Installation Instructions

Infrascan®
Passive Infrared
Motion Sensor
Surface-Mount

753SSR Series

Installation Instructions
## Contents

1.0 Product Range .................................................................................................................. 3  
2.0 Principle of Operation ........................................................................................................ 3  
3.0 Field of View .................................................................................................................... 3  
4.0 System Components and Installation .................................................................................. 4  
5.0 Wiring Diagram .................................................................................................................. 7  
6.0 Functions .......................................................................................................................... 8  
   6.1 Manual Override by Power Switch .................................................................................. 8  
   6.2 Lux Level Setting ......................................................................................................... 9  
   6.3 Time Setting (Switch OFF Delay) ................................................................................... 9  
7.0 Troubleshooting ................................................................................................................. 10  
8.0 Technical Specifications ..................................................................................................... 11  
9.0 Three-Year Warranty ....................................................................................................... 12
1.0 Product Range

**753SSR Infrascan** Passive Infrared Motion Sensor for Surface-Mount 3-Wire design
Colour options: Black, White Electric

2.0 Principle of Operation

Congratulations on purchasing your new Clipsal Infrascan Surface-Mount Passive Infrared Motion Sensor. You have chosen a high-quality product that has been manufactured, tested and packed with the greatest care.

Please familiarise yourself with these instructions before attempting to install the sensor, as prolonged reliable and trouble-free operation will only be ensured if it is fitted properly.

⚠️ Safety Warning

Installing the sensor involves work on the mains power supply. This work must therefore be carried out by a licensed electrician, in accordance with applicable national wiring regulations and electrical operating conditions. Only select time and lux level setting with the lens in place.

This Passive Infrared Motion sensor is suitable for switching on lights automatically when movement is detected. The unit is equipped with pyro sensors that detect the invisible heat emitted from moving objects (people, animals etc.). The heat detected is electronically converted into a signal that switches on connected loads (e.g. a light).

3.0 Field of View

The Infrascan 753SSR has field of view of 360° and a superior sensing range of 24m in diameter (12m radius) at 2.5m mounting height.

Field of View

The Infrascan provides high resolution due to 1416 switching zones with 10 detection levels. This allows the detection of very small movements (such as a finger) within the inner diameter circles.

By means of a zone mask (included in the packaging) the angle of coverage can be restricted to suit the application requirements.
4.0 System Components and Installation

- Concealed wiring
- Surface wiring
- Plug-in terminals
- Basic element
- Fitting the sensor cover
- Fitting the zone mask
- Screwing on the lens
- Lux level setting (2 – 2000 lux)
- Time setting (5 sec. – 15 min.)
- Arrow position (middle) when putting on lens
- Decorative faceplate

**Warning**

The mains lead consists of a three-wire cable.

- **L** = Active
- **N** = Neutral
- **PE** = Earth
Installation, operation and maintenance:

- The site of installation should be at least 50cm away from a light, as the heat it radiates may activate the system.

- It is the installer’s responsibility to maintain IP rating of the installed Infrascan to suit the application. If the rubber seal is damaged, the cable entry openings may need to be sealed with an M16 or M20 double-seal cable gland in IP54. A condensation hole is indicated next to the rubber seal, which can be opened if necessary.

- The sensor does not detect heat radiated from behind obstacles, such as walls or panes of glass. Heat radiation of this type will therefore not activate a light.

- Weather conditions may affect the way the motion detector works. Strong gusts of wind, snow, rain or hail may cause the light to come on when it is not wanted, because the sensor is unable to distinguish sudden changes of temperature from sources of heat.

- The unit is not suitable for burglar alarm systems as it is not tamper-proof in the manner prescribed for such systems.

- The detector lens may be cleaned with a damp cloth if it gets dirty (please avoid using aggressive cleaning agents).

Walking Direction

In order to achieve the maximum sensing range, the Infrascan needs to be installed in such a way that the movement direction is tangential rather than radial (towards the sensor).
5.0 Wiring Diagram

The wiring example below shows the installation of the 753SSR Infrascan with an external wall-switch. The external wall-switch needs to be closed for normal sensor operation.

