TIMEGUARD®

# IP65 6W LED Fire Rated Downlights

Installation & Operating Instructions

Model:
FRD1001
PIR Version

Model:
FRD1000
Non-PIR Version

# 1. General Information

These instructions should be read carefully and retained for further reference and maintenance.

**Note:** Timeguard reserve the right to alter these instructions at any time. Up to date instructions will always be available for download at www.timeguard.com

# 2. Safety

- Before installation or maintenance, ensure the mains supply to the luminaire is switched off and the circuit supply fuses are removed or the circuit breaker turned off.
- It is recommended that a qualified electrician is consulted or used for the installation of this luminaire and install in accordance with the current IEE wiring and Building Regulations.
- Check that the total load on the circuit including when this luminaire is fitted does not exceed the rating of the circuit cable, fuse or circuit breaker.
- To clean use a clean dry cloth only. Do not use liquid cleaners.



# 3. Technical Specifications

| | |
|---|---|
| • Mains Supply: | 230V AC 50Hz |
| • Class Protection: | Class II Driver<br>Class III Luminaire |
| • IP Rating: | IP65 Front, IP20 Back |
| • Operating Temperature: | -20˚ to +40˚C |
| • Colour Temperature Options: | 3000K, 4000K, 6000K<br>Selectable via Dip Switch |
| • Lumen Output: | 500, 540, 550 Depending on the selected CCT |

- Operating Humidity: <70%
- Hole Cut-Out: 68mm
- Impact Resistance: IK07
- Wattage: 6W
- Construction: Polycarbonate Bezel
  Aluminium Body

**FRD1000**

- Max linkable units: 25

**FRD1001**

- Time ON Adjustment: 30 seconds - 15 minutes
- (LUX) level adjustment: 10 - 1000
- PIR Sensitivity Adjustment: Yes
- Manual Override: Yes (Pulse)
- Optimal Mounting Height: 2.5m
- PIR Detection Angle: 360°
- PIR Detection Area: 4m Diameter
- Max linkable units non-PIR: 25 "LEDFRDL" or 150W
- Max linkable units PIR: 6 "LEDFRDLPIR"

**Note: multiple PIR "FRD1001" and non-PIR "FRD1000" units can be combined to form a complete circuit. Allowing for the PIR units to accommodate various entry and exit points and fill in any empty spaces. It should be noted that the "FRD1001" unit bezels are not interchangeable with the "FRD1000" unit bezels.**

**FRD1001** Dimensions (H x W x D): 88mm x 88mm x 44mm

**FRD1000** Dimensions (H x W x D): 88mm x 88mm x 39mm

# 4. Selecting a location

- Avoid positioning the FRD1001 units near any sources of heat in and around the detection area such as extractor fans, tumble dryers or boiler exhausts etc. This would also include other light sources such as security lights.

- Reflective surfaces (i.e. pools of water, white painted walls, overhanging branches and other types of foliage) may cause false activation under heightened weather conditions and outside lighting conditions such as street lights etc.

- During extreme weather conditions the FRD1001 may exhibit unusual behaviour. Once normal weather resumes, the unit will carry out normal operations.

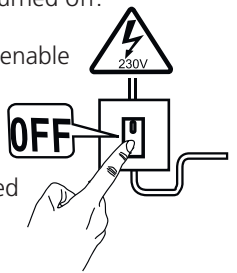


- Careful positioning of the FRD1001 units are required to ensure the best performance from the PIR and the appointed approach path / genreal detection area. The optimum height for the product is 2.5m.

# 5. Installation

- Ensure the mains supply is switched off and the circuit supply fuses are removed or the circuit breaker turned off.

- An isolating switch should be installed to enable the power to be switched ON and OFF to the luminaire. This allows the unit to be easily switched OFF for maintenance purposes. The light switch can also be used for activating the manual override on the FRD1001 if required.



- Mark the position of the 68mm diameter hole cut-out, taking care to aviod ceiling joists and any other obstructions within the installation area.

- Drill a pilot hole to take the centre shaft of the hole cutter, then use the appropriate blade size to create the cut out for the downlight. If using multiple downlights, repeat this step until each downlight has a cut-out hole appropriate for the installation.

