

# Fire Detectors

## Fire Alarm Systems Analogue Photoelectric Smoke Detector

### Model 4401

- Service signal at fixed level of contamination
- New advanced algorithms and functions and yet compatible with older FT Systems



### General

The photoelectric (optical) smoke detector has a low profile housing. The latest IC technology will secure the highest reliability possible. It has **unleaded soldering**. The smoke detection chamber has a high-efficient optical system with an infrared light LED and a photodiode with two lenses. Light reflection is used to detect smoke, which enters the detection chamber through an insect filter and an optical labyrinth. The detector is supplied with two red LEDs that will be blinking when the detector has activated alarm. It also has a green polling LED. The detector is plugged in an analogue base (3312 / 4313 / 3379). The COM loop is connected to the base, which also can have terminals for an external LED, e.g. BARIL. The detector is intended for indoor use in dry premises and in the systems FT128V2 and FT1020G3.

### Service Signal

In case of contamination a service signal will be given when the detector has reached a service level.

### Address / Detector Mode

The address setting tool 3314 / 4414 is used to set the detector's COM loop address and the detector mode; Advanced or NORMAL. See Planning Instructions for the system respectively for more information about the modes and functions. By delivery the detector is set to address 000 and the NORMAL mode.

- **Advanced** mode (analogue): In this mode the fire judgement is done in the detector. Can be used in FT1020G3 and FT128V2 versions  $\geq 2.0$ . Address setting tool **4414** is required.
- **NORMAL** mode (analogue): In this mode the fire judgement is done in the c.i.e. (one of six smoke algorithms). Can be used in the systems FT128V2, FT1020G3. Also as a spare part for the detector 4301 in NORMAL mode.

### Advanced Mode

Artificial Intelligence uses smoke sensing for the fire judgement, as well as variable sensitivity and time delay based on the smoke changes just before the alarm level is reached. This will secure the real fire alarms and reduce the not wanted nuisance alarms.

A **learning function** will after a **learning period** adapt an **alarm algorithm** suitable for the smoke conditions where the detector is located, i.e. an alarm algorithm for:

**Normal** area (default)

**Smoke-steam** area (longer delay time)

**Clean** area (higher sensitivity)



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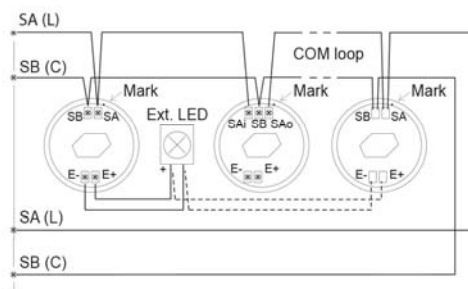
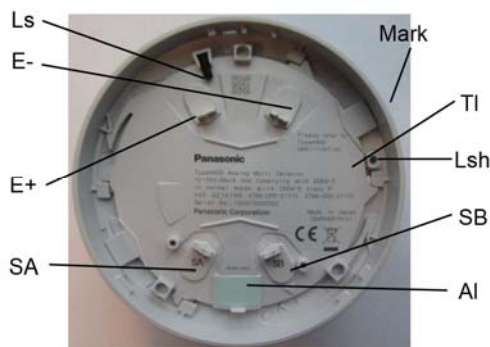
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Type number	
4401	Analogue photoelectric smoke detector



In the detector: See also "Engineering Instructions for detectors Type 440x".

**SA/SB** Contact pins for COM loop / Address setting tool 3314 / 4414.

**E+/E-** Contact pins for External LED (e.g. BARIL).

**TI** Type number label; Detector type.

**AI** Address label; For the programmed COM loop address to be written.

**Lsh** Locking screw hole (prepared for drilling through detector body).

**Ls** Locking screw.

Prepared for mechanical locking with analogue base 3312 / 4313. One hexagon socket screw (Ls) is attached (1.5 mm Hex key to be used). The 2.5-2.7 mm hole (Lsh) has to be drilled.

**NOTE!** The green polling LED is blinking 20ms / 6s – if this option is programmed.

The green polling LED position is close to the "Mark" on the detector side.

Technical data	
Voltage (V DC) rated allowed normal (on COM loop)	28 12-30 24
Current consumption at nom. volt. from COM loop (mA) quiescent active (incl. internal LEDs ext. LED (connected via base)	0.3 (plus 0.025 if green polling LED is used) 1.3 (LEDs are blinking 0.25s / 0.75s) 0.5 (Ext. LED is blinking 0.25s / 0.75s)
Ambient temperature (°C) operating storage	-10 to +50 -25 to +75
Ambient humidity (% RH)	max. 95, non condensing
Ingress Protection rating (estimated)	IP 51
Sensitivity ( <b>S</b> =obscuration %/m) Advanced mode 1 NORMAL mode	Depending on mode. 3.5 / 3.5 / 2.6 3.6 / 3.0 / 2.4 (Low / Normal / High)
Size Ø x h (mm)	102 x 34
Weight (g)	75
Construction / Colour	Polycarbonate Alloy / Grey (N8, Munsell colour code)
Approvals	AS7240-7:2004 EN54-7:2000 + A1:2002 + A2:2006 (smoke) and EN54-5:2000 + A1:2002 Class P (heat)



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