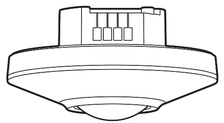
CLIPSAL

by Schneider Electric

USER MANUAL

Art. no.
752DALIRC - PIR sensor, Master, 360deg, DALI output, Remote control option

752DALIS - PIR sensor, Slave for 752DALIRC, 360deg



INSTRUCTION MANUAL

TECHNICAL SPECIFICATIONS

Rated Voltage	: 220 - 240V~ 50 / 60Hz
Output	: 2 channels (DA1 & DA2) Max. 25pcs DALI electronic ballasts or LED drivers can be connected for each channel
Power Consumption	: Approx. 0.5W
752DALIS	: Is a slave sensor used to detect and transfer detecting signal to master sensor 752DALIRC while a larger detection range is controlled, max. 10pcs slave sensors can be connected to each channel of a master sensor.
Auto Off Time Adjustment	: Adjustable from approx. 1min to 60min and Test
Lux Adjustment	: Lux1: Adjustable from approx.10Lux to 2000Lux and " " (learning range: 10Lux to 2000Lux) Lux2: Adjustable from (25%~100%) x Lux1 value
Load on time in standby mode	: 3 precise adjustments: 5min, 10min, 15min and ∞.
Load on illumination in standby mode	: 3 precise adjustments: 10%, 20%, 30% and OFF (Load is off in standby mode)
Detection Range	: 360° circular, up to Φ8m at height of 2.5m
Environmental Protection	: IP42 (surface mounted with surface-mount enclosure) IP40 (flush mounted with flush-mount enclosure)

Safety Warning

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

It is illegal for persons other than an appropriately licensed electrical contractors or other persons authorised by legislation to work on the fixed wiring of any electrical installation.
- To comply with all safety standards, the product must be used only for the purpose described in this instruction and must be installed in accordance with the wiring rules and regulation in the location where it is installed.
- There are no user serviceable parts inside the product.

Failure to follow these instructions will result in death or serious injury.

1 PACKAGE CONTENTS

- **752DALIRC / 752DALIS**

Drawing				
Item	Sensor	Screw Φ3 x 16mm	Lens mask	Manual
Quantity	1	2	2	1

Drawing			
Item	Enclosure, surface mount	Non-dropping screw Φ3 x 15mm	Wood screw Φ4 x 25.4mm
Quantity	1	4	2

Drawing	
Item	Enclosure, flush mount with spring clips
Quantity	1

- **Accessories for optional purchase**

Drawing	
Item	752RC/DALI (optional purchase)
Quantity	1

2 PRODUCT DESCRIPTION

This is a Presence Sensor integrated PIR motion sensor and light level sensor, solely designed for incorporating to the DALI (Digital Addressable Lighting Interface) intelligent lighting management system to provide multi-functions such as switching on and off and dimming the light, also can do lighting scenery setting which can offer comfort and convenience as well as energy saving benefits.This product provides 2 channels outputs for controlling lighting systems in two zones independently.

2.1 Features

Available in various mounting ways, e.g. surface mount and flush mount both applicable, and can be fitted into the junction box.

- Detection range can be extended by connecting the slave sensor (752DALIS) to master sensor, max.10pcs slave sensors can be connected per channel.
- Can be programmed by IR remote control for easy and quick settings, also to get function of auto / semi-auto mode (**Note: The IR remote control is strongly recommended to purchase**).
- The ambient Lux value can be learned as the threshold for switching on / off the loads by IR or VR if the pre-set Lux value does not match user's requirement.
- The surface-mount enclosure & flush-mount enclosure meet different mounting requirements.
- Red & Green LEDs are equipped as indicators for test triggering and IR setting.
- Compliant with International DALI IEC62386 Standardprotocol.
- With 2-channel DALI outputs control lighting system in their corresponding areas, all connected devices share the same broadcast address. And there is no need to assign address to every device.

