CLIPSAL®

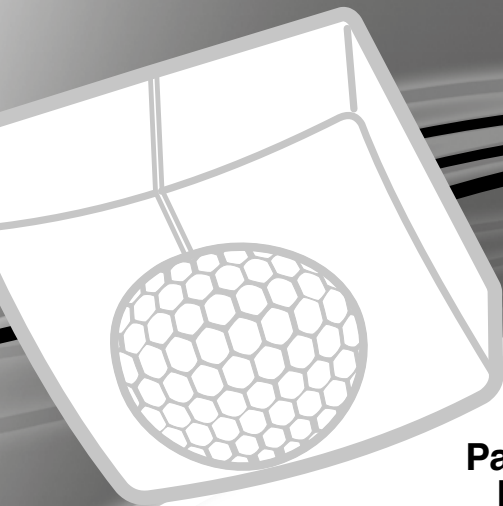**by Schneider** Electric

**Infrascan®
Passive Infrared
Motion Sensor
Surface-Mount**

753SSR Series

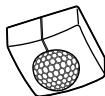Installation Instructions

Contents

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.
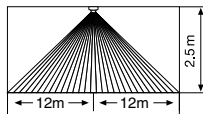
⚠ **Safety Warning**

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
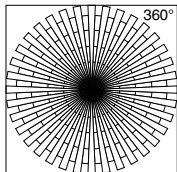connected loads (e.g. a light).

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.

Sensing Range

2.5 m

←— 12m —→ ←— 12m —→

Field of View

360°

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

① Concealed wiring
② Surface wiring
③ Plug-in terminals
④ Basic element
⑤ Fitting the sensor cover
⑥ Fitting the zone mask
⑦ Screwing on the lens

⑧ Lux level setting (2 – 2000 lux)
⑨ Time setting (5 sec. – 15 min.)
⑩ Arrow position (middle) when putting on lens
⑪ Decorative faceplate
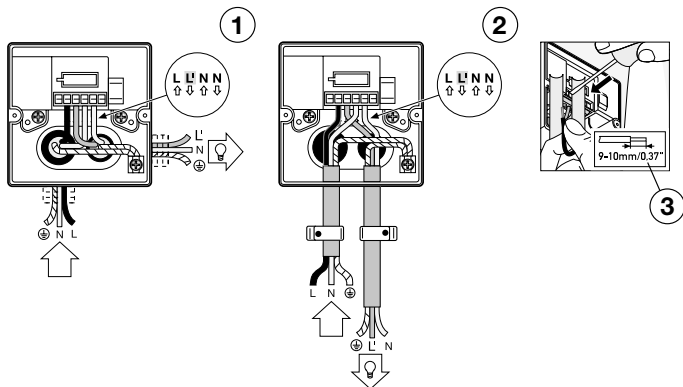
Warning
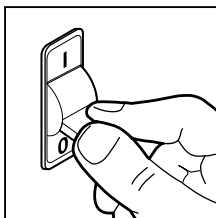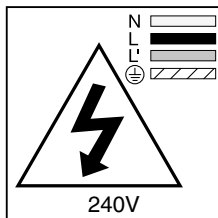
The mains lead consists of a three-wire cable.

