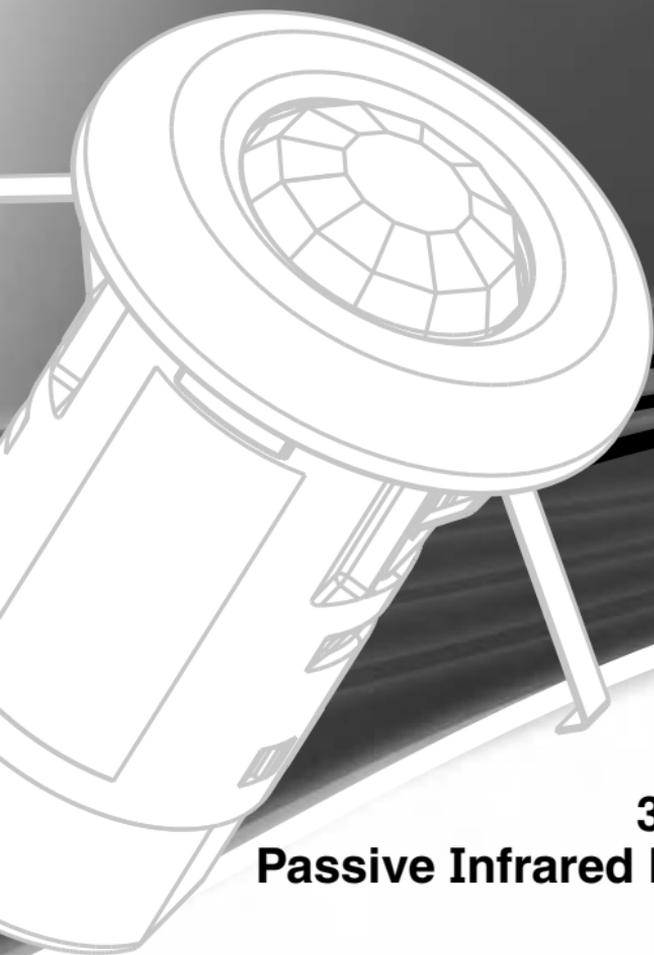


CLIPSAL®

by Schneider Electric



360° Infrascan®
Passive Infrared Motion Sensor

753
Series



Installation Instructions

INFRASCAN®
PASSIVE INFRARED SENSOR

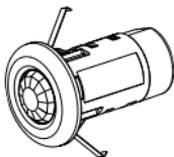
Please leave these instructions at
the installation site.

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1.0 Product Range

- 753** Infracan 360 Degree, 240V a.c., 50Hz, 2-Wire, 2A, 20 Minute
- 753R** Infracan 360 Degree, 240V a.c., 50Hz, 3-Wire, 10A, 20 Minute



2.0 Description

The Clipsal 753 Series 360 Degree Infracan is a highly reliable, state-of-the-art passive infrared (PIR) occupancy sensor. The unit utilises an advanced quad-element sensor array allowing instantaneous detection of movement and features a massive 14 metre detection range.

The unit also features a slimline, fully recessed mounting facility, making it one of the world's most sleek and unobtrusive 360° sensors available.

The unit is designed to monitor the immediate environment, and detect people moving within its field of view. When movement is detected, the unit will activate an electrical load, such as a light, in response to that movement.

Designed and developed in Australia, the unit offers benefits in security, energy management, hospitality and true 'hands-free' switching convenience in a wide range of applications.

3.0 Product Selection

Be sure to select the appropriate Infracan product to suit your application:

- the 753 is a 2-wire (does not require Neutral connection), and can only switch a limited range of load types.
- the 753R is a 3-wire device (requires Neutral connection to operate) capable of switching a wide range of load types.

	Catalogue Number	Neutral Required	Maximum Load*
	753	NO	2A
	753R	YES	10A

* Please refer to Technical Specifications for further information about compatible load types.

