

Marine

Intelligent Base Mounted UV Flame Detector



Product overview

Product	Marine Intelligent UV Base Mounted Flame Detector
Part No.	55000-027MAR
Digital Communication	XP95, Discovery and CoreProtocol® compatible

Approvals



Product information

The Marine Intelligent Ultra-Violet (UV) Base Mounted Flame Detectors are designed to protect indoor areas where open fires may be expected.

The Marine Intelligent UV Base Mounted Flame Detector is sensitive to ultraviolet (UV) radiation emitted by flames during combustion. Since it requires only UV radiation the detector responds even to stationary flames with no flicker such as cigarette lighters and blue gas flames.

- Responds to stationary flames with no flicker
- Sensitive to UV radiation emitted by flames during combustion
- Compact flame detector which fits into Discovery marine bases
- Loop powered

Technical Data

All data is supplied subject to change without notice. Specifications are typical at 24 V, 25°C and 50% RH unless otherwise stated.

Supply voltage	17 - 28 V dc
Digital communication	XP95, Discovery and CoreProtocol compatible
Protocol peak to peak	5 - 9 V
Quiescent current	2.3 mA
Alarm current	4.2 mA
Surge current	9 mA (peak) for 110 ms
Maximum power-up time	4 seconds
Remote output characteristics	Connects to positive line through 4.5 kΩ (5 mA maximum)
Operating range	0.1 m ² n-heptane at 25 m
Sensitivity	Class 1 or 3, EN 54-10
Field of view	90° cone
Spectral response	UV 185 to 260 nm
Operating temperature (no condensing or icing)	-40°C to +70°C
Storage temperature	-40°C to +85°C
Relative humidity	95% non-condensing
IP rating	designed to IP66
Standards and approvals	MED, LR, ABS, CCS
Dimensions	100 mm x 40 mm detector only 100 mm x 48 mm detector and base
Weight	150 g - detector only 210 g - detector and base
Materials:	
Housing	White flame-retardant polycarbonate
Sensing window	2 mm Quartz
Terminals	Nickel plated stainless steel
Isolator count:	20D 7 20i 20

Operation

The detector is set to respond to UV radiation (185 - 260 nm) emitted by almost all flames including those invisible to the naked eye, e.g. hydrogen fires.

The detector has a single UV sensor with a narrow spectral response in order to discriminate between flames and most spurious sources of radiation and is designed for use in internal fully enclosed areas.



CAUTION: The detector will also detect electrical discharges from lightning or arc welding.



UV detectors are used when detection is required to be unaffected by convection currents, draughts or winds. These include engine rooms in ships, factories affected by draughts or wind and warehouses.

They are fast reacting and respond to a flame more than 25 m away. The UV flame detector is affected by arc welding, electrical sparks, lightning, nuclear radiation and UV light sources. For applications where these phenomena are present a UV flame detector should not be used.

* For a full list of applications for Apollo Marine Intelligent Base Mounted Flame Detectors, please refer to PP5010, in this manual or at www.apollo-fire.co.uk.

Protocol compatibility

The detectors operate using the XP95 or Discovery digital protocol and are CoreProtocol® compatible.

Protocol usage

Output Bits	
2	LED
1	Test
0	Remote LED
Interrupt	No
Analogue value	
Quiescent	25
Alarm	55 - 64
Fault	4
Input Bits	
2	LED confirmed
1	Test confirmed
0	Remote LED confirmed
Flag settings	
XP95 flag	Yes
Alarm flag	Yes

Electrical description

The Intelligent Base Mounted Flame Detectors are loop-powered and require no external supply. A remote LED alarm indication may be connected to the flame detector.

The field of view for the Intelligent Base Mounted Flame Detectors is shown in Figure 1. The illustration also includes information on the size of fire detectable at various distances.

The flame detectors can also be ceiling mounted positioned above the anticipated flame source or at the centre of the area to be protected, perpendicular to the floor below. If the detector cannot see the whole of the area to be protected, one or more additional detectors may be required. Figure 2 shows the angle of view to help establish the detectors performance. The area of detection is dependent upon the detectors height above the likely source of flame.

The detectors have a 90° conical field of view or 45° either side of the viewing axis centre line. The maximum ceiling height is 20 metres.

If the detector is perpendicular to the floor and at a height of 10 metres, the detector will view a circular floor area below with a 10 metre radius (20 metre diameter circle).

EMC Directive 2014/30/EU

The Marine Intelligent UV Base Mounted Flame 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 the Apollo website: www.apollo-fire.co.uk

Conformity of the Marine Intelligent UV Base Mounted Flame Detector with the EMC Directive, does not confer compliance with the directive on any apparatus or systems connected to them.

Construction Products Regulation 305/2011/EU

The Marine Intelligent UV Base Mounted Flame Detector complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

A copy of the Declaration of Performance is available from the Apollo website: www.apollo-fire.co.uk

Marine Equipment Directive 2014/90/EU

The Marine Intelligent UV Base Mounted Flame Detector complies with the essential requirements of the Marine Equipment Directive 2014/90/EU.

Figure 1: Field of view

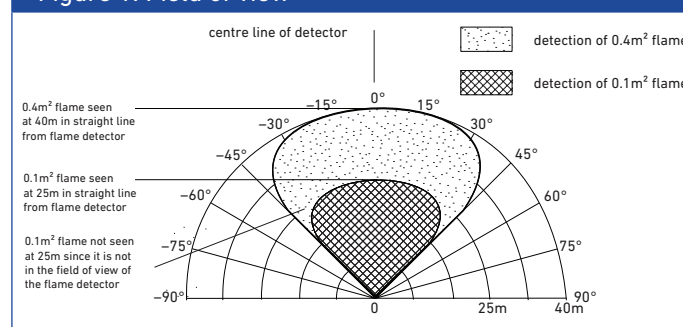


Figure 2: Ceiling mounting measurements

