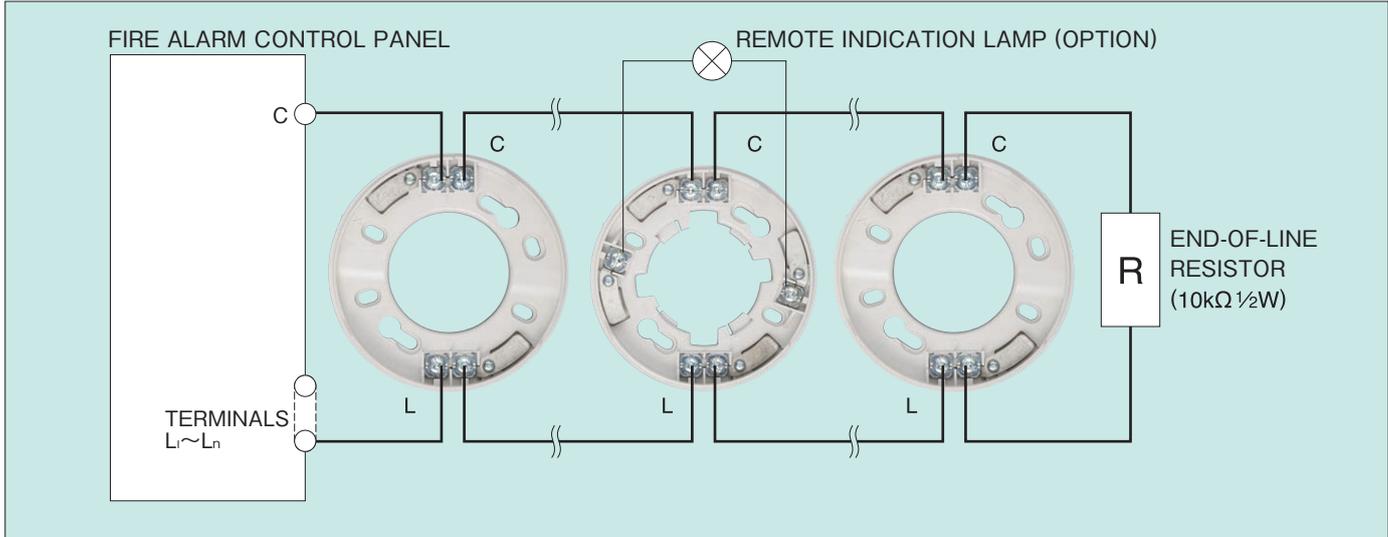
Model no.	FDK246 / FDK246N	FDK246-X
SENSITIVITY	Ordinary type	
TYPE	Ordinary	With remote indication circuit
RESPONSE LAMP	LED (Red)	
RATED VOLTAGE AND CURRENT	24VDC, 100mA	
ALLOWABLE RANGE OF VOLTAGE	15V to 30VDC	
QUIESCENT CURRENT	Approx. 45 $\mu$ A	
ALLOWABLE RANGE OF AMBIENT TEMPERATURE	-10 to 50°C	
MATERIAL	Main body:ABS resin Base:Polycarbonate resin	
WEIGHT	Approx. 120g	Approx. 140g

The detectors are also available in different models, i.e. FDK346 (Class 3 sensitivity), FDK146 (Class 1 sensitivity).

## NOHMI BOSAI LTD.

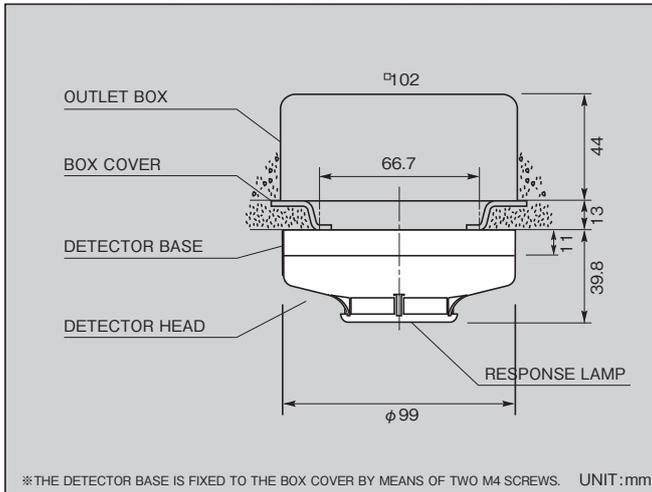
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## TYPICAL WIRING DIAGRAM

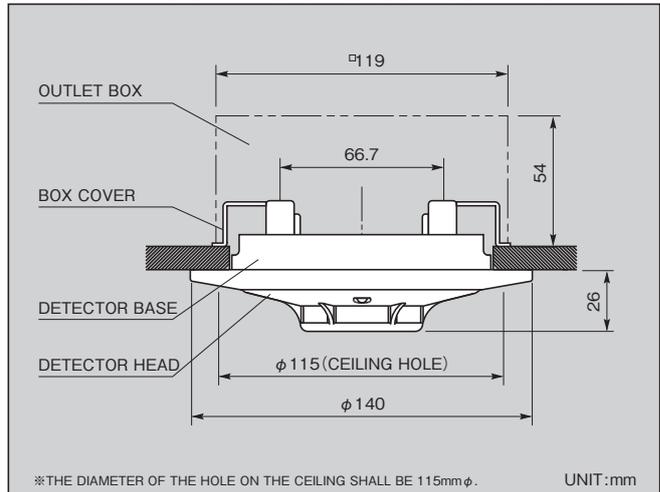


- Max, permissible number of detectors to be connected : 30 smoke detectors per line
- Wire connection for bases FZBJ014-U-2 and FZBJ014-U-4 : Remove the insulation of the wire (φ0.9 ~ 1.2mm) by 10 ~ 12.5mm from its end, insert the bare wire into the terminal .

## TYPICAL MOUNTING (SURFACE MOUNTING TYPE)



## TYPICAL MOUNTING (RECESS MOUNTING TYPE)



Height between floor and mounting surface	Area
Less than 4m	150m <sup>2</sup>
4m~15m	75m <sup>2</sup>

## ORDERING INFORMATION

Model no.	DESCRIPTION	Model no.	DESCRIPTION
FDK246/FDK246N	Detector head: Ordinary type	FZB013-2/FZB013N-2	Detector base: Surface mounting type (Screw type terminal)
		FZBJ014-U-2	Detector base: Recess mounting type (Insertion type terminal)
FDK246-X	Detector head: Ordinary type with remote indication circuit	FZB013-4	Detector base: Surface mounting type (Screw type terminal)
		FZBJ014-U-4	Detector base: Recess mounting type (Insertion type terminal)

- These instructions do not purport to cover all the details or variations in the equipment described, nor provide for every possible contingency to be met in connection with installation, operation and maintenance.
- Specifications are subject to change without notice. Contact Nohmi before relying on above specifications.
- Actual performance is based on proper application of the product by a qualified professional.
- Should further information be desired or should particular problems arise, which are not covered sufficiently for the purchaser's purposes, the matter should be referred to Nohmi or a distributor in your region.

# NOHMI

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