setsquare
energy saving controls

SET-SCM20-IP
Installation Instructions

These instructions apply to the Liteminder SET-SCM20-IP. Setsquare recommend all installations are carried out by a suitably qualified electrician and that these instructions are followed. Failure to do so may lead to damage to either the circuits or installer.

Unit Description

The Liteminder SET-SCM20-IP is an automatic light switching system which operates by sensing movement using doppler radar. The unit incorporates occupancy detection and switching all in one unit. Unit setup is via an IR remote control link.

These installation instructions should be read in conjunction with those for the Remote Control (SET-IRT5).

Location

The sensor should be mounted on a rigid surface where it has a clear view of the occupancy zone, and should preferably be mounted in front of, rather than behind, activity.
The SET-SCM20-IP sensor is designed to be mounted on a wall at 2.2m high, positioned so that traffic moves towards, rather than across, the detector. Position the sensor where it does not look out of doors or windows.

Operation

Lighting will be OFF when powered up unless movement is being detected. The existing light switch can be retained as an override OFF and should be wired in the output from the relay and not in the mains supply to the unit. Initial time delay before user programming is 16 minutes.

Light Level

Light level control is not available on the SET-SCM20-IP.

Auto / Manual Mode

Auto / Manual Mode is not available on the SET-SCM20-IP

Settings Reset

 If any command is set by accident, issue the command to reset unit using the SET-IRT5. To reset the unit, press and hold both the 'Set User Preferences' buttons together for 5 seconds. The first red LED on the SET-IRT5 will flash to indicate that the system has been reset. Once this has been completed, reset the time interval to that required. Then press the 'Set User Preferences' buttons to store settings.

User Preference Setting

When the SET-SCM20-IP has been set up as required, pressing both the 'Set Customer Preferences' buttons together on the IR remote control will cause the current SET-SCM20-IP settings to be written into memory for future use in the event of mains failure. Please remove the front cover before carrying out this command and refit once complete.

Time Delay Setting

This is set from the IR remote control. Pressing the set time interval button will cause the system to cycle through the available time delays. Each press will step it onto the next setting. See Instructions for the SET-IRT5 for further details. Please remove the front cover before carrying out this command and refit once complete.

Recommended Delays

Office - Low traffic   16mins
Office - High traffic   8mins
Classroom   8mins
Corridor   8mins

Mounting the SET-SCM20-IP

When mounting the sensor do not drill any holes through the case for screws as this will cause the IP rating to be void.

Using the SET-SMBW mounting bracket.

1) Fit the SET-SMBW mounting bracket to a suitable wall in the required position.

2) Using the two self tapping screws provided mount the adaptor plate to the SET-SMBW wall bracket.

3) Remove the four screws that retain the front cover on the SET-SCM20-IP. Remove the front cover.

4) Attach the SET-SCM20-IP module to the adaptor plate using the four screws provided.

5) Proceed to the section relating to Electrical Connections.

Direct to wall

1) Drill four holes of a suitable size in the shape of a rectangle with the dimensions: 148mm x 50mm with the longest dimension vertical.

2) Remove the four screws that retain the front cover. Remove the front cover.

3) Using the four holes that are along side the cover retaining screws mount the sensor to the four holes.

4) Proceed to the section relating to Electrical Connections.

Electrical Connection

1) Remove the four screws that retain the front if they have not already been removed. Remove the front cover.

2) Remove the top half of the green terminal block.

3)   Feed the cable through the cable entry gland. (Use only an IP66 rated cable entry and gland).

4) Connect wiring to top half of terminal block as per the diagram.

5) Replace terminal block back into socket.

6) Switch power on. The SET-SCM20-IP powers up in the off state. Wait for 10 seconds for the unit to stabilise.

7)   Proceed with system commissioning.

8) When commissioning is complete replace the front cover using the four fixing screws. Then fit the four screw covers supplied.

System Set Up

1) Switch power on. Wait 10 seconds for the unit to stabilise.

2) Using the SET-IRT5 remote control check the unit is in test mode.

3) Ensure the unit switches off when there is no movement. If it does not then adjust the gain control using a small screwdriver. Do not adjust the potentiometer that has locking compound on its adjusting screw as this will destroy the system calibration.

4) Once the unit switches off with no movement check that it still detects movement at the range required. If it detects movement at ranges greater than that required then it is possible to reduce the gain to lessen the range.

5) Set the time delay required using the SET-IRT5 remote control.

6) Now ensure that this time delay is written into the user preference memory using the SET-IRT5 remote control.

