# GENERAL DESCRIPTION

EK-WL8-OV is a wireless 3-in-1 optical smoke sensor with an integrated voice annunciator and visual alarm device (VAD).

The device analyses the protected area for traces of smoke. An alarm condition is generated when the smoke level exceeds the threshold. The alarm signal is relayed to the Control Panel via the connected translator/expander modules.



The advanced design of the optical chamber guarantees a very high level of dust protection, effectively increasing the time between maintenance procedures.

The device is supplied with a mounting kit.

The product complies with the requirements of the AS ISO 7240.7, AS ISO 7240.23:2014 and AS ISO 7240.25 standards.

# FEATURES

- Bi-directional wireless communication
- Intelligent algorithms
- Tamper switch
- 10-year battery life
- Self-optimizing wireless frequency and amplitude algorithms
- Patented smoke chamber design
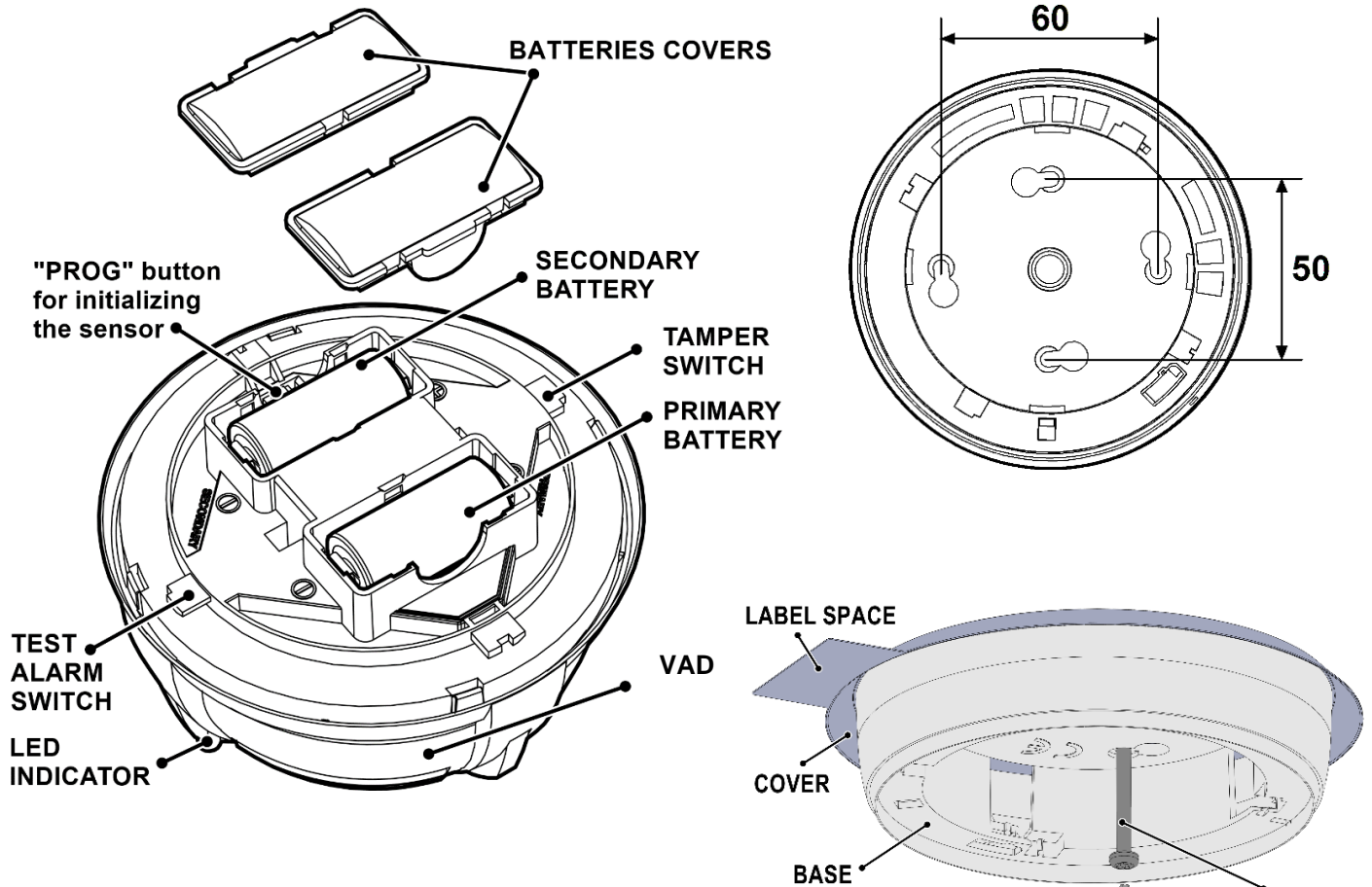- Integral VAD with white LED's (C-3-2.6)
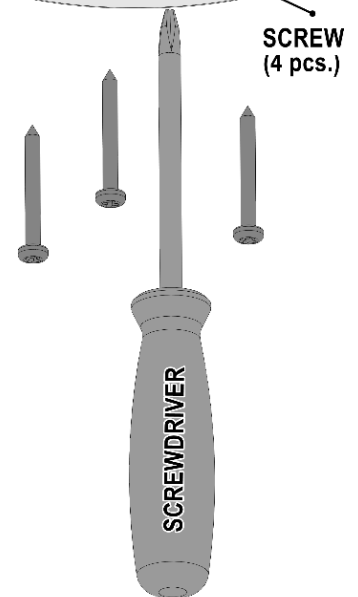
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# GENERAL OVERVIEW



