

# The JA-80S wireless fire detector

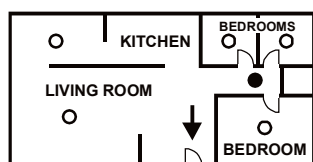
This device is designed to detect the presence of fire inside residential or commercial buildings. It should not be installed in industrial premises. The battery-powered detector has a built-in local warning siren combined with a red LED indicator. Alarm information can also be transferred via a wireless connection to OASIS systems.

The JA-80S detector combines an optical smoke sensor with a heat sensor. Both sensors have their outgoing signals processed digitally, resulting in higher false alarm immunity. The optical sensor works using a light diffusion principle and is very sensitive to the presence of large-sized particles which are characteristic of dense smokes. By contrast, the sensor is less sensitive to small-sized particles which are typical of cleanly burning fires. In particular, the smoke sensor is not capable of detecting the by-products of cleanly-burning fluids such as alcohols, for instance. This deficiency is compensated for by the built-in heat sensor. This sensor provides a slower reaction when compared to the smoke sensor, but is much better at reacting to fires with rapidly rising heat producing only a little smoke.

Smoke / heat sensor participation is configurable by jumper-settings.

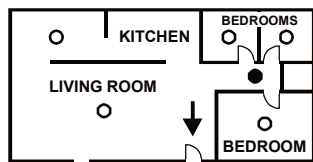
## Detection range, detector positioning

The smoke detector must be installed so that any smoke easily drifts into the detector, such as on the ceiling. It is suitable for residential buildings, but not suitable for free spaces or an outdoor environment. However, the detector is not suitable for installation in outdoor spaces or interiors with an extremely high ceiling (more than 5 m) where fire by-products would not reach the detector position. The detector must always be placed in the section leading to the exit of the apartment (escape route), see Figure 1. If the apartment has a floor area greater than 150 m<sup>2</sup>, an additional detector is required in the apartment, see Fig.2. An apartment block must be equipped with a detector in each apartment. In family houses and residential flats or maisonettes a detector must also be placed at the highest point of common hallways or spaces (escape routes), see Fig.3.



● MINIMUM SECURITY  
○ FOR MORE SECURITY

Fig. 1



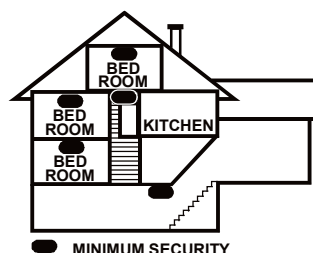
● MINIMUM SECURITY  
○ FOR MORE SECURITY

Fig. 2

It is recommended to place additional detectors in rooms where people sleep or in rooms with an increased risk of fire, see Fig.2.

## Positioning on level ceilings

Place the detector in the center of the room, as level as possible. Detectors must not be recessed into the ceiling (worse conditions for the spread of smoke). Never place the detector in a room corner (ensure a distance of at least 0.5 meters from the corner), see Fig. 4.



● MINIMUM SECURITY

Fig. 3

## Installation on sloping ceilings

If the ceiling is not suitable for mounting on a level surface (e.g. a room under a roof ridge), the detector can be installed as in Figure 5.

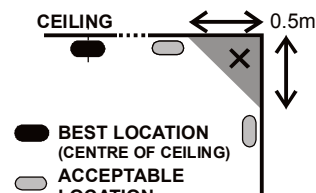


Fig. 4

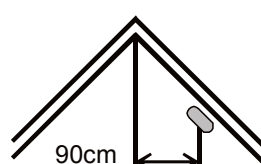


Fig. 5

## Walls, partitions, barriers and lattice ceilings

The JA-80S must not be installed closer than 0.5 m from any wall or partition. A narrow room with a width of less than 1.2m requires the detector(s) to be placed at a distance of at least one third of the room's width away. In the case of separating walls (partitions, warehouse objects) which do not reach the ceiling, the space is considered to be fully separated if the gap between the top of the separating wall and the ceiling does not exceed 0.3 m. A free space of at least 0.5m is required under the detector. Irregularities in ceiling shape which do not exceed 5% of ceiling height are considered insignificant – the ceiling can be regarded as being even and limits from the table are applicable. However, any irregularity (including beams) exceeding 5% of the ceiling height is considered to be a wall with the consequences stated above.

