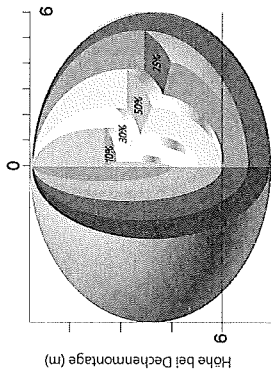
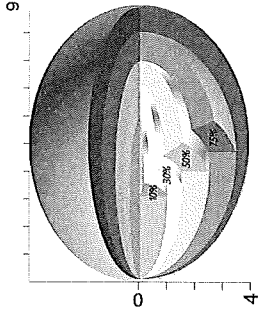


Erfassungsbereich



Höhe bei Wandmontage (m)



Deckenmontage (m)

Wandmontage (m)

Ein/Aus HF-Sensor

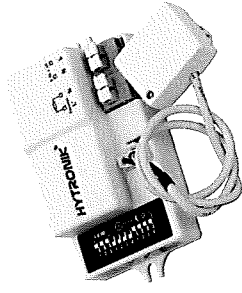
HC009S-KD
mit abgesetzter Antenne

Anwendung:

Bewegungsmelder mit Ein/Aus Steuerung.
Geeignet für die Verwendung in Innenräumen und den Einbau in Leuchten.

- Büro/Gewerbebeleuchtungen
- Besprechungsräumen
- Klassenzimmer

Verwendung für moderne Leuchtendesigns und Installationen.



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Eigenschaften

- Einschaltstrom wird minimiert um die Lebensdauer des Relais zu erhöhen
- Loop-in und loop-out für eine einfache Installation
- 5 Jahre, 50.000 Stunden Garantie

Technische Daten

Netz-Eigenschaften

Produkttyp	HC009S-KD
Netzspannung	220-240VAC 50/60Hz
Stand-by Leistung:	<0.5W
Kapazitive Last	800VA
Ohmische Last	1400W
Startzeit	20s
Sicherheit und EMC Normen	EN55015, EN61000
EMC Normen	EN300440, EN301489, EN301489, EN62479
Sicherheitsnormen (LVD)	EN60669-2-1, AS/NZS60669
Radio Equipment (RED)	SemiCo, CB, CE, EMC, RED, SAA
Zertifizierung	

Sensor Daten

Produkttyp	HC009S-KD
Sensor Art	HF Sensor
Betriebsfrequenz	5.8GHz +/- 75MHz
Sendeleistung	<0.2mW
Erfassungsbereich	Max. (Ø x H) 12m x 6m
Erfassungswinkel	30° ~ 150°
Einstellungen:	
Sensibilität	10%/25%/50%/75%/100%
Haltezeit	10s ~ 30min (wählbar)
Tageslichtwert	5 ~ 50 lux, deaktiviert
Betriebsdaten	
Umgebungstemperatur	Ta: -35°C ~ +70°C
Gehäusetemperatur (Max.)	Tc: +80°C
IP Schutzart	IP20

CE EMC RED SAA CB IP20

Erfassungsbereich

Der Erfassungsbereich kann durch Auswahl der Kombination mit den DIP-Schaltern eingegrenzt werden.
Schalter passend für jede spezifische Anwendung.

Haltezeit

Nach Erfassung einer Bewegung kann mit der DIP-Schalterkonfiguration die Einschaltdauer gewählt werden. Diese Funktion ist deaktiviert, wenn Tageslicht ausreicht.

Tageslichtwert

Stellen Sie das Level entsprechend der Einrichtung und der Umgebung ein. Die Leuchte schaltet sich nicht ein, wenn der Lux-Wert der Umgebung den voreingestellten Tageslicht-Grenzwert überschreitet.

Bitte beachten Sie, dass sich der Umgebungs-Lux-Wert auf das interne Licht bezieht, das den Sensor erreicht.
Die Deaktivierung des Tageslichtsensors versetzt den Sensor in den Modus "Nur Anwesenheitserfassung".