# INSTALLATION

In order to install the device, the mounting base should be fixed to the ceiling, the sensor can then be inserted into the base by rotating the sensor until it clips into the base.

Ideally, the device should be installed away from metallic objects, doors, and power lines, as they can cause the communication distance to drop. It is also important to avoid installing the device near electronics and computer equipment in order to protect it from potential electromagnetic interference.

When using a VAD, the device should be installed to comply with the local installation regulations.

# TECHNICAL SPECIFICATIONS

| | |
|---|---|
| Communication range with a translator or expander | 1200 m |
| Radio frequency | 918-926 MHz |
| Modulation type | GFSK |
| Operating frequency channels | 6 |
| Radiated power | Not more than 25 mW |
| Receiver category (EN300-220-1) | 1.5 |
| Sound pressure level at 1m | > 91 dB(A) for messages 2 and 3*<br>> 86 dB(A) for message 1 |
| Frequency range | 500…3500Hz |
| Number of messages | up to 3 |
| VAD:<br>VAD rating<br>Flash color<br>Flash rate<br>Light temporal pattern | <br>C-3-2.6<br>White<br>0.5Hz<br>200msON / 1800ms OFF |
| Battery life:<br>Primary battery (type CR123A, 2.75-3.2V)<br><br>Secondary battery (type CR123A, 2.75-3.2V) | <br>> 10 years (No activation)<br>> 7 years (Activation 30 s / week)<br>> 2 months (after primary battery low fault) |
| Dimensions (with the base) | (111x111x74) mm |
| Weight | 215 g |
| Max tolerated humidity | 95% RH |
| Operating temperature range | From –10 °C to +55 °C |
| Case material | FR ABS & Polycarbonate |

**\*see full table at the end of the document**

**NOTE** Check the latest version of the product specification document STFV.425238.037-E-PS for further data, obtainable from the manufacturer.

