setsquare
energy saving controls

SET-SCM20-SMBW
Installation Instructions

SET-SMBW

SET-SCM20

SET-SMBC - Option

These instructions apply to the Liteminder SET-SCM20-SMBW. 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 Microwave SET-SCM20-SMBW is an automatic light switching system which operates by sensing movement using doppler radar. The unit incorporates occupancy detection, light level sensing and switching all in one unit.

If it is required to use the SET-SMBC ceiling bracket then this must me ordered as an optional part. Follow fitting instructions to remove the wall bracket and install the ceiling bracket supplied with the bracket.

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-SBMW sensor is designed to be mounted on 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. The mounting bracket allows the sensor to have its angle of viewing adjusted.

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 set up at the factory is with a time delay of 16 minutes, no light level switching and automatic mode.

Electrical Connection

1. Screw in the cover retaining screw and remove by sliding upwards.

2. Remove the front of the case by unscrewing the two plastic screws at the top of the case.

3. Remove the top half of the green terminal block.

4. Feed the cable through the cable entry gland. (Use only the designated cable entry and gland provided.)

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

6. Replace terminal block back into socket.

7. Replace the front of the case and fix using screws removed. When replacing the front of the case ensure that the sensors fit into the small windows.

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

9. Ensure unit switches off when there is no movement and switches on when movement is detected.

10. Replace cover and unscrew the fixing screw to lock it into place.

Sensor Setup

The sensor should be set up in the following order.

System Range

Wiring Diagram

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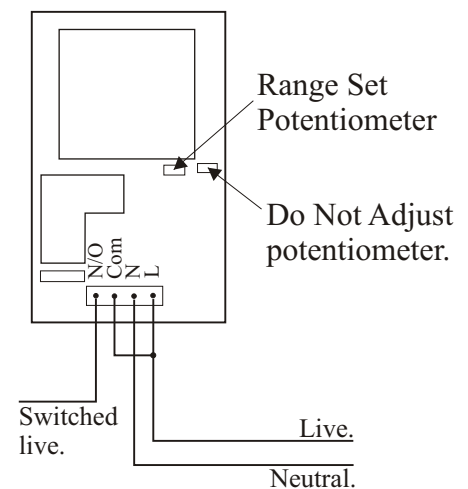
Turn adjuster Clockwise to increase, Anti-clockwise to reduce range.

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.

The unit is shipped with the range set at approximately mid range.

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.
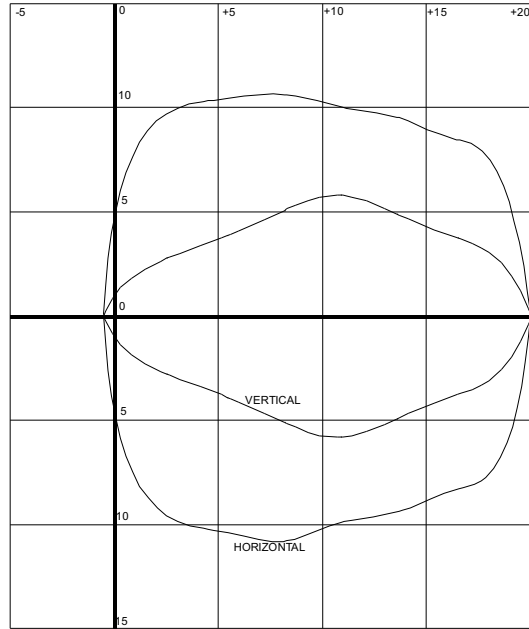

Range Set Potentiometer

Do Not Adjust potentiometer.

N/O
Com
N
L

Switched live.

Live.

Neutral.

SET-SCM20-SMBW

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.

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 Installation Instructions for the SET-IRT5 for further details.

Recommended Delays

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

Light Level

This is best set up when the lights are required to be ON. This set up is done on command from the IR remote control. The SET-SCM20-SMBW computes the necessary settings required. Wait until the lights are required to be ON then give the SET-SCM20-SMBW the command to set light level from the remote control.

Auto / Manual Mode

This allows the SET-SCM20-SMBW to be put into manual mode when the lights will be switched ON and OFF by use of the remote control only. When set to OFF lights will stay OFF taking no account of occupancy or light level. The same is true if set to ON using this command. When the SET-SCM20-SMBW is put into Auto mode it will then operate using occupancy and the light level settings.

User Preference Setting

When the SET-SCM20-SMBW 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-SMBW settings to be written into memory for future use in the event of mains failure.

This completes sensor setup.

SET-SCM20-SMBW

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.
A. The red LED flashes when there is movement, check photocell setup.

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.

Q. Can I override the photocell and use detection only.
A. If the light level has been set, 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.

Q. Can I use photocell only.
A. No.

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-SMBW (with wall mounting bracket)

Motion Sensor

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

Light Sensor

Light Level	50 to 1500 Lux +-10%

Accessories

Remote Control	SET-IRT5
Contactor	SET CE2, SET-CE4
Ceiling Bracket	SET-SMBC

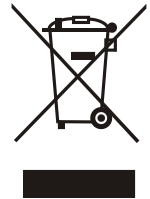**NOTE:- This unit is not suitable for use with metal Halide Lamps.**

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-SMBW 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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