2.2 Dimension

752DALIRC : Φ102 x 54mm (See FIG.1-A)

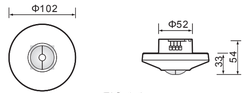


FIG.1-A

- Sensor with enclosure
- Sensor with flush-mount enclosure

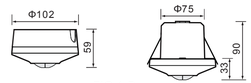


FIG.1-B

- **752RC/DALI :** Remote control (optional purchase)

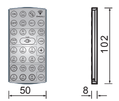


FIG.1-C

3 INSTALLATION AND WIRING

3.1 Select a proper location

3.1.1 752DALIRC / 752DALIS can be installed at the height of 2-5m and the height of 2.5m is recommended to gain the optimal detection pattern. The detection range can reach up to the diameter of 8m and 360° detection angle (See FIG.2).

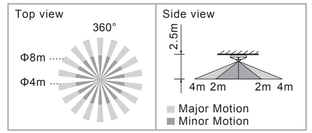


FIG.2

3.1.2 Pay attention to the walking direction in the test proceeing. It is more sensitive to movement across the sensor and less sensitive to movement directly toward to sensor which will reduce the detection coverage (See FIG.3).

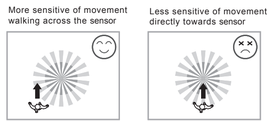


FIG.3

3.1.3 Helpful tips for installation

Since the sensor is in response to temperature change, please avoid the following conditions (See FIG.4-A & FIG.4-B):

- Avoid aiming the sensor toward the objects which may be swayed in the wind, such as curtain, tall plants, miniature garden, etc.
- Avoid aiming the sensor toward the objects whose surfaces are highly reflective, such as mirror, monitor, etc.
- Avoid mounting the sensor near heat sources, such as heating vents, air conditioning, vents as dryers, lights, etc.

FIG.4-A

FIG.4-B

- The presence sensor has two DALI outputs. DA1 is the "master channel" in terms of light measurement and light control. DA2 is subordinate to DA1. Remember to bear this in mind when assigning lighting groups to the channels, we recommend that you assign the "room interior" lighting groups to DA1 and the "window side" lighting groups to DA2. Nevertheless, it's still possible to mount the sensor on the ceiling in any place.

3.1.4 Installation tips specially for DALI dimming presence sensor

- The sensor should be placed in room where it can measure both natural light and artificial light simultaneously.
- Direct light on the sensor from any illumination should be avoided.
- You should be away from the sensor to avoid affecting the luminous flux that reaches the sensor when making Lux value setting.
- Do not install the sensor directly next to a window or sun blind which can cause incorrect measurement on the natural light (Refer to FIG.4-C)

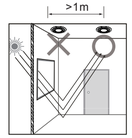


FIG.4-C

3.2 Function

3.2.1 Auto mode

- Under Auto mode, the load will turn on automatically when the movement is detected and the ambient light level is below the Lux setting value. When no movement is detected and the delay time has expired, the load will (turn off) move to standby mode automatically.
- According to the changeable ambient light level, sensor
- can postpone load's delay time of turning on and off to avoid load's unnecessarily switching on or off due to rapid ambient light change:

Ambient light level changes from bright to dark: If the ambient light level keeps to be lower than the preset Lux value for 10sec, the light will be automatically switched on after 10sec. (LED will be on 10sec for indication)

Ambient light level changes from dark to bright: If the ambient light level continuously exceeds the switch off Lux value for 5min, there are different reactions according to the time setting value. Time setting ≥ 5min, the light will be automatically switched off after 5min.

Time setting < 5min, the light will be automatically switched off when the set time reached if no movement is detected during the 5min. But if there is movement detected within the 5min, the time will be reset upon detection and until 5min later, the light is switched off.

Remark: Both DA1 and DA2 have the above mentione functions.

3.2.2 Standby mode function

- In auto mode and the ambient light level is still below the pre-set Lux value, once the pre-set delay time reached and no movement is detected, the sensor will move into standby mode, then load (light) will keep on with the lower illumination level according to the STBY% setting and the delay time is according to STBY setting.

During the stan by mode period, if the sensor is activated, the load (light) will change to be with 100% illumination level and automatically resume to auto mode. Load (light) will be turned off when the ambient light level is above the pre-set value and there is no movement detected after the STBY delay time reached.

- When changing the standby light level setting either with knob or IR operation, light will be dimmed in 1sec to the newly selected light level and keep it on for 5sec, then returns to the light level of last setting for user to compare the light level before/after change that can help user to select the proper light value.

3.2.3 Auto dimming (constant light level control)

According to the changeable ambient light level, the load can dim to bright or dark automatically to match the Lux setting value (Lux setting value by IR or knob is measured the mixed light level of artificial light and the ambient light).

