



# 601P

## OPTICAL SMOKE DETECTOR

Ordering code: 516.600.001.B

EN54 part 7: 2000 standard - LPCB approved.



### GENERAL FEATURES

The 601P detector forms part of the series 600 range of plug in detectors for ceiling mounting.

601P detector is capable of detecting the visible smoke produced by materials which smoulder or burn slowly, i.e. soft furnishings ,plastic foam etc. or smoke produced by overheated but unburnt PVC. 601P detector is particularly suitable for general applications and areas where cable overheating may occur, e.g. electrical services areas. Optical only detectors are **not** suitable for detecting fast burning fires producing little visible smoke or very black smoke. The novel design of the asymmetrical sampling chamber and signal processing techniques stop unwanted alarms caused by very small insect

### OPERATING PRINCIPLE

The 601P detects visible particles produced in fires by using the light scattering properties of the particles.

The optical system consist of an infra red emitter and receiver, so arranged that their optical axes cross in the sampling volume. The emitter produces a narrow beam of light which is prevented from reaching the sensor directly by the baffles. When smoke is present in the sampling volume , a proportion of the light is scattered, some of which reaches the receiver. For a given type of smoke, the light reaching the sensor is proportional to the smoke density.

The amplified output from the sensor is used to activate an alarm circuit at a predetermined threshold.

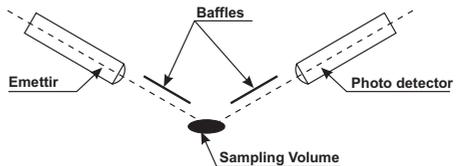
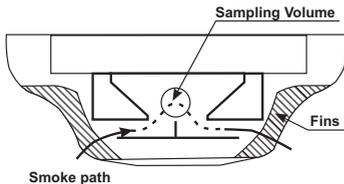


Fig. 1 System schematic

SPECIFICATIONS			
	Min	typ	Max
Operating voltage	10.5V	24V	33V
Average quiescent current	62 $\mu$ A	65 $\mu$ A	70 $\mu$ A
Stabilisation time	30 sec		
Alarm Current	(mA)/ see Fig. 3		
Holding Voltage			2V
Holding Current			0.4mA
Reset Time		2 sec	
Remote LED Drive		1k $\Omega$	
Normal Response Threshold	0.12 dB/m-4.8 %/m		
Size HxD	43x109 mm		
Weight	0.093Kg		
Operating temperature	-20°C .. +70°C (Do not install in locations where normal ambient temperature is below 0°C)		
Storage temperature	-25°C .. +80°C		
MAX environmental-Relative humidity	95% non-condensing		

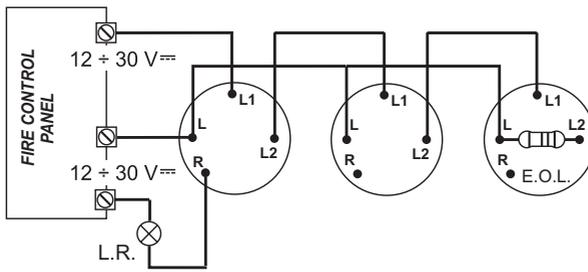


Fig. 2 Connection diagram.

## WIRING

The detector circuits requires a positive and negative supply and these are wired to terminals L1 and L on the base (Polarity insensitive). Base terminal L2 is connected to base terminal L1 when the detector is fitted to provide continuity monitoring through the detector.

Base terminals L2 and L provide outputs to the next detector or EOL device.

In case of alarm the detector communicate the state to control device by sinking from the supply leads an extra current according to the figure 3, for restoring from an alarm condition the power has to be removed for 2-5 seconds.

A drive is provided for a remote indicator connected between supply + and terminal R, therefore at a detector where remote indicator is connected, the polarity of the supply must be known.

## MAINTENANCE

The length of time between service for each detector will depend upon the environment into which they are installed.

It is recommended to inspect, test and clean the detector at least annually.

The detector must be removed for service replacement typically each 5 years (up to 10 years subject to environment).



Fig. 3 Alarm load.

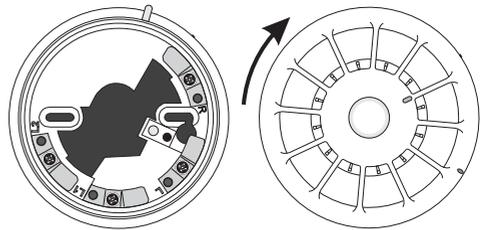


Fig. 4 Fit the detector unit onto the base (as per figure) then twist

## Recycling information

Customers are recommended to dispose of their used equipments (panels, detectors, sirens, and other devices) in an environmentally sound manner. Potential methods include reuse of parts or whole products and recycling of products, components, and/or materials.



## Waste Electrical and Electronic Equipment (WEEE) Directive

In the European Union, this label indicates that this product should NOT be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.