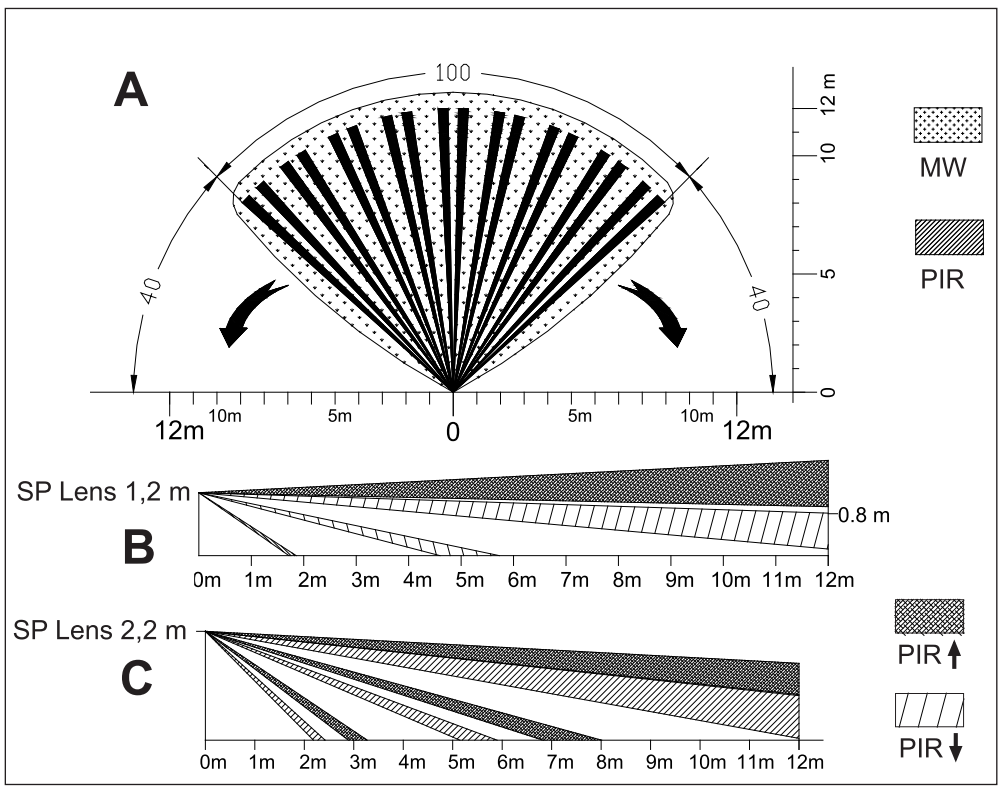
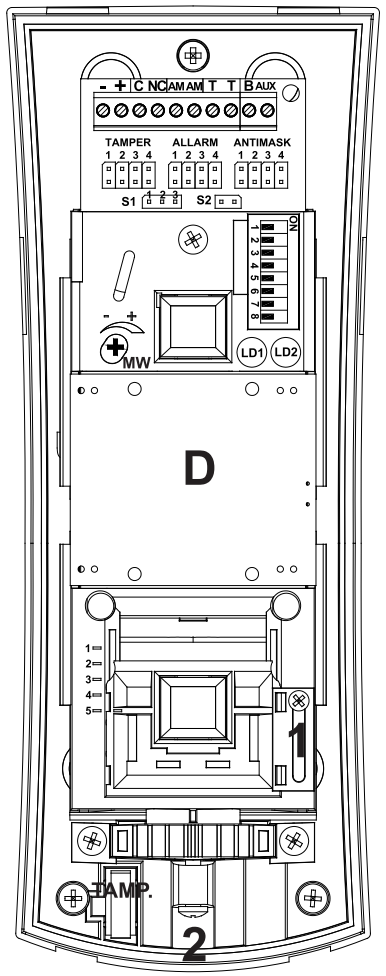
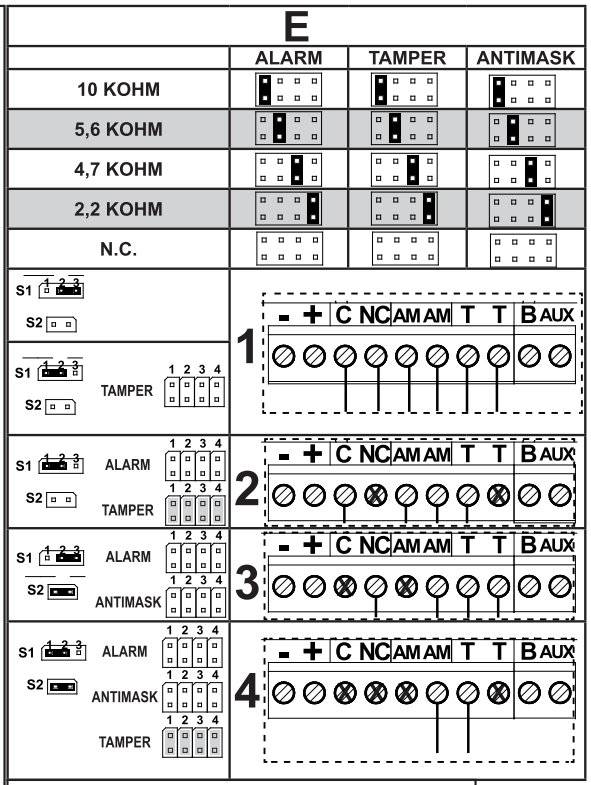
AVS electronics

