

Orbis

## Marine Optical/Heat Multisensor Detector



## Product overview

**Product** Marine Optical/Heat Multisensor Detector

**Part No.** ORB-OH-43001-MAR

**Product** Marine Optical/Heat Multisensor Detector with flashing LED

**Part No.** ORB-OH-43003-MAR

## Approvals



## Product information

The Orbis Marine Optical/Heat Multisensor Detector is recognised as a good detector for general use but is additionally more sensitive to fast burning, flaming fires - including liquid fires - than optical detectors.

They can be readily used instead of optical detectors but should be used as the detector of choice for areas where the fire risk is likely to include heat at an early stage in the development of the fire.

The Multisensor detector has two sensors, one for smoke and one for heat with the alarm decision derived from either sensor or combination of both.

- Responds well to fast-burning, flaming fires
- Transient rejection algorithms reduce false alarms
- Automatic drift compensation with DirtAlert™, a yellow flashing LED, to easily identify dirty detectors
- Red flashing LED at start up confirms the device is operating. SensAlert™, yellow flashing LED indicates faulty operation
- FasTest™ takes just four seconds to test and confirm detectors are functioning correctly

## 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.

|                                                         |                                                                                                                                 |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Detection principle</b>                              | <b>Smoke:</b> Photo-electric detection of light scattered by smoke particles<br><b>Heat:</b> Temperature-dependent resistances. |
| <b>Sampling frequency</b>                               | Once every four seconds                                                                                                         |
| <b>Operating voltage</b>                                | 8.5 V dc to 33 V dc                                                                                                             |
| <b>Supply Wiring</b>                                    | Two wire supply, polarity sensitive                                                                                             |
| <b>Maximum polarity reversal</b>                        | 200 ms                                                                                                                          |
| <b>Power up time</b>                                    | < 20 seconds                                                                                                                    |
| <b>Minimum 'detector active' voltage</b>                | 6 V                                                                                                                             |
| <b>Power-up surge current at 24 V</b>                   | 95 µA                                                                                                                           |
| <b>Average quiescent current at 24 V</b>                | 95 µA                                                                                                                           |
| <b>Alarm current</b>                                    | 12 V 20 mA<br>24V 40 mA                                                                                                         |
| <b>Alarm load</b>                                       | 600 Ω                                                                                                                           |
| <b>Holding voltage</b>                                  | 5 V - 33 V                                                                                                                      |
| <b>Minimum holding current</b>                          | 8 mA                                                                                                                            |
| <b>Minimum voltage to light alarm LED</b>               | 5 V                                                                                                                             |
| <b>Alarm reset voltage</b>                              | < 1 V                                                                                                                           |
| <b>Alarm reset time</b>                                 | One second                                                                                                                      |
| <b>Alarm indicator</b>                                  | Integral indicator with 360° visibility                                                                                         |
| <b>Remote output LED (-) characteristic</b>             | 1.2 kΩ connected to negative supply                                                                                             |
| <b>Operating and storage temperature</b>                | -40°C to +70°C                                                                                                                  |
| <b>Humidity (no condensation or icing)</b>              | 0% to 98% RH                                                                                                                    |
| <b>Effect of atmospheric pressure on optical sensor</b> | None                                                                                                                            |
| <b>Effect of wind speed</b>                             | None                                                                                                                            |
| <b>IP Rating</b>                                        | designed to IP23D                                                                                                               |
| <b>Standards &amp; approvals</b>                        | EN54-5, EN54-7, MED, LR, BV, ABS and CCS                                                                                        |
| <b>Dimensions</b>                                       | 97 mm diameter x 31 mm height<br>100 mm diameter x 46 mm height in base                                                         |
| <b>Weight</b>                                           | 75 g detector<br>135 g detector with base                                                                                       |
| <b>Materials</b>                                        | Housing: White flame-retardant polycarbonate<br>Terminals: Nickel plated stainless steel                                        |



### EMC Directive 2014/30/EU

The Orbis Marine Optical/Heat Multisensor Detector complies with the essential requirements of the EMC Directive 2014/30/EU, provided that it is used as described in this data sheet.

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 Orbis Marine Optical/Heat Multisensor 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

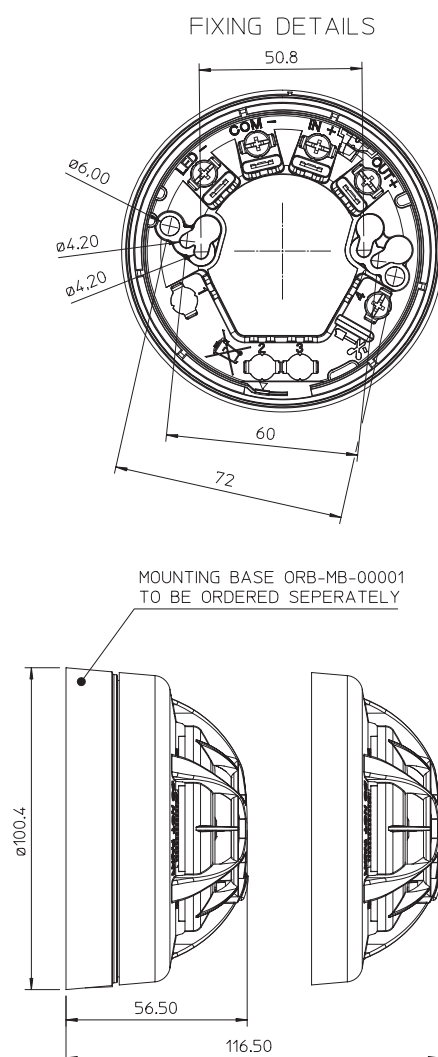
The Orbis Marine Optical/Heat Multisensor Detector complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

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 Orbis Marine Optical/Heat Multisensor Detector complies with the essential requirements of the Marine Equipment Directive 2014/90/EU.

### Orbis Marine Optical /Heat Multisensor Detector dimensional drawing



### Orbis detectors; LED status

| Feature              | Description                                                                                                         | Red LED status             | Yellow LED status                                                         |
|----------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|
| StartUp™             | Confirms that the detectors are wired in the correct polarity                                                       | Flashes once per second    | No Flash                                                                  |
| FasTest™             | Maintenance procedure, takes just four seconds to functionally test and confirm detectors are functioning correctly | Flashes once per second    | No flash                                                                  |
| DirtAlert™           | Shows that the drift compensation limit has been reached                                                            | No flash                   | Flashes once per second in StartUp (Stops flashing when StartUp finishes) |
| SensAlert™           | Indicates that the sensor is not operating correctly                                                                | No flash                   | Flashes every four seconds (Flashes once per second in StartUp)           |
| Normal operation     | At the end of StartUp and FasTest (without flashing LED as standard)                                                | No flash                   | No flash                                                                  |
| Flashing LED version | Detectors red LED flashes in normal operation (at the end of FasTest)                                               | Flashes every four seconds | No flash                                                                  |