## Ventilation and air circulation

The detectors must not be installed directly by a fresh air inlet, e.g. air conditioning vents. In the case of air being supplied through a perforated ceiling, each detector must be placed so that no perforation hole occurs within 0.6m of the detector.

## Avoid installing the detector in the following locations:

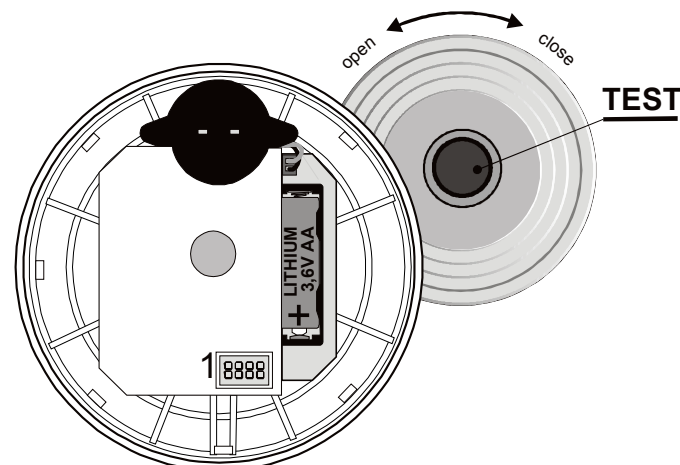
- Places with poor air circulation (niches, corners, apexes of A-shaped roofs).
- Places exposed to dust, cigarette smoke or steam.
- Places with over-intense air circulation (close to ventilators, heat sources or air conditioning outlets).
- Kitchens and other cooking places (because steam, smoke or oily fumes can reduce detector sensitivity).
- Beside lights (electrical interference can cause a false alarm)
- Areas with lots of small insects

## Caution: Most false alarms are due to detector misallocation

See CEN/TS 54-14 standards for detailed installation guidelines.

## Installation

1. Open the detector by turning the rear cover to the left and remove the battery
2. **Screw the rear cover** onto the desired location
3. **Set the required function** using the jumpers – see the table below
4. Please read the receiving device (control panel) installation manual before you connect the battery (remove the insulation tape) and set the control panel to enrollment mode
5. When the battery is connected, the detector sends a signal to connect to the system
6. After installing the detector, allow approx. 20 seconds for stabilisation. This period is indicated by the LED being continuously lit and is followed by an auto-test. Successful performance of the auto-test is confirmed acoustically.



1	ON	INSTANT alarm mode	3	OFF	Smoke (EN 14064) or heat (EN 54-5)
	OFF	FIRE alarm mode	4	OFF	
2	ON	Memory ON	3	ON	Only smoke (EN 14604) (heat indifferent)
	OFF	Memory OFF	4	OFF	
1	8888 1 2 3 4	ON OFF	3	OFF	Only heat (EN 54-5) (smoke indifferent)
			4	ON	
			3	ON	Smoke and heat (both simultaneously)
			4	ON	

Testing the detector is automatically performed up to 10 secs after battery insertion. New settings are saved directly afterwards.

**J1:** The FIRE / INST alarm mode jumper sets the reaction of the system. FIRE = alarm is triggered even if the system is disarmed while INST = alarm is triggered only in an armed system. The FIRE / INST jumper only has an effect if the detector has a natural reaction assigned to its address in the Oasis control panel. It also has no effect when used with a UC-8x or AC-8x receiver.

**Warning:** In the INST position, while the system is disarmed, it is not protecting against fire. This setting also fully disables the optical and acoustic indication on the detector itself.

