Conventia Smoke Detectors for FX Fire detection system

Conventia comprises an optical smoke detector and a mutisensor smoke detector. Conventia product family also comprises a TimeSaver base and a Relay base.

The Conventia series of products are all compatible with the CLC-board of an FX-panel and ESMIs conventional panels

Features

Conventia incorporates entirely new designs, both mechanical and electronic. The aim has been to increase the attractiveness of the detector, make installation quicker, enhance the reliability of detection and reduce the incidence of false alarms. Conventia features:

- a wide voltage and operating temperature ranges
- StartUp™ for fast commissioning
- DustDefy™ housing which limits ingress of dirt into detector
- new optical sensor for high reliability and reduced false alarm incidence
- new multisensor smoke detector for detecting fast-burning fires
- algorithms for transient rejection
- chamber designed to inhibit dirt penetration and thus reduce false alarms
- automatic drift compensation with DirtAlert™ warning
- FasTest® which reduces the time taken to test detectors
- optional flashing LED to indicate normal operation
- SensAlert® which indicates that the detector is not operating properly

Conventia Optical Smoke Detector EDC-20

Conventia operates on the well established light scatter principle. The remarkable optical design of the Conventia optical smoke detector allows it to respond to a wide spectrum of fires.

The sensing chamber of the Conventia optical smoke detector contains an optical sensor which measures back-scattered light as well as the more usual forward-scattered light. Sensitivity to black smoke is greatly improved.

The detector is calibrated so that it is highly reliable in detecting fires but is much less likely to generate false alarms than ionisation smoke detectors.

The stability of the detector–high reliability, low false alarm rate–is further increased by the use of algorithms to decide when the detector should change to the alarm state. This removes the likelihood of a detector producing an alarm as a result of smoke from smoking materials or from another non-fire source.

The sensing chamber has been designed to keep out dust and other airborne contaminants.

Conventia Multisensor Smoke Detector EDC-30

The optical sensor is identical to the one in the Conventia optical smoke detector. Its sensitivity is, however, influenced by a heat sensing element which makes the detector more responsive to fast-burning, flaming fires.

It should be noted that the detector is a smoke detector. Although Conventia multisensor relies on both smoke and heat sensors it is not possible to switch from smoke detection to heat detection.

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Schneider Electric

Technical data

Detector	Optical detector EDC-20	Multisensor detector EDC-30
Sampling frequency	Once every 4 seconds	
Operating voltage	8.5 – 33 VDC	
Maximum polarity reversal	200ms	
Power-up time	<20 seconds	
Minimum 'detector active' voltage:	6V	
Switch-on surge current at 24V	120 µA	
Average quiescent current at 24V	65 µA	
Alarm current At 12 volts At 24 volts	 20 mA 40 mA	
Alarm load	600 Ω	
Holding voltage	5 – 33 V	
Minimum holding current	8 mA	
Minimum voltage to light alarm LED	5 V	
Alarm reset voltage	<1 V	
Alarm reset time	1 second	
Remote output (–R) characteristic	1.2 kΩ connected to negative supply	
Alarm Indicator	Integral indicator with 360° visibility (See table below)	
IP rating	23D	
Operating and storage temperature	–40°C to +70°C (no condensation or icing)	
Humidity	0% to 98% relative humidity (no condensation)	
Dimensions (Ø x H)	100 x 42 mm	100 x 50 mm
Weight	75 g	80 g
Material	Detector and base moulded in white polycarbonate	
ESMI product codes	0672 4620	0672 4621
Bases	EBC-10 Time Saver Base 06724010 EBC-20 Relay Base, product code 0672 4020	

Led Status

Feature	Description of Feature	Red LED Status	Yellow LED Status
StartUp	Confirms that the detectors are wired in the correct polarity	Flashes once per second	No Flash
FasTest®	Maintenance procedure, takes just 4 seconds to functionally test and confirm detectors are functioning correctly	Flashes once per second	No Flash
DirtAlert™	Shows that the drift compensation limit has been reached	No Flash	Flashes once per second in StartUp (Stops flashing when StartUp finishes)
SensAlert®	Indicates that the sensor is not operating correctly	No Flash	Flashes every 4 seconds (Flashes once per second in StartUp)
Normal Operation	At the end of StartUp and FasTest (without flashing LED as standard)	No Flash	No Flash
Flashing LED Version	Detector's red LED flashes in normal operation (at the end of FasTest)	Flashes every 4 seconds	No Flash