	I	II	III	IV	V
100%	●	●	●	●	●
75%	○	○	○	○	○
50%	○	○	○	○	○
25%	○	○	○	○	○
10%	○	○	○	○	○

- I – 100%
- II – 75%
- III – 50%
- IV – 25%
- V – 10%

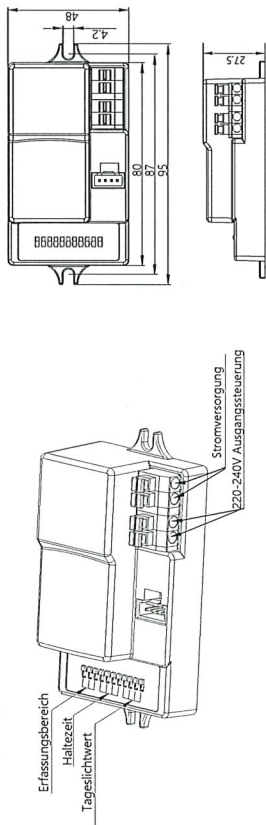
	I	II	III	IV	V	VI
30min	●	●	●	●	●	●
20min	○	○	○	○	○	○
15min	○	○	○	○	○	○
90s	○	○	○	○	○	○
30s	○	○	○	○	○	○
10s	○	○	○	○	○	○

- I – 30 min
- II – 20 min
- III – 6 min
- IV – 90s
- V – 30s
- VI – 10s

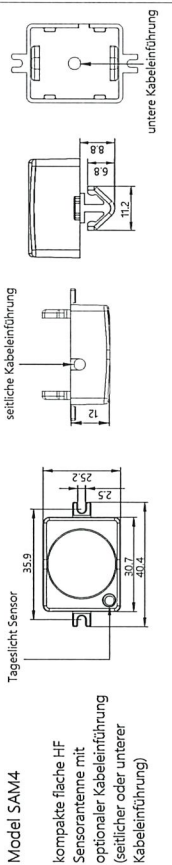
	I	II	III	IV	V
Deaktiv	●	●	●	●	●
50lux	○	○	○	○	○
30lux	○	○	○	○	○
10lux	○	○	○	○	○
5lux	○	○	○	○	○

- I – Disabled
- II – 50 Lux
- III – 30 Lux
- IV – 10 Lux
- V – 5 Lux

Sensor Hauptkörper



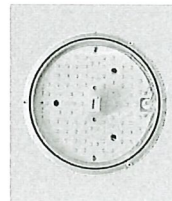
Abgesetzte Sensor Antennen Modul



Typische Anwendungsbereiche:

Für Büroleuchten, die aus Aluminium bestehen und für HF Signale nicht durchlässig sind.

Für flache LED-Lampen

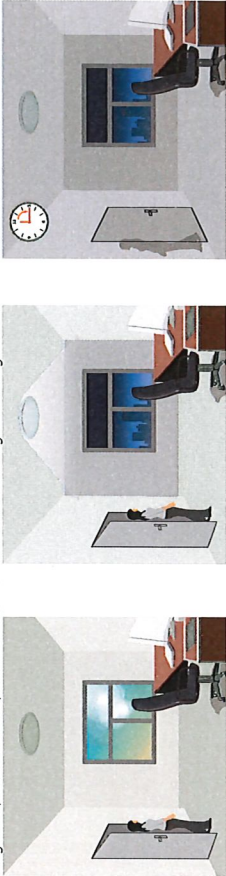


Bei solchen Anwendungen wird nur die abnehmbare kleine Antenne auf der Außenfläche benötigt, während der Sensorkörper und der Treiber/Vorschaltgerät hinter der Platte versteckt werden können.

Funktionen und Eigenschaften

1 Etr/Aus Steuerung

Dieser Sensor ist ein Bewegungsschalter, der bei Erkennung einer Bewegung das Licht einschaltet und nach einer vorgewählten Haltezeit wieder ausschaltet, wenn keine Bewegung stattfindet. Außerdem ist ein Tageslichtsensor eingebaut, der verhindert, dass das Licht bei ausreichendem Tageslicht eingeschaltet wird.



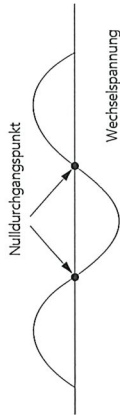
Bei ausreichendem natürlichen Licht, schaltet das Licht nicht an, obwohl Bewegung erfasst wird.

Bei nicht ausreichendem natürlichen Licht, schaltet der Bewegungsmelder automatisch ein, wenn Bewegung erfasst wird.

Der Sensor schaltet das Licht nach der Haltezeit automatisch aus, wenn keine Bewegung erkannt wird.