4.0 How it Works

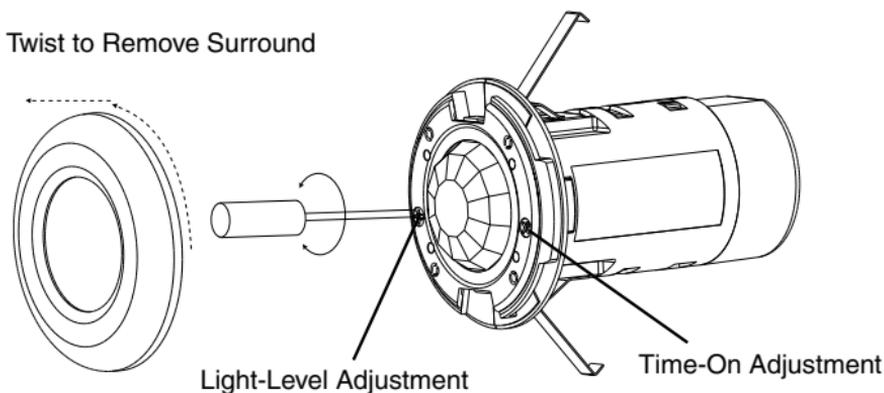
With power applied and a suitable load connected, the Infrascan can detect any moving infrared source (for example a person) that may intrude upon its field of view.

Both the Light-Level and Time-On settings are user adjustable by removal of the front surround. Simply twist to remove the cover and adjust trimpot as required.

The Light-Level adjustment activates the load dependent on the ambient light level in the field of view of the sensor. This adjustment can be set to allow the Infrascan to operate the load at any light level between full daylight and almost complete darkness. For example, the user can ensure the load is only activated when movement is detected at night time. During the day time, when there is adequate natural light, the unit can be set so it does not activate the load, as it is not necessary to do so.

The Time-On adjustment varies the time span that the load will remain on after the infrared source moves out of, or stops moving within the field of view. The load will automatically be switched off after the Time-On period has elapsed. Any period between 5 seconds and approximately 20 minutes may be set by the time adjustment screw.

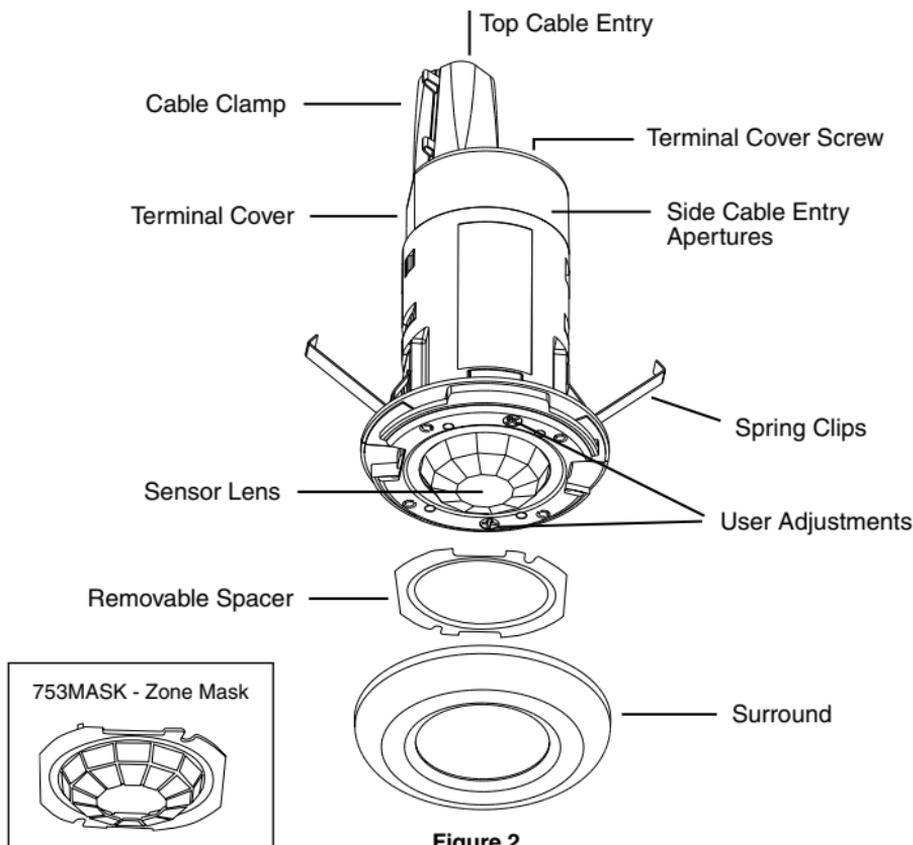
Twist to Remove Surround



Note

- The sensor head is specially designed to give optimum performance and is sealed to prevent water or dust from entering the unit. Under no circumstances should it be tampered with. There are no user serviceable parts inside.
- Do not apply any pressure on the actual sensor lens itself, as this may damage the lens, and adversely affect the performance of the unit.