# PROGRAMMING

The "Prog." (or "P") button on the device is used for initializing the device in the system. Please refer to the translator manual for full instructions on how to add a device to the system. The device can also be initialized using the "Ekho Configuration" software.
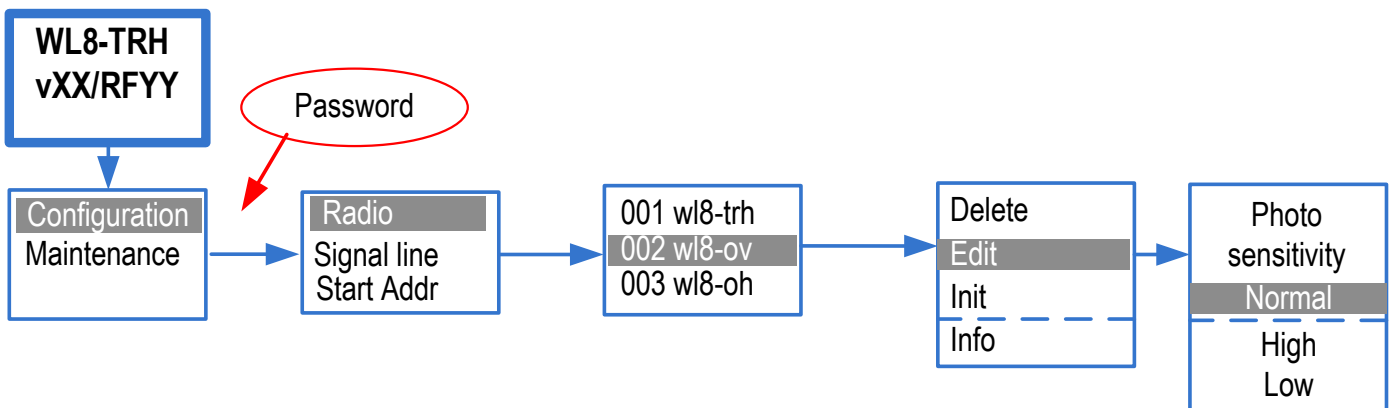
# INDICATION

The device has a three-color LED which indicates the state according to the following:

| LED indication | Device's state |
| --- | --- |
| No indication or green flashes | Standby mode |
| Yellow flashes every 4 seconds | Fault state – malfunctioning smoke sensor |
| Red flashes every 2 seconds | Fire alarm |

When the device is powered up, an automatic calibration process will begin, this lasts around one minute and is indicated with a red flashing LED.

# SMOKE SENSITIVITY



3 sensitivity options are available, these can be selected only by using the translator menu or the Ekho configurator software (setting via the control panel will have no affect and sensor will remain in the selected mode).

**NOTE** When the device is powered up, an automatic calibration process will begin, this lasts around one minute and is indicated with a red flashing LED.
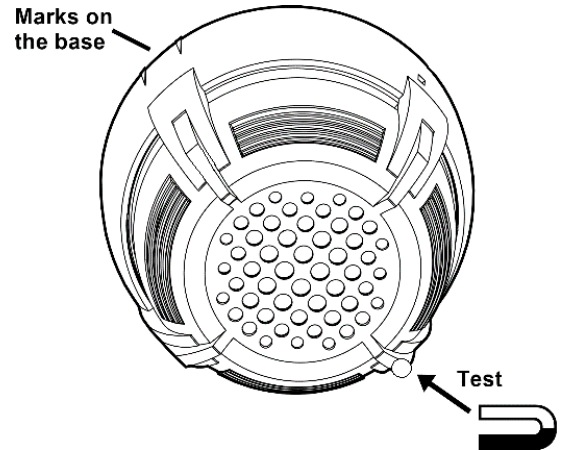
# TESTING

An alarm test can be performed with a magnet by placing it onto the outside of the sensor (opposite side to the base alignment marks) the sensor should take around 1 second to activate.

A suitable smoke test tool can also be used, please follow the instructions to apply smoke to the sensor in the correct way.



# ANALOG DATA

The device provides the translator module with analog data about the current smoke level, air temperature, dust in the chamber as well as voltage levels on its batteries. This information can be viewed in the "Ekho Configuration" software.

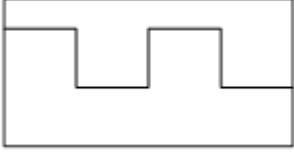| Sensor | Actuality | Primary supply | Standby supply | Temperature | Analog. type 1 | An. value 1 |
|---|---|---|---|---|---|---|
| 147·WL8-OV | 4' 56" | 3.1 V (5) | 3.1 V (5) | 25 °C (13) | Smoke | 17 (17) |
| 148·WL8-OV | 4' 56" | 3.0 V (4) | 3.1 V (5) | 25 °C (13) | Smoke | 20 (20) |
| 149·WL8-OV | 4' 56" | 3.1 V (5) | 3.1 V (5) | 20 °C (12) | Smoke | 20 (20) |
| 150·WL8-OV | 4' 56" | 3.0 V (4) | 3.1 V (5) | 20 °C (12) | Smoke | 20 (20) |

By analyzing the voltage or dust levels, you can manage maintenance procedures and predict when you will have to replace the batteries or clean the smoke sensors. Please refer to the software manual for full instructions on how to use the program for system maintenance.

