Panasonic

Fire alarm systems
Analog photoelectric smoke detector 4301

- Constant sensitivity / Service signal at a fixed level of contamination
- New advanced algorithms and functions and yet compatible with older EBL systems

General

The photoelectric (optical) smoke detector has a low profile design, **unleaded soldering** and the latest IC technology, which will secure the highest reliability possible. In the detection chamber is a high-efficient optical system consisting of an LED and a photodiode with two lenses. Scattered light (i.e. reflection of infrared light) is used to detect smoke. The smoke enters the detection chamber through an insect filter and an optical labyrinth. This construction not only improves the smoke inflow but it also causes steam, fog, etc. to condense into moisture on its surfaces, to prevent false (nuisance) alarms.
The detector is supplied with two LEDs that will light when the detector goes into alarm. The detector is plugged in the analog base 3312x / 4313. The COM loop is connected to the base, which also has terminals for an external LED, e.g. 2218. The detector is intended for indoor use in dry premises and in the systems **EBL512** / **128** / 1000 / 2000 depending on the detector mode.

Constant sensitivity

The detector maintains a constant sensitivity regardless of its contamination. A service signal will be given when the detector has reached a service level.

Address / Detector mode

The address setting tool 3314 is used to set the detector's COM loop address and the detector mode NORMAL, 2330 or 2312 See Planning Instructions for the system respectively for more information about the modes and functions.

- **NORMAL** mode (analog): Detector 4301 is used in the systems EBL512 (SW version ≥ 2.0) and EBL128, also as a spare part for the detector 3304 in NORMAL mode.
- **2330** mode (conventional): Detector 4301 is used in the systems EBL512/ 1000/2000 as a spare part for the detector 3304 in 2330 mode.
- **2312** mode (analog): Detector 4301 is used in the systems EBL512/1000/2000 as a spare part for the detector 3304 in 2312 mode.

The different modes have different functions and features, e.g. in the 2330 mode, the detector does the fire judgement but in the NORMAL and 2312 modes this is done in the c.i.e. The detector is prepared for an "Advanced mode" to be used in conjunction with future EBLxxx SW versions.

AI function

In the 2330 mode is the AI function used, i.e.:

- **Variable delay function**, i.e. the delay time before an alarm is influenced by temporary smoke obscuration changes.

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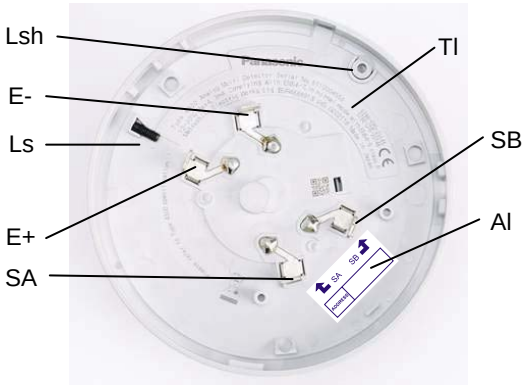
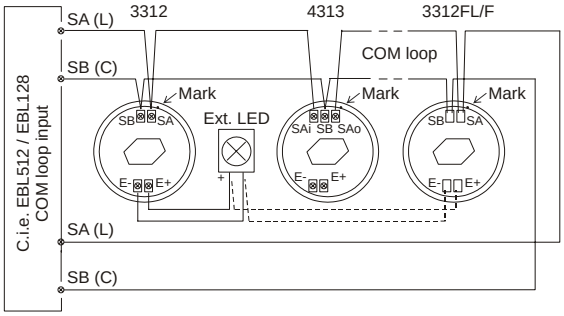
Type number	
4301	Analog photoelectric smoke detector



The detector is plugged in the analog base 3312x / 4313.
The COM loop / Ext. LED are connected to the analog base.



In the detector: See also "Engineering Instructions for detectors Type 430x".

SA/SB Contact pins for COM loop / address setting tool 3314
E+/E- Contact pins for External LED
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 analog base 3312x / 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.

Technical data	
Voltage (V DC)	
rated	28
allowed	12-30
normal (on COM loop)	24
Current consumption at nom. volt. from COM loop (mA)	
quiescent	0.3
active (incl. internal LED)	2.3
ext. LED (connected via base 3312)	max. 2
Ambient temperature (°C)	
operating	-10 to +50
storage	-25 to +75
Ambient humidity (% RH)	max. 95, non condensing
Ingress Protection rating (estimated)	IP 51
Sensitivity (obscuration; %/m)	Depending on the mode.
NORMAL mode	3.6 / **3.0** / 2.4 (Low / **Normal** / High)
2330 mode	3.5 (Normal)
2312 mode	2.6
Size ∅ x h (mm)	102 x 36
Weight (g)	68
Construction / Colour	Modified polycarbonate / Grey (N8, Munsell colour code)
Approvals	CE 05 EC Certificate no. 0786-CPD-20144, EN54-7