- Pass the 230V 50Hz mains supply and load cables through the hole and prepare for termination at each cut-out hole location.

- Terminate the cables into the terminal block of the drivers ensuring correct polarity is observed and that all bare conductors are sleeved (See section 6. Connection Diagram). Note that the driver and luminaire are connected via a 6 pin micro fit Molex connector, this can be detached allowing for easier maintenance and ease cable tension during the install process.

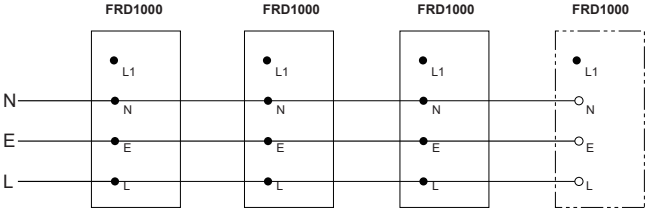
- When wiring is complete, if not done so already reconnect the drivers to their respective luminaries via the micro fit Molex connectors. The luminaries themselves can then be installed in the ceiling apertures cut-out previously. If your installation includes the use of FRD1001 units, adjust the Time, LUX and sensitivity dials appropriately using the PIR control dials located on the Bezel for your walk tests. Also select the correct colour temperature to ensure a universal CCT of the install area.

**Note: See section 7 Setting Up for a walkthrough of the PIR control dials in more detail if required.**

# 6. Connection Diagram

• Connect cables to the terminal block as follows;

### Diagram 1: FRD1000 Downlights Only

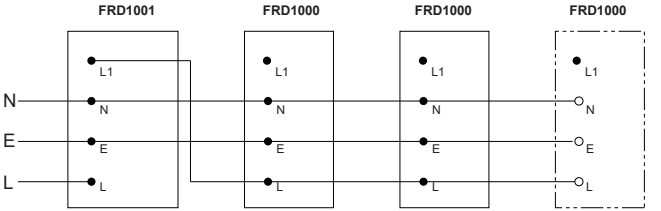



**If any of the loads on the circuit are of Class I construction use the earth terminals in the drivers as loop terminals to maintain continuity.**

230V AC 50Hz Mains Supply
Live (Brown or Red) to L
Neutral (Blue or Black) to N



### Diagram 2: Single FRD1001 Downlight + FRD1000 Downlights



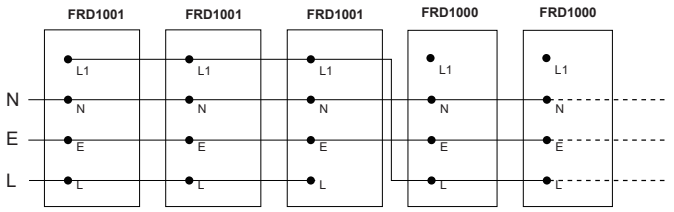

**If any of the loads on the circuit are of Class I construction use the earth terminals in the drivers as loop terminals to maintain continuity.**

230V AC 50Hz Mains Supply
Live (Brown or Red) to L (PIR Unit)
Neutral (Blue or Black) to N

L1 from PIR unit to L of Non-PIR units

## Diagram 3: Multiple FRD1001 Downlights + FRD1000 Downlights.

## (FRD1001 / FRD1000 Can Be Wired In Any Order)




**The live, neutral and earth connections from the mains supply must be connected to the nearest FRD1001 at the begining of the circuit.**

**Subsequent FRD1001 units must be linked via the live, neutral, earth and switched live.**

**Addtional FRD1000 units can be added after any FRD1001 unit on the circuit.**



**First FRD1001 Unit In Circuit**

230V AC 50Hz Mains Supply
Live (Brown or Red) to L
Neutral (Blue or Black) to N
Switched Live (Brown or Red) from L1 to L of Non-PIR Units

**Intermediate FRD1001 Units In Circuit**

230V AC 50Hz Mains Supply
Switched Live (Brown or Red) from L1 to L of Non-PIR Units
Neutral (Blue or Black) to N

**FRD1000 Units**

230V AC 50Hz Mains Supply
Live (Brown or Red) to L
Neutral (Blue or Black) to N
L to L1 of PIR unit if next In-line on the circuit

**If any of the loads on the circuit are of Class I construction, use the earth terminals in the drivers as loop terminals to maintain continuity.**

# 7. Setting Up

- If your selected setup consists of only FRD1000 units, once the mains has been introduced, the downlights will work as expected.