**J2: Alarm memory:** If the event memory is ON at the time of alarm, alarm LED indication continues even if normal conditions are restored. The indication can be stopped by pressing the button (indication is valid only for FIRE settings).

## J3 and J4: Smoke / heat sensor participation

**Optical smoke sensor:** Smoke entry into the detector is indicated as a pre-alarm state by the LED flashing. If the smoke threshold density is exceeded, a siren sound is generated (indication is valid only for FIRE settings).

**Heat sensor:** indication logic is equal to that of the smoke sensor.

Whenever the detector cover is opened, a tamper signal is sent.

## Testing the detector

The functioning of the detector can be tested by pressing and holding the test button (e.g. for 1 sec). This activates the siren and the LED flashes (LED only if

the fire reaction is set). The strength and quality of detector signals can be measured by the control panel in Service mode. During testing by the test button, the detector transmits signals which can not trigger fire alarms in the control panel.

**Warning: Never start a fire in a building to test the detector.** Instead, use smoke-simulating aerosols for realistic testing.

#### Silencing the siren during an alarm

During a fire alarm, the detector LED flashes 2 times briefly and the built-in siren sounds (at a higher intensity than during a test). Under these conditions the siren can be silenced by pressing the test button for approx. 3 sec. The LED will continue to flash until the smoke clears from the room (indication is valid only for FIRE settings).

However, if normal conditions are not restored within approx. 10 minutes (the smoke does not clear from the room or the temperature does not drop), the siren re-activates.

#### Fault indication

The detector performs regular self-testing. If a fault is detected in the detector, its LED will start to flash rapidly. In such a case, disconnect the battery from the detector, and after about 20 secs, re-connect it. If after a minute the LED still flashes, then send the detector off for repair.

#### Battery replacement

The detector monitors its battery voltage and if too low, a transmission is sent to the control panel to inform the installer or user. The detector continues to function but with a short LED flash every minute. Battery replacement should not be delayed by more than two weeks. This should be done by a qualified technician with the control panel in Service mode.

*After battery replacement, test the functioning of the detector using its test button. Expired batteries should not be thrown into the garbage, but disposed of according to local regulations.*

#### Removing the detector from the system

If a detector is removed, the control panel announces the removal. The detector has to be deleted in the control panel before intentional removal.

#### Technical parameters

Voltage:	Lithium battery type or LST14500 (AA 3.6V / 2,4 Ah)
Typical battery lifetime	approx. 3 years
Communication band	868 MHz, Oasis protocol
Smoke detection	optical, scattered light
Smoke sensor sensitivity	$m = 0.11 - 0.13$ dB/m to EN 54-7
Temperature detection	class A2 to EN 54-5
Fire-alarm temperature	+60 °C to + 70 °C
Acoustic power of the built-in siren	80 dB/m
Operational temperature range	-10°C to +80 °C
Dimensions, weight	diameter: 126 mm, height: 65 mm, 200 g
Complies with	EN 54-7, EN 54-5 class A2, EN 54-25, ETSI EN 300220, EN 50130-4, EN 55022, EN 60950-1
Can be operated according to	ERC REC 70-03

**CE** 1293-CPD-0263

JABLOTRON ALARMS a.s. hereby declares that the JA-80S is in compliance with the essential requirements and other relevant provisions of Directives 1999/5/EC and 1989/106/EC. The original of the conformity assessment can be found at [www.jablotron.com](http://www.jablotron.com), Technical support section.



**Note:** Although this product does not contain any harmful materials we suggest you return the product to the dealer or directly to the producer after use.

**JABLOTRON**  
CREATING ALARMS

JABLOTRON ALARMS a.s.  
Pod Skalkou 4567/33  
46601 Jablonec nad Nisou  
Czech Republic  
Tel.: +420 483 559 911  
Fax: +420 483 559 993  
Internet: [www.jablotron.com](http://www.jablotron.com)