

JA-150ST Wireless combined smoke and heat fire detector

The JA-150ST is a component of the JABLOTRON JA-100 system. It is used to detect fire hazards in a building interior. The product is not designed to be installed in industrial premises. The JA-150ST consists of an optical smoke detector and a heat detector. The optical smoke detector is very sensitive to large dust particles which are present in dense smoke. It is less sensitive to smaller particles generated by the combustion of liquids such as alcohol. That is why the fire detector also contains a built-in heat detector which has a slower reaction but is much better at detecting fire which generates only a small amount of smoke. The detector has a status reaction (reports its activation and deactivation). The detector should be installed by a trained technician with a valid certificate issued by an authorized distributor.

Detector location

The smoke detector must be installed so that any smoke easily drifts into the detector owing to natural thermal action (usually on the ceiling). The detector can only be used in closed interiors. It is not suitable for interiors where smoke can disperse over a large area and cool down (e.g. interiors with extremely high ceilings – above 5 m) – the smoke would not reach the detector position.

The detector must always be placed in the section leading to the exit of the building (escape route), see Figure 1. If the building has a floor area greater than 150 m², installation of an additional detector in some other suitable place is required, see Fig.2.

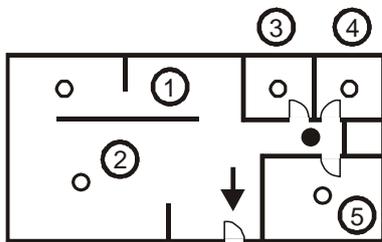


Fig 1

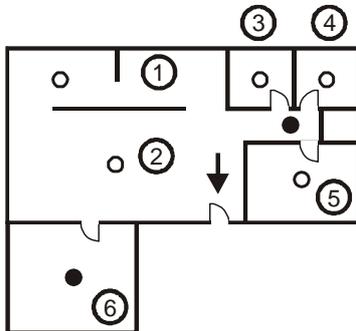


Fig 2

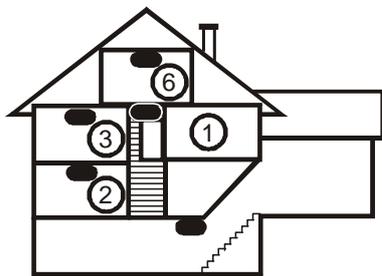


Fig 3

It is recommended to place additional detectors in rooms where people sleep.

Installation on level ceilings

Place the detector in the centre of the room if possible. **The detector must not be recessed into the ceiling** due to the possible existence of a cool air layer on the ceiling. **Never place the detector in the corner of the room** (always keep at least 0.5 m distance from the corner) see Fig 4. There is an insufficient circulation of air in the corners.

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 Fig. 5.

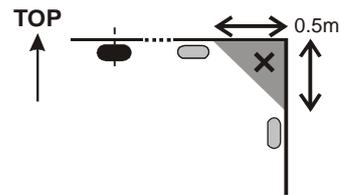


Fig 4

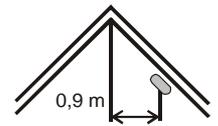


Fig 5

- centre of the room, best location
- acceptable location

Walls, partitions, barriers and lattice ceilings

The JA-150ST detector must not be installed closer than 0.5 m from any wall or partition. A narrow space with a width of less than 1.2m requires the detectors to be placed at a distance of at least one third of its width away. In the case when a room is separated into sections with furniture, racks or semi partition walls which do not reach the ceiling the space is considered to be fully separated if the gap between the top of these and the ceiling does not exceed 0.3 m. A free space of at least 0.5m is required under and around the detector. Any irregularities of the ceiling (e.g. girders) exceeding 5% of the ceiling height should be considered a wall and the above-mentioned limitations should apply.

Ventilation and air circulation

The detectors must not be installed directly by ventilation or air conditioning vents, etc. 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, etc.)
- places exposed to dust, cigarette smoke or steam
- places with over-intense air circulation (close to ventilators, heat sources, air conditioning outlets, etc.)
- in kitchens and other cooking places (because steam, smoke or oily fumes can reduce detector sensitivity).
- beside fluorescent lights or energy-saving light bulbs (electrical interference can cause a false alarm)
- in areas with lots of small insects

Warning: Most false alarms are caused by improper detector location.

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

Installation

Abide by the procedures recommended in the previous paragraphs.

