

CPDUCT/OPT CAST-PRO Air Sampling Smoke Detection Kit

Installer's Guide



Read these instructions before installation and operation



kiwa
CERTIFIED
(CP416 ONLY)



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THIS EQUIPMENT MUST BE INSTALLED AND MAINTAINED BY A SUITABLY SKILLED AND TECHNICALLY COMPETENT PERSON. ENSURE ALL POWER IS REMOVED BEFORE INSTALLATION.

Product Description

The CPDUCT/OPT Air Sampling Smoke Detection Kit (shown right) comprises a CP416 CAST-PRO optical detector mounted on a CA408 CAST base.

The CP416 detector is certified by KIWA to EN 54-7:2018, EN 54-13 and EN 54-17. The CPDUCT/OPT assembly is certified by CNBOP to EN54-27:2015.

The CPDUCT/OPT is mounted externally to an air duct and is designed to sample the air within the duct. Air is drawn through a venturi tube (supplied separately) into the optical detector, enabling continuous air sampling. The venturi tube incorporates dual sampling ports positioned at the optimum separation points, enabling reliable smoke detection, even at very low air velocities.



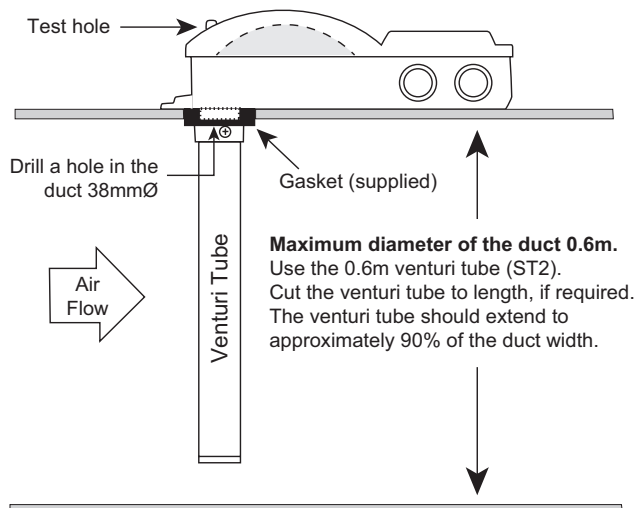
CPDUCT/OPT

The venturi tube and the detector housing are designed to optimize airflow through the smoke detector. The system meets all requirements for reliable fire detection at airflow velocities ranging from 0.5m/s to 20m/s (100 ft/min to 4,000 ft/min).

Features

- CPDUCT/OPT is certified by CNBOP to EN 54-27:2015.
- Single-tube air sampling system comprising a duct housing and one venturi tube (supplied separately).
- Detector cover incorporates a test hole for functional testing.
- Simple to install, service and maintain.

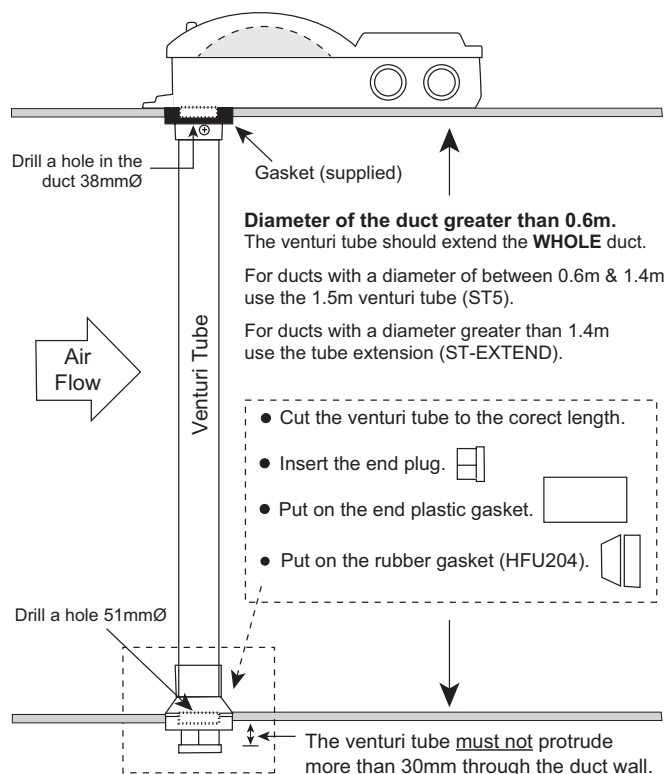
Fig.1 - CPDUCT/OPT Installation (Examples)



Maximum diameter of the duct 0.6m.
Use the 0.6m venturi tube (ST2).
Cut the venturi tube to length, if required.
The venturi tube should extend to approximately 90% of the duct width.



IMPORTANT NOTE:
The CP416 CAST-PRO optical detector **MUST** be set to Mode1.



Diameter of the duct greater than 0.6m.
The venturi tube should extend the **WHOLE** duct.
For ducts with a diameter of between 0.6m & 1.4m use the 1.5m venturi tube (ST5).
For ducts with a diameter greater than 1.4m use the tube extension (ST-EXTEND).

