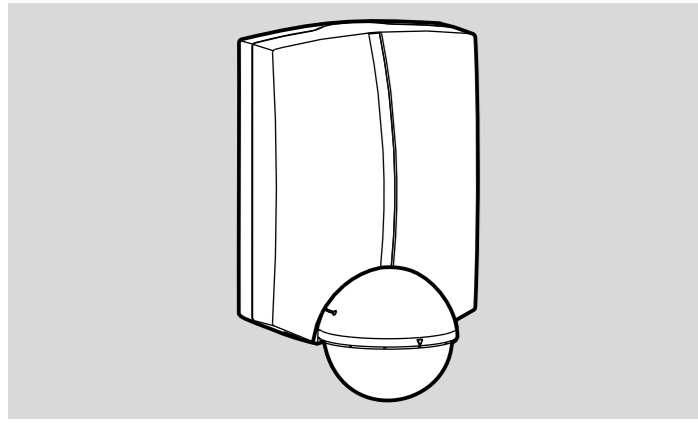


CHALLENGER
 YOUR PARTNER IN A MORE SECURE FUTURE
MOTION DETECTOR LIGHT CONTROL
 SL01/SL01B/SL02/
 SL02B/SL03/SL03B



INSTRUCTION MANUAL

TECHNICAL SPECIFICATIONS

Rated Voltage	230V~50Hz
Load	SL01, SL01B / SL02, SL02B: Max. 5A (cos =1) Incandescent Lamp: Max. 1000W HV Halogen Lamp: Max. 500W LED Lamp: Max. 120W Energy Saving: 200VA(include CFL and PL Lamp)
	SL03, SL03B: Max. 8A (cos =1) Incandescent Lamp: Max. 1840W HV Halogen Lamp: Max. 1000W LV Halogen Lamp: Max. 300VA Fluorescent Lamp: Max. 400VA (Uncompensated) LED Lamp: Max. 150W Energy Saving: 200VA(include CFL and PL Lamp)
Installation height	2.0 - 3.0M, recommended installation height is approx. 2.5M
Detection angle	SL01, SL01B: up to 110° SL02, SL02B: up to 180° SL03, SL03B: up to 270°
LUX Adjustment	From " (" (approx. 5LUX) to " (*" (")
Auto OFF Time Delay	" Test ", from " - " (approx. 6sec) to " + " (approx. 10min) and " JSL "
Meter Adjustment	Max. 10M
LED Mode	OFF / Warning / Watch
Power Consumption	Approx. 1W
Operating Temperature	-20°C to +45°C
Environmental Protection	IP44

Installation must be carried out by qualified electricians or skilled/competent person who is familiar with the appropriate standards and technical requirements of the appliance and its proper installation. Contact a qualified electrician in the event of fault or break down.

CAUTION!

- A circuit breaker (250VAC, 10A) type C according to EN60898-1 of load shall be installed in the fixed wiring for protection.
- Do not mount on conductive surface.
- Do not open the enclosure frequently.
- Turn off power when replacing lamps.
- High in-rush current would occur when lamps of certain brands used which may damage the unit permanently.

1 PACKAGE CONTENTS

● **SL01, SL01B / SL02, SL02B**

Pattern			Rubber washer		
Item	Detector	Lens shields	Wood screws 4 x 25.4MM + Rubber washers		Manual
Quantity	1	2	2		1

● **SL03, SL03B**

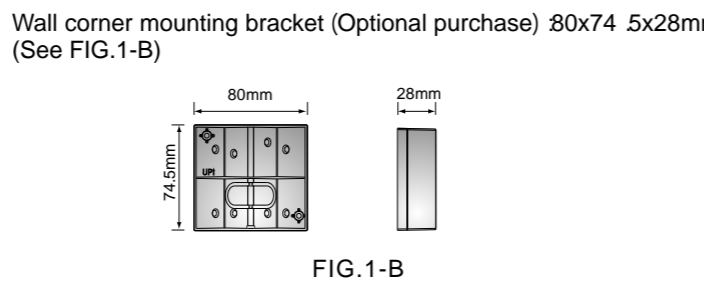
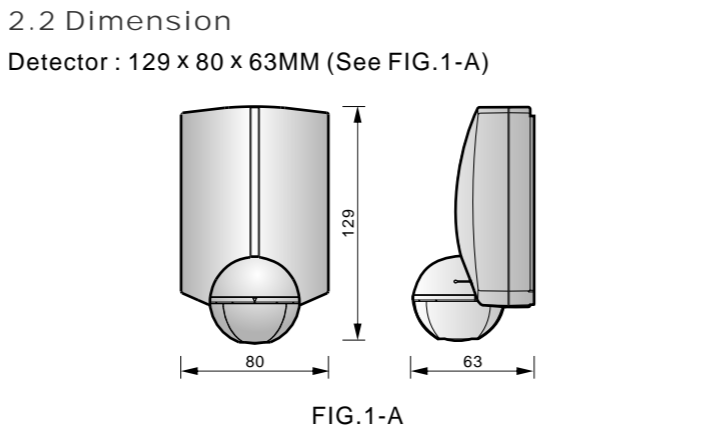
Pattern			Rubber washer	
Item	Detector	Screws 3.5 x 10MM	Wood screws 4 x 25.4MM + Rubber washers	
Quantity	1	2	2	

Pattern			
Item	Corner mounting bracket	Lens shields	Manual
Quantity	1	3	1

2 PRODUCT DESCRIPTION

SL01, SL01B, SL02, SL02B, SL03, SL03B are passive infra red sensors to switch various types of load upon detection of movement. Suitable for indoor or outdoor use and used in residential or commercial environments.