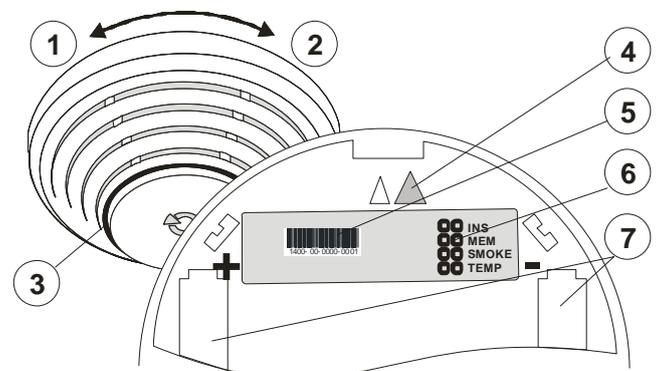


Fig 6: 1 – detector cover opening; 2 – detector cover closing; 3 – optical status signaling; 4 – arrow showing where to insert the detector onto the bottom part; 5 – production code; 6 – configuration jumpers; 7 – battery holders

1. **Open the detector cover, by turning it anti-clockwise (1).**
2. **Attach the removed plastic base to the desired place with screws.**

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3. **Set the configuration jumpers (6) according to the table below.**
4. Proceed according to the control panel installation manual. Basic procedure:
 - a. Go to the **F-Link** program, select the required position in the **Devices** window and launch enrollment mode by clicking on the Enroll option.
 - b. When you insert all batteries into the detector, an enrollment code is sent to the system – its sending is confirmed with a short flash of the LED indicator (3).
5. Insert the detector into the plastic base. The detector can be inserted into the plastic base in one position only. It is marked with arrows (4) on both plastic parts. Close the detector cover by turning it clockwise (2).

Note:

The detector can also be enrolled into the system by entering its serial number (5) in the F-Link program or on a keypad (or using a bar code scanner). All numbers stated under the bar code shall be entered (1400-00-0000-0001).

Detector settings

The detector properties can be set in the **Devices** window in the **F-Link** program and / or with configuration jumpers.

1	ON	Not used	3	OFF	Smoke (EN 54-7) or heat (EN 54-5)
	OFF	Not used	4	OFF	
2	ON	Memory enabled	3	ON	Smoke only (EN 54-7) (not heat)
	OFF	Memory disabled	4	OFF	
3	 INS MEM SMOKE TEMP	 ON	3	OFF	Heat only (EN 54-5) (not smoke)
			4	ON	
4	 INS MEM SMOKE TEMP	 OFF	3	ON	Smoke and heat (both conditions at the same time)
			4	ON	

Jumper 2 MEM Signaling the alarm memory. The signaling LED remains active 30 minutes after the reason for the alarm ceases to exist.

Jumper 3 and 4 SMOKE and TEMP The combination of these configuration jumpers defines whether the detector will react to smoke, heat ...

Using the **F-Link** program it is possible to change the reaction of the system. The setting is in the **Reaction** option in the **Devices** window.

Fire alarm

Optical detector: When smoke enters the detector, an alarm is triggered, and it is signalled with a rapidly flashing red LED (approx. 8 times per second). The indication lasts until the room is ventilated (thus also ventilating the detector's detection chamber).

Heat detector: When the temperature rises above a set limit, an alarm is triggered, and it is signalled with a rapidly flashing red LED (approx. 8 times per second). The indication lasts until the temperature drops (e.g. when the room is ventilated).

Alarm memory: If it is enabled, alarm indication with LED flashing continues for a further 30 minutes after the reason for the alarm disappears. The indication can also be terminated by opening the detector cover by turning it anti-clockwise and activating the tamper sensor.

Tamper alarm: When the detector cover is opened, the detector sends a tamper signal.

Detector testing and maintenance

The functioning of the detector can be tested with a special spray designed for smoke detector testing to simulate fire. **The test should be carried out once in 30 days.** The detector's cover should be cleaned regularly from dust.

Warning: never test the detector with fire.

Battery replacement

The system sends a report automatically when the battery is low. Optical indication then flashes briefly once every 30 seconds. Remember to switch the system to Service mode before changing the batteries (otherwise a tamper alarm will be triggered). It is always essential to replace all three batteries. Use the same type and the same brand for all three. When all batteries have been inserted into the detector, a test is carried out automatically. The test checks the battery voltage and the sensor status and the information is then sent to the control panel.

Fault indication

The detector checks its functioning. If it detects a fault, its Optical indication starts flashing rapidly for 1 minute and then it flashes briefly three times every 30 seconds. In such a case, take out the battery for 1 minute and then insert it again. If the LED indicator starts flashing again after 1 minute, send the detector to a service centre.

Technical specifications

Power	3 x AA 1.5 V; 2.4 Ah alkaline batteries
Typical battery lifetime	approx. 3 years
Communication band	868.1 MHz, Jablotron protocol
Communication range	approx. 300 m (unrestricted area)
Dimensions	diameter 126 mm, height 50 mm
Weight	150 g
Smoke detection	optical light scattering
Smoke detector sensitivity	m = 0.11 - 0.13 dB/m pursuant to EN 54-7
Heat detection	class A2 according to EN 54-5
Alarm temperature	+60°C to +70°C
Operating temperature range	-10°C to +80°C
Complies with	EN 54-5, EN 54-7, EN 54-25
Also complies with	ETSI EN 300220, EN 50130-4 EN 55022, EN 60950-1
Can be operated according to	ERC REC 70-03



JABLOTRON ALARMS a.s. hereby declares that the JA-150ST detector is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The original of the conformity assessment can be found at 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. For more detailed information visit www.jablotron.com.