7) Replace the front cover and fit the screw and covers supplied.

System Range

The range is set by adjusting the potentiometer visible just below the bottom edge of the doppler module and furthest from the edge of the pcb. Under no circumstances adjust the potentiometer that has had its adjuster locked.

Adjustment is achieved by using a suitable small screwdriver or trimming tool.

Turn adjuster Clockwise to increase, Anti-clockwise to reduce range.

This adjustment may be affected by replacing the cover, so ensure that operation is checked by temporarily installing the cover and re checking the operation of the unit.

NOTE:- This potentiometer is set for mid range when it leaves the factory. This potentiometer requires 22 turns to go from one end to the other. It does not have any end stops so it is not possible to damage the potentiometer if the adjuster is turned too many times.
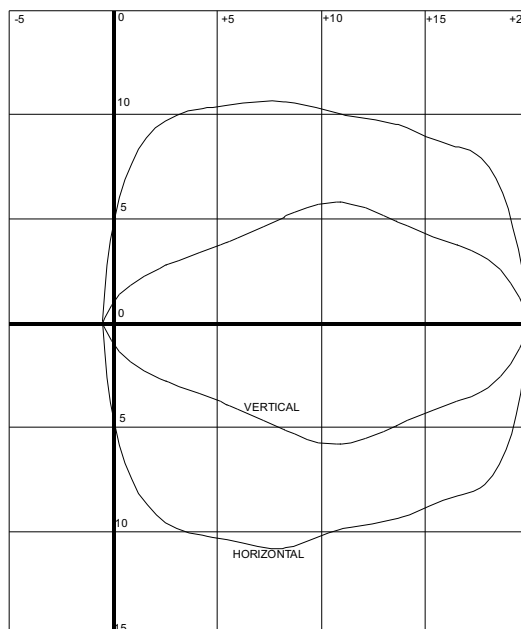
Wiring Diagram

Range Set Potentiometer

Do Not Adjust potentiometer.

N/O Com N L

Switched live.

Live.

Neutral.

SET-SCM20-IP
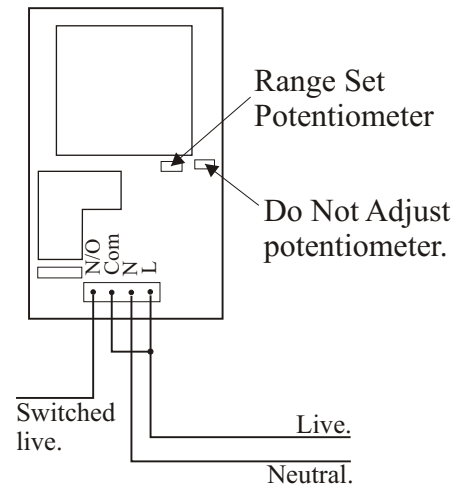
System Range.

This graph shows typical system range in free space at maximum gain. Adjusting the range potentiometer will shrink the range in proportion.

The sensor is located at the position 0,0.

Fault Finding.

Q. Lighting will not come ON.
A. Check red LED flashes when there is movement in front of the unit. If not, check power is on.

Q. Lighting goes ON and OFF every 10 seconds.
A. Time delay set to TEST mode.

Q. Lighting goes OFF when I am working but comes ON when I move.
A. Realign sensor or increase time delay.

Specification

Supply Voltage	240V AC 50 or 60Hz (other supply voltages available)
Switching Capacity	Volt free relay. 8 Amp inductive or resistive up to 240V AC
	Maximum 8 x HF ballasts
Time Delays	4, 8, 16 or 32 minutes
Order Code	SET-SCM20-IP (without mounting bracket)

Motion Sensor

Sensor	Doppler radar detector
Field of view	See System Range diagram
Range	20 metres maximum

Accessories

Remote Control	SET-IRT5
Contactor	SET-CE2, SET-CE4
Wall Bracket	SET-SMBW

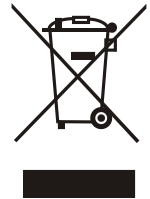**NOTE:-   This unit is not suitable for use with metal Halide Lamps.**

WARNING

This unit contains electronic devices.

Do not perform any high voltage tests on this product or to any equipment connected to this product.

Mains connections can be high voltage tested in accordance with BS 7671:2008, IEE Wiring Regulations 17th edition section 613.3.3.

The Liteminder SET-SCM20-IP is one of a range of energy conservation products available from Setsquare.

This apparatus may be turned on by high powered RF interference and should not be installed near pager aerials or inductive loop equipment. It will recover when the RF ceases.

CE

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