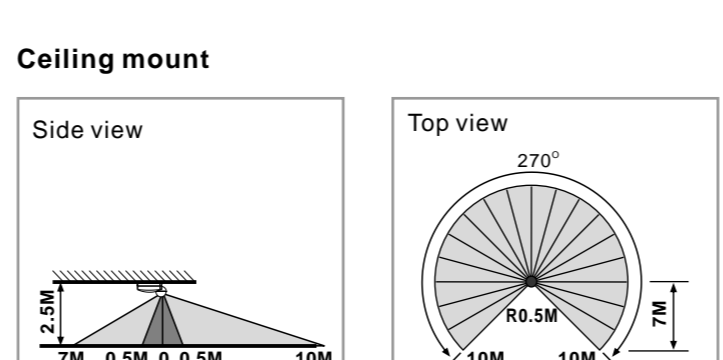
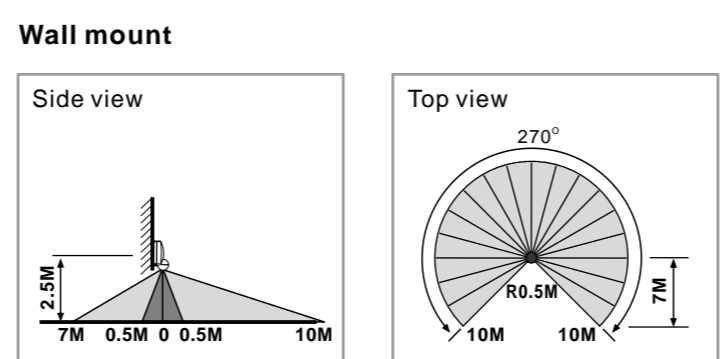
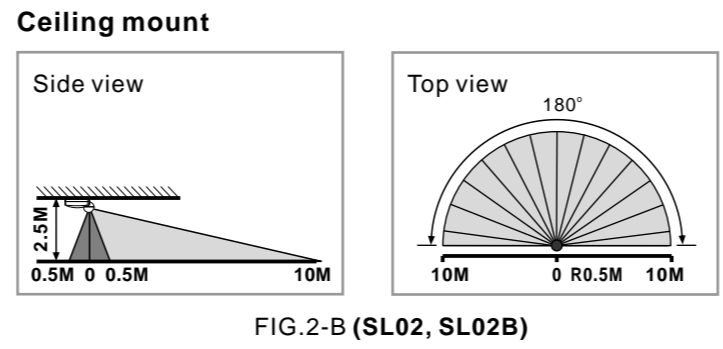
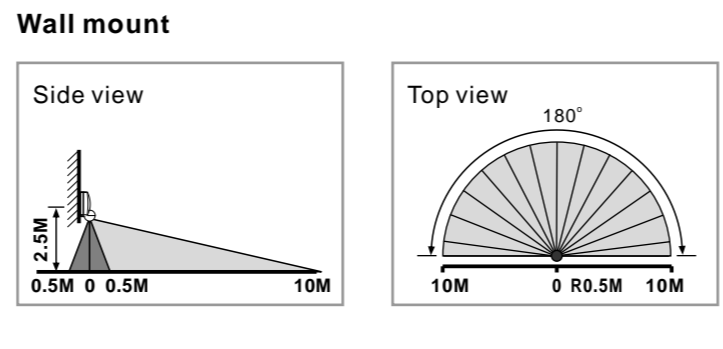
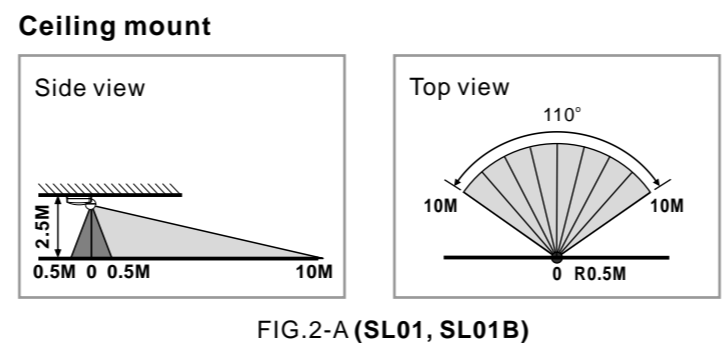
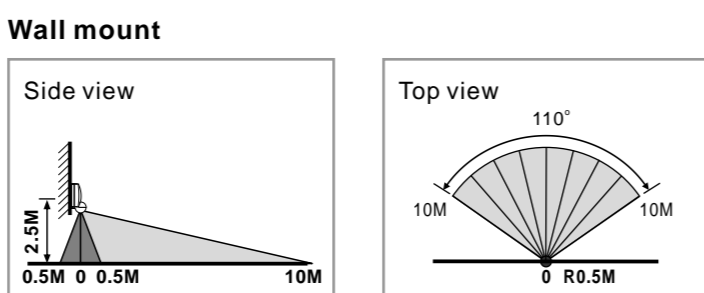
- 2.1 Features**
- 4 Programmable display LED's show the detector state. Choose different configurations to show detector is in standby or test mode. They can also be turned off if not required.
 - Can be wall or ceiling mounted. SL03 & SL03B can also be corner (internal & external) mounted with the supplied corner bracket.
 - Unique design for multi-direction sensing including up / down / forward / sideways adjustment.
 - 3 versions available with different detection angles.
 - Various types of lighting load can be connected to suit most applications.
 - Lens shield equipped for easy detachment and fixing enables a precise adjusting of the detection zone.



