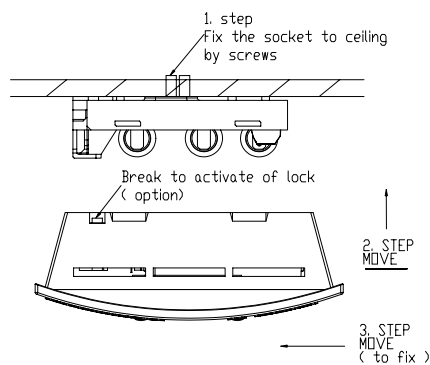


OPTICAL SMOKE ALARM Model No. 400-SL



Description

The ICAS Model 400-SL is a self-contained battery operated smoke detector operating on the scattered light principle with false alarm control (FAC). It is intended for household or similar residential applications as single unit with non-replaceable lithium cells. The lithium cells have an operating lifetime of 10 years under normal conditions.

It is the best detector for slow smoldering fires with large smoke particles.

Model 400-SL is non-latching – the buzzer will sound only when smoke particles are present in the smoke chamber. There are two combined push buttons / LED indicators and a sound outlet on top of the smoke detector. **The LED marked “MAINS” is not relevant for detectors equipped with lithium cells.**

The smoke detector is built in two parts. One full covered “Detection part 400-SL” with optical chamber and sounder, and one “Power part 4x0-SL”. The “Power part 4x0-SL” is designed as a socket and contains the non-replaceable lithium batteries and contacts for the connection to the detection part. This solution allows the detector to be powered immediately after its installation in the socket.

Installation

1. Place the smoke detector in the middle of the ceiling in living rooms, dining rooms, halls and landings, max. 1.5m from the door in bedrooms.
2. Distance from any wall should be at least 0.5m.
3. Fix socket to the ceiling by two screws.
4. Place the Detector into the socket and slide it horizontally to attach it. The detector will be energized at the same time.
5. To avoid EMC-disturbance, which can create false alarm, a distance of at least 1 meter from lighting fixture or any other electrical household equipment is required. Smoke alarm is not suitable for use in moisty or dusty rooms. This can cause disturbance in the detector chamber and make the detector create false alarm.
6. Always keep a clear space around the smoke detector to achieve optimal detection and security.

Testing the smoke alarm

The smoke detector should be tested frequently. Press the pushbutton named ‘TEST MONTHLY’ for testing.

It is recommended to test the smoke detector monthly!

Always check the smoke detector after you have been away for a longer period of time, or if you are moving in to a new building.

If an alarm sounds

Find and check the area where the alarming detector is located. In case of a real fire, alert everyone in the building, evacuate the building and call the fire department. If there is any question as to the cause of an alarm it should be assumed that the alarm is due to an actual fire and emergency evacuation plan should be followed immediately.

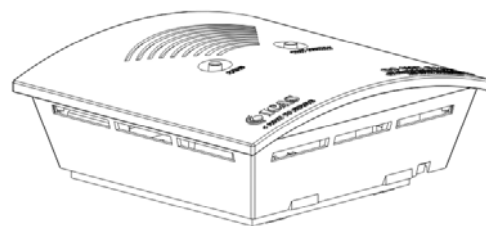
If false alarm

If for some reason the detector is giving false alarm, it can be stopped by pressing the “TEST MONTHLY” push button on the front of the detector.

Hush function

The detector is equipped with a hush function allowing the detector to ignore smoke for a period of 10 minutes.

To start the hush function, push and release the “TEST MONTHLY” push button.



Service

There is no service needed for the smoke detector. When battery warning signal, the detector should be replaced. **Don't dispose the smoke detector in the garbage.** Return it to the supplier or an electronic waste disposal place.

If work has been done in the area where a smoke detector is placed that gives rise to dust, smoke or paint spray, the detector must be removed or covered up tightly. **Never paint the smoke detector!**

If the smoke detector for any reason should fail to work as intended, contact the manufacturer or your local supplier.

Technical explanation

An integrated circuit with special features is used to incorporate the test function of the smoke detector. This device was designed to comply with British Standard BS 5446 Part 1.

The test is initiated by the pressing of the push-button named “TEST MONTHLY”. This test includes test of the IC circuit as well as the battery capacity.

When pressing the push button the gain of the photo amplifier is increased. This allows the background reflections in the smoke chamber to simulate a smoke condition. After three infrared pulses, a successful test activates the sounder.

When the push-button is released, the amplifier gain returns to normal and after three additional infrared pulses (less than one second), the device exits test mode and returns to standby.

The release of the push button also starts the 10-minute alarm silence period.

Red LED on the position “TEST MONTHLY” pulses every 10s during alarm silence period and the detector is not sensitive to the smoke.

After this period the sensitivity of the smoke alarm recovers to normal status. This is indicated by a red flashing “TEST MONTHLY” LED every 43rd second.

The sensitivity of the chamber is monitored automatically every 43s and. The degraded sensitivity is indicated by short chirps sounds. No LED flashing.

Battery fault warning is indicated with chirp sounds and flashing LED.

Product label can be found on the backside of the smoke detector.

Technical specification

Type: 400-SL

Compliance: British standard BS 5446. Part 1:2000 with lithium batteries only. Not tested with mains powered. Special precaution relevant to lithium batteries

Detection: Optical chamber operating on scattered light

Power supply: Socket part 4x0-SL fit with non replaceable lithium cells with operating life of 10 years in the smoke alarm under normal condition.

Average current: < 13 uA,

Alarm current: < 15 mA

Sounder: 85 dB(A) / 3m

Testing or FAC Press push button (TEST MONTHLY)

FAC activated Red LED flashing every 10s during alarm silence period

Alarm silence period: 10 min from pressing the hush button. (Automatic return to normal condition)

Indication: Normal condition -Blinking red LED every 50 s

Low Battery warning -Audible fault signal plus red LED (every 40s)

ALARM -Audible alarm sounds and red LED blinking every 1s

CHAMBER ERROR -Audible fault signal without red LED (every 40s)

Temperature: 0°C to +50°C

Humidity: 95% RH

Dimensions: W = 120 mm, L = 120 mm, H = 46mm