5.0 Identification of Parts



Note

- The unit is supplied with an optional zone mask, designed to block the unit from detecting motion in unwanted trip areas. This might include a smaller office space with an open doorway, where it is not desirable to activate lighting when people pass by the open door.
- The zone mask incorporates a series of staged tear-away sections, allowing full customisation of the field of view. Tear away sections where you want detection to take place.
- To fit the zone mask, remove the surround and unclip the removable spacer. Clip the zone mask in place and replace the surround.
- Additional zone masks are available (Clipsal Catalogue Number 753MASK).

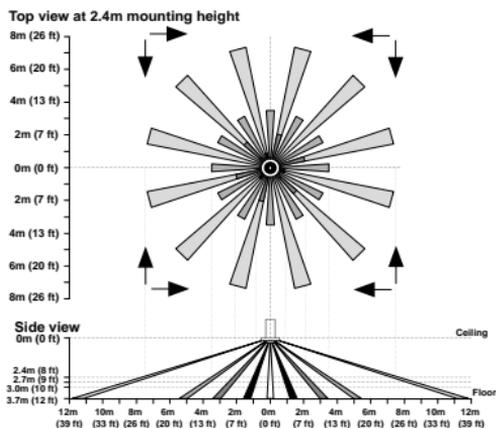
6.0 Installation Location

An Infrascan must be positioned correctly to ensure effective operation. The field of view is optimum when the sensor head is mounted in a vertical position at a height of 2.4 metres and the approach path is across the face of the sensor.

Note

- Do not mount the Infrascan close to objects which can create rapid temperature changes, e.g. air conditioning vents, heater flues, moving water (i.e. fountains and sprinklers). Avoid locations where condensation is likely to form on the lens.
- Do not mount the Infrascan on any surface that is subject to movement due to wind or other causes.
- In all cases, locate the Infrascan so that the approach path is across the field of view and not directly towards the Infrascan, as a reduced detection range will be observed.

7.0 Field of View



Arrows show direction of approach for maximum rated range.

Note: that the effective field of view is circular, approximately 14m diameter, when mounted on a ceiling 2.4m above the floor.

Note

- The stated field of view is typical for full body movement and is subject to variations caused by the type and quantity of clothing worn, as well as variable background temperature characteristics and speed of movement.
- Rapid and large temperature changes may be detected even if they appear to be well beyond the field of view due to reflection off surfaces that are within the field of view.

8.0 Mounting Procedures

Step 1

Using a hole saw or otherwise, cut a 50mm (2") circular hole in the ceiling (or ceiling tile). Draw cable through hole.

Step 2:

Remove terminal cover screw and terminal cover to expose terminals. Remove cable entry tear-away(s) from the terminal cover as required, to suit incoming cable.

Top Cable Entry

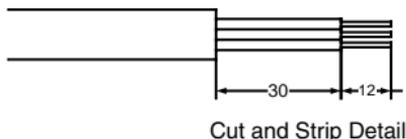
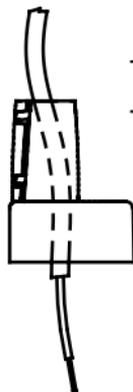
Punch out the top cable entry hole, then fit the cable clamp to the terminal cover. Push the two halves so that it snaps together, and clip onto the terminal cover entry hole. The cable clamp wraps around the incoming cable. Feed cable through.

Side Entry

DO NOT USE SIDE ENTRY.

Step 3

Strip cable. Terminate incoming wiring on the appropriate terminals as marked. Refer to Section 9 Wiring Diagrams for further information about wiring for different applications.

