

614SERIES

Conventional Detector Range

Features

- Range includes combined Carbon Monoxide (CO) and Heat, Photoelectric (Scattered Light) and Ionisation fire detectors
- Type A, B, C and D Heat Detectors
- Superior performance and reliability
- Patented Optical Chamber
- Designed for fast, easy installation
- Detector Lock included with 4B Base
- 360° Integral and remote alarm LED
- Backward compatible with MINERVA 614 range
- ActivFire and FPANZ Listed



Detector Design Evolution

The VIGILANT 614 Series of low profile conventional fire detectors have a number of unique design features that offer improved operation, installation and ease of servicing. Through innovative design, the VIGILANT 614 Series detectors have reduced the installation and servicing time to a minimum. The Park position on the detector base means only one visit to the ceiling to complete the installation.

The VIGILANT 614 Series includes the unique combined CO and Heat fire detector, which responds to carbonaceous fires with an unprecedented early detection of slow smouldering fires, yet offers unparalleled nuisance alarm immunity. The use of the patented optical sensing chamber for the photoelectric detector, together with refined signal processing, has enabled the introduction of a smoke detector suitable for fast, reliable smoke detection of both slow and fast developing fires.

614P Photoelectric Smoke Detector



The 614P is capable of detecting the visible smoke produced by materials which smoulder or burn slowly, such as soft furnishings, plastic foam, or 'smoke' produced by overheated but unburnt PVC. These detectors are particularly suitable for general applications and locations where cable overheating may occur in electrical services areas. They are suitable for use in sleeping areas and must be used in common paths to exits, to give early warning of smoke that may make escape difficult. The novel design of the asymmetrical sampling chamber and signal processing techniques stop nuisance alarms caused by very small insects. Smoke entering the sampling chamber scatters the infrared light pulses onto a photodiode. These pulses are converted to an electrical signal that is compared against a preset alarm level.

Technical Specifications

Operating Voltage	10 to 33Vdc
Quiescent Current	60µA typ. 100µA max.
Alarm State Current ¹	5mA to 85mA (55°C)
Alarm Voltage	4V to 7.6V
Ext. Powered Load	50mA, 28Vdc max.
Sensitivity	0.18 dB/m (4% Obs/m) (AS 7240.7:2004)
Reset Time	2 sec max.
Remote Indicator	E500 Mk2 Series
Relative Humidity	10% to 95% (non cond.)
Ambient Temperature	-20°C to +70°C
Dimensions (incl. base)	54 x 127 mm (H x dia)
Weight (incl. base)	188g
ActivFire Listed	afp-1715
FPANZ Listed	VF/344
Part Number	516.600.301

1. Min. 5mA for LED visibility. Max. current must be externally limited

614CH Multi-Sensor Carbon Monoxide and Heat Detector



VIGILANT 614CH detectors are generally faster than ion-chamber and photoelectric smoke detectors in responding to fires that start by smouldering. They are also more tolerant of positioning and can be mounted in locations where there are likely to be obstacles to free smoke plume movement. These detectors are particularly well suited for sleeping areas, storage areas and applications where smoke detectors are prone to nuisance alarms. Incorporation of a Class A1R rate of rise heat detector within the 614CH provides an additional mode of detection, allowing the detector to be used in a wide variety of applications where combined risks mean that CO detection alone would be insufficient. The integrated rate-of-rise heat detector enhances the sensitivity of the carbon monoxide detector if a rapid change of temperature is detected by the detector's thermistor. The 614CH has an expected life in excess of 10 years. To maintain an unparalleled level of fire detection, they should be checked for calibration within 5 years of installation.

Technical Specifications

Operating Voltage	10 to 33Vdc
Quiescent Current	70µA typ. 80µA max.
Alarm State Current ²	5mA to 85mA (55°C)
Alarm Voltage	4V to 7.6V
Alarm Threshold	38ppm CO, A1R heat
Ext. Powered Load	50mA, 28Vdc max.
Reset Time	2 sec max.
Remote Indicator	E500 Mk2 Series
Relative Humidity	15 to 90% (non cond.)
Ambient Temp ³	0°C to +50°C
Dimensions (incl. base)	54 x 127 mm (H x dia)
Weight (incl. base)	200g
ActivFire Listed	afp-1718
FPANZ Listed	VF/345
Part Number	516.600.304