3 INSTALLATION AND WIRING

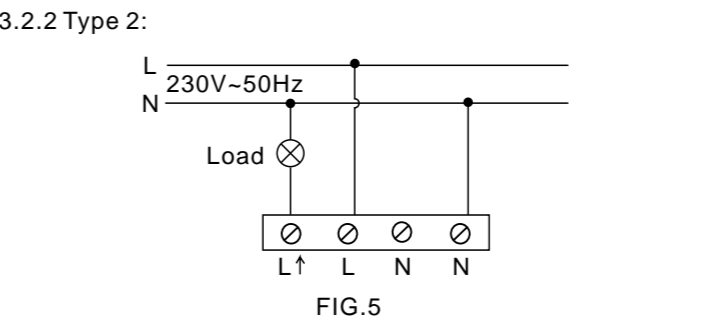
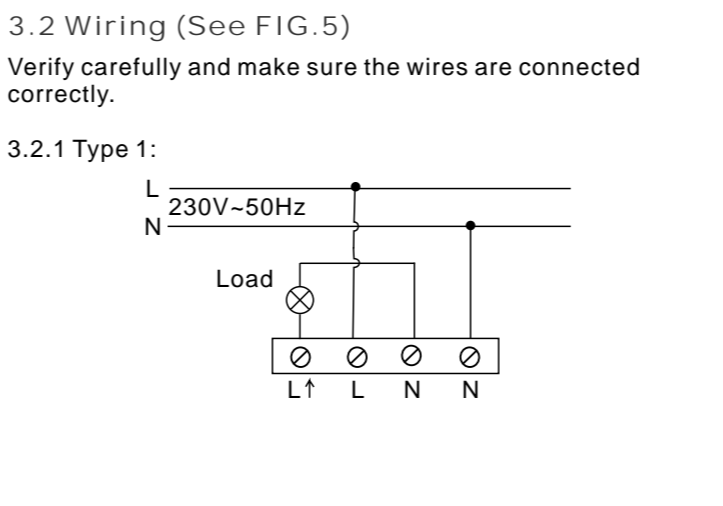
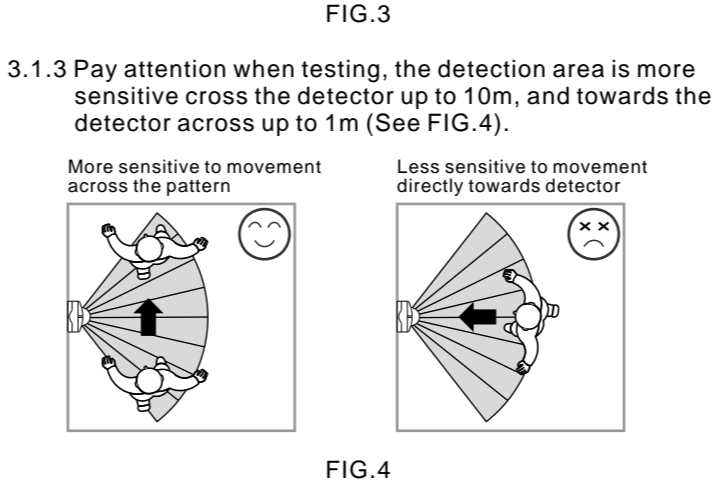
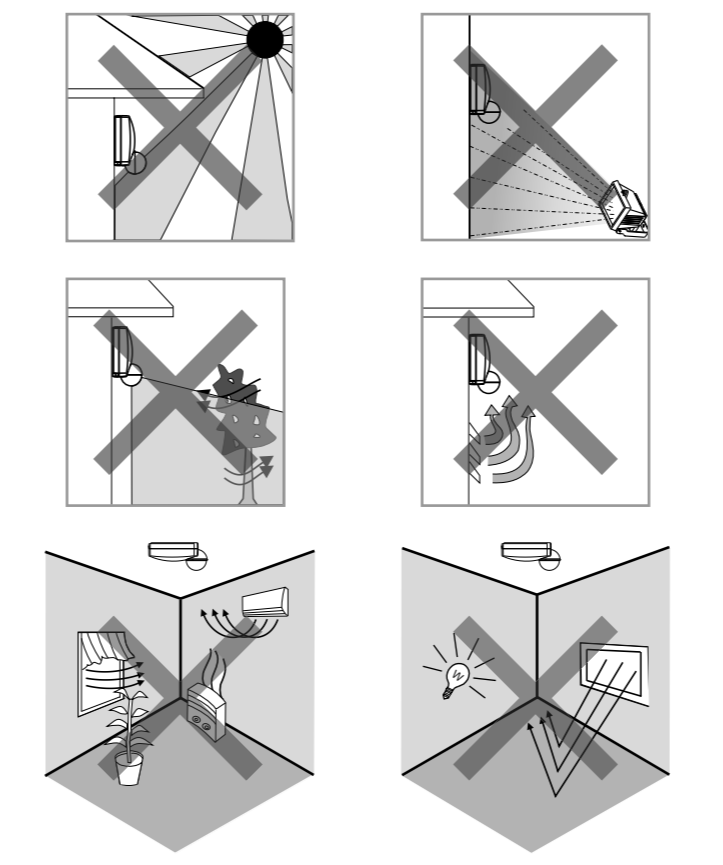
Please disconnect power completely and read the entire instruction manual carefully before installation.

- 3.1 Select a proper location**
- 3.1.1 It is recommended to install the detector at the height of 2 - 3M. The detection range can reach up to 10M, the inner coverage is a circular with radius of 0.5M.
- SL01, SL01B detection angle: 110° (See FIG.2-A).
 - SL02, SL02B detection angle: 180° (See FIG.2-B).
 - SL03, SL03B detection angle: 270° (See FIG.2-C).



