

XP95 HEAT DETECTOR

Heat Detector (Heat Detector_Standard)



XP95 Heat Detector

▲ Part Number 55000-400/420

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, 55000-400 and 55000-420, respond to increasing air temperature in such a way that they are classified as an A2S device. See Fig. 13. Both devices will give 55 counts at 55°C.

A high temperature CS heat detector, 55000-401, which can be installed in a typical ambient temperature of 55°C is available. See Fig. 14. This device will give 55 counts at 90°C.

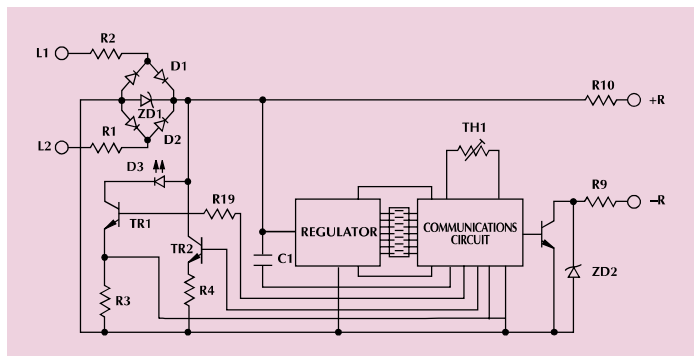


Fig.11 Schematic diagram - XP95 Heat detector

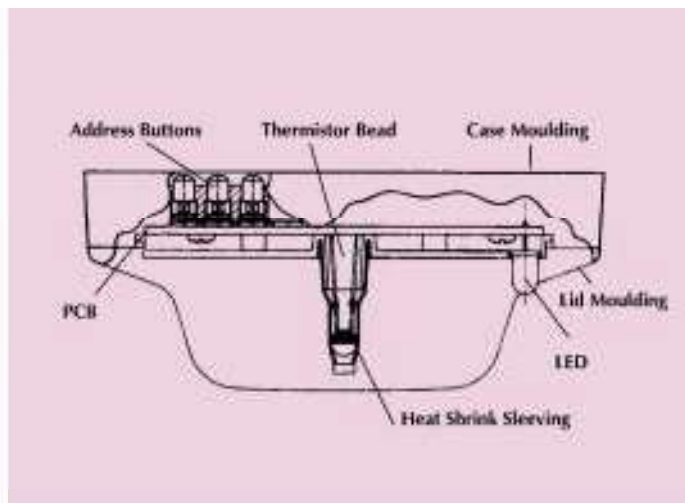


Fig.12 XP95 Heat Detector

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 ± 5 counts at 25°C.

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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 2.2k Ω
resistance to supply
+ve)
-R remote indicator
negative connection
(internal 2.2k Ω
resistance to supply
- ve)

Supply Voltage:

17 to 28 Volts dc

**Modulation Voltage at
Detector:**

5 to 9 Volts peak to peak

Quiescent Current:

250 μ A average, 500 μ A peak

Power-up Surge Current:

1mA

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

0.3 seconds

Maximum Power-up Time:

4 seconds

Analogue Value at 25°C

25 \pm 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)

Storage Temperature:

-30°C to +80°C

Operating Temperature:

-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 22 for full details

IP Rating:

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Approvals & Regulatory

Compliance:

See page 22 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

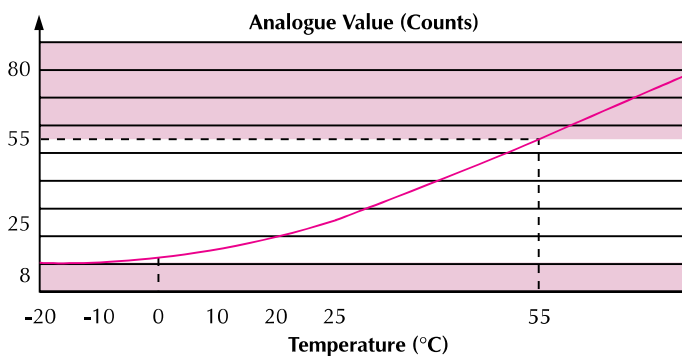


Fig.13 Typical response characteristic - XP95 Standard heat detector

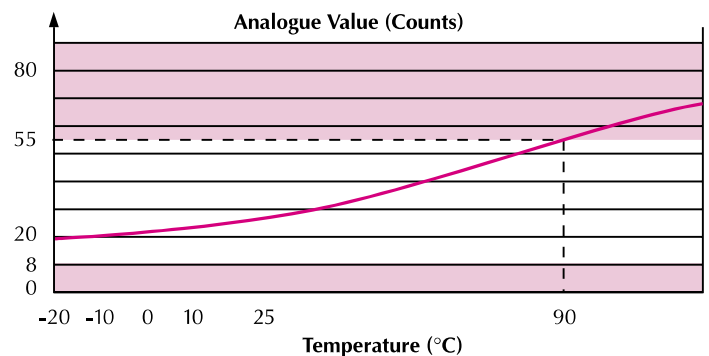


Fig.14 Typical response characteristic - XP95 High temperature heat detector