2. Min. 5mA for LED visibility. Max. current must be externally limited.

3. Detector may be stored between -20°C and +55°C without exposure to condensation or icing.

614I Ionisation Smoke Detector



The 614I detectors are offered as service spares. The 614CH and 614P detectors offer improved performance, significantly fewer nuisance alarms and environmental compatibility for smoke detection applications. The 614I nevertheless offers detection of visible and invisible fire aerosols (products of combustion) and are therefore capable of detecting the early presence of hot smouldering and flaming fires, such as wood, paper etc. They use a dual ionisation chamber in which the air is ionised by a single radioactive source. The presence of smoke in the sampling chamber causes a change in the balance voltage, between the two chambers. This is then compared against an alarm level.

Technical Specifications

Operating Voltage	12 to 33Vdc
Quiescent Current	60µA typ. 67µA max.
Alarm State Current ⁴	5mA to 85mA (55°C)
Alarm Voltage	4V to 7.6V
Ext. Powered Load	50mA, 28Vdc max.
Ionisation Source	<33kBq (Am241)
Alarm Threshold	y=0.8 (0.32 MIC X)
Reset Time	2 sec max.
Remote Indicator	E500 Mk2 Series
Relative Humidity	10% to 95% (non cond.)
Ambient Temperature	-20°C to +70°C
Dimensions (incl. base)	54 x 127 mm (H x dia)
Weight (incl. base)	200g
ActivFire Listed	afp-1716
FPANZ Listed	VF/343
Part Number	516.600.305

4. Min. 5mA for LED visibility. Max. current must be externally limited

614T Heat Detector



VIGILANT 614T heat detectors use a fast response thermistor based design. The fixed temperature sensing thermistor readily tracks the local ambient temperature, thus quickly, accurately and consistently identifying when a fixed temperature is exceeded. Rate-of-rise detection is achieved by comparing the response of two thermistors, one of which has a slower thermal response. By combining accurate thermistors with proper physical placement, this patented rate-of-rise detection design achieves a high level of performance not normally available with mechanical detection.

Part Number	Model	Type	ActivFire Listed
4098-9637EA	614TA	Type A	afp-1813
4098-9638EA	614TB	Type B	afp-1814
4098-9639EA	614TC	Type C	afp-1815
4098-9640EA	614TD	Type D	afp-1816

Technical Specifications

Operating Voltage	11 to 32Vdc
Quiescent Current	85µA typ. 100µA max.
Alarm State Current ⁵	5mA to 80mA
Alarm State Voltage ⁶	3.0V to 12.4V
Remote Indicator	E500 Mk2 Series
Relative Humidity	10% to 95% (non cond.)
Ambient Temperature	
Types A, B	-10°C to +45°C
Types C, D	-10°C to +75°C
Storage Temperature	-10°C to +75°C
Dimensions (incl. base)	54 x 127 mm (H x dia)
Weight (incl. base)	174g

5. Min. 5mA for LED visibility; max. current must be externally limited. 6. Min. voltage with remote indicator shorted @ 5mA. Max @ 80mA without remote indicator connected.

4B Universal Base



The 4B Universal base is the standard base for use with the 614 Conventional series of detectors. As with all the 4-inch series bases, the 4B features a detector locking device, LED aperture plug, and temporary park plunger. The temporary park plunger enables a detector to be fitted to the base in a 'park' position - electrically isolated from the terminals.

Technical Specifications

Ambient Temp.	-25°C to +70°C
Relative Humidity	10% to 95% (non-cond)
Dimensions	109 dia x 25H mm
Weight	64g
ActivFire Listed	afp-2927/28/29/30

Part Numbers

517.050.041	4B Base
517.050.056	Ceiling Tile Adaptor Kit

5B Universal Base



The 5B Universal Base is offered as a service spare for applications where a larger diameter base is required. It contains no electronics and is suitable for indoor applications of both the 614 series conventional (non-addressable) and 814 series analogue addressable detectors. It provides excellent space for cable access and terminations. Its larger skirt makes it suitable as a replacement for the earlier M614 base to cover any paint rims or for covering a larger hole in the ceiling. It features remote LED connections and an anti-tamper facility.