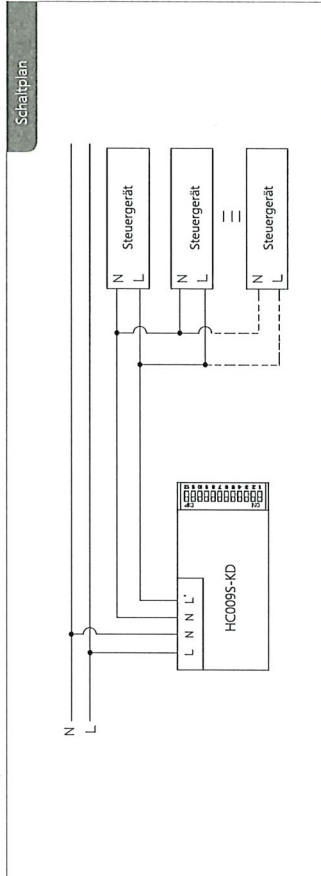
2 Nulldurchgangschaltung

Durch die intelligente Elektronik wird gewährleistet, dass die Last nahe dem Nulldurchgangspunkt geschaltet wird um den Einschaltstrom zu minimieren und die Lebensdauer des Relais zu erhöhen.

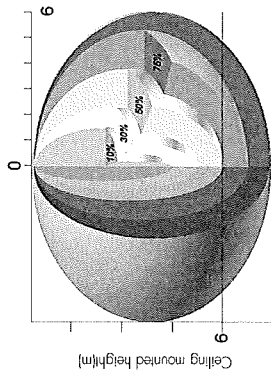


3 Loop-in und Loop-out Eingang

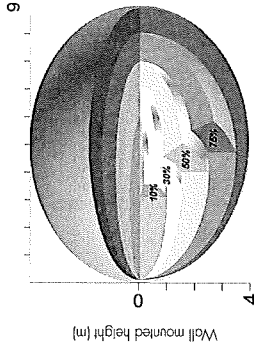
Durch den Loop-in und Loop-out Eingang (der doppelten L N-Klemme) sparen Sie sich Mehrkosten, sowie Zeit bei der Montage.



Detection Pattern



Ceiling mounted detection pattern (m)



Wall mounted detection pattern (m)

DIP Switch Settings

Detection Range

Sensor sensitivity can be adjusted by selecting the combination on the DIP switches to fit precisely for each specific application.

	1	2	3	4
I	●	●	●	100%
II	●	●	○	75%
III	○	○	○	50%
IV	○	○	●	25%
V	○	○	○	10%

- I – 100%
- II – 75%
- III – 50%
- IV – 25%
- V – 10%

Hold Time

Select the DIP switch configuration for the light on-time after presence detection. This function is disabled when natural light is sufficient.

	1	2	3	4
I	●	●	●	30min
II	○	○	○	20min
III	○	○	○	6min
IV	○	○	○	50s
V	○	○	○	30s
VI	○	○	○	10s

- I – 30 min
- II – 20 min
- III – 6 min
- IV – 90s
- V – 30s
- VI – 10s

Daylight Threshold

Set the level according to the fixture and environment. The light will not turn on if ambient lux level exceeds the daylight threshold preset.
Please note that the ambient lux level refers to internal light reaching the sensor.

	1	2	3	4
I	●	●	●	Disabled
II	○	○	○	50lux
III	○	○	○	30lux
IV	○	○	○	10lux
V	○	○	○	5lux

- I – Disabled
- II – 50 lux
- III – 30 lux
- IV – 10 lux
- V – 5 lux

Disabling the daylight sensor will put the sensor into occupancy detection only mode.

On/off Control HF Sensor

HC009S-KD
Detached Version

Applications

Occupancy detector with on/off control suitable for indoor use.

Suitable for building into the fixture:

- Office / Commercial lighting
- Meeting room
- Classroom

Use for new luminaire designs and installations

Features

- ⚡ Zero crossing detection circuit reduces inrush current and prolongs relay life
- ⚙️ Loop-in and loop-out terminal for efficient installation
- 🕒 5 Year, 50,000hr Warranty