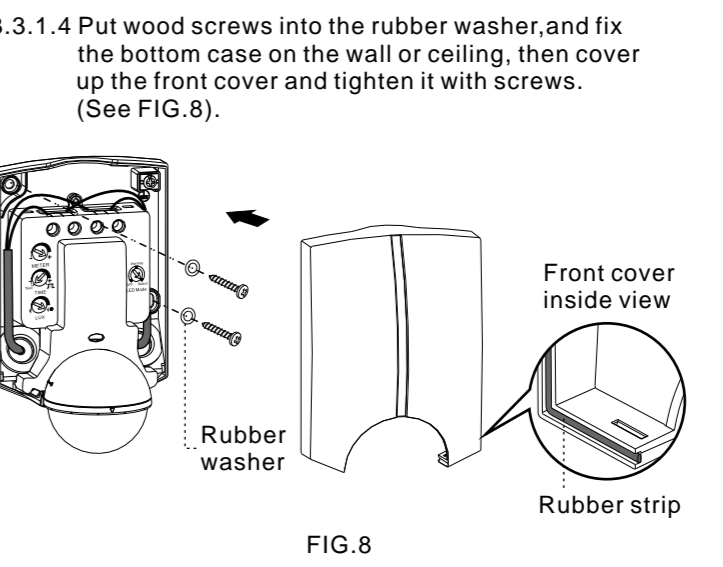
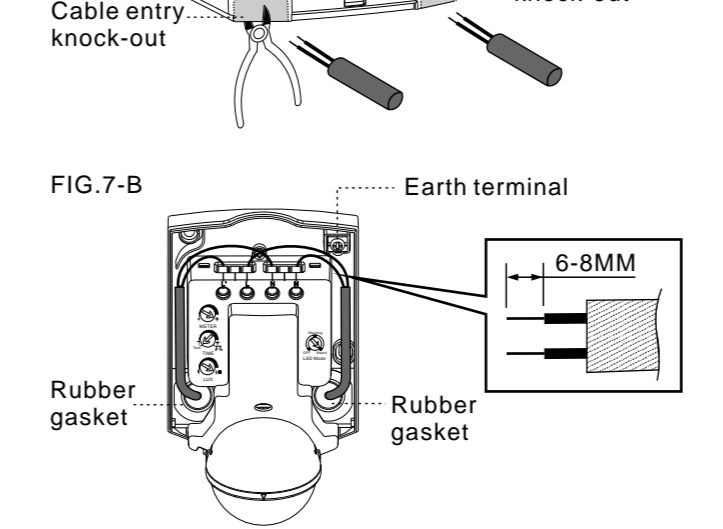
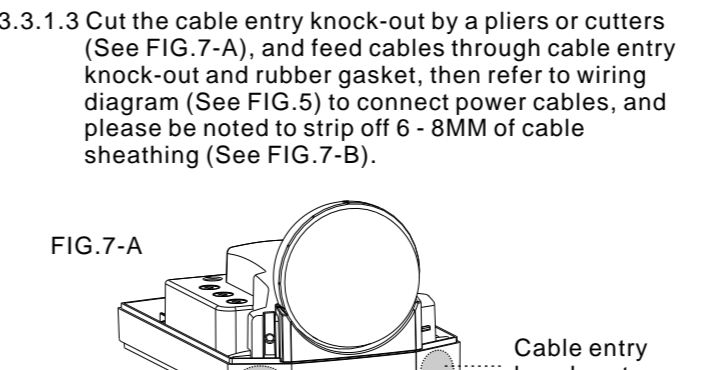
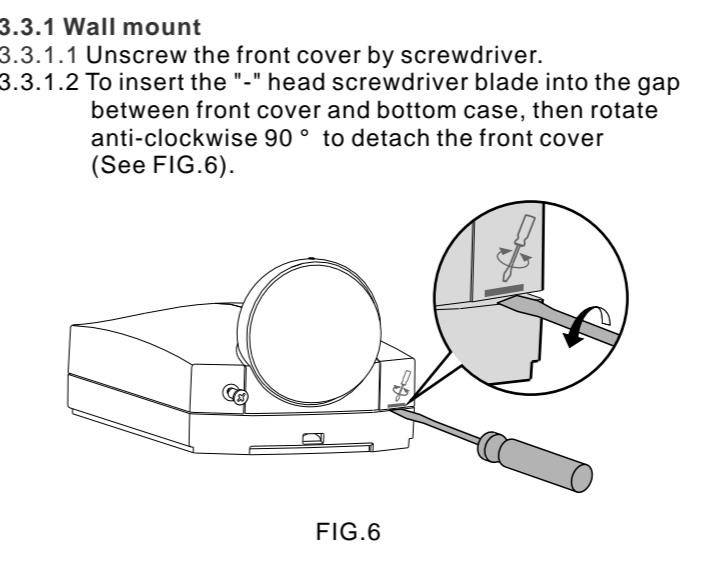
- 3.1.2 Helpful tips for installation.**
 As the detector responds to temperature change, please avoid the following conditions (see FIG.3):

- Avoid directing the detector toward the objects whose surfaces are highly reflective, such as mirror, monitor, etc.
- Avoid mounting the detector near heat sources, such as heating vents, air conditioners, vents, lights, etc.
- Avoid aiming the detector towards objects which may move in the wind, such as towers, tall plants, trees etc.



