

OH720-CN Multi-sensor smoke detector Product Manual

Overview

The multi-sensor smoke detector OH720-CN is a multiple criteria fire detector featuring an optical and a thermal sensor. The combination of optical and thermal sensor signals optimizes detection reliability:

- The emitters illuminate the smoke particles from different angles. The scattered light then hits the receiver and generates a measurable electric signal.
- In addition, the heat sensor makes it possible to detect fires without smoke generation.

Characteristics

- Fulfill Chinese standard GB4715-2005 "Smoke detectors-Point detectors using scattered light, transmitted light or ionization" and GB4716-2005 "Point type heat fire detectors"
- Early detection of all types of fire, whether they generate light or dark smoke, or no smoke at all
- Resistant to environment and interference factors such as dust, fibers, insects, humidity, extreme temperatures, electro-magnetic interference, corrosive vapors, vibration, synthetic aerosols and atypical fire phenomena
- Integrated short-circuit isolator
- Communication via C-NET
- Adopt environmental protected material and production process to fulfill RoHS standard

Application

Like all optical smoke detectors, the multi-sensor smoke detector OH720-CN is able to detect slow-burning fires that generate smoke.

However, when compared to standard optical smoke detectors, the multi-sensor smoke detector OH720-CN also offers improved response behavior in the event of open fires and increased resistance to misleading sources of false alarms.

The multi-sensor smoke detector OH720-CN has two parameter sets available for selection.

Robust (1/Default):

The parameter set 'Robust' offers improved resistance to false alarms in areas where misleading sources, such as cigarette smoke or exhaust fumes, may cause these to be triggered.

Sensitive (2):

This parameter set is particularly suitable for areas where few misleading sources of false alarms are present, and where priority is given to detecting open fires as early as possible.

The following table shows the properties of the parameter sets for the multi-sensor smoke detector OH720-CN:

No.	Name	Optical characteristic Sensitivity [%/m]	Thermal characteristic (A2R)		
			Static activation temperature [°C]	Differential activation temperature (temperature increase > 10 K/min) ΔT [K]	Differential activation possible from: [°C]
1	Robust	3.5	60	25 *	10
2	Sensitive	2.5	60	25 *	10

* Between 1 K/min and 10 K/min, this value increases by a few degrees.

Internal alarm indicator

The detectors are provided with an internal alarm indicator. The internal alarm indicator shows the operating condition of the detector (see table).

Operating condition	Flashing mode of the AI
Normal	Off
Test	AI lights up every second
Alarm	Continuous light on AI
Locate	AI lights up every second

Installation

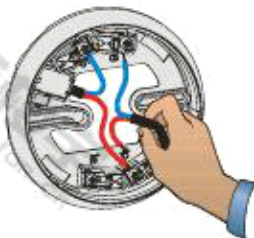


Fig. 1
- Alarm indicator (AI) centered in the detector; no alignment required

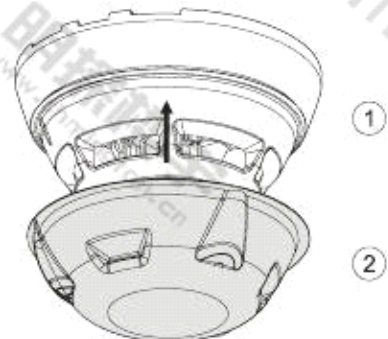


Fig. 2
1 - Detector
2 - Detector dust cap

- **Easy, time-saving and high-quality mounting (Fig. 1)**

To install a point detector, a detector base DB720-CN is always required. After installing the detector base, simply insert the point detector in the base and turn it, either manually or using the detector exchanger, until you hear and feel it snap in.

