

D01517/GB2, 9/2011

## Conventia heat detectors for FX Fire detection systems

**The Conventia range incorporates seven heat detector classes to suit a wide variety of operating conditions in which smoke detectors are unsuitable.**

The Conventia products are compatible with the FX-CLC loop interface.

The European standard EN54-5:2000 classifies heat detectors according to the highest ambient temperature in which they can safely be used without risk of false alarm. The classes are identified by the letters A to G. (Class A is subdivided into A1 and A2.) In addition to the basic classification, detectors may be identified by a suffix to show that they are rate-of-rise (suffix R) or fixed temperature (suffix S) types.



All heat detectors in the Conventia range are tested as static or rate-of-rise detectors and are classified as A1R, A1S, A2S, BR, BS, CR and CS.

### Conventia heat detectors features

- a wide voltage and operating temperature ranges
- StartUp™ for fast commissioning
- algorithms for transient rejection
- 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 heat detectors have an open-web casing which allows air to flow freely across a thermistor which measures the air temperature every 2 seconds. A microprocessor stores the temperatures and compares them with pre-set values to determine whether a fixed upper limit—the alarm level—has been reached.

In the case of rate-of-rise detectors the microprocessor uses algorithms to determine how fast the temperature is increasing.

Static heat detectors respond only when a fixed temperature has been reached. Rate-of-rise detectors also have a fixed upper limit but they also measure the rate of increase in temperature. A fire might thus be detected at an earlier stage than with a static detector so that a rate-of-rise detector is to be preferred to a static heat detector unless sharp increases of heat are part of the normal environment in the area protected by the heat detector.

## Technical data

Detector	Heat detectors A1R, A1S, A2S, BR, BS, CR, CS
Principle of detection	Measurement of heat by means of a thermistor
Sampling frequency	Once every 4 seconds
Supply voltage	8.5 – 33 VDC
Supply wiring	2 wires, polarity sensitive
Maximum polarity reversal	200 ms
Power-up time	<20 seconds
Minimum 'detector active' voltage	6 V
Switch-on surge current at 24V	120 µA
Quiescent current at 24 V max	100 µA
Alarm current at 24 volts	40 mA
Alarm current at 12 volts	20 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 to EN 60529: 1992	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
Weight	70 g
Material	Detector and base moulded in white polycarbonate
Wind speed	Unaffected by wind
Atmospheric pressure	Insensitive to pressure
Product codes	A1R 0672 4650 A1S 0672 4651 A2S 0672 4652 BR 0672 4640 BS 0672 4641 CR 0672 4646 CS 0672 4647
Bases	EBC-10 Timesaver Base, product code 0672 4010 EBC-20 Relay Base, product code 0672 4020

Pelco reserves the right to modifications.

## Heat detector classes

Mode	Class (EN54-5:2000)	Application Temperature °C		Static Response Temperature °C		
		Typ	Max	Min	Typ	Max
		1	A1R	25	50	54
2	A1S	25	50	54	57	65
3	A2S	25	50	54	61	70
4	BR	40	65	69	78	85
5	BS	40	65	69	78	85
6	CR	55	80	84	90	100
7	CS	55	80	84	90	100

## 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
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