

HP416 Optical Smoke Detector

Product Datasheet Hush-Pro

Product Description

The HP416 Hush-Pro optical smoke detector offers medium optical fire sensitivity. The detector is compatible with C-TEC's HP508 Hush-Pro BS5839-6 Grade C controller and is compliant with EN 54-7 and EN 54-17.

Note: When used with the Hush-Pro controller the detector may not be compliant with EN54-7 due to the false alarm reduction feature of the controller (the HUSH-Pro controller automatically resets the detector at FL1 when the detector is no longer activated).

The detector must be fitted to either a HP408 Hush-Pro detector base (which has an integrated locking mechanism to prevent tampering), or a Hush-Pro Base Mount device (Part Nos. HP431A/W, HP456A/W). Refer to HP408 Document No. DFU0002418 for detector wiring and fitting details.



Illustration shows a HP416 Hush-Pro smoke detector mounted on a HP408 base

Part Number	Description
HP416	Hush-Pro Optical Smoke Detector
HP408	Hush-Pro Detector Base

Key Features

- Third-party certified by the LPCB to EN 54-7 & EN 54-17
- Compatible with C-TEC's Hush-Pro fire alarm system
- Medium sensitivity setting of 0.16dB/m
- 22-40 Vdc operating voltage
- Onboard short-circuit isolator
- Two ultra-bright red LED indicating strips
- Manufactured from white polycarbonate
- Simple 'click and twist' design and easy-fit base ensures reduced installation time
- Compatible with C-TEC's HP408 Hush-Pro base and Hush-Pro Base Mount devices
- Heat and multisensor variants are also available (see separate datasheets for details)

Operation/Application

Optical detectors use an infrared light source and a photodiode to detect smoke. In the absence of smoke, light passes in front of the photodiode in a straight line. When smoke enters the optical chamber across the path of the infrared beam, light is scattered by particles of smoke in all directions, some of which falls on the photodiode thus triggering the alarm. Optical detectors are typically used in escape routes, living areas, bedrooms and enclosed spaces to give an early indication of fire. They are particularly effective at detecting slow burning fires (such as those caused by overheated electrical wiring or smoldering materials) which tend to generate larger particles of visible smoke.

Technical Specification

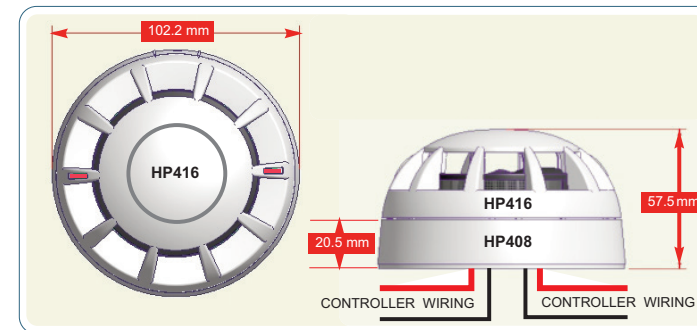
Part Number:	HP416
Description:	Optical Smoke Detector
Certifications:	EN54-7:2018, EN54-17:2005 The approval certificate can be viewed at www.c-tec.com
LPCB Certificate No.:	176k/01
CPR Certificate No.:	2831-CPR-F2269
UKCA Certificate No.:	0832-UKCA-CPR-F0795
Declaration of Performance (DoP):	DoP0000044
Comms Protocol:	Hush-Pro (C-TEC)
Compatible System:	Hush-Pro
Compatible Bases:	HP408 Hush-Pro detector base and Hush-Pro Base Mount devices (Part Nos. HP431A/W, HP456A/W)
Optical Trigger:	0.16 dB/m
Sampling Frequency:	Once per second
Operating Voltage:	22 to 40 Vdc
Quiescent Current:	370 µA at 40 Vdc
Alarm Current:	5 mA (LEDs illuminated)

LED Indicators:	Two ultra-bright red LED indicator strips offering 360° visibility
Wiring & Connections:	Via HP408 Hush-Pro base (see Document No. DFU0002418)
Detector Materials:	Robust white polycarbonate outer casing rated to UL94 V-2 with nylon internal parts
Dimensions (detector only):	102.2 mm diameter; 37 mm deep.
Dimensions (detector & base):	102.2 mm diameter; 57.5 mm deep.
Weight:	Detector 99 g; HP408 Base 55 g.
Atmospheric Pressure:	Insensitive to atmospheric pressure
Operating Temp.:	-10°C to +55°C
Humidity:	0% to 95% relative humidity

EN 54-17 SC-Isolator Specification (Controllable Isolator)

Maximum Voltage (V max):	40 Vdc
Nominal Voltage (V nom):	40 Vdc
Minimum Voltage (V min):	22 Vdc
Maximum Current Device Isolates, switches from closed to open (I_{so} max):	55 mA
Minimum Current Device Isolates, switches from closed to open (I_{so} min):	15 mA
Maximum Rated Continuous Current with switch closed (I_c max):	1 A
Maximum Rated Switching Current under short circuit conditions (I_s max):	1.6 A
Maximum Leakage Current with switch open (I_l max):	20 µA
Maximum Series Impedance with switch closed (Z_c max):	100 mohms

Dimensions (HP416 Head & HP408 Base)



Manufacturer: Comptonics Limited (C-TEC), Challenge Way, Martland Park, Wigan, Lancashire WN5 0LD. www.c-tec.com
E&OE. No responsibility can be accepted by the manufacturer or distributors of these devices for any misinterpretation of this instruction, or for the compliance of the system as a whole. The manufacturers policy is one of continuous improvement and we reserve the right to make changes to product specifications at our discretion and without prior notice.