3.2.4 Manually ON / OFF switching function

3.2.4.1 Terminal of R/S1, R/S2, R/S and push button (N.O. type) can be series connected to control load's on / off manually. (case 1: on → off; case 2: off → on). While pressing push button(≤ 1sec):

Case 1: Manual off switching (Lux settings is invalid):
Under the light on status, the light can be manually switched off by short pressing (≤ 1sec) the push button. During this operation mode, once the sensor is triggered by movement, the light keeps off within the set switch off delay time. Until there is no movement detected and the pre-set switch off delay time has reached, the sensor resumes to work according to the previous operation mode set by knobs or IR. To press the push button(≤ 1sec) during the light manual off period will activate the manual light on function (working as Case 2).

Case 2: Manual on switching (Lux settings is invalid):
Under the light off status, the light can be manually switched on by short pressing (≤ 1sec) the push button. During this operation mode, once the sensor is triggered by movement, the light keeps on within the pre-set switch off delay time. Until there is no movement detected and the pre-set switch off delay time has elapsed, the sensor resumes to work according to the previous operation mode set by knobs or IR. To press the push button (≤ 1sec) during the light manual on period will activate the manual light off function (working as Case 1).

Remark:Push button can be connected between R/S1 (R/S2) and L for manually control DA1 (R/S1) and DA2 (R/S2) respectively. And if connected with R/S terminal, it can control both DA1 (R/S1) and DA2 (R/S2) simultaneously.

3.2.4.2 Max. 10pcs slave sensors can be respectively connected in parallel to the "R/S1", "R/S2" and "R/S" terminal of the master sensor 752DALIRC to expand detection range if detection range of one 752DALIRC does not match the user's desire. Slave sensor can only be used to transfer detecting signal to master sensor for expanding the detection range, the connected loads will only act according to the pre-set values of master sensor.

3.2.5 Manual dimming via external push button

Sensor can dim the light level of lighting manually via operating the push button connected to "R/S1", "R/S2" and "R/S" terminal. Press (≥ 2sec) the push button, the light level of the load will change, then release the push button while the light level of the load matches the desired value.

Remark: It will lead to opposite dimming direction if next dimming is carried out.The dimming way is unidirectional and non-recyclable.

3.2.6 Dimming via Remote control

Remote control is locked: Press " " or " " button to

- start dimming, then again pressing " " or " " button to stop dimming while the ambient light level matches user's desire, but the value will not be saved in sensor, and it will be dimmed automatically according to last Lux setting value while the light is switched on next time.

Remote control is unlocked: Press " " or " " button

- to start dimming, then again pressing " " or " " button to stop dimming while the ambient light level matches user's desire and the value will be saved in sensor as pre-set Lux value, and it will be dimmed to this light level automatically while the light is switched on next time.

3.2.7 Semi-auto mode (Operation with remote control only)

Sensor enters into semi-auto mode by pressing " "

- button on remote control.
- Under semi-auto mode, load can only be manually switched on by operating external push button.
- When the load is switched on, it will keep on if the movements are detected constantly.
- Load will turn off if no movement is detected and the delay time has expired.
- Load can also be manually switched off by operating

3.3 Wiring

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK

Dangerous voltage is present at the wiring terminals.
- To avoid injury, lock out and tag the supply circuit before installation.
- A circuit breaker (250 V AC, 10 A) Type C must be installed according to AS/NZ 60898-1.

Failure to follow these instructions will result in death or serious injury.

3.3.1.1 Normal operation (See FIG.5)

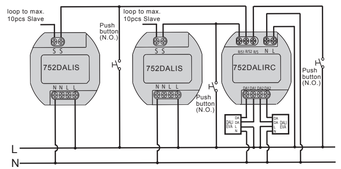


FIG.5

3.4 Installation procedure

3.4.1 Flush mount with junction box

3.4.1.1 Take off decorative frame of 752DALIRC/752DALIS (See FIG.6).

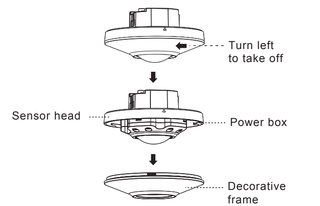


FIG.6

3.4.1.2 Pull out AC power cables from junction box (See FIG.7), then strip off 6 - 8mm of cable sheathing for wiring (See FIG.5).