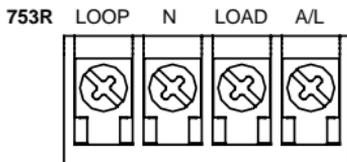
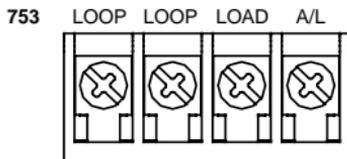
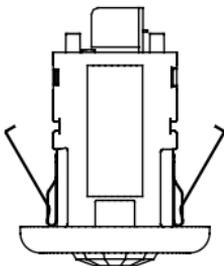


Step 4

Fit the terminal cover, and secure using the terminal cover screw.

Step 5

Depress the outer ends of the spring clips towards the centre of the unit and push the unit through the hole until it rests flat on the ceiling.



Terminal Detail

Figure 4

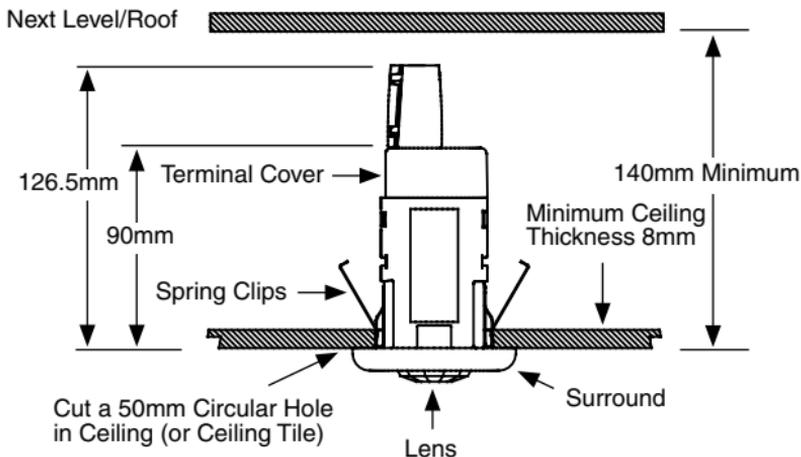


Figure 5

Note

- When mounting in suspended ceilings there should be at least 140mm between the lower surface of the tile and the hard surface above.
- Do not apply any pressure on the actual sensor lens itself as this may damage the lens.

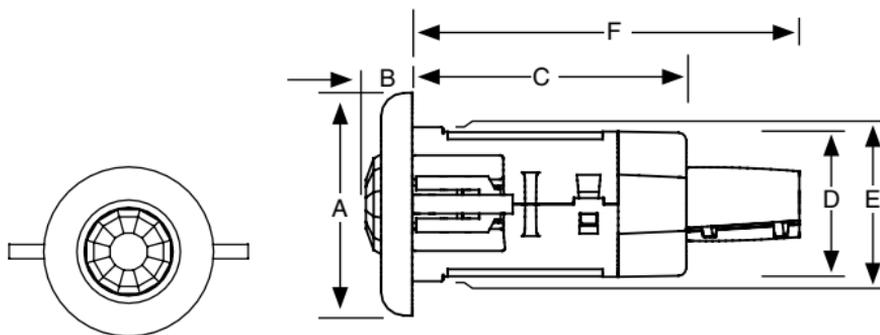
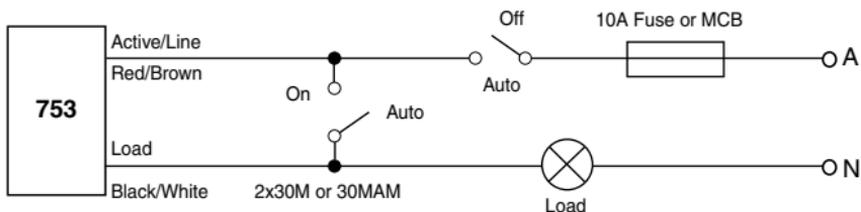
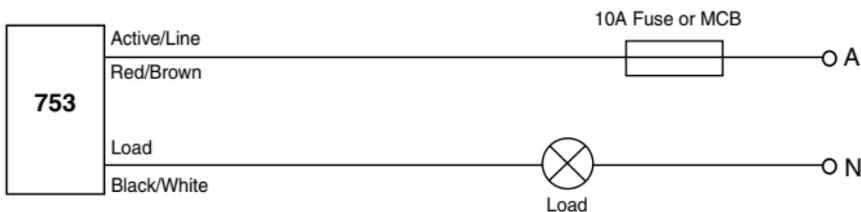