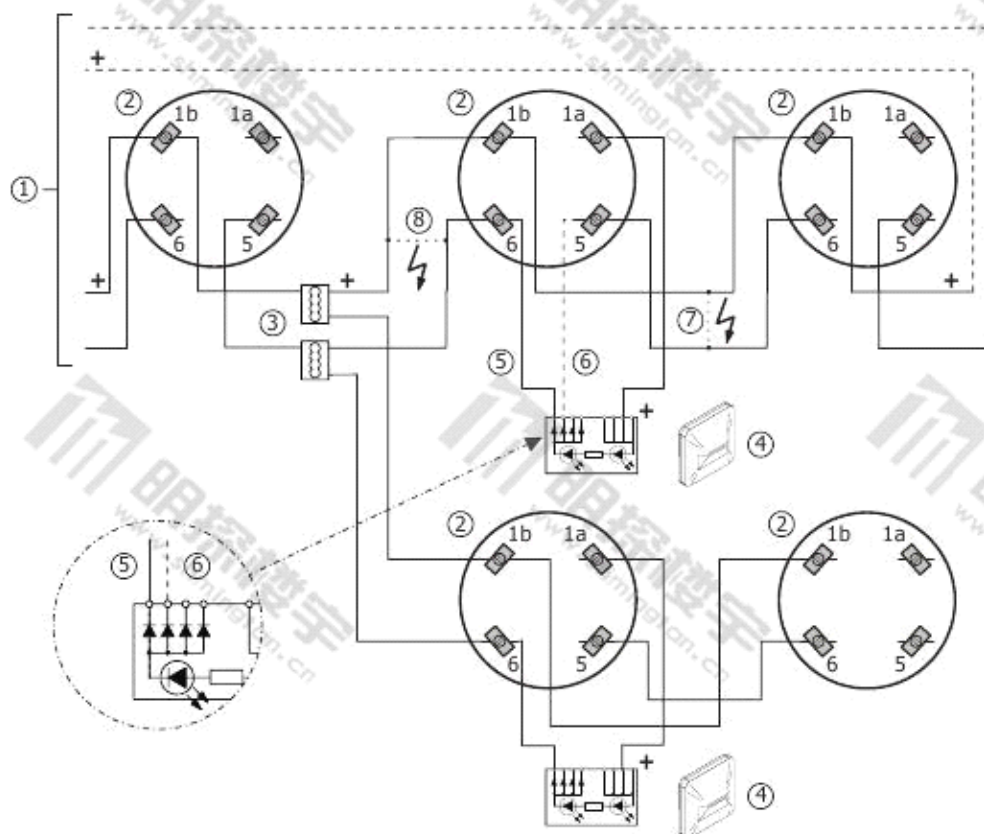
- **Detector dust cap (Fig. 2)**

A detector dust cap is provided as part of the scope of supply for each detector. During the construction phase, the detector may be covered with the detector dust cap to protect it from dust and dirt.



After all construction is finished completely, the dust cap must be taken away!

Connection diagram



Legend

- | | |
|---------------------------------|---------------------------|
| 1 Control panel | 5 Cable -E_AI6 |
| 2 Detector base DB720-CN | 6 Cable -E_AI5 (optional) |
| 3 Auxiliary terminal DBZ1190-XX | 7 Short circuit (error) |
| 4 Ext. alarm indicator | 8 Short circuit (error) |

Comments

- If a shielded cable is used for connecting the external alarm indicator, its shield must be connected to the shield for the detector bus.
- The alarm indicator connected will continue to function correctly in the event of a short circuit occurring at position 7 on the connection diagram. The alarm indicator is triggered by cable -E_AI6.
If the short circuit occurs at position 8 on the connection diagram, the alarm indicator will no longer be triggered.
As an option, the alarm indicator may also be connected using cable -E_AI5.
In this case, the alarm indicator will correctly indicate an alarm even if a short circuit occurs at position 8.
Therefore, this ensures that the alarm indicator will always function correctly.

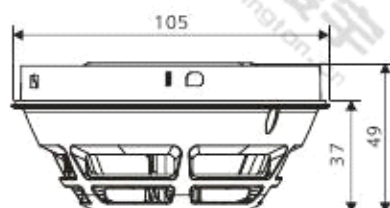


The option described is only possible in a loop line.

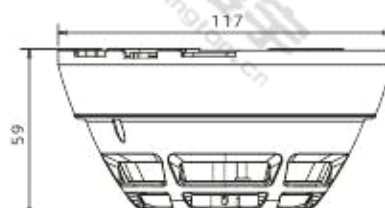
Dimensions

In: mm

Without base



With base



Maintenance/Repair

Regular performance checks of the detectors are required. These can be carried out using a test gas and hot air fan.

Recommendation:

- Submit all detectors to an annual visual check. Detectors that are strongly soiled or mechanically damaged must be replaced.
- Any detectors should be replaced after 6 to 8 years of service, independent from the environmental conditions.

Technical data

Operating voltage (modulated)	12 ... 33 VDC
Operating current (quiescent)	230 μ A
Connectable ext. alarm indicator	2
Current for ext. alarm indicator	10 ... 16 mA
Voltage for ext. alarm indicator	9 ... 33 VDC
Operating temperature	-10 ... +50 °C
Storage temperature	-30 ... +70 °C
Humidity	≤95 % rel.
Communication protocol	C-NET
Color	pure white, RAL9010
Protection category EN60529 / IEC529	
– Base DB720-CN	IP40
– Base DB720-CN with detector base seal RS720	IP42
Permissible air speed	Max. 5 m/s

Details for ordering

Type	Material no	Part no	Designation	Weight
OH720-CN	S54310-F2-A101	100681355	Multi-sensor smoke detector	0.088 Kg
DB720-CN	S54319-F4-A101	100700917	Detector base, addressable	0.052 Kg

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