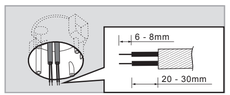


FIG.7

3.4.1.3 Please refer to illustration of FIG.8 for correct wiring and fix the power box into junction box with 2pcs screws (See FIG.8).

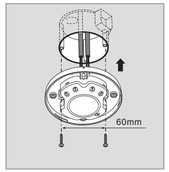


FIG.8

3.4.1.4 Fix the decorative frame (See FIG.6).
3.4.1.5 Restore the power supply.

3.4.2 Flush mount with flush-mount enclosure

3.4.2.1 To install the sensor, please drill a hole with diameter of 78mm on ceiling board and keep the power cable outside. Please strip off 6 - 8mm of cable sheathing for wiring (See FIG.9).

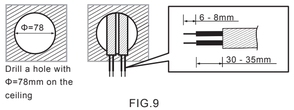


FIG.9

3.4.2.2 Use a screwdriver to break the rubber gasket on flush-mount enclosure, then feed cables through it (See FIG.10).
3.4.2.3 Please refer to illustration of FIG.5 for correct wiring and then screw the flush-mount enclosure tightly.

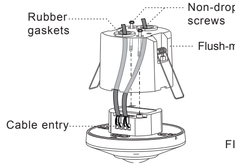


FIG.10

3.4.2.4 Close up sensor's two spring clips and insert the sensor into the drilled hole on ceiling (See FIG.11).

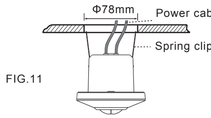


FIG.11

3.4.2.5 Restore the power supply.

3.4.3 Surface mount with enclosure

3.4.3.1 There are 4 pairs of knockouts with various distances from 56mm to 80mm on the bottom cover of combined enclosure can be selected for different mounting applications (See FIG.11-A). Select two same figures on both ends for the corresponding distance for fixing (See FIG.11-B).

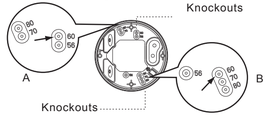


FIG.11-A

NO.	A	B	The distance between A and B
1	56	56	56mm
2	60	60	60mm
3	70	70	70mm
4	80	80	80mm

FIG.11-B

3.4.3.2 To feed AC power cables through the side of enclosure, please use the cutting pliers to break the cable entry knockouts on the side of enclosure, then feed cables through it. Strip off 6 - 8mm of cable sheathing for wiring (See FIG.12).

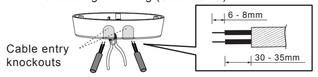


FIG.12

3.4.3.3 Choose proper knockouts to fix the enclosure on the surface of ceiling board with 2pcs wood screws attached with rubber washers (See FIG.13).

FIG,13

3.4.3.4 Refer to wiring diagrams for correct wiring connection (See FIG.5). There is a square hole in the fixing plate, when you put the fixing plate into the enclosure, please fit the fillister to the enclosure's protrusion (See FIG.8), then fix the sensor head on the power box following FIG.13 and assemble them with the attached 4pcs non-dropping screws.

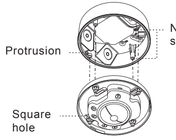


FIG.14

3.4.3.5 Cover back the sensor's decorative frame and restore the power supply.

4 OPERATION AND FUNCTION

4.1 Lux1, Lux2, STBY, STBY% and Time knobs (752DALIS has only Meter knob)

Knob	Function	Knob setting
Time	Set delay off time for lighting	Range: Approx. 1min to 60min Test : Test mode (Load and red LED will be 2sec on, 2sec off)
Lux1	Set the light value fors witching on DA1	Range : Aadjustable from approx.10 to 2000Lux. (learn): The actual ambient light level (10 - 2000Lux) can be read in
Lux2	Set the light value for switching on DA2	Range : Aadjustable from approx. 25% to 100%. Remark: Lux2 value is automatically calculated as follows: Lux2=Lux1 value x Lux2 preset percentage value
STBY	Set load on time in standby mode	3 precise adjustments: 5min, 10min, 15min, plus ∞.
STBY%	Set load illumination in standby mode	3 precise adjustments: 10%, 20%, 30% and OFF (Load is off in standby mode)
Meter (752DALIS only)	Set the range of detection	Range: Adjustable from approx. "-" (Φ2m) to "+" (Φ8m)

4.2 Lux learning function with knob

Learning procedure:

4.2.1 Adjust the knob to " " when the ambient light level matches with the desired value (See FIG.15-A).

4.2.2 When the knob is set to " " originally, it should be adjusted to other position more than 1sec, then goes back to " " (See FIG.15-B).