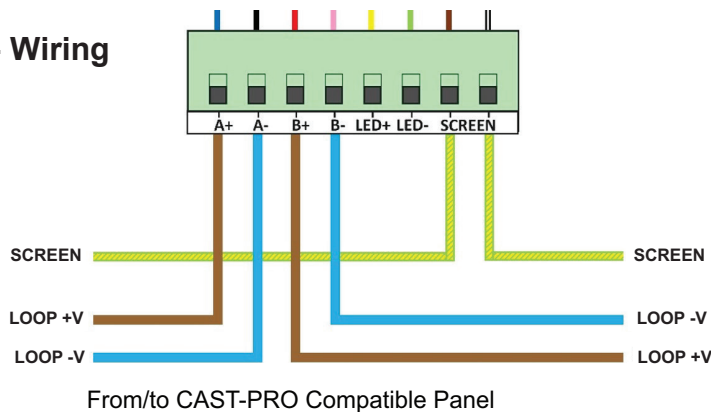
- Cut the venturi tube to the correct length.
- Insert the end plug.
- Put on the end plastic gasket.
- Put on the rubber gasket (HFU204).

The venturi tube must not protrude more than 30mm through the duct wall.

CPDUCT/OPT Wiring Connections

1. Remove the plastic lid from the main body by loosening the four retaining screws. **DO NOT remove the detector or air ducting.** The CPDUCT/OPT has one pre-prepared cable entry point. Fit a suitable cable gland (e.g. M20 or PG13.5) to this opening. Additional cable entry points are provided if required.
 2. Wire the loop to the PCB terminal block as shown in Fig.2 and the table below. **DO NOT remove the PCB from the main body. DO NOT rewire the detector base or any wiring connected to the PCB.**
 3. Refit the lid to the main body and securely tighten the four retaining screws.
- All wiring must comply with local and national regulations.
 - Correct polarity must be observed.
 - Terminals accept cable sizes from 0.25mm² to 2.5mm².
 - Optional connection to a remote LED.
 - Screened cables are recommended for optimum performance.

Fig.2 - Wiring



Connector	Function
A+	LOOP +V
A-	LOOP -V
B+	LOOP +V
B-	LOOP -V
LED+	Remote LED +V
LED-	Remote LED -V
SCREEN	Cable screen

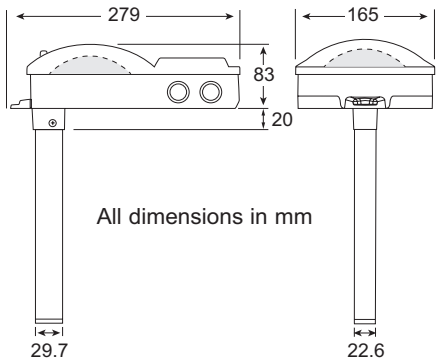
Installation and Testing (see Fig.1)

Note: DO NOT remove the detector from its housing.

The CPDUCT/OPT may be mounted on one side of the air duct, either the top, bottom or side, however, the detector must be orientated in the direction of the airflow. The unit must be positioned away from heating, cooling, humidity control devices and away from duct bends, junctions or air inlets. Before mounting the CPDUCT/OPT, drill a hole in the duct. The required hole diameter is 38mm. When using the optional UG-MB-75 mounting bracket on insulated or circular ducts, a 51mm hole is required. The aluminium venturi tube can be easily cut shorter at one end only to suit the diameter of the duct.

When the CPDUCT/OPT is mounted in places where condensation may occur, such as outdoor installations or unheated roof spaces, fit the optional UG-COVER-75 to help prevent condensation and provide IP67 protection. Once installation is complete, test the detector using a suitable smoke detector test spray. Remove the plastic plug from the test hole in the cover and briefly apply the spray. **Ensure the test plug is refitted after testing.**

Fig.3 - CPDUCT/OPT Dimensions



Technical Specification

Order Code:	CPDUCT/OPT CAST-PRO Air Sampling Smoke Detection Kit		
Detector Type:	CP416 CAST-PRO Optical Detector with CA408 CAST Base		
Venturi Tube (Material):	Aluminium (supplied separately)		
Standards:	Certified by CNBOP to EN 54-27:2015		
Operating Voltage:	22-40Vdc (CAST loop-powered)		
Current Consumption:	Quiescent: 570µA; Active: <1mA		
Communication Protocol:	CAST (C-TEC)		
Compatible Panels:	C-TEC CAST fire alarm control panels		
Wiring & Connections:	See Fig.2	Dimensions (mm):	See Fig.3
Operating Temperature:	-10°C to +40°C	Weight:	1kg
IP Rating (EN 60529):	IP54 (indoor use only)	Humidity:	Max. 95% RH (non-condensing)

Accessories

UG-MB-75:	Mounting bracket (for insulated/circular ducts)
UG-COVER-75:	IP67 Waterproof cover (for outdoors or cold attics)
ST-2:	Venturi tube (0.6m)
ST-5:	Venturi tube (1.5m)
ST-EXTEND:	Venturi tube extension (1.06m)
HFU204:	Rubber gasket



Manufacturer: Computationics Limited (C-TEC), Challenge Way, Martland Park, Wigan, Lancashire WN5 0LD. www.c-tec.com/cast-pro
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.