L = Active

N = Neutral

PE = Earth ⏚

④

⑤

⑥

⑦

⑪

⑧

2-2000 Lux

⑨

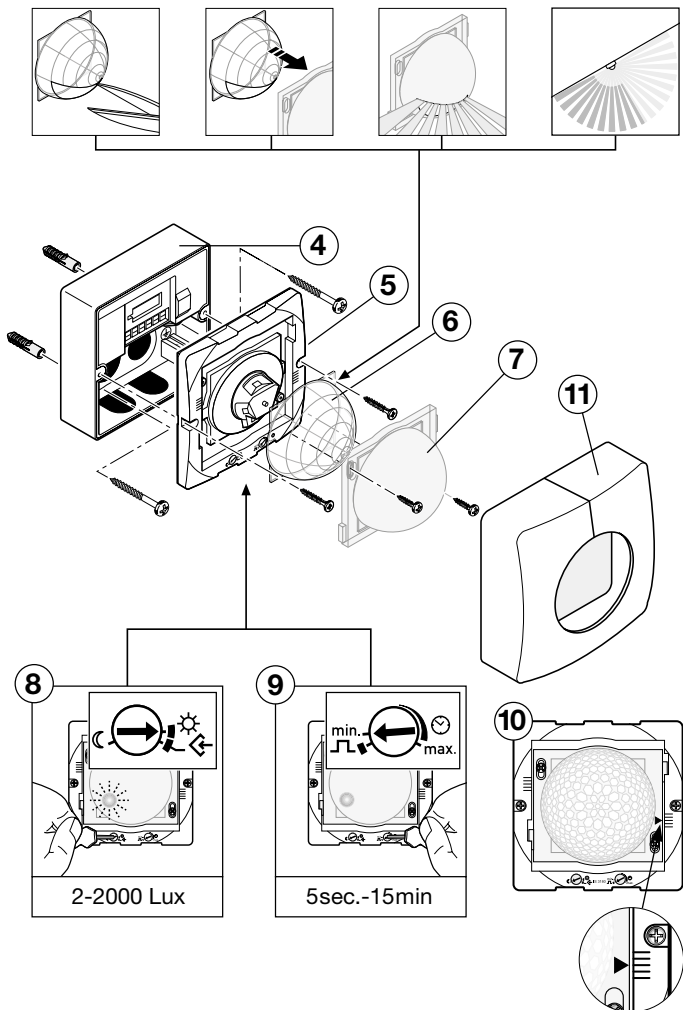min.

max.

5sec.-15min

⑩

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).
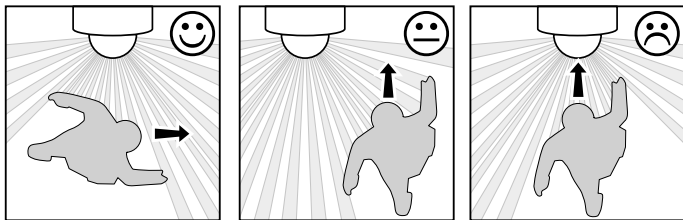
5.0 Wiring Diagram

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.
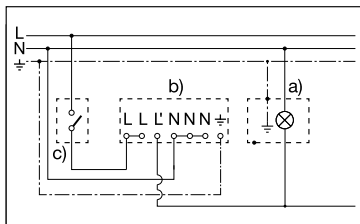
a) Load (see Technical Specifications)

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.

Two x OFF/ON

4 hours
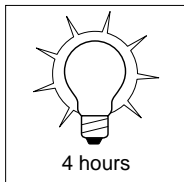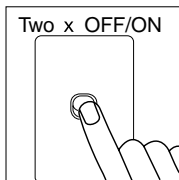
b) Change from Manual override to Normal sensor operation: Movement detection

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).

One x OFF/ON

5 sec. - 15 min.
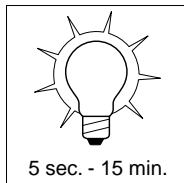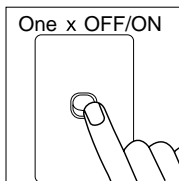
c) Deactivation of sensor operation: Light permanently OFF

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).
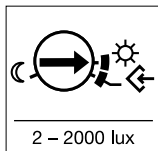
2 – 2000 lux

(Factory setting: daylight operation 2000 lux)

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 ⇐. 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).

min. max.

5 sec. – 15 min.
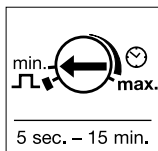
(Factory setting: approx. 5 sec.)

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 ⊓⊔

The 'Pulse' function activates the output for 2 sec. (e.g. for staircase lighting time switches).

7.0 Troubleshooting

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

8.0 Technical Specifications

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

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