Figure 6

A	72mm	(2.83")
B	15mm	(0.59")
C	89mm	(3.50")
D	47mm	(1.85")
E	50mm	(1.97")
F	126.5mm	(4.98")

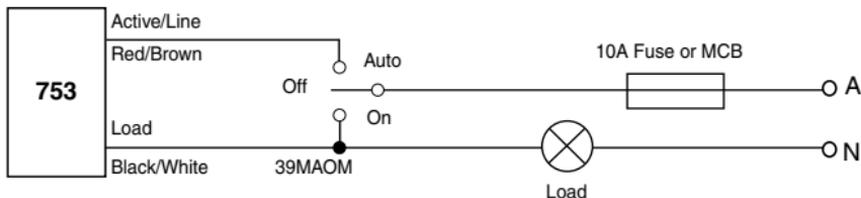
9.0 Wiring Diagrams - 753 2-Wire Infrascan

1(a) Automatic operation



1(b) Automatic with manual override ON or OFF

1(c) ON, OFF or AUTOMATIC operation using a three position switch



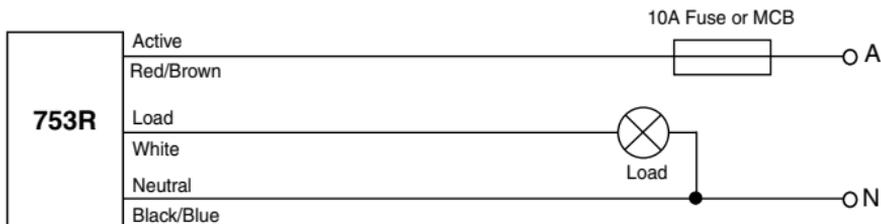
Note

- When switching to AUTO for any of the above configurations the Infrascan will turn on. Allow 30 seconds plus Time-On period for the sensor to stabilise for normal operation. Wiring diagram 1(a), without override switches is preferred as there is no settling period.
- More than one 753 CANNOT be connected in parallel to a common load. If parallel connection of multiple devices to control a common load is required, use Cat. No. 753R.

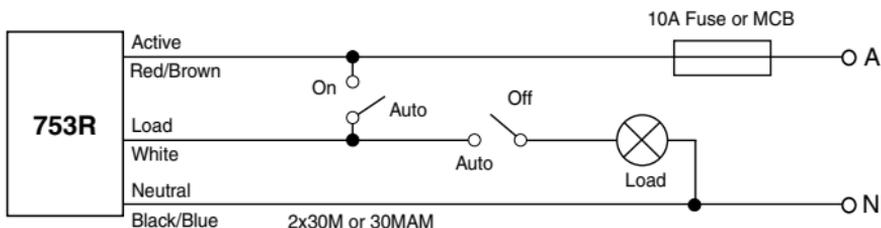


10.0 Wiring Diagrams - 753R 3-Wire Infracan

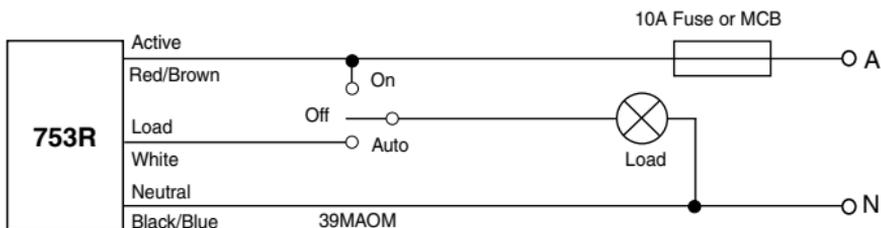
2(a) Automatic operation



2(b) Automatic with manual override ON or OFF



2(c) ON, OFF or AUTOMATIC operation using a three position switch



Warning

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



11.0 Commissioning

When setting the Time-On or Light-Level adjustments keep clear of the field of view when assessing the effect of the adjustment.