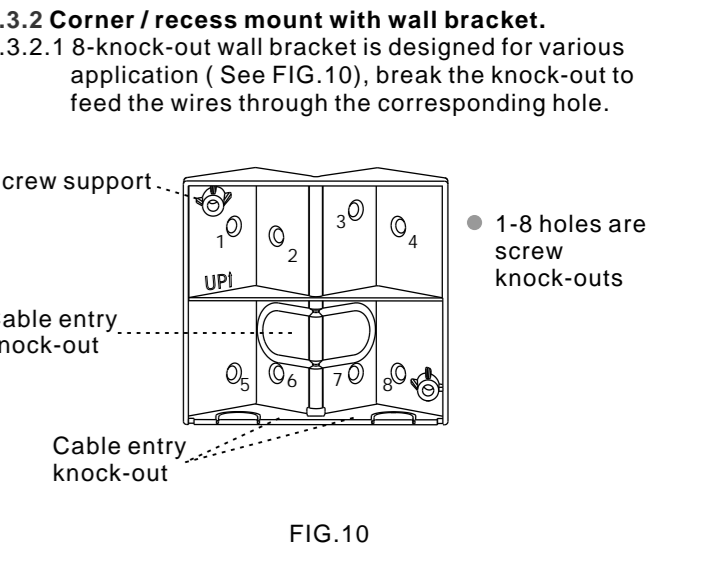
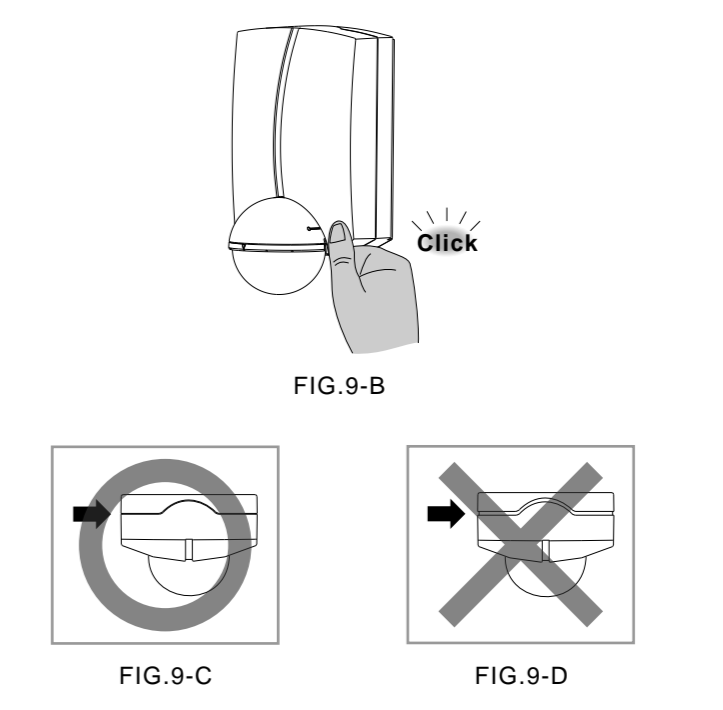
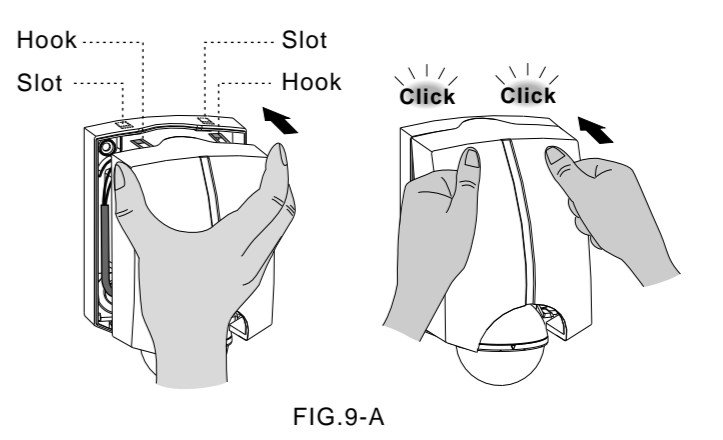
3.3 Installation procedure
 SL01, SL02, SL03 can be installed on the wall directly, recess / corner with wall bracket, (SL03, SL03B only) or on the ceiling directly.

NOTE
 Motion detector SL01, SL02, SL03, is factory default for wall mount.

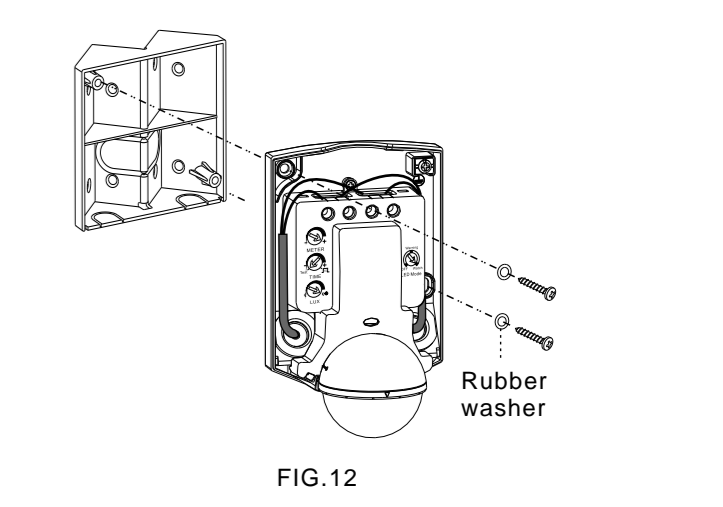
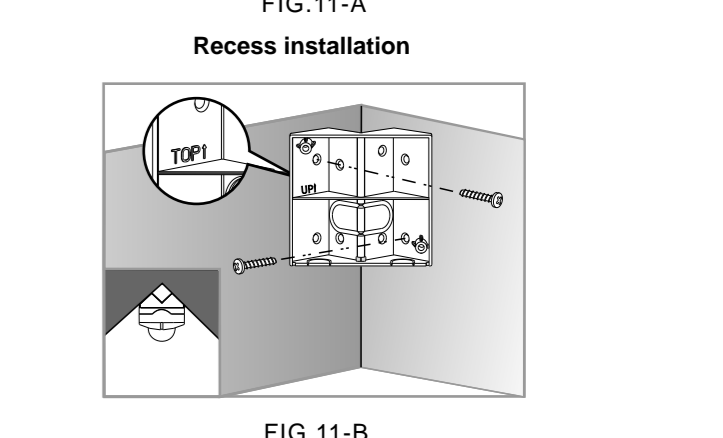
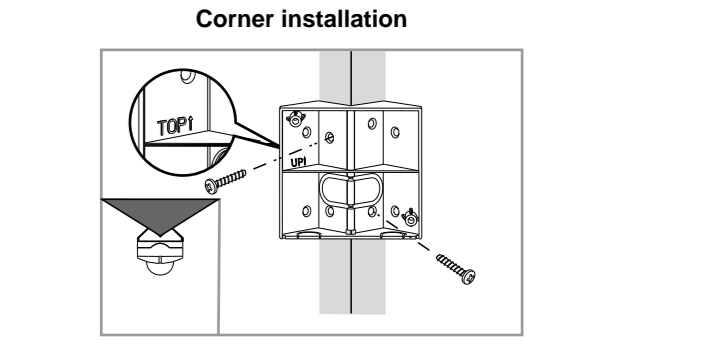


NOTE

- DO NOT remove the rubber strip and make sure it lines up with the front cover perfectly (See FIG.8).
- There should be a click sound, this identifies that the upper hook has been fastened into the slot (See FIG.9-A), and a second click sound shows the lower hook has been fastened into the slot (See FIG.9-B). Please ensure front cover is locked well on bottom case (See FIG.9-C), IMPORTANT NOTE - If not (See FIG.9-D), water will enter into the inside of product and will cause damage to the unit and there is potential of electrical shock.