Technical Specifications

Ambient Temp.	-25°C to +75°C
Relative Humidity	10% to 95% (non cond.)
Dimensions	127 dia x 24H mm
Weight	63g
ActivFire Listed with compatible detectors	

Part Numbers

517.050.017	5B Base
517.050.614	Detector Cage 63x174x174mm (HWD) polyester-coated steel

601SB Sounder Base



The 601SB Sounder Base provides a sounder function on collective fire detection circuits. It operates independently of the detector circuit and may be used without an associated detector. When used without a detector, a sounder base cap should be fitted to cover exposed terminals of the base. The 601SB Sounder Base requires an external 24Vdc supply and provides eight tones (including ISO 8201 T3 evacuation signal) and variable volume settings. It is identified by a green park clip. It can be directly controlled by the MINERVA/VIGILANT 614 Series smoke/CO detectors. For VIGILANT 614T Heat detectors, CIE logic control is required.

Technical Specifications

Operating Voltage	18 to 32Vdc
Alarm State Current	1.2mA @ 68dBA (low vol.) 6.8mA @ 90dBA (max vol.)
Operating Temp.	-25°C to +70°C
Relative Humidity	10% to 95% (non cond.)
Dimensions	38 x 108mm (H x dia)
Weight	195g
Wire Size	1.5mm ² to 2.5mm ²
Not ActivFire Listed	

Part Numbers

577.001.035	601SB Sounder Base
557.001.040	Sounder Base Cap

SU0631 Manual Call Point



This conventional MCP is surface mounting, with a plastic coated frangible glass element to ensure reliable, safe operation. The VIGILANT MCPs are available coloured red (for fire applications) or white (for Emergency applications). Note that for red coloured devices, it is necessary to order both the Housing and the Backbox. The call point is operated when the glass element is snapped, releasing the MCP's micro switch, which signals an alarm to the fire panel. The element is snapped by pressing on its centre – a hammer, or other impact device, is not required.

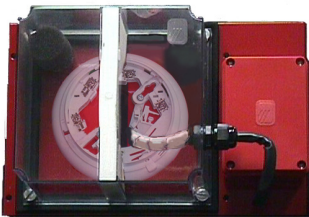
Technical Specifications

Max Current @ 30Vdc	Resistive 8A Inductive 3A 100mOhm. (max)
Contact Resistance	
Legend	
Red MCP	Fire Pictogram
White MCP	Emergency Alarm
Ambient Temperature	-30°C to +70°C
Relative Humidity	95%(non condensing)
ActivFire Listed	afp-3239

Part Numbers

SU0608	White MCP (excl. backbox)
SU0631	Red MCP (excl. backbox)
SU0632	Red Backbox
SU0615	Transparent Hinged Cover
SC070	Spare Test Keys (pkt 10)
515.001.025	Spare Glass (pkt 5)

D51B Duct Sampling Unit



The D515B Duct Sampling Unit consists of a D51B duct housing fitted with a 5B base suitable for fitting a conventional 614P photoelectric smoke detector. The DSU is designed to sample air in air conditioning ducts and pass the air through the smoke detector. The D515B is fixed on the outside of the duct to be sampled, allowing easy access for detector servicing and replacement of the dust filter. To cater for most duct sizes, a sampling tube extension is available in 3 metre lengths. The VIGILANT E500 Mk2 Series Remote Indicators can be used for remote indication of an alarm. The D515B & 614P can be used with F3200 Control and Indicating Equipment (CIE) logic for non-latching operation. The D515B with 614P is compatible with collective alarm zone circuits on VIGILANT CIE.

Technical Specifications

Duct Pressure ⁷	-1.15 to +3.0 kPa
Sampling Tube Length	160 to 3000mm
Max. Duct Width	1.8m
Remote Indicator	E500 Mk2 Series
Not ActivFire Listed	

Part Numbers

D51	Without base fitted
D515B	D51 c/w 5B base ⁸
D51COVER	Cover only c/w screws
D51L	Baffle box of 10
D51F	Filter box of 10
D51T3	3m Sampling Tube
D51K100	Sampling Tube End Cap pkt of 10

7. AS 1603.13-1998 test

8. Wired for collective base

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VIGILANT, a respected regional brand of Johnson Controls, is a technology leader in the Australian and New Zealand fire detection markets with AS and NZS product approvals. The VIGILANT product line includes a comprehensive range of *MX TECHNOLOGY* fire detection products and the market-leading QE90 voice evacuation systems. VIGILANT product is widely supported throughout Australia and New Zealand by a network of installation companies, service companies and distributors.

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T614broVIG1803 March 2018

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