



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 EBL128 / 512 / 512 G3 / 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 EBL128, EBL512 (SW version \geq 2.0) and EBL512 G3. 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.

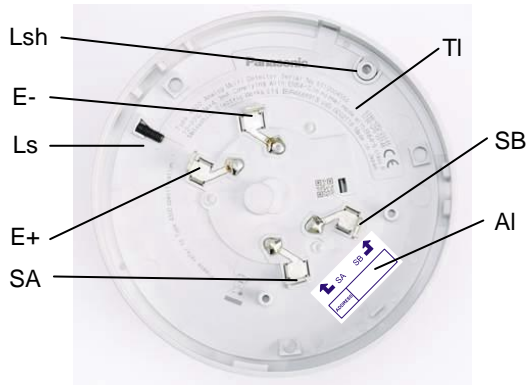
AI function

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

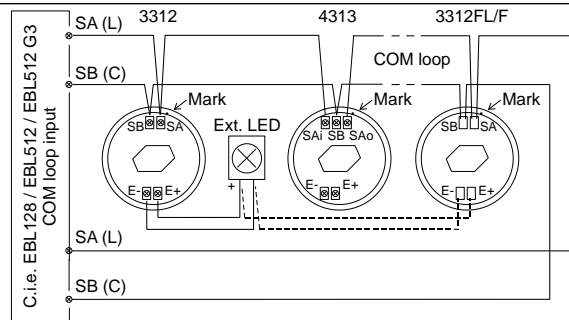
- **Variable delay function**, i.e. the delay time before an alarm is influenced by temporary smoke obscuration changes.

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 (e.g. 2218).

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 allowed normal (on COM loop)	28 12-30 24
Current consumption at nom. volt. from COM loop (mA) quiescent active (incl. internal LED) ext. LED (connected via base 3312)	0.3 2.3 max. 2
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 (obscuration; %/m) NORMAL mode 2330 mode 2312 mode	Depending on the mode. 3.6 / 3.0 / 2.4 (Low / Normal / High) 3.5 (Normal) 2.6
Size Ø x h (mm)	102 x 36
Weight (g)	68
Construction / Colour	Modified polycarbonate / Grey (N8, Munsell colour code)
Approvals	CE 09 EC Certificate no. 0786-CPD-20144, EN54-7:2000 + A1:2002 + A2:2006

All technical features and data are subject to changes without notice, resulting from continuous development and improvement.

Product Leaflet	Date of issue	Revision / Date of revision
MEW00308	2003-04-24	7 / 2011-03-11