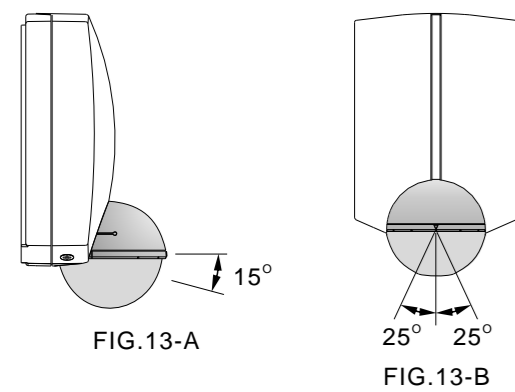


3.3.2.2 Break screw knock-outs (See FIG.10), then fix the wall bracket onto recess / corner with wood screws (See FIG.11-A & FIG.11-B), make sure "UP" mark upwards. refer to 3.3.1.1 - 3.3.1.3 to connect power cables, and fix the bottom case on wall bracket (See FIG.12), then assembly front cover.

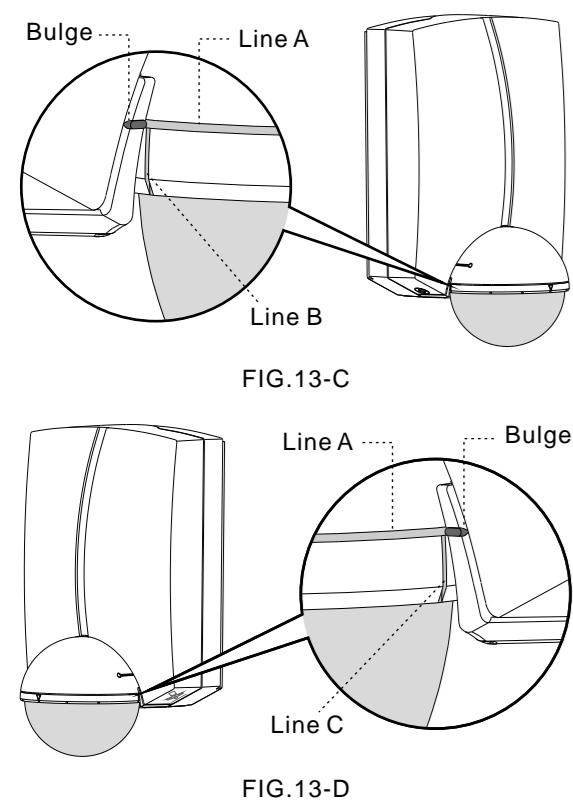


3.3.2.3 Desired detection angle can be reached by detector head adjustments after wall mount finished.

- Detector head can be adjusted downward max. 15° vertically (See FIG.13-A) to shorten the detection range, or turned leftward and rightward max. 25° horizontally (See FIG.13-B).

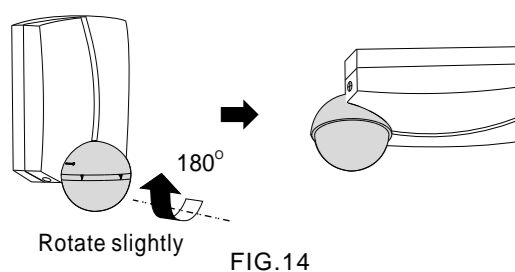


- In order to obtain optimum detection range, it must be careful to ensure that leftward Line B (See FIG.13-C) and rightward Line C (See FIG.13-D) align bulge respectively to keep detector head horizontally.



