

WMPIR2 WMPAD2

Product Guide

2 Wire Wall mounted PIR Occupancy switch



Figure 1.

Product Overview

The 2-wire wall mounted passive infra-red occupancy switch does not require a neutral connection and can be used as a simple replacement for an existing one-way wall switch. The WAPIR incorporates a passive infrared quad sensor to detect movement of a warm body within the detection zone (diagram A) and a photocell to monitor the ambient light level.

Upon detecting movement, if the ambient light is dark enough, the WAPIR switch will turn the load on. The ambient threshold can be set by the user to between approx. 30 lux and 1000 lux and infinite lux (photocell inactive) via the LUX adjuster (diagram B). If no more movement is detected within a pre-selected time, then the WAPIR switch will turn the load off. This time lag can be set via the TIME adjuster to 10, 20, 40 seconds, 1 min 15 secs, 2min 30sec, 5m, 10m, 20m or 40 mins (diagram B).

The WAPIR also incorporates a sensitivity adjuster. Turn fully clockwise for maximum range and sensitivity of the occupancy detection.

Override Button:

WAPIR has a push button on the front plate to select between "override off" and "automatic mode". A short press activates the override OFF mode (if the PIR is already in automatic

mode). A slowly pulsing LED behind the button indicates when the control is in override OFF mode. The LED can be deactivated by pressing and holding the button for approx. 10 seconds.

PLEASE NOTE: This override button is not a means of isolation.

Several WAPIR units can be wired in parallel, using re-wired 2-way lighting wiring to allow multiple PIR detectors (diagram C).

Loading Limits:

The WAPIR should only be connected to a 230V 50Hz AC supply. These units can switch up to 10 amps (2300W) of the following:

- Fluorescent lamps, either high frequency of switch start
- Incandescent or mains halogen lamps (recommended with integral safety fuse)

They can also switch up to:

- 6 amps (1500W) of electronics or wire wound transformers
- 6 amps (1500W) of compact fluorescent or LED lamps and drivers (PF>- 0.95)
- 1 amp (2500W) of Fans

Larger loads can be switched via a contactor.

Minimum Load

Because there is no neutral connection there is a minimum load

requirement of 20 W for each WAPIR in circuit. This is to ensure the load is NOT partially illuminated when the PIR is OFF. If the load is partially illuminated then one power factor correction capacitor, CAP LOAD, needs to be added across the load for each WAPIR in circuit (diagram C).

The WAPIR contains a 9v, PP3 (200mAhr), rechargeable nickel metal hydride battery which trickle charges when the load is switched off. **Do not allow the battery connector terminals to touch any of the mains electrical wires, including earth.** The switch must receive a permanent live supply and should be used in applications where the load will be on for less than 16 hours per day.

NOTE: If the date stamp is more than 12 months out of date, the battery will need recharging. **Installation Procedure**

All electrical installation and maintenance must be carried out by a competent person. If in doubt, consult a qualified electrician. Any new wiring must be carried out by qualified personnel in accordance with the current edition of the IET Wiring Regulations (BS7671).

- 1 Ensure the electrical supply is isolated before making any connections or adjustments.
 - 1. The switch should be placed facing the area where activity is expected, mounted between 1 and 1.8 mm high (diagram A). If the photocell override facility is required, the switch must be sited in a position where the daylight can give greater illumination than the artificial light. The WAPIR is suitable for wall mounting only.

- 2. Engage the battery before connecting the WAPIR terminals. WAPIR will enter its automatic mode 1 minute after the battery is engaged.
- 3. Connect the WAPIR as: L- Live in SL Switched line out. As shown in the diagrams.
- 4. A few WAPIR's can be wired in parallel to control the same load (see diagram C).
- 5. There are three adjustments on the underside of the switch: TIME, LUX and SENS (sensitivity) see diagram B.
- 6. When the wiring has been completed and verified, ensure the WAPIR is in automatic mode (see OVERRIDE BUTTON on page 1), switch on the supply and test operation.

IMPORTANT NOTE:

Because the WAPIR requires a permanent live supply there are restrictions on its usage:

The WAPIR should only be used in applications where the lights would not be ON for more time than they are OFF. This is to allow its rechargeable battery enough time to recharge itself from the mains supply.

Wiring WAPIR's in parallel will increase the ON status of a load and therefore the battery may not have sufficient time to recharge.

The load MUST be able to pass parasitic current. The battery may not charge with some low energy / high efficiency luminaire products that do not pass sufficient parasitic current.

If power factor correction capacitors are inbuilt to the luminaire, it is not advised to add additional CAPLOADs to the switching circuit.

LUX and Time Set-up

For convenience, ensure that the TIME is set to the minimum and the WAPIR is set to automatic mode when setting up the LUX level.

Afterwards se the TIME and SENS to values suitable for the application. The LUX is best set up when the local ambient light is close to the minimum desired light level. With the LUX set fully clockwise, wait for the WAPIR to switch OFF. Rotate the LUX adjuster slowly anticlockwise (- to +) whilst waving your hand approximately 1m in front of the WAPIR, until the load switches ON.

A. Detection Diagram, Wall Mounted



B. Adjustment Diagram



Typical Settings

C. Multiple WAPIR circuit



≈230 vac

C. Example of a typical 2-way circuit



≈230 vac



C. Single WAPIR showing optional CAP Load

Example of a typical 2-way circuit

Fault Finding:

The load will not switch on:

The override switch is in the "override" position.

 \circ Short press the button to return to the automatic mode

The LED behind the button is flashing:

- The override switch is in the "override" OFF position.
 - If override OFF is desired but without the flashing LED, press and old the button for 10 seconds.
 - The WAPIR battery voltage has dropped very low and has gone into automatic recharge mode.

The load stays permanently ON or OFF, possible after a few weeks:

- The load is less than 20W per switch and the rechargeable battery has not been able to recharge
 - Add one power factor correction capacitor at the light fitting for each WAPIR in the circuit. ORDER CODE: CAP68/CAP150.

| TECHNICAL SPECIFICATION | |
|-------------------------|--|
| Power Supply | 220V-240V AC 50Hz (in the line) |
| Output switch rating | 16A, 250V (resistive) |
| Minimum load | 20W |
| Maximum lighting load | Incandescent: 6A (1500W) |
| | Fluorescent: 10A (2300W) |
| | Compact Fluorescent: 6A (1500W) |
| | Fans: 1A (250W) |
| Timeout | 10 seconds to 40 mins |
| Detection Angle | 120° |
| Detection range | High sensitivity: up to 5m |
| | Low sensitivity: up to 10m |
| Mounting hardware | 22mm (min) single-gang UK pattress box |
| Operating temperature | -30°C to +40 °C |
| Guarantee | 2 years on unit, no guarantee on battery |
| Weight | 180gm |
| Dimensions | 86mm x 86m x 22mm |