PHOTOELECTRIC SMOKE AND HEAT DETECTOR MOD.: AE/C5-OPT

The AE/C5-OPT Multi-criteria photoelectric smoke and heat detector operates based on the light scattering effect (Tyndall principle) providing a fast alarm activation particularly in case of slow-burning (smouldering) fires occurs.

The main detector component is a dark chamber equipped with a light-emitting diode cell faced to a photodiode receptor set capable by a join operation to detect if any smoke particles have entry into the dark chamber and a heat sensor.

Each detector has two LEDs located in opposite side at the external assembly cover to inform to users by flashing about if the detector is in stand-by operation or in permanent alarm as well. Remote LED annunciator capability is available upon request as an optional accessory to be wired to the detector base terminals block.

This detector have a latching alarm feature. In case the detector in alarm function to move it to stand-by operation is requested to produce a detector power supply switch-off from the remote fire alarm panel.

This detector model is manufactured and certified according to EN 54-7:2000 and EN 54-5:2000 standards. Class A2 heat detector.

In general all photoelectric detector types for smoke alarm applications are recommended to be installed within no dust polluted ambient rooms or inner zones.

INSTALLATION GUIDELINES.

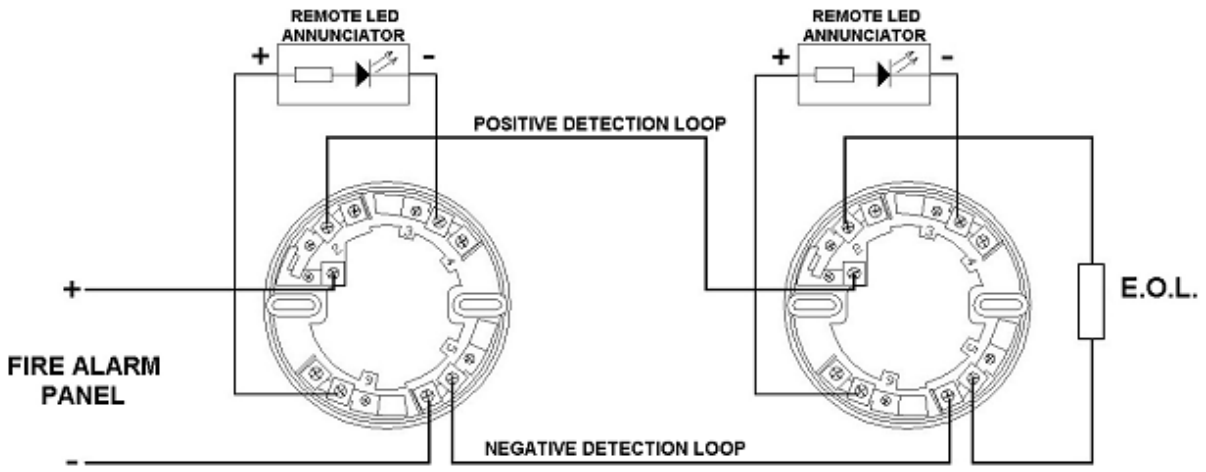
Mounting

The fixed base of the smoke detector should be mounted directly onto an electrical junction box such as an octagonal (75mm, 90mm or 100mm), a round (75mm) or a square (100mm) box without using any type of mechanical adapter.

Detectors loop wiring

Switch-off power supply to the detector's fixed base before plug-in any detector main frame to the fixed base.

- Positive wire from detection loop shall be connected to the block terminal marked as 2 (loop input). The terminal block has double and separate terminals marked as 2, one for loop input and the other one as loop output.
- Negative wire from detection loop shall be connected to the block terminal marked as 5. The terminal block has double and separate terminals marked as 5, one for loop input and the other one as loop output.
- To built-up the detection loop to the next one detector or to the end of line proceed connecting by wire the free position 2 at the terminal block with the position 2 (loop input) at the next one detector's block terminal or to the end of line. This procedure allows detection loop as an open line operation type.
- Proceed with negative wire in the same way as before mentioned for terminal block marked as 5.
- In case it is required to install a remote LED annunciator, connections from annunciator will be made between its positive to terminal block 6 and negative to terminal block 3 at the base detector.