4.2.3 Then the load is off. red LED starts to flash slowly indicating entering into learning mode. Learning will be completed within 25 seconds. Afterwards, the red LED and load will keep on 5sec or red LED flashes quickly for 5sec and load is off to confirm successful l earning (See FIG.15-C).

4.2.4 After learning procedure, the sensor returns to AUTO mode with red LED and load being off.

FIG.15-A

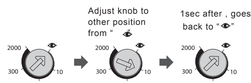


FIG.15-B

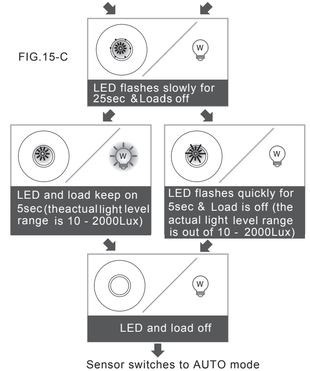


FIG.15-C

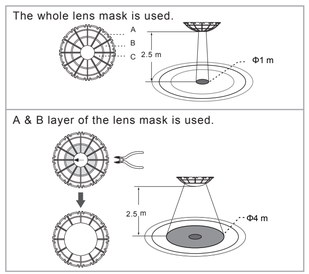
Sensor switches to AUTO mode

HINT

- Only Lux1 has Lux learning function.
- When the actual light level is out of the range 10 - 2000Lux, sensor will learn 25sec, then the red LED flashes quickly for 5sec. When the actual light level is below 10Lux, Lux value is set to 10Lux, or is above 2000Lux, Lux value is set to 2000Lux. Installer should be away from the sensor to avoid affecting the luminous flux that reaches the sensor when learning Lux value.

4.3 Usage of lens mask

4.3.1 752DALIRC / 752DALIS has provided 2 lens masks for masking the undesired detection area. Each lens mask has 3 layers (Layer A / Layer B / Layer C), each layer includes 6 small segments and each small segment can cover 30° detection angle. For example, install the sensor at 2.5m height, the detection range can reach up to 1m diameter if the two complete lens masks have been used, and up to 4m diameter if the A & B layers of two lens mask has been used, and up to 6m diameter if only the A layer of two lens mask has been used, and up to 8m diameter if no lens mask has been used.



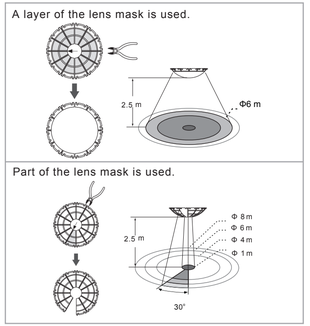


FIG.16

- The shadow part of the lens masks in the FIG.16 is referring to the cut off parts.

4.3.2 After user choosing the desired detection area, the redundant lens mask should be eliminated.

4.3.3 Fixing lens mask: There is slot around the lens and insert the lens mask into slot (See FIG.17).

FIG.17

4.4 Walk test (Lux setting is inactive)

The purpose of conducting walk test is to check and adjust detection coverage. Set Time knob to "Test", then conducting a walk test.

HINT

It takes approx. 60sec for sensor to warm up after power is supplied, then sensor enters into normal operation to carry out a walk test.