Technical Data

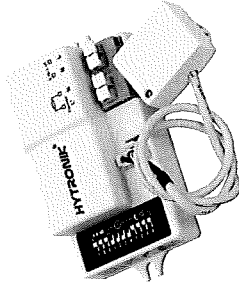
Input Characteristics

Model No.	HC009S-KD
Mains voltage	220-240VAC 50/60Hz
Stand-by power	<0.5W
Load ratings:	
Capacitive	800W
Resistive	1400W
Warming-up	20s
Safety and EMC	
EMC standard [EMC]	EN55015, EN61000
Safety standard [LVD]	EN60669-2-1, AS/NZS60669
Radio Equipment [RED]	EN300440, EN301489, EN301489, EN62479
Certification	Semko, CB, CE, EMC, RED, SAA

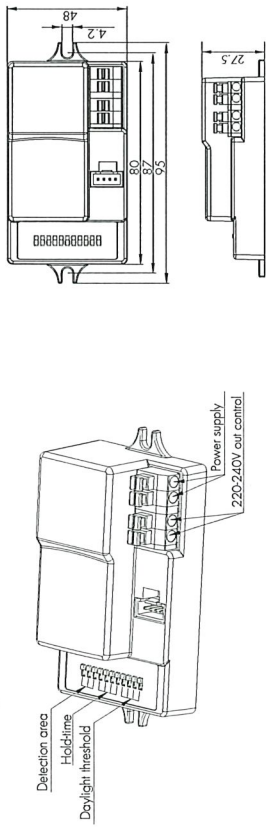
Sensor Data

Model No.	HC009S-KD
Sensor principle	High Frequency (microwave)
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<0.2mW
Detection range	Max. (∅ x H) 12m x 6m
Detection angle	30° ~ 150°
Setting adjustments:	
Sensitivity	10% / 25% / 50% / 75% / 100%
Hold-time	10s ~ 30min (selectable)
Daylight threshold	5 ~ 50 lux, disable
Environment	
Operation temperature	Ta: -35°C ~ +70°C
Case temperature (Max.)	Tc: +80°C
IP rating	IP20

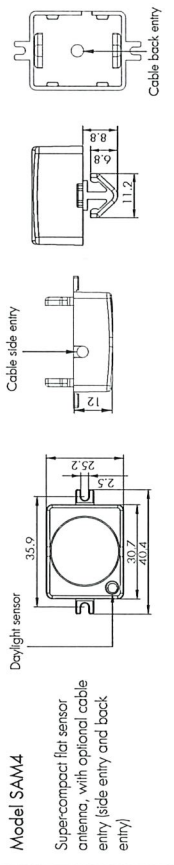
CE RED SAA CB IP20



Sensor Main body



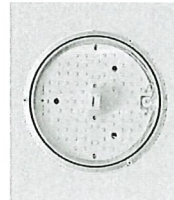
Detached Sensor Antenna Modul



Typical applications:

Office light, most of which have aluminium loures and is impossible for microwave sensors to go through.

For LED bulkhead



In such applications, only the detached small antenna is needed on the outer surface, while the sensor body and the driver/ballast can be hidden behind the panel. No shadow is cast in the shade.

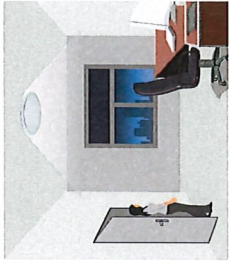
Functions and Features

1 On/off Control

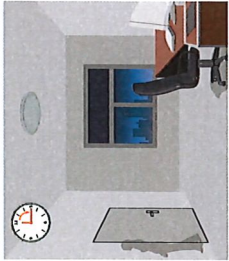
This sensor is a motion switch, which turns on the light upon detection of motion, and turns off after a pre-selected hold-time, when there is no movement. A daylight sensor is also built in to prevent the light from switching on when there is sufficient natural light.



With sufficient natural light, the light does not switch on when presence is detected.



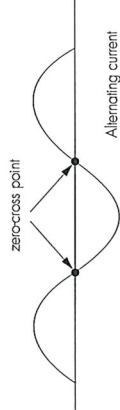
With insufficient natural light, the sensor switches on the light automatically when presence is detected.



The sensor switches off the light automatically after the hold-time when there is no motion detected.

