

# ...XP95



- Ionisation Smoke Detector**
- Optical Smoke Detector**
- Heat Detector**
- Multisensor Detector**
- Manual Call Point**
- Isolating Base**
- Sounders & Beacons**

# XP95 HEAT DETECTOR



XP95 Heat Detector

▲ Ref.: SI: XP95-400

## OPERATING PRINCIPLES

The XP95 heat detectors have a common profile with ionisation and optical smoke detectors but have a low air flow resistance case made of self-extinguishing white polycarbonate. The devices monitor heat by using a single thermistor network which provides a voltage output proportional to the

external air temperature.

The standard heat detectors, XP95-400 and XP95-420 respond to increasing air temperature in such a way that they are classified as an A2S device. See figure 13. Both devices will give 55 counts at 55°C.

A high temperature CS heat detector, XP95-401, which can be installed in a typical ambient temperature of 55°C is available. See figure 14. This device will give 55 counts at 90°C.

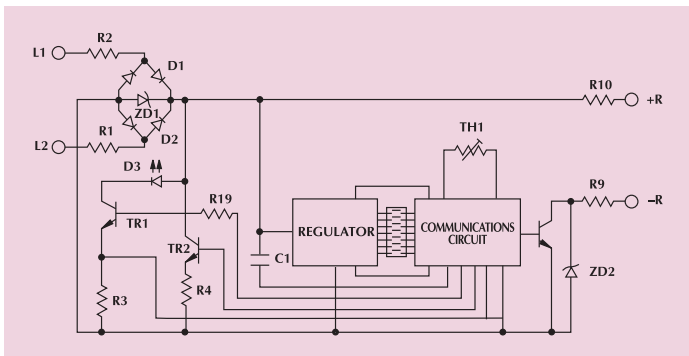


Fig.11 Schematic diagram - XP95 Heat detector

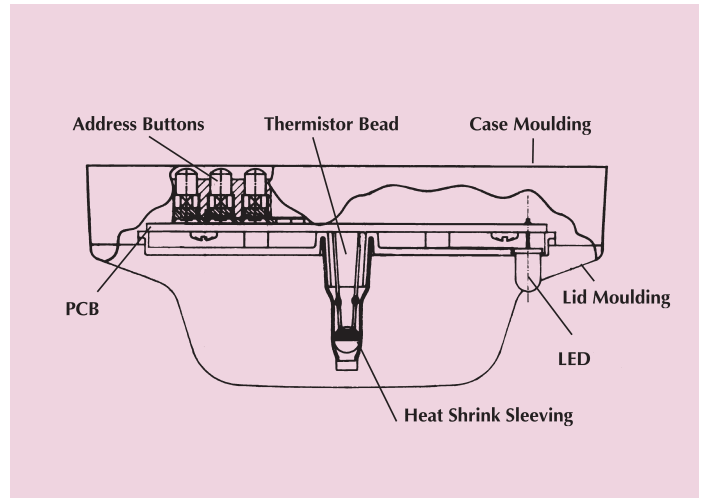


Fig.12 XP95 Heat Detector

## ELECTRICAL DESCRIPTION

The detectors are designed to be connected to a two wire loop circuit carrying both data and a 17V to 28V dc supply. The detectors are connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base. A remote LED indicator requiring not more than 4mA at 5V may be connected between +R and -R terminals. An earth connection terminal is also provided.

When a device is energised the ASIC regulates the flow of power and controls the data processing. The thermistor provides an output over normal operating ranges that is proportional to the external air temperature. This voltage output is processed in the A/D converter and stored by the communications ASIC. It is transmitted to control equipment when the device is interrogated. When a count of 55 is exceeded the alarm flag is initiated and

the device address is added to the data stream every 32 polling cycles from its last polling for the duration of the alarm level condition, except when an alarming device is being interrogated. This can provide a location identified alarm from any device on the loop in approximately two seconds.

The detector is calibrated to give an analogue value of  $25 \pm 5$  counts at 25°C.

## ENVIRONMENTAL CHARACTERISTICS

XP95 Standard Heat Detectors operate over the range -20°C to +70°C, the High Temperature Heat Detectors operate over the range -20°C to +120°C. The detectors are unaffected by atmospheric pressure.



## TECHNICAL DATA

**XP95 Heat Detector (Standard)**  
**Detector Part No**  
**55000-400/420**  
**Base Part No 45681-210**

Specifications are typical and given at 23°C and 50% relative humidity unless otherwise stated.