FIG.18

4.4.1 752DALIRC test procedure
4.4.1.1 Tester must be within the detection coverage.
4.4.1.2 Switch power on.
4.4.1.3 752DALIRC takes approx. 60sec to warm up with load and red LED or green LED on, then turns off after warming up time.
4.4.1.4 Walk from outside across to the detection pattern until red LED or green LED turns on for approx. 2sec then off, the next trigger should be 2sec interval (See FIG.18).
4.4.1.5 Adjust lens mask for desired detection range.
4.4.1.6 Repeat step 4.4.1.4 and 4.4.1.5 until it meets user's demands.
4.4.2 752DALIS test procedure
4.4.2.1 Tester must be within the 752DALIS detection coverage.
4.4.2.2 Connect 752DALIS to 752DALIRC.
4.4.2.3 Switch power on.
4.4.2.4 752DALIS takes approx. 60sec to warm up with load on, then turns off after warming up time.
4.4.2.5 Walk from outside across to the detection pattern until load turns on for approx. 2sec then off, the next trigger should be 2sec interval (See FIG.18).
4.4.2.6 Adjust lens mask for desired detection range.
4.4.2.7 Repeat step 4.4.2.5 and 4.4.2.6 until it meets user's demands.

5 TROUBLE SHOOTING

When 752DALIRC /752DALIS works abnormally, please check assumptive problems and suggested solutions in below table that will hopefully solve your problem.

Problem	Possible cause	Suggested solution
Load does not turn on	1. No power is supplied. 2. Incorrect wiring. 3. Incorrect Lux knob setting. 4. Malfunctioned load.	1. Switch on the power. 2. Connect the load referring to the wiring diagrams (SeeFIG.5 - FIG.6). 3. Set Lux knob to "2000" and check if the load will be on. 4. Replace with a new one.
Load does not turn off	1. Incorrect time knob setting. 2. Sensor is nuisance triggered. 3. Incorrect wiring.	1. Set the time knob to a shorter time and check if the load will be off. 2. Keep away from the sensor while doing the walk test. 3. Check if the power and load connect incorrectly.
LED does not turn on	1. Time knob is not set to "Test". 2. Exceed the effective detection coverage.	1. Set the time knob to "Test" to check if LED will be on. 2. Walk within the effective detection coverage (Φ8m).
Dimmer function is invalid.	1. Incorrect wiring. 2. Malfunctioned dimmable electronic ballast or LED driver.	1. Connect cables referring to the wiring diagrams (See FIG.5 - FIG.6). 2. Replace with a new electronic ballast or LED driver.
752DALIS can't enlarge detection range when it's connected to master sensor	1. Master sensor and slave sensor are connected incorrectly. 2. Master sensor has the incorrect settings, so that the connected load can't be switched on.	1. Connect cables referring to the wiring diagrams. 2. Adjust the settings of Time & Lux for switching on the connected load depending on sensor's triggering in such condition.
Nuisance triggering	There are heat sources, highly reflective objects or any objects which may be swayed in the wind within the detection coverage.	Avoid aiming the sensor toward any heat sources, such as air conditioners, electric fans, heaters or any highly reflective surfaces.Make sure there are no swaying objects within the detection coverage.

6 OPTIONAL ACCESSORY

6.1 It is strongly recommended to purchase the corresponding IR remote control 752RC/DALI for easy and safe setting operations on 752DALIRC.

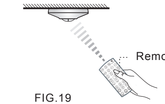


FIG.19

7 Warranty Statement

Schneider Electric (Australia) Pty Ltd, (Clipsal by Schneider Electric), warrants this product to be free from defects in materials and workmanship for a period of three years from the date of installation. The benefits conferred herein are in addition to any other rights and remedies you may have at law in respect to this product. Australian and New Zealand customers please see the notes below.

Australia: Australian Consumer Law specifies that our goods come with guarantees that cannot be excluded. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

New Zealand: This guarantee is in addition to and does not affect your rights under applicable law, except where that law expressly provides otherwise. The Consumer Guarantee Act 1993 (NZ) will not apply if this product is purchased for the purpose of business.

This warranty is expressly subject to the Schneider Electric product being installed, wired, tested, operated and used in accordance with our instructions and specifications. Any alterations or modifications made to the product without our permission will void the warranty. Schneider Electric will at its option repair, replace or refund any defective product. The cost of replacement or repair of a defective product is limited to the price of the product only. Schneider Electric will not be responsible for the cost of retrieving, removing, reinstalling, transporting (including return of the defective product to us) or re-testing a product.

How to make a claim: Contact your electrical wholesaler or local supplier of Schneider Electric, PDL or Clipsal branded products and provide the details of the date of purchase, description of load or connections and the circumstances of the failure. Please provide adequate particulars of the defect within 28 days of the fault occurring.

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Technical and Sales Support
For assistance with technical problems, contact your nearest Schneider Electric sales representative.

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