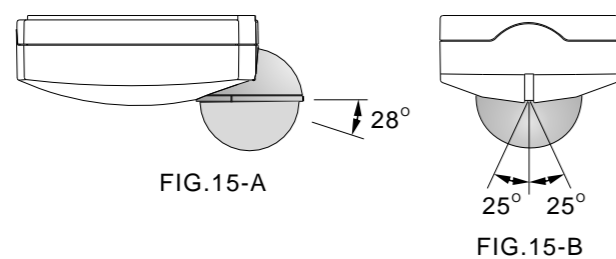
3.3.3 Ceiling mount

3.3.3.1 To rotate clockwise 180° of detector head for ceiling mount (See FIG.14).

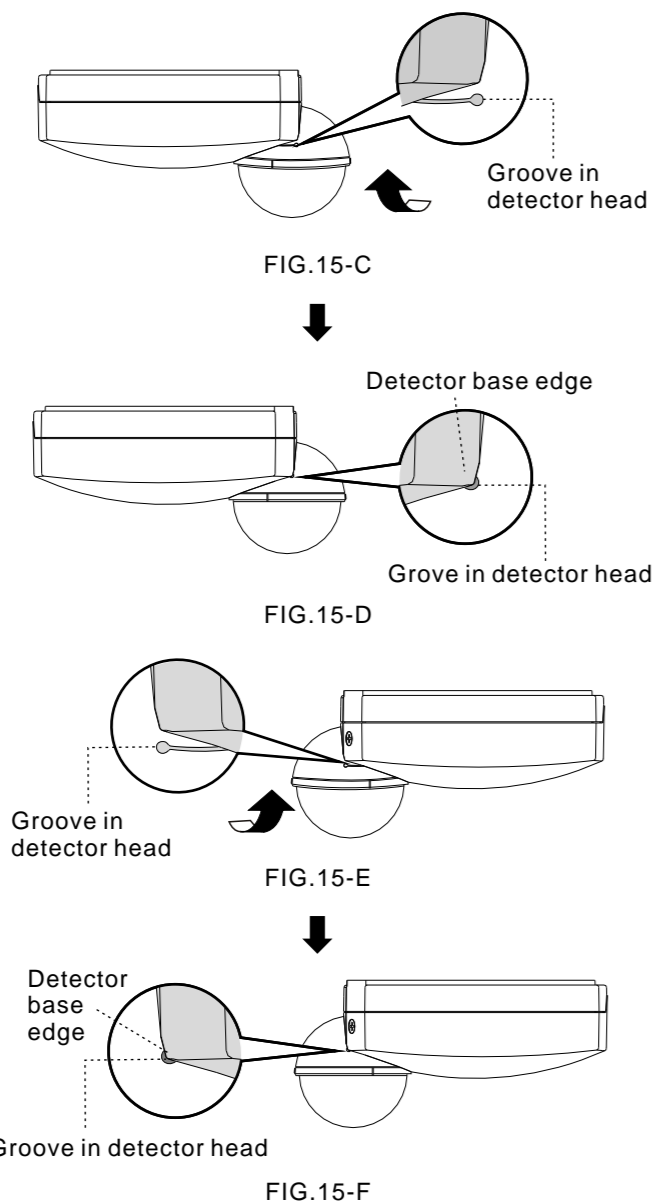


3.3.3.2 Fix it onto the ceiling refer to step 3.3.1.1 - 3.3.1.4.
3.3.3.3 Desired detection angle can be reached by detector head adjustments after ceiling mount finished.

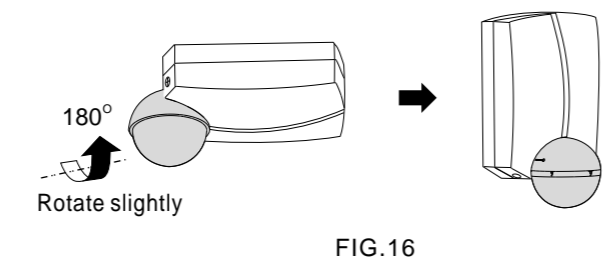
- Detector head can be adjusted downward max. 28° vertically (See FIG.15-A) to shorten the detection range, or turned leftward and rightward max. 25° horizontally (See FIG.15-B).



- For optimum detection range, ensure that the end of the grooves on the detector head (see FIG 15-C & FIG 15-E) match up with the detector base edge (see FIG 15-D & FIG 15-F).



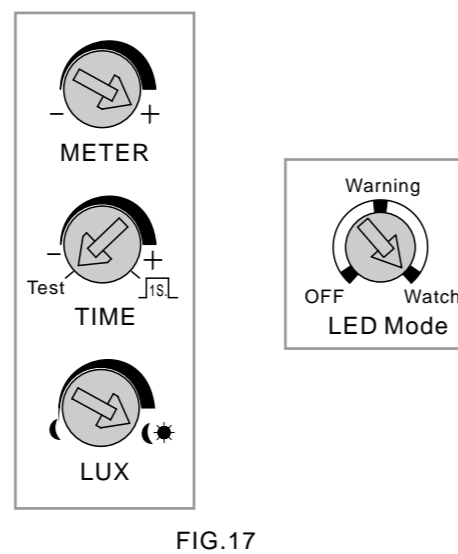
NOTE
To rotate anti-clockwise 180° of detector head for wall mount (See FIG.16).



4 OPERATION AND FUNCTION

4.1 Adjuster settings

The default setting of each knob before ex-factory is as following: METER: "+", TIME: "Test", LUX: (L), LED mode: "Watch" (See FIG.17).



4.1.1 METER settings

- 4.1.1.1 Set METER knob value at the position of "-" for the "smallest field of view".
- 4.1.1.2 Set METER knob value at the position of "+" for the "largest field of view".
- 4.1.1.3 Set METER knob value at the position between "-" and "+" for "desired field of view".

4.1.2 TIME settings

- 4.1.2.1 Set TIME knob value at the position of "Test", start to walk test, the load and LED turn on 2sec then turn off while detector is triggered.
- 4.1.2.2 Set TIME knob value at the position of "-", the minimum delay time will be 6sec.
- 4.1.2.3 Set TIME knob value at the position of "+", the maximum delay time will be 10min.
- 4.1.2.4 Set TIME knob value at the position of "JSL", for "short impulse" mode. Used if detector connected to a separate time switch. The time switch will receive 1sec signal once SL01, SL02, SL03 is triggered, then the light ON 1sec, OFF 9sec.
- 4.1.2.5 To adjust the TIME knob in between "-" & "+" according to user's desire.

4.1.3 LUX settings

- 4.1.3.1 When setting the LUX knob to "L", the detector will operate the lighting only in the darkness.
- 4.1.3.2 When setting the LUX knob to "L", the detector will operate the lighting at any light level.
- 4.1.3.3 To adjust the LUX knob according to user's needed.

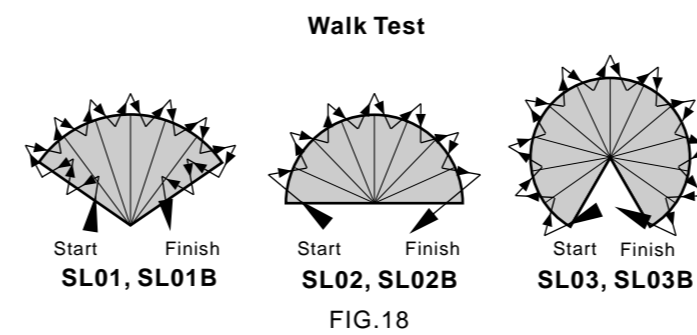
4.1.4 LED mode setting

LED mode can be switched to "watch", "warning" or "off" in normal use. Please note LED's act differently in "Test" mode. See below for LED options.