![Wiring Diagram]

a) Load (see Technical Specifications)
b) Sensor connection terminals
c) Switch

Description of sensor initialisation-phase:

- There is a sensor initialisation-phase of about 50 seconds. During this period the connected load will be activated (light is ON). The initialisation phase can be recognised by a slowly flashing red LED in the sensor element.
- If no movement is detected during the initialisation-phase, the load will turn OFF.
- The Infrascan is now in normal sensor operation. The connected light will be off, unless movement is detected (indicated by a flashing red LED), which leads to the activation of the connected load.

Please note:

- The behaviour of the Infrascan and the activation of the connected load in the sensor initialisation-phase is particularly relevant for installations with 2-way position switches (not illustrated).
- If sensors are connected in parallel (not illustrated), it is important not to exceed the sensor's maximum rating. In addition, all units must be connected to the same phase.

Warning:

- It is illegal for persons other than licensed electricians or persons authorised by legislation to work on fixed wiring of any electrical installation.
- Installation must be carried out in accordance with local wiring rules (AS/NZS3000 Australia and New Zealand).
6.0 Functions

6.1 Manual Override Switch (as per wiring example in Chapter 5)

a) Change from normal Sensor operation to Manual override: Light ON for four hours
   
   Switch the external wall-switch four times - i.e. switch OFF, ON, OFF, ON - in rapid succession (change each status within 0.5sec – 1sec). The manual override is now enabled and the load will be activated for four hours (Light will be ON for four hours). Normal sensor operation resumes after the four hours have elapsed.

b) Change from Manual override to Normal sensor operation: Movement detection
   
   Switch the external wall-switch two times – i.e. switch OFF, ON – in rapid succession (change each status within 0.5 sec – 1 sec). Normal sensor mode is now enabled and the load will be activated after movement detection for the selected time period (5sec. – 15min).

c) Deactivation of sensor operation: Light permanently OFF
   
   To switch the light permanently OFF, switch OFF the wall-switch.

Please note:

If the wall-switch is switched OFF for longer than five seconds, the sensor initialisation-phase as described in the previous chapter will be activated, as soon as the switch is closed again.
6.2 Lux Level Setting (figure 8, page 5)

Important:
Only select the lux level setting option after mains power has been connected, the housing has been closed and with the lens in place. The setting option is concealed behind the decorative faceplate (see figure 11, page 5).

The desired response threshold of the light can be infinitely adjusted from approx. 2 – 2000 lux. Turn control fully anticlockwise, to select Night-time operation at about 2 lux. Turn control fully clockwise, to select ‘Teach’ mode, shortly before this position means daylight operation at about 2000 lux (The Infrascan leaves the factory set to daylight operation).

Teach mode:
At the light level at which you want the sensor to respond to movement, the control should be set to \( \Rightarrow \). After 10 sec. the value of the ambient brightness is saved.

This motion detector is equipped with an integrated anti-glare protection feature, requiring the following course of action: If the function test is performed in daylight, the light threshold adjustment screw can be set to night-time operation. No movement must take place in the detection zone, within the selected light ‘ON’ time and 60 sec. thereafter or the lamp will continue to shine. Exactly the same procedure must be followed if any change is made to the lux level threshold.

6.3 Time Setting (figure 9, page 5)

Important:
Only select the time level setting option after mains power has been connected, the housing has been closed and with the lens in place. The setting option is concealed behind the decorative faceplate (see figure 11, page 5).

The chosen light ON time can be varied continuously from approx. 5sec. to a maximum of 15min. (The Infrascan leaves the factory set to the shortest time). Any movement detected before this time elapses will restart the timer.