# SOUNDER

The **EK-WL8-OV** sounder can produce three messages (only 1 message can be played at a time).

For successful operation it is necessary that the message number set in the translator.

| Mess. | Pattern | |
|---|---|---|
| 1* | 925 Hz: 250 ms / 628 Hz: 250 ms |  |
| 2 | Voice message 2 (Fire! Fire! Please leave the building by the nearest exit) | |
| 3 | Voice message 3 (Fire! Fire! Please leave the building by the central exit) | |
| | *Total duration of all messages up to 20 sec* | |

\* - only messages 2 and 3 approved according to EN54-3

Voice sounders sequence and timing:

| Sequence step | Duration |
|---|---|
| a) attention-drawing signal | 2,5 s |
| b) silence | 0,75 s |
| c) voice message (for message 2 and 3) | 3,9 s |
| d) silence | 0,85 s |

**NOTE** All voice messages may be rerecorded by using the special "OrpheyRLib" utility from the "Ekho Configuration" software and special tool (Programmer-PRO device, see STFV.425238.037-AU-D5 EK-WL8-OV/AU).

# WARNINGS & LIMITATIONS

Devices use high quality electronic components and plastic materials that are highly resistant to environmental deterioration. However, after 10 years continuous operation it is advisable to replace them to reduce the risk of reduced performance caused by external factors. Ensure the devices are only used with compatible control panels. Detection systems must be checked, serviced and maintained on a regular basis to confirm correct operation.

Refer to and follow National Codes of Practice and other internationally recognized fire engineering standards. Appropriate Risk Assessment should be carried out initially to determine correct design criteria and updated periodically.

# WARRANTY

All devices are covered by a 3 year limited warranty (does not apply to batteries). The warranty is voided by mechanical or electrical damage caused by incorrect handling or usage. Product should be returned via an authorized supplier for repair or replacement along with full information on the identified problem.

# BATTERY REPLACEMENT

**When a battery requires replacement, both batteries must be changed together.**
   a. Remove the sensor from the base.
   b. Clip off the battery cover and remove the batteries.
   c. Insert the new batteries as detailed in the installation manual above – take care to observe + / - polarity.
   d. Re-fit the battery cover and re-insert the sensor into the base.
   e. Test the sensor in accordance with the manufacturer's instructions.

It is recommended to change both batteries after 10 years of operation regardless of their indicated discharge level.

To replace the batteries, use Panasonic CR123A (primary and secondary batteries) or other with similar characteristics. The batteries must meet the following standards: UL 1642 lithium batteries, UL certified at www.ul.com or IEC 60086-4 Primary batteries, Part 4: Safety of lithium batteries.

The remaining shelf time of the new batteries must be not less than 8 years.

Failure to observe these instructions will void the device warranty and any liabilities.

**CAUTION**

   - Replacement of a batteries must be of the same type.
   - Do not expose used batteries to fire, hot ovens, or mechanical crushing/ cutting as this can result in an explosion.
   - Exposing batteries to extremely high environmental temperatures can result in explosion or the leakage of flammable liquid or gas.
   - A battery subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas.

**DISPOSAL**

   - Follow local regulations regarding disposal of the batteries.

| Angle | Minimal Sound pressure level, dB(A) for all supply voltages at 1 m for messages 2 and 3 |
|---|---|
| | Horizontal and vertical plane |
| 15° | 83 |
| 45° | 88 |
| 75° | 91 |
| 105° | 91 |
| 135° | 89 |
| 165° | 90 |

Certified Product
Australian Standard
SAI Global
Lic SMK 41078

ABN No
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