

The JA-110ST Bus combined smoke and heat fire detector

The JA-110ST 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-110ST 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 currents (usually on the ceiling). The detector can only be used in enclosed 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.

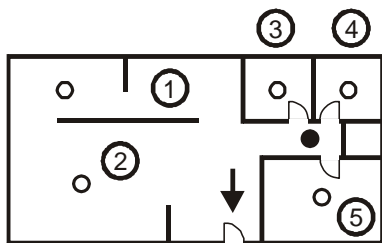


Fig 1

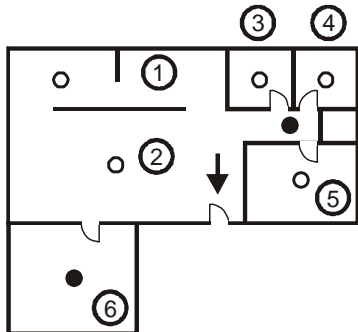


Fig 2

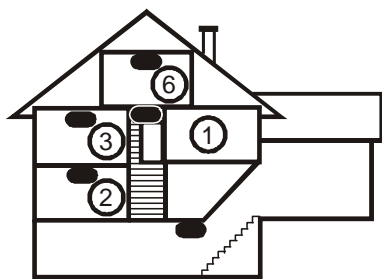


Fig 3

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 a 0.5 m distance from the corner) see Fig 4. There is an insufficient circulation of air in 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.

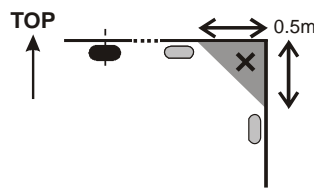


Fig 4

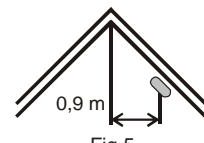


Fig 5

- centre of the room, best location
- acceptable location

Walls, partitions, barriers and lattice ceilings

The JA-110ST 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 a 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 0.6 m 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 cause false alarms or 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

When installing the detector, abide by the procedures recommended in the previous paragraphs.

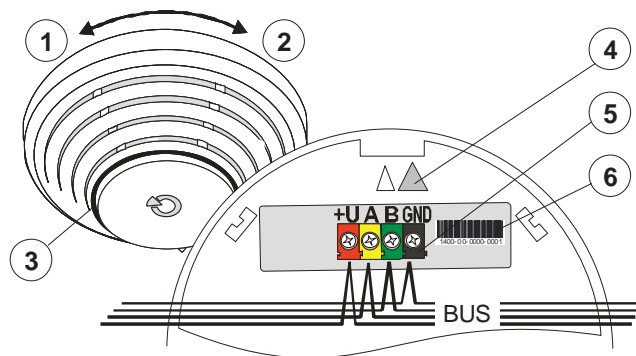


Fig 6: 1– detector cover opening (removal); 2 – detector cover closing (insertion); 3 – optical signalling; 4 – arrow showing where to insert the detector; 5 – bus connection terminals; 6 – production code;

1. open the detector cover, by turning it anti-clockwise
2. Insert the bus cable and attach the plastic base to the selected place using screws.
3. Connect the bus cable.

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When connecting the module to the bus, always switch the power off.

4. Proceed according to the control panel installation manual. Basic procedure:
 - a. When the device is powered, the yellow LED starts flashing repeatedly to indicate that the module has not been enrolled into the system.
 - b. Go to the **F-Link** program, select the required position in the **Devices** window and launch the enrollment mode by clicking on the **Enroll** option.
 - c. Insert the detector into the plastic base. It can only be inserted in the position marked with arrows on both plastic parts. Close the detector by turning it clockwise. The tamper contact inside the detector is thus triggered and the detector is enrolled. The yellow LED indicator goes off.

Detector settings

Go to the **Devices** window in the F-Link program. When you are at the detector position, use the **Internal settings** option to open a dialog window where you can set:

LED indication enabled: allows disabling the red LED used to indicate activation.

Means of detecting – smoke only, heat only, smoke and heat at the same time, smoke or heat.

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 valid EN standards recommend you to perform **detector testing once in 30 days**. The detector must be regularly cleaned of dust, cobwebs, etc.

Warning: never test the detector with fire.

Fault indication

The detector checks its functioning automatically. When it discovers a fault, it indicates it with the yellow LED indicator. In such a case, disconnect the power supply for 1 minute and then reconnect it. If the LED indicator starts lid permanently again after 1 minute, send the detector to a service centre.

Technical specifications

Power	from control panel digital bus 12 V (9...15 V)
Current consumption in standby mode	5 mA
Current consumption for cable selection	10 mA
Dimensions	diameter 126 mm, height 50 mm
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 50130-4, EN 55022

CE 1293-CPD-0240

JABLOTRON ALARMS a.s. hereby declares that the JA-110ST module is in compliance with the essential requirements and other relevant provisions of Directive 89/106/EEC a 2004/108/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.