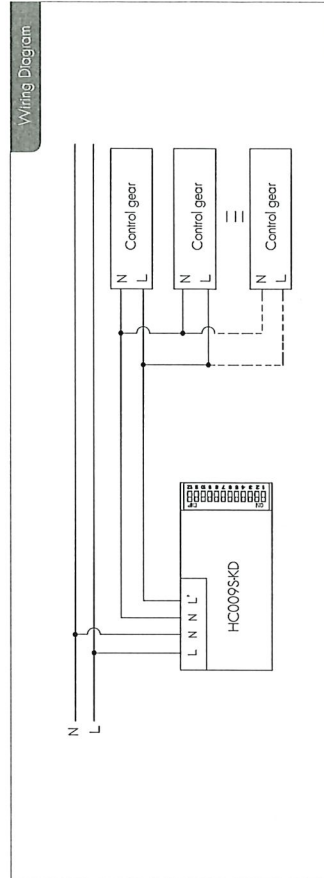
2 Zero-cross Relay Operation

Designed in the software, sensor switches on/off the load right at the zero-cross point, to ensure that the inrush current is minimised, enabling the maximum lifetime of the relay.



3 Loop-in and Loop-out Terminal

Double L N terminal makes it easy for wire loop-in and loop-out, and saves the cost of terminal block and assembly time.



Wiring Diagram



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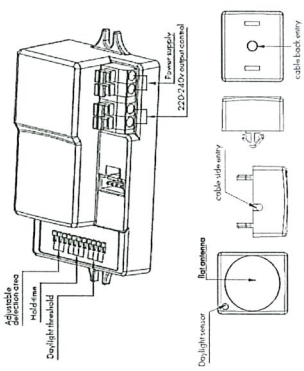
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 Kowloon Bay, Kowloon, Hongkong
 T: 00852-38192525 F: 00852-30116936
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 P86-752777877
 E: info@hytronik.com W: www.hytronik.com

User Manual of Microwave Motion Sensor
Detached version, Model No.: HC009S-KD

Technical Specifications

- PRODUCT TYPE:** Microwave Motion Sensor
- OPERATING VOLTAGE:** 220-240VAC 50Hz/60Hz
- HF SYSTEM:** 5.8GHz CW radar
- TRANSMISSION POWER:** <0.2mW
- RATED LOAD:** 400VA(capacitive load)
- DETECTION ANGLE:** 30~150°
- POWER CONSUMPTION:** < 1W
- DETECTION RANGE:** Max. 12 meters in diameter, adjustable
10s ~ 30 min.
- TIME SETTING:** 10s ~ 30 min.
- MOUNTING:** Indoors, ceiling & walling mounted
- LIGHT CONTROL:** 5 ~ 50LUX; disable
- WORKING TEMP.:** -20 ~ +60°C



Note: We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.

The sensor is an active motion detector; it emits a high-frequency electro-magnetic wave 5.8GHz and receives its echo. The sensor detects the change in echo from movement in its detection zone. A microprocessor then triggers the switch light ON command. Detection is possible through doors, panels of glasses thin walls.

NOTE: the high-frequency output of this sensor is <0.2mW; approximately just 0.1% of the transmission power of a mobile telephone or the output of a microwave oven.

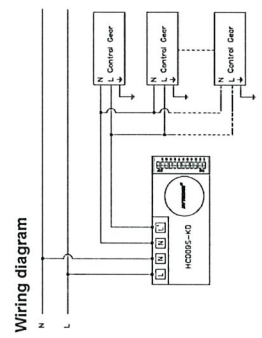
IMPORTANT
PLEASE READ THESE INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION AND RETAIN THIS LEAFLET IN A KNOWN AND SAFE PLACE FOR FUTURE REFERENCE.

SECTION 1 INSTALLATION & WIRING

2.1. ENSURE THAT THE ELECTRICITY SUPPLY IS SWITCHED OFF COMPLETELY BEFORE INSTALLING OR SERVICING THIS PRODUCT.



The sensor works with a main voltage of 220-240VAC 50Hz. A 100-120VAC version is available on request. The sensor has a 4-wire electrical interface:
 Nx2 (neutral / 220-240VAC)
 L (phase / 220-240VAC)
 L' (switched phase / output)



Wiring diagram

2.2 This sensor is suitable for indoor use, and is also designed for installation Max. 6m in height.

SECTION 2 SETTINGS

Detection range:
This determines the effective range of the motion detector, and is set by DIP switches at the sensor itself, refer to figure.
Note that reducing the sensitivity will also narrow the detection range.
The following settings are available:

	1	2	3	
I - Detection range 100%	●	●	●	100%
II - Detection range 75%	●	●	○	75%
III - Detection range 50%	●	○	○	50%
IV - Detection range 25%	○	○	○	25%
V - Detection range 10%	○	○	○	10%

