ALGORITHMIC OPTICAL SMOKE DETECTOR
AE/SA-OPI

Description

Optical smoke detector that operates according to the light scattering principle (Tyndall effect). It is suitable for detecting fires in their first smoke phase, before flames are formed or dangerous increases in temperature take place.

Formed by a dark chamber that incorporates a transmitter and a receiver that detect the presence of particles in the interior and fitted with a microcontroller in which the operating parameters are set.

Fabricated and certified according to the standard EN 54-7:2001.

Due to the detection method of this type of detector it is recommended for installation in clean surroundings

Operation

The detector works by measuring the relative decrease of visibility in the surrounding atmosphere.

1. When connected, it adapts to the surrounding conditions, inside maximum and minimum limits.

2. Readings are taken every second and compared with the reference measurements when idle. When the difference exceeds the programmed level, the detector goes to the pre-alarm or alarm state.

3. The variations are analysed with regard to the idle values in order to provide compensation, if necessary, and adapt to the new environmental conditions.

4. It monitors the pollution level in its environment or the fouling parameters in its interior, if they surpass the programmed values and are maintained for a certain time, it passes to the maintenance state.

It monitors two alarm levels:

1. It goes to the pre-alarm state when the environmental darkening surpasses the programmed level, but without reaching the alarm level.

2. It goes to the alarm state when the detected level reaches the level set during the time fixed for alarm confirmation.

Maintenance level:

1. It warns when the degree of pollution in its environment or the fouling parameters in its interior, surpass the programmed values and are maintained for a certain time.

2. It monitors the detector adjustment level inside maximum and minimum limits. These values can be affected by height, pressure, humidity, etc. It checks they are inside the correct operating range and reports any anomaly.

It includes:

* Operation pilot: It indicates it is operating correctly, giving green-colored flashes through the alarm LED. If the flashing is a nuisance in specific cases, it can be inhibited on an individual basis from the detector itself, or in general from the Algorithmic Fire Control Panel.

* Maintenance and alarm levels: These levels are programmed from the panel, individually, by sectors or collectively for each type. They always take a default value to assure their correct operation.

* Remote alarm output: They have a remote alarm output for connection of action indicators, etc, which is activated when the detector reaches the programmed alarm level.

* Individual identification: Each detector is identified individually with a number inside the installation loop. This number is stored in EEPROM memory whereby it remains even though the detector is without power for a long period.

TECHNICAL CHARACTERISTICS		CERTIFICATIONS
Power supply voltage:	18 ~- 27 V (AE/SA-CTL Algorithmic loop card).	0099/CPD/A74/0046
Consumption when idle:	1.9 mA	
Consumption in alarm state:	4 mA	
Wiring	2-wire. Recommended cross-section 1.5 mm2	
Temperature range:	-10º - +50º C (ambient temperature)	
Humidity range:	Relative humidity 10% - 90% without condensation.	
Casing material:	ABS	
Color:	RAL 1013	
Luminous indicator:	Operation pilot: green flash (can be inhibited).	
Alarm:	Red permanent	
Size:	diam. 106 mm.	
Height:	52 mm with low base.	
Remote alarm output:	80 mA max.	
Compatible bases:	AE/SA-Z low base	
	AE/SA-ZA supplement.	