**Detector Type:**  
 Point type heat detector for fire detection and fire alarm systems for buildings

**Detector Principle:**  
 Linear approximation over temperature range 25°C to 90°C

**Sensor:**  
 Single NTC Thermistor

**Sampling Frequency:**  
 Continuous

**Sensitivity:**  
 25°C to 90°C: 1°C/count.  
 -20°C returns 8 counts

**Supply Wiring:**  
 Two wire supply, polarity insensitive

**Terminal Functions:**  
 L1&L2 supply in and out connections (polarity insensitive)  
 +R remote indicator positive connection (internal 2.2kΩ resistance to supply +ve)

-R remote indicator negative connection (internal 2.2kΩ resistance to supply - ve)

**Supply Voltage:**  
 17 to 28 Volts dc

**Modulation Voltage at Detector:**  
 5 to 9 Volts peak to peak

**Quiescent Current:**  
 250µA average, 500µA peak

**Power-up Surge Current:**  
 1 mA

**Duration of Power-up Surge Current:**  
 0.3 seconds

**Maximum Power-up Time:**  
 4 seconds

**Analogue Value at 25°C**  
 25± 5 counts

**Alarm Level 55 Counts:**  
 55°C when measured under static conditions

**Alarm Indicator:**  
 Red light emitting diode (LED)

**Alarm LED Current:**  
 2mA

**Remote LED Current:**  
 4mA at 5V (measured across remote load)

**Type Code:**  
 (210 43) 110 00

**Storage Temperature:**  
 -30°C to +80°C

**Operating Temperature:**  
 -20°C to +70°C

**Guaranteed Temperature Range:**  
 (No condensation or icing)  
 -20°C to +70°C

**Humidity:**  
 (No condensation)  
 0% to 95% relative humidity

**Wind Speed:**  
 Unaffected in fixed temperature use

**Atmospheric Pressure:**  
 Unaffected

**Vibration, Impact & Shock:**  
 To EN54-5:2000

**Electro-magnetic Compatibility:**  
 See page 21 for full details

**IP Rating:**  
 53

**Approvals & Regulatory Compliance:**  
 See page 21 for full details

**Dimensions:** (diameter x height)  
 Detector: 100mm x 42mm  
 Detector in Base:  
 100mm x 50mm

**Weights:**  
 Detector: 105g  
 Detector in Base: 157g

### Materials:

Detector Housing: White polycarbonate V-0 rated to UL 94  
 Terminals: Nickel plated stainless steel

### XP95 High Temperature Heat Detector

**Detector Part No:**  
**55000-401**

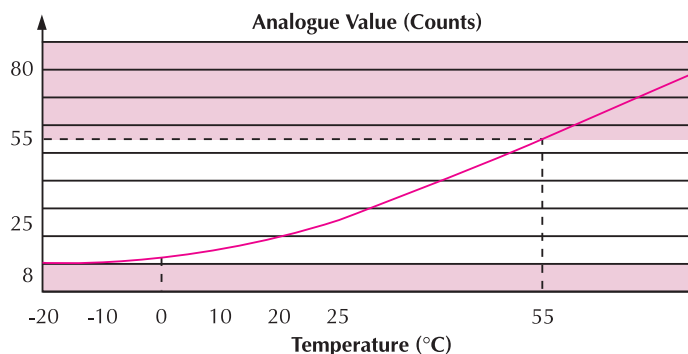
Specifications are the same as those for the standard detector, apart from the following points:

**Detector Principles:**  
 Linear approximation designed to give 25 counts at 25°C and 55 counts at 90°C

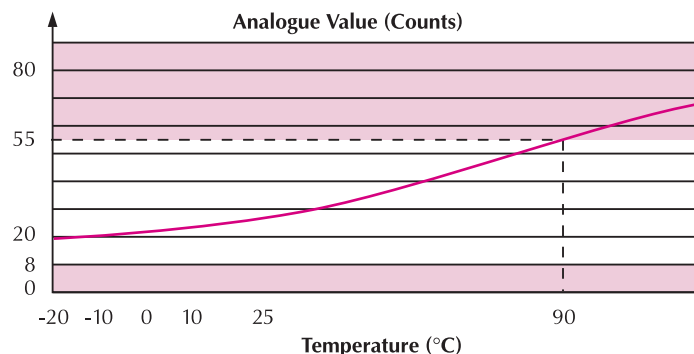
**Sensitivity:**  
 25°C to 90°C: 2·17°C/count  
 -20°C returns 20 counts.



# technical data



**Fig.13** Typical response characteristic - XP95 Standard heat detector



**Fig.14** Typical response characteristic - XP95 High temperature heat detector