## Walk Test Procedure

- If your selected setup consists of a mixture of FRD1001 units and FRD1000 units, once the mains has been introduced, the downlights will switch on and eventually time out if set correctly using the PIR controls located on the bezel. This is known as the warm up period. Note removal from the ceiling aperture may be required to release the bezel from the main housing.



- While the FRD1001 units are in their warm up period, stay outside of the detection area. It is good practise to set a short delay time on the FRD1001 to ensure a faster efficient walk test.

- Once the downlights in the circuit switch off, walk across the detection zone to establish the detection area. The sensor will detect you approximately up to 4 metres in diameter at a mounting height of 2.5 metres.

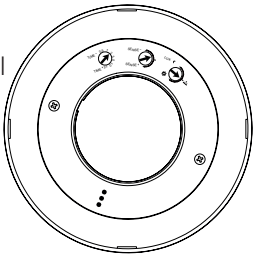
- As you cross a detection "zone" the downlight will illuminate. Now stand still until the lamp extinguishes.

- Start moving again after 2 seconds. As you cross each "zone" the lamp will illuminate.

- Repeat the above, walking at various distances and angles to the unit.This will help you to confirm the detection pattern.

## Setting Up for Automatic Operation

- When walk tests are done, adjust for automatic operation.
- The TIME setting controls how long the unit stays on after motion stops. Use a flat blade screwdriver to make adjustments. Anti-clockwise will represent (30 seconds) while clockwise represents 15 minutes. Set the dial to the desired setting between these limits (See timing options below).
- The DUSK (LUX) control determines the level of darkness required for the unit to start operating. Anticlockwise will represent the moon symbol (-) the sun is represented by (+), the dusk/dawn indicator is represented by the half way mark on the bezel for that dial. When set to the moon the unit will only trigger during the night or when the lux is below 10. When set to the sun the unit will trigger irrespective of any light level.
- The SENSITIVITY dial determines the PIR sensors responsiveness to moving objects in the detection area. Anticlockwise will represent the minimum sensitivity level (-) Clockwise will represent the maximum sensitivity level (+), the average sensitivity level is represented by the half way mark on the bezel for that dial.
- Once you are happy with all the settings, ensure the bezel back in position with the main body and makes a secure connection when twisted in place.



## Manual Override Function

- To activate the manual override, turn the connected light switch OFF then switch ON, OFF twice before reverting the switch to the ON position. The luminaire will switch ON/OFF three times to indicate the unit has entered manual override mode then remain in a permanent ON state.

  The luminaire will remain switched on permanently until auto mode has been reinstated by switching the unit OFF via the light switch, waiting for at least 10 seconds and restoring power thereafter.



# 9. Troubleshooting Guide

| Problem | Cause/Solution |
|---|---|
| The luminaire does not switch on when in the detection area. | Bulb faulty or PIR needs adjusting. |
| | Nearby light sources causing interference. Redirect the offending light source if possible. |

| Problem | Cause/Solution |
|---|---|
| False activation. (Luminaire switches on for no apparent reason) | Heat sources as described in section 4. |
| | Reflective surfaces described in section 4. |
| | Moving pedestrians, cars or animals in the area. Check the detection area. |
| | Nearby electromagnetic disturbance from a neighbouring circuit (CCTV interference). |
| Luminaire remains switched on | Continuous false activation resetting the delay time when an object is detected. |
| Luminaire switches on during daylight hours | Shadow casting over the PIR sensor. (Clouds). |
| | PIR set to trigger during the day & night. |

## Fire Rating

10

Contact Timeguard technical services for details of the fire rating.

## 5 Year Guarantee

Refer to terms of business.

If you experience problems, do not immediately return the unit to the store.
Email the Timeguard Customer Helpline:

## HELPLINE

# helpline@timeguard.com

or call the helpdesk on 020 8450 0515

Qualified Customer Support Coordinators will be online to assist in resolving your query.

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