11.1 Set Up for Walk Test

1	Connect unit to mains power and allow at least 30 seconds for the unit to stabilise before conducting any tests.
2	Twist and remove the front surround and use a screwdriver to set the 'Time-On' adjustment fully anti-clockwise (5 second timer set).
3	Set the 'Light-Level' sensor adjustment fully anti-clockwise (unit set to respond in light or dark conditions).
4	Walk slowly around the area in the desired field of view to confirm the load is activated from within the desired area. Check that the unit responds appropriately when entering the room. Check that the unit does not trigger unnecessarily when walking past open entry ways (e.g. adjoining hallway or corridor). Fit the zone mask if necessary to restrict the field of view to avoid nuisance tripping.
5	Set the 'Light-Level' as desired for activation at dusk for normal operation.
6	Set the 'Time-On' interval to the desired time for normal operation.
7	Replace the front surround.

11.2 Adjustment Of Time-On and Light-Level Settings

Time-On Adjustment

Adjustment Range: Five seconds to 20 minutes.
Rotate clockwise to set required time-out period.

a	Minimum setting (five seconds).	
b	Set for areas with constant occupation but infrequent movement.	
c	Set for areas with less occupation but constant movement.	

Light-Level Adjustment

Adjustment Range: One lux to full sunlight.
Rotate clockwise to avoid having load activated when natural light is adequate.

a	To activate the load at dusk, set adjustment to this area.	
b	Load activated at night only.	
c	Load activated both day and night.	

12.0 Troubleshooting

Problem	Possible Cause	Possible Action
Light turns on for no apparent reason.	Momentary power failure.	None, unit will reset after Time-Out.
	Unseen target.	Check for animals, e.g. dogs/cats, etc.
	Extreme draughts of hot and cold air.	Check doors, windows or air conditioning outlets.
	Trees/bushes moving in the wind.	Re-aim sensor head.
	Vehicular or pedestrian traffic on edge of field of view.	Re-aim sensor head.
Light turns on during daylight.	Wrong setting on Light Adjustment.	Reset according to Commissioning Instructions.
Lights do not turn on in dim and dark conditions.	Wrong setting on Light Adjustment.	Reset according to Commissioning Instructions.
	Light globe blown.	Replace light globe.
Light remains permanently on.	Manual override switch fitted and set to Manual.	Reset according to Commissioning Instructions.
	Moving infrared source being detected. Note: do not mount too close to objects which can change temperature rapidly, e.g. air conditioner vents, heater flues, moving water (i.e. fountains, sprinklers).	Remove unwanted infrared source. If unable to resolve, blank off viewing window. Light should turn off after Time-Out. If light still remains on, call installer.

Note

- Take care not to scratch or damage the translucent window on the front of the Infrascan, as it forms part of the optical detection system. For continued optimum performance ensure that the window is cleaned periodically with mild soap, water and a soft cloth.

13.0 Technical Specifications

Catalogue Number	753	753R
Operating Voltage	200 – 265V 50Hz a.c.	
Maximum Load Current	2A	10A
Minimum Load (Watts)*	40W	0W
Maximum Off-State Leakage Current	10mA	0mA
Stand-By Power Consumption	< 1W	< 1W
Conductors Required	2-WIRE	3-WIRE
Neutral Required	NO	YES
Operating Temperature Range	0° - 50°C	
Warm-Up Time	30 seconds	
Rated Detection Field at Maximum Sensitivity**	360°, circular detection field 14 meters diameter	
Optimal Mounting Height for Rated Detection Field	2.4 metres	
Timer Delay Range	5 seconds to 20 minutes, user adjustable***	
Light Level Inhibit Threshold	Continuous from 1 lux to full sunlight, user adjustable	
Mounting Surface	Ceiling mount	
Overall Dimensions	72mm diameter x 141.5mm high	
Cut-Out Dimension	50mm holesaw	
Cables Accommodated	4 terminals, up to 2 x 2.5mm ² cable per terminal	

Catalogue Number	753	753R
Compatible Load Types	 Incandescent  240V Halogen  Iron Core Transformers****	 Incandescent  240V Halogen  Fluorescent  Iron Core Transformers  Electronic Transformers <p>M Small Motor Loads 5A</p> <ul style="list-style-type: none"> - Shaded Pole Induction Motors 5A Max (exhaust fans) - Split Phase Induction Motors 5A Max (ceiling fans)
Incompatible Load Types	 Electronic Transformers  Fluorescent Loads  Discharge Lamps <p>M Motor Loads</p>	N/A
Specifications Typical @ 240V a.c., 25°C		
No user serviceable parts inside.		
This product is recommended for INDOOR USE ONLY.		