Pulse function\[\text{Pulse}\]
The ‘Pulse’ function activates the output for 2 sec. (e.g. for staircase lighting time switches).
## 7.0 Troubleshooting

<table>
<thead>
<tr>
<th>Malfunction</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor without power</td>
<td>• Fuse faulty, not switched ON, break in wiring</td>
<td>• New fuse, turn on power switch, check wiring with voltage tester</td>
</tr>
<tr>
<td></td>
<td>• Short circuit</td>
<td>• Check connections</td>
</tr>
<tr>
<td>Sensor will not switch ON</td>
<td>• Twilight control set to ‘Night-time’ mode during daytime operation</td>
<td>• Reset</td>
</tr>
<tr>
<td></td>
<td>• Bulb faulty</td>
<td>• Change bulb</td>
</tr>
<tr>
<td></td>
<td>• Power switch OFF</td>
<td>• Switch ON</td>
</tr>
<tr>
<td></td>
<td>• Fuse faulty</td>
<td>• New fuse, check connection if necessary</td>
</tr>
<tr>
<td></td>
<td>• Detection zone not properly targeted</td>
<td>• Readjust</td>
</tr>
<tr>
<td>Sensor will not switch OFF</td>
<td>• Continuous movement in the detection zone</td>
<td>• Check zone (adjusting if necessary) or shroud</td>
</tr>
<tr>
<td></td>
<td>• Light being operated in the detection zone causing sensor to respond as a result of change in temperature</td>
<td>• Change zone, or shroud</td>
</tr>
<tr>
<td></td>
<td>• Light being operated is in the manual override mode (LED ON)</td>
<td>• Deactivate manual override</td>
</tr>
<tr>
<td>Sensor keeps switching ON/OFF</td>
<td>• Lamp being operated in the detection zone</td>
<td>• Change zone, shroud or increase distance</td>
</tr>
<tr>
<td></td>
<td>• Animals moving in the detection zone</td>
<td>• Change zone or shroud</td>
</tr>
<tr>
<td>Sensor responds when it should not</td>
<td>• Wind is moving trees and bushes in the detection zone</td>
<td>• Change detection zone</td>
</tr>
<tr>
<td></td>
<td>• Cars in the street are being detected</td>
<td>• Change detection zone</td>
</tr>
<tr>
<td></td>
<td>• Sunlight is falling onto the lens</td>
<td>• Mount sensor in a sheltered place or change detection zone</td>
</tr>
<tr>
<td></td>
<td>• Sudden temperature changes due to weather (wind, rain, snow) or air expelled from fans, open windows</td>
<td>• Change detection zone, change site of installation</td>
</tr>
<tr>
<td>Change in sensor’s reach</td>
<td>• Differing ambient temperatures</td>
<td>• Use shrouds to define detection zone precisely</td>
</tr>
<tr>
<td>LED flashing rapidly (approx. 5 x per second)</td>
<td>• Load connected is too high</td>
<td>• Reduce load or use contactor</td>
</tr>
</tbody>
</table>
## 8.0 Technical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Operating Voltage</td>
<td>240 V~</td>
</tr>
<tr>
<td>Nominal Operating Frequency</td>
<td>50Hz</td>
</tr>
<tr>
<td>Wiring Configuration</td>
<td>3-Wire Design</td>
</tr>
<tr>
<td>Terminals Accommodate</td>
<td>1 x 2.5mm² (max)</td>
</tr>
<tr>
<td>Compatible Loads</td>
<td></td>
</tr>
<tr>
<td>Incandescent Lighting</td>
<td></td>
</tr>
<tr>
<td>Halogen 240V Lamps</td>
<td>2400W</td>
</tr>
<tr>
<td>Fluorescent Lamps*</td>
<td>(10AX @ cosφ 0.85)</td>
</tr>
<tr>
<td>- Conventional Ballast</td>
<td>(uncompensated, cosφ &lt; 0.5)</td>
</tr>
<tr>
<td>- Conventional Ballast</td>
<td>(compensated, 45.6μF max)</td>
</tr>
<tr>
<td>- Electronic Ballast</td>
<td>(176μF max, 8 x 58W Ballasts)</td>
</tr>
<tr>
<td>Low voltage lighting with electronic transformers</td>
<td>1000W</td>
</tr>
<tr>
<td>(176μF maximum capacitive loading)</td>
<td>(8 x LED Drivers maximum loading)</td>
</tr>
<tr>
<td>Low voltage lighting with iron-core transformers</td>
<td>2000VA</td>
</tr>
<tr>
<td>Compact Fluorescent Lamps</td>
<td>20W x 8 max.</td>
</tr>
<tr>
<td>Incompatible Loads</td>
<td></td>
</tr>
<tr>
<td>Small Motor Loads</td>
<td>N/A</td>
</tr>
<tr>
<td>Field of View</td>
<td>360°</td>
</tr>
<tr>
<td>Sensing Range</td>
<td>12m Radius</td>
</tr>
<tr>
<td>Sensor Technology</td>
<td>Passive Infrared Sensor, 10 detection levels, 1416 switching zones</td>
</tr>
<tr>
<td>Time Setting</td>
<td>5 seconds – 15 minutes</td>
</tr>
<tr>
<td></td>
<td>Pulse Mode (approx. 2 seconds)</td>
</tr>
<tr>
<td>Lux Level Setting</td>
<td>2 – 2000 lux</td>
</tr>
<tr>
<td>Manual override</td>
<td>ON: 4 hours (activated by external light switch)</td>
</tr>
<tr>
<td>Operating Temperature Range**</td>
<td>-20 to 50°C</td>
</tr>
<tr>
<td>Operating Humidity Range</td>
<td>10 to 90% R.H.</td>
</tr>
<tr>
<td>International Protection Rating</td>
<td>IP54</td>
</tr>
<tr>
<td>Dimensions (H x W x D)</td>
<td>65mm x 95mm x 95mm</td>
</tr>
<tr>
<td>Safety Compliances</td>
<td>AS/NZS3100, IEC60669-2-1</td>
</tr>
<tr>
<td>EMC Emission Compliance</td>
<td>AS/NZS CISPR15, IEC61000-3-2</td>
</tr>
</tbody>
</table>

