

# Marine Intelligent Base Mounted UV/IR<sup>2</sup> Flame Detector



## Product overview

<b>Product</b>	Marine Intelligent Base Mounted UV/IR <sup>2</sup> Flame Detector
<b>Part No.</b>	55000-028MAR
<b>Digital Communication</b>	XP95, Discovery and CoreProtocol <sup>®</sup> compatible

## Approvals



## Product information

The Marine Intelligent Base Mounted Ultra-Violet (UV) Dual Infra-Red (IR<sup>2</sup>) Flame Detectors are designed to protect indoor areas where open fires may be expected.

The Marine Intelligent Base Mounted UV/IR<sup>2</sup> Flame Detector is sensitive to UV and low-frequency, flickering IR radiation emitted by flames during combustion. Since it requires both UV and IR radiation the detector can operate in applications where a basic single UV or single IR detector would be inappropriate.

- 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
- False alarms due to electrical discharges from lightning or arc welding and flickering sunlight are minimised

## 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.

<b>Supply voltage</b>	17 - 28 V dc
<b>Digital communication</b>	XP95, Discovery and CoreProtocol compatible
<b>Protocol peak to peak</b>	5 - 9 V
<b>Quiescent current</b>	2.8 mA
<b>Alarm current</b>	4.2 mA
<b>Surge current</b>	9 mA (peak) for 85 ms
<b>Maximum power-up time</b>	4 seconds
<b>Remote output characteristics</b>	Connects to positive line through 4.5 kΩ (5 mA maximum)
<b>Operating range</b>	0.1 m <sup>2</sup> n-heptane at 25 m
<b>Sensitivity</b>	Class 1 or 3, EN 54-10
<b>Field of view</b>	90° cone
<b>Spectral response</b>	UV 185 to 260 nm, IR 0.75 to 2.7 μm
<b>Operating temperature (no condensing or icing)</b>	-40°C to +70°C
<b>Storage temperature</b>	-40°C to +70°C
<b>Relative humidity</b>	95% non-condensing
<b>IP rating</b>	designed to IP66
<b>Standards and approvals</b>	MED, LR and ABS
<b>Dimensions</b>	100 mm x 40 mm detector only 100 mm x 48 mm detector and base
<b>Weight</b>	150 g - detector only 210 g - detector and base
<b>Materials:</b>	<b>Housing</b> White flame-retardant polycarbonate
	<b>Sensing window</b> 2 mm Quartz
	<b>Terminals</b> Nickel plated stainless steel
<b>Isolator count:</b>	<b>20D</b> 77 <b>20i</b> 20

## Operation

The detector is set to respond to UV (185 - 260 nm) and low-frequency, flickering IR (0.75 - 2.7 μm) radiation at 1 - 15 Hz in order to detect all flickering flames, including those invisible to the naked eye, e.g. hydrogen fires.

The detector has one UV and two IR sensors responding to different wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms due to electrical discharges or arc welding and flickering sunlight are minimised by combining the UV/IR signals.

These detectors are not affected by convection currents, draughts or winds. They are suitable for use in aircraft hangars, generator rooms (diesel and gas turbines) and paint works.

\* For a full list of applications for Apollo Marine Intelligent Base Mounted Flame Detectors, please refer to PP5010, which can be found in this manual or from [www.apollo-fire.co.uk](http://www.apollo-fire.co.uk)

### Protocol compatibility

The detectors operate with 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 Base Mounted UV/IR<sup>2</sup> 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](http://www.apollo-fire.co.uk)

Conformity of the Marine Intelligent Base Mounted UV/IR<sup>2</sup> 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 Base Mounted UV/IR<sup>2</sup> 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](http://www.apollo-fire.co.uk)

### Marine Equipment Directive 2014/90/EU

The Marine Intelligent Base Mounted UV/IR<sup>2</sup> Flame Detector complies with the essential requirements of the Marine Equipment Directive 2014/90/EU.

