XP95 I.S.
Heat Detector

Product overview

Product	I.S. Heat Detector
Part No.	55000-440

Approvals

Lloyd's Register · ABS · BUREAU VERITAS · CCS CHINA CLASSIFICATION SOCIETY 中國船級社 · KR KOREAN REGISTER · VdS · UL BR · CCC F · BOSEC · SBSC INTYGAD PRODUKT · EAC

Product information

The XP95 Intrinsically Safe (I.S.) Heat Detector monitors temperature by using a single thermistor which provides a count output proportional to the external air temperature.

- Ideal for environments that are dirty or smoky under normal circumstances
- Unaffected by wind or atmospheric pressure

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24 V, 23°C and 50% RH unless otherwise stated.

Detection principle	Linear approximation over temperature range 25^0C to 90^0C
Sensor	Single NTC thermistor
Sampling frequency	Continuous
Sensitivity	25^0C to 90^0C: 1°C/count -20^0C returns 8 counts
Supply Wiring	Two wire supply, polarity sensitive
Terminal functions	L1 Positive supply
	L2 Negative supply and remote LED negative
	+R Remote LED positive
	Notes: 1. I.S. detectors are polarity sensitive. 2. There is no requirement for series resistance on remote LED lines. 3. The remote LED characteristic differs from XP95
Supply voltage	14 V - 22 V dc
Quiescent current	300 µA
Power-up surge current	1mA
Duration of power-up surge current	0.3 seconds
Max power-up time	4 seconds
Analogue value at 25°C	25 + 5 counts
Alarm indicator	Red light emitting diode (LED)
Alarm LED current	2 mA
Remote LED current	1 mA (internally limited)
Storage temperature	-30°C to +80°C
Operating temperature	-20°C to +40°C (T5) -20°C to +60°C (T4)
Guaranteed temperature range (no condensation or icing)	-20°C to +60°C
Humidity (no condensation or icing	0% to 95% RH)
Effect of atmospheric pressure	None
Effect of wind speed	None in fixed temperature use
Vibration, impact & shock	To EN 54 - 5
IP Rating	designed to IP53
Standards & approvals	EN54, MED, LR, BV, ABS, CCS, KRS, VdS, CCCf, BOSEC, VNIIPO, SBSC, EAC, PESO, ATEX and IECEX
BASEEFA Certificate No.	BAS02ATEX1289X
IECEx Certificate No.	IECExBAS12.0091X
Classification (max ambient)	Ex ia IIC T4 GA (≤ +60°C) Ex ia IIC T5 GA (≤ +45°C)
Dimensions	100mm diameter x 42 mm height (50 mm height with mounting base)
Weight	105 g (157 g with mounting base)
Material	Housing: White flame retardant polycarbonate Terminals: Nickel plated stainless steel

Operation

The XP95 I.S. Heat Detector has a common profile with the ionisation and optical smoke detectors but has a low air flow resistance case made of white polycarbonate.

The device monitors heat using a single thermistor network which provides a voltage output proportional to the external air temperature.

Electrical description

The Heat Detector is designed to be connected to a two wire loop circuit carrying both data and a 14 V to 22 V dc supply. The detector is connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base. A remote LED indicator requiring not more than 1 mA may be connected between the +R and L2 terminals. An earth connection terminal is also provided. The detector is calibrated to give an analogue value of 25±5 counts at 5^{0}C. This value increases with rising temperature. A count of 55 corresponds to the EN alarm sensitivity level.

When the detector is energized 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. The voltage output is processed in the analogue to digital converter and stored by the communications ASIC. It is transmitted to the 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.

Environmental characteristics

The XP95 I.S. Heat Detector range is unaffected by wind or atmospheric pressure. Standard detectors operate over the temperature range –20°C to +70°C.

EMC Directive 2014/30/EU

The XP95 I.S. Heat Detector complies with the essential requirements of the EMC Directive 2014/30/EU, provided that it is used as described in this datasheet.

A copy of the Declaration of Conformity is available from Apollo upon request.

Conformity of the XP95 I.S. Heat Detector with the EMC Directive, does not confer compliance with the directive on any apparatus or systems connected to it.

Construction Products Regulation 305/2011/EU

The XP95 I.S. Heat Detector complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

A copy of the Declaration of Performance is available from Apollo upon request.
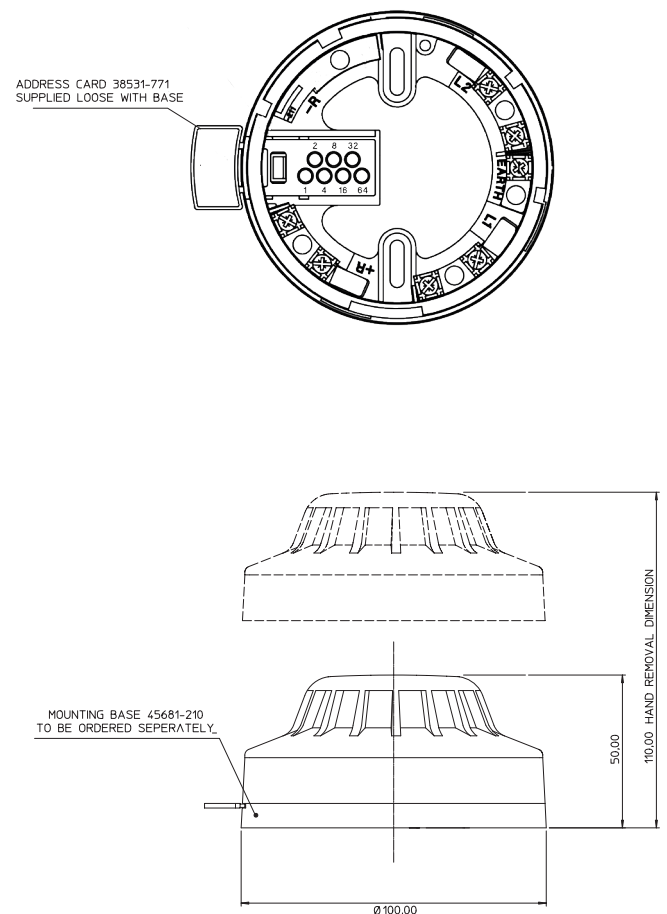
Marine Equipment Directive 2014/90/EU

The XP95 I.S. Heat Detector complies with the essential requirements of the Marine Equipment Directive 2014/90/EU.

ATEX Directive 2014/34/EU

The XP95 I.S. Heat Detector complies with the essential requirements of the ATEX Directive 2014/34/EU.

XP95 I.S. Heat Detector dimensional drawing

ADDRESS CARD 38531-771
SUPPLIED LOOSE WITH BASE

MOUNTING BASE 45681-210
TO BE ORDERED SEPERATELY

110,00 HAND REMOVAL DIMENSION

50,00

Ø100,00

XP95 I.S. Heat Detector sectional diagram

Address Buttons

Thermistor Bead

Case Moulding

PCB

Lid Moulding

LED

LED

Heat Shrink Sleeving