- I - Detection range 100%
- II - Detection range 75%
- III - Detection range 50%
- IV - Detection range 25%
- V - Detection range 10%

Hold time:

This determines the time the fitting remains at 100% level on motion detection and is set with DIP switches at the sensor itself, refer to figure. The walk test setting is useful when installing the fitting to establish correct operation and range. The following settings are available:

	1	2	3	4	
I - 30min	●	●	●	●	30min
II - 20min	●	●	○	○	20min
III - 6min	○	○	○	○	6min
IV - 30s	○	○	○	○	30s
V - 30s	○	○	○	○	30s
VI - 10s	○	○	○	○	10s

- I - 30min
- II - 20min
- III - 6min
- IV - 30s
- V - 30s
- VI - 10s

Daylight sensor:

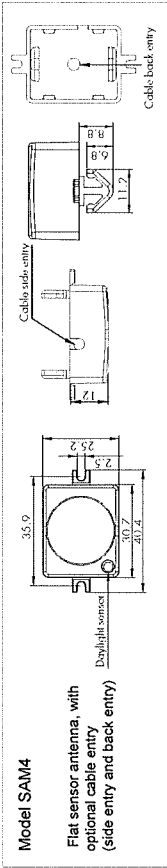
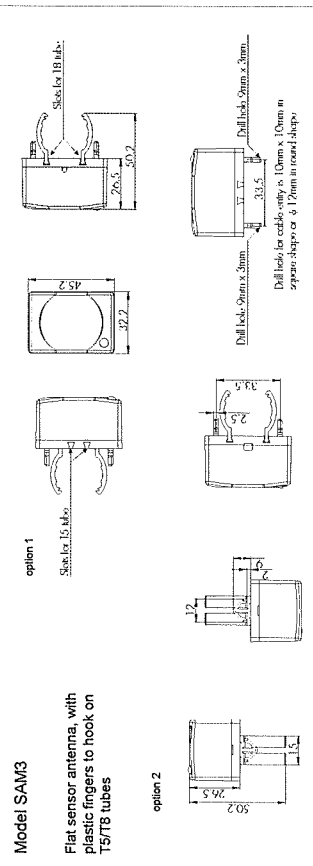
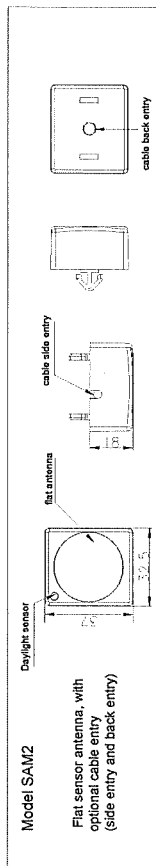
This setting holds off the 100% light output should there sufficient daylight and is set using DIP switches at the sensor, refer to figure. The following settings are available:

	1	2	3	4	
I - disable	●	●	●	●	Disable
II - 50 lux	●	●	○	○	50 Lux
III - 30 lux	○	○	○	○	30 Lux
IV - 10 lux	○	○	○	○	10 Lux
V - 5 lux	○	○	○	○	5 Lux

- I - disable
- II - 50 lux
- III - 30 lux
- IV - 10 lux
- V - 5 lux

*In disable mode the lamp(s) will always be on with motion detected and operate at 100% light output, even in bright daylight.

SECTION 3 SENSOR ANTENNA OPTIONS



SECTION 4 FUNCTIONS

4.1 Zero-cross relay operation

Designed in the software, the sensor switches on/off the load right on the zero-cross point, to ensure the min. current passing through the relay contact point, and enable the max. load and life-time of the relay.

4.2 Loop-in and loop-out

Double L, N terminal makes it easy for wire loop-in and loop-out, saves the cost of terminal block and assembly time.

SECTION 5 TROUBLE SHOOTING

MALFUNCTION CAUSE REMEDY	CAUSE	REMEDY
The load will not work	Incorrect light-control setting selected Load faulty	Adjust setting Replace load
The load is always on	Mains switch OFF Continuous movement in the detection zone	Switch ON Check zone setting
The load is on without any identifiable movement	The sensor is not mounted for reliably detecting movement Movement occurred, but not identified by the sensor (movement behind wall, movement of small object in immediate lamp vicinity etc.)	Securely mount enclosure Check zone setting
The load will not work despite movement	Rapid movements are being suppressed to minimize malfunctioning or the detection radius is too small	Check zone setting