Specifications Typical @ 240V~ 25°C
No User Serviceable Parts Inside

---

*Derate for use with fluorescent loads (cosφ < 0.5, 1000W max).

**The Infrascan incorporates temperature-stabilisation technology. However, the sensing range might change depending on the operating temperature.
9.0 Three-Year Warranty

This Clipsal 753SSR Series Infrascan Surface-Mount Motion Sensor carries a three-year warranty against manufacturing defects.

Warranty Statement

The benefits conferred herein are in addition to, and in no way shall be deemed to derogate, either expressly or by implication, any or all other rights and remedies in respect to the Clipsal by Schneider Electric product, that the consumer has in the location where the product is sold.

The warrantor is Schneider Electric (Australia) Pty Ltd, a member of Schneider Electric Industries SAS, with offices worldwide.

This Clipsal by Schneider Electric product is guaranteed against faulty workmanship and materials for a period of three (3) years from the date of purchase.

Schneider Electric (Australia) Pty Ltd reserves the right, at its discretion, to either repair free of parts and labour charges, replace or offer refund in respect to any article found to be faulty due to materials, parts or workmanship.

This warranty is expressly subject to the Clipsal by Schneider Electric product being installed, wired, tested, operated and used in accordance with the manufacturer’s instructions. Any alterations or modifications made to the product without permission of Schneider Electric (Australia) Pty Ltd might void the warranty.

Schneider Electric (Australia) Pty Ltd shall meet all costs of a claim. However, should the product that is the subject of the claim be found to be in good working order, all such costs shall be met by the claimant.

When making a claim, the consumer shall forward the Clipsal by Schneider Electric product to the nearest Clipsal by Schneider Electric office. Provide adequate particulars of the defect within 28 days of the fault occurring. The product should be returned securely packed, complete with details of the date and place of purchase, description of the load and circumstances of the malfunction.

For all warranty enquiries, contact your local Clipsal by Schneider Electric Sales Office. The address and contact number can be found at the website www.clipsal.com/locations

Schneider Electric (Australia) Pty Ltd

Contact us: clipsal.com/feedback

National Customer Care Enquiries:

Tel 1300 2025 25
Fax 1300 2025 56

Schneider Electric (Australia) Pty Ltd reserves the right to change specifications, modify designs and discontinue items without incurring obligation and whilst every effort is made to ensure that descriptions, specifications and other information in this catalogue are correct, no warranty is given in respect thereof and the company shall not be liable for any error therein.

© 2012 Schneider Electric. All Rights Reserved.
Trademarkes are owned by Schneider Electric Industries SAS or its affiliated companies.