* The 753 2-Wire Infracan must be connected to a minimum 40W load, unless the 31CAP (sold separately) is fitted. Failure to do so may cause unexpected or erratic switching of the load.

** The range specifications given are based on a 90kg person travelling at greater than 1 metre per second across the field of view, where there is a temperature differential greater than 5° Celsius between the person and the background. Objects that are hotter or moving faster (e.g. motor vehicle on nearby roadway) may be detected at greater distances. A person covered in heavy clothing or walking directly towards the sensor may not be detected until they get much closer to the unit.

*** Other models are available with longer Time-Out ranges, designated 753Rxx (where xx is the Time-Out period in minutes).

**** Only iron-core transformers compatible with electronic switches may be used to ensure compliance with IEC 60669-2-1.

14.0 Warning- Using the 753 with Special Loads

Small Loads (<40W)

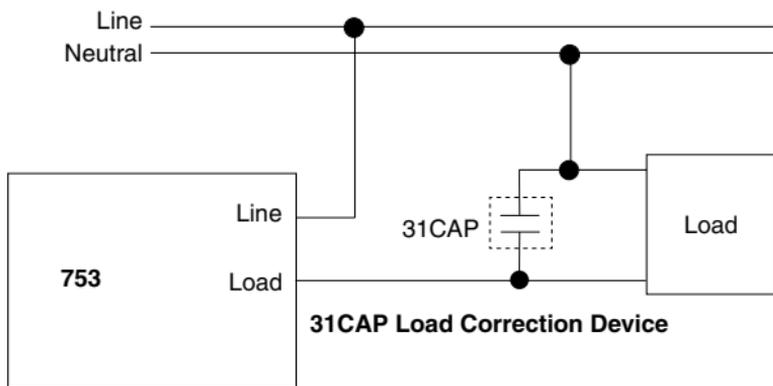
The 753 product can only drive loads greater than 40W. If you wish to drive a smaller load, the 31CAP Load Correction Device is required to be fitted in parallel with the load. For example: when driving a single contactor, be sure to use the 31CAP.

Loads which are Sensitive to Leakage Currents

The 753 is a two-wire device. Two-wire devices draw their power through the load. If this device is used in conjunction with a load, which cannot provide enough continuous load current in the off-state, or the load is sensitive to a high off-state leakage current (for example: relays, contactors, various loads with built-in electronic control, etc.) a 31CAP Load Correction Device must be connected in parallel with the load.

Small (Non-Power Factor Corrected) Fluorescent Loads

When a 31CAP is fitted, some small non-power factor corrected fluorescent loads may be controlled using the 753. Success varies from manufacturer to manufacturer. Recommend testing before installation. Installation must be compliant with local wiring rules.



Note

- Please note the 753R is a three-wire device, and switches the load using an internal relay. Power is not drawn through the load and so the 31CAP is not required.

15.0 Warranty

1. 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 product, which the consumer has under the Commonwealth Trade Practices Act or any other similar State or Territory Laws.
2. The warrantor is Schneider Electric (Australia) Pty Ltd of 33-37 Port Wakefield Road, Gepps Cross, South Australia 5094. Telephone (08) 8161 0511. With registered offices in all Australian States.
3. This Clipsal product is guaranteed against faulty workmanship and materials for a period of two (2) years from the date of installation.
4. 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.
5. This warranty is expressly subject to the Clipsal product being installed, wired, tested, operated and used in accordance with the manufacturer's instructions.
6. All costs of a claim shall be met by Schneider Electric (Australia) Pty Ltd, 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.
7. When making a claim the consumer shall forward the Clipsal product to the nearest office of Schneider Electric (Australia) Pty Ltd with 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 load, and circumstances of malfunction.

Schneider Electric (Australia) Pty Ltd

clipsal.com

Contact us: clipsal.com/feedback

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