TIME setting	LED mode setting	Standby, Load and LED status	Impulse, Load and LED status	Whether Impulse is controlled by LUX
Test mode	Warning OFF Watch	Load OFF. LEDs OFF.	Load ON 2sec, then OFF.	NO
Test mode	Warning OFF Watch	LEDs all OFF.	LEDs ON 2sec, then OFF.	YES
Test mode	Warning OFF Watch	LEDs all OFF.	LEDs all OFF.	YES
Test mode	Warning OFF Watch	LEDs all OFF.	LEDs all OFF.	YES
Test mode	Warning OFF Watch	LEDs all OFF.	LEDs all OFF.	YES
Test mode	Warning OFF Watch	LEDs all OFF.	LEDs all OFF.	YES

4.2 Walk test

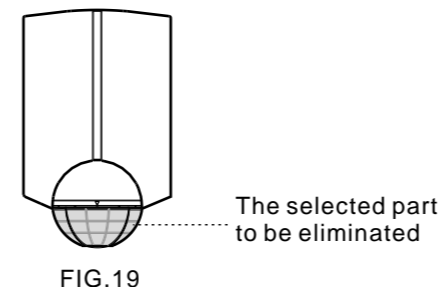
The purpose of the walk test is to select a proper installation place and gain the desired detection coverage. Turn METER adjuster to "+", TIME knob to "Test", then conducting a walk test referring to step 4.1 (See FIG.18).



NOTE
It takes approx. 60sec to warm up after power is supplied.

4.3 Usage of lens shield

- 4.3.1 SL01, SL02 has two pieces of lens shields, and SL03 has three pieces of lens shield. Lens shield consists of three layers, each layer is divided into 3 small units, and the unit can mask an angle of approx. 30°, when mounting the detector at the height of 2.5M, the outer coverage is: Layer C eliminated: mask the zone with a sector about from 0.5M to 4.5M. Layer B eliminated: mask the zone with a sector about from 0.5M to 7M. Layer A eliminated: mask the zone with a sector about from 0.5M to 10M. The inner coverage is a circular with radius of 0.5M (See FIG.21). Separate lens shield can be eliminated to fit user's desired detection area (See FIG.19 & FIG.20 & FIG.21).



Take example: cut a lens shield with plier.

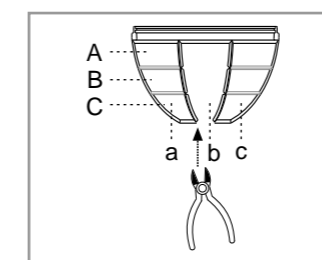


FIG.20

Take example: cut the lens shield with plier.

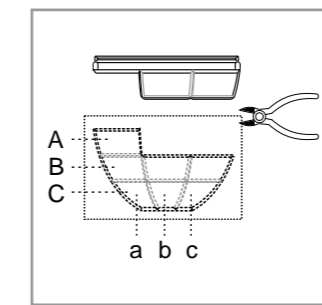


FIG.21

- 4.3.2 Cut the excess lens shield by a scissors or cutters.
- 4.3.3 Fix lens shield: Push the lens shield into the slot path (See FIG.22), then along the slot path to turn right or left (See FIG.23).

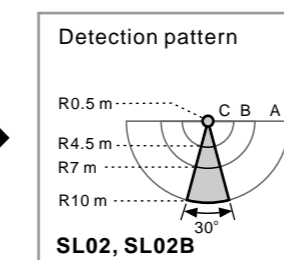
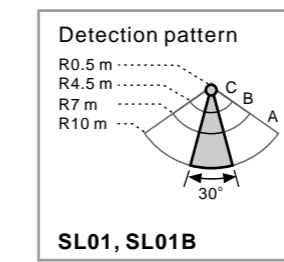


FIG.22

FIG.23

5 TROUBLE SHOOTING

If the detector is not functioning correctly, please check the following table for assistance:

Problem	Possible cause	Suggested solution
Lighting device does not turn on	1. Power does not turn on. 2. Wired incorrectly. 3. LUX Knob adjusted incorrectly. 4. Malfunctioned load.	1. Switch on the power. 2. Refer to wiring diagrams (FIG.5) and check if the load is malfunctioned. 3. Check if LUX knob are set to the correct position. 4. Replace the disabled load with a new one.
Lighting device does not turn off	1. Incorrect time setting. 2. Detector is nuisance triggered. 3. Wired incorrectly.	1. To test the delay time specified on TIME knob and check detector is nuisance triggered if lighting device does not turn off as the delay time is up. 2. Keep away from detection coverage to avoid activating detector while doing the test. 3. Make sure load and wires are connected correctly.
LED does not turn on	1. Exceeding the detection range. 2. No power supplied. 3. TIME knob is not located to TEST position. 4. Wired incorrectly.	1. Walk in the effective detection range 2. Switch on the power. 3. TIME knob must be located to TEST position. 4. Refer to wiring diagrams.
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 detector 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.

NOTE
The following conditions may cause lower sensitivity:
● In very foggy conditions, the sensitivity may be reduced due to moisture collating on the lens.
● In very hot conditions, the sensitivity may be reduced as high ambient temperature could be close to body temperature.
● In cold conditions when heavy clothing is used, very little heat is emitted from the body (especially if face is covered)
● Cleaning: Wipe with dry cloth only. Soap or rough cloth may damage the detector lens.

CAUTION!
● Due to our policy of continuous improvement we reserve the right to change specification without prior notice.
● Errors and omissions excepted.
● These instructions have been carefully checked prior to publication. However, no responsibility can be accepted by Challenger for any misinterpretation of these instructions.



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