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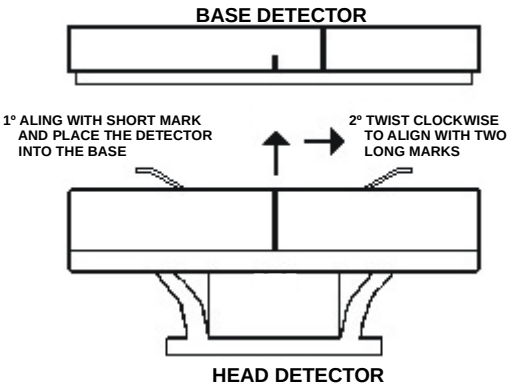
Installing the head



- Align the components as show in the Figure.
- Mate the detector head into the base and twist clockwise to secure it.
- In case that detector head is not matching marks with the base the detector will operate but connection polarity of remote LED annunciator are changed and then it is not assured its well performed operation.
- The maximum number of detectors installed in the same loop is 30 units.
- After all detector have been installed apply power supply to the loop.

CAUTIONS.

- To prevent detector from dirty effect and warranty cancellation, detector must remain covered until the area is clean and dust free.
- Detector protection cover is not intended to provide complete protection against dust ambient pollution, therefore detector should be removed before beginning to made masonry works, inner space revamping or other dust producing activity.
- Do not paint any part of detector because paint can close air entry holes and then detector operation will be affected.
- Detector protection cover must be removed before fire detection system can be made operational.

TESTING.

Detectors must be tested after installation and following periodic maintenance.

Before testing, notify to the proper authorities that the detector system is undergoing maintenance, and be sure that all required functions related to alarm emergency exit, extinguishing system and automatic extinguishing shoot in are cancelled.

- Check that when you remove each detector from the base the fire alarm panel will be move announcing zone fault notice. If no any fault is coming then recheck that there are not placed 2 wires or more at the same detectors base clamp at the terminal block.
- Check to see if the indicator green LED is flashing every 3~5 seconds. If green LED fails to flash, it indicates the detector non-operation condition or a faulty wiring is made.
- Smoke sensor testing:
  - Apply some smoke sample from a test smoke aerosol to each detector during at least 10 seconds to activate the detector-sensing chamber. When sufficient smoke portion has entry within the chamber then detector will generate an alarm signal being recognized externally by a continuous lighting from two external LEDs and fire alarm panel shall be in alarm mode.

  Heat sensor testing:
  - Subject the detector to a flow of warm air at a temperature of between 65ºC and 80ºC from a distance of several centimetres. The detector should alarm within 30 seconds.
- If a remote LED annunciator is coupled then also shall be light activated. If lighting activation does not arrive checking for wiring and well done detector plug-in into base is required to be done it again
- To make same detector testing as above mentioned for another selected detector placed at the same detection loop, first at all you shall reset the loop by switching-off from the remote fire alarm panel and also check the zone is in stand-by mode before start-up with the next one detector checking.

All detectors not capable to perform testing as above indicated must be replaced for technical service attendance.

After testing implementation the alarm emergency exit, extinguishing system and automatic extinguishing shoot in functions cancelled previously at the fire alarm panel shall be activate and proper authorities shall be informed that the fire alarm system is again in operation.

DETECTOR MAINTENANCE GUIDELINE.

The recommended minimum requirement for detector maintenance consists of an annual cleaning of dust from the detector head using a vacuum cleaner. All ambient head detector entry holes shall be keeping totally cleaned from ambient entry obstacles. For an exhaustive clean treatment the detector head should be send to AGUILERA ELECTRONICA, Customer Assistance Department.

Do not attempt to disassemble factory sealed detector head. Opening the detector head the detector warranty will be void.

SPECIFICATION.

Power Supply	15 ~ 35 VDC	
Standby current:	35 µA	
Alarm current:	70 mA max.	
Loop Wires sizes:	2 X 1.5 mm^2	
Operating Temperature Range:	10ºC a +50º C ambient dry temperature.	
Operating Humidity Range:	10% al 90% Relative Humidity, Non-condensing.	
Start-up Time (Max.):	60 s	
Lighting Annunciators:	Standby:	Leds flashing once every 3~5 seconds.
	Alarm:	Continuous red lighting from LEDs
Remote alarm output, rate:	Remote LED annunciator, 6 VDC	
Detector Dimensions:	Cover : 99 mm. (Diameter)	Cover Height with base: 46 mm + 15mm heat sensor.
Raw Material:	White ABS plastic.	

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EN 54-7:2000
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