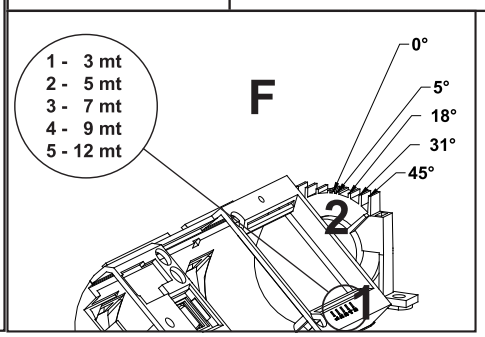
Curtarolo (Padova) Italy
www.avselectronics.com

SPECTRUM DT AM









100% MADE IN ITALY

1974 - 2014

ist0919V1.5

ENGLISH

Features

- It is a wired volumetric motion detector with **dual infrared sensor and planar microwave** designed for both internal and external protection.
- Sensor designed for the protection of outdoor areas and the minimisation of the risk of false alarms due to weather conditions, environmental elements, animals, etc
- It has a **buzzer and LED** for the optical and sound alarm signalling function (Walk Test).
- It is equipped with:
  - **Thermal compensation**, whereby the sensor automatically adjusts the performance of the system to compensate for changes in ambient temperature. Its own performance can, however, vary considerably in relation to particular temperature ranges.
  - **White light and solar filters** to optimise performance of the infrared sensors
  - **Accelerometer** that indicates tampering (does not detect vibration). The sensor indicates unauthorised removal as a TAMPER event.
  - **Anti-masking with infrared**, comprising an RX receiver and a TX transmitter with active infrared that detect obstacles at a distance of about 7 cm in front of the sensor. Calibration occurs after closing of the TAMPER device (Container and Anti-tear device, when applicable) and takes about 40 seconds, during which time the yellow LED flashes slowly. The presence of an obstacle is indicated about 30 seconds after it is detected, during which time the yellow LED flashes quickly if the sensor does not generate an alarm in the meantime. The yellow LED remains steady during the anti-masking signal. Removing the obstacle stops the signal.
    NOTE: if the **YELLOW LED** remains on and **STEADY** during the **Antimask Calibration** phase, this means the sensor is unable to complete the procedure properly due to the reflection of light on the lens. Open and close the TAMPER to repeat the procedure, shading the sensor.
- It has an AUX auxiliary input for managing another alarm input or the anti-tear circuit of the same sensor
- It has Adhesive Masks for reducing the angle of coverage or masking a specific area
- It can be equipped with an optional protective ROOF (Mod. SSC FRONT PROTECTION)

Installation

For opening and installation of the sensor see the illustrations printed on the inside of the package.

Technical Features

Rated voltage	12 V =
Power supply	Max: 15 V = / Min: 10,5 V =
Absorption	21 mA idle / 25 mA in alarm mode
Coverage area with the lens provided: **Coverage area with optional lens (Mod. SSL LENS H 2.20):**	100° effectively for 12 metres 100° effectively for 12 metres
Anti-masking with infrared	yes
Microwave frequency	- European Community countries except Germany: 10.525 GHz - Germany: 9,350 GHz
Microwave signal	Pulsed
Height of installation with lens provided **Height of installation with optional lens (Mod. SSL LENS H 2.20)**	1.2 to 1.5 metres above the ground 2.2 metres above the ground
Operating conditions of the printed circuit board	-25° C / +55° C
Weight (grams)	260
Dimensions without ROOF (millimetres) (WxLxH) **Dimensions with ROOF (millimetres) (WxLxH)**	68,3 x 75,4 x 189,4 87,3 x 75,4 x 189,4
Degree of protection	IP55

Initial start-up

The sensor is kept on standby for about 60 seconds, during which time the LEDs blink.

Operating mode

AND: The sensor activates the alarm relay and blue LED only when both the technologies enter alarm mode.

Infrared capacity (see FIG. F detail 1)

- Installation **1.2 to 1.5 metres** above the ground (**FIG. B**): it is possible to change infrared capacity **from 12 to 3 metres** by changing the height of the **lower PIR from 1 to 5.**
  To change the height of the PIR, loosen **Screw 1 in FIG. D**. Refasten it to lock the PIR in the required position.
- Installation **2.2 metres** above the ground (**FIG. C**): capacity is set at **12 metres**, the **lower PIR** must be at **position 1 and horizontal at 0°** (see Coverage).

NOTE: The sensor should ideally be installed perpendicular with the ground for optimal adjustment of capacity.

Microwave capacity (See MW Trimmer in FIG. D)

Microwave capacity can be adjusted at the **MW** Trimmer. Turn clockwise to increase.

Coverage (FIG. A)

With the lens provided: Installation **1.2 to 1.5 metres** above the ground **(FIG. B)**, the printed circuit board can be turned horizontally to change the angle of coverage which remains in any case 100° out of the available 180° **(see FIG. F detail 2)**. To turn the printed circuit board, loosen **Screw 2 in FIG. D**. Refasten it to lock the printed circuit board in the required position.
With optional lens (Mod. SSL LENS H 2.20): Installation **2.2 metres** above the ground **(FIG. C)**, the coverage is of 100°. The printed circuit board must be locked in the horizontal position at 0° **(see FIG. F detail 2)**.

⚠ In some circumstances, the sensor could detect moving targets, especially closed, at angles above 100 ° of nominal coverage. It is better to mask preventively the lens sectors which are not part of the desired detection area, thanks to appropriate provided stickers.

Terminal block (FIG. B)

-	Negative power supply 12 V =
+	Positive power supply 12 V =
C / NC	**Alarm** signal output. Normally closed contact (refer to the **ALARM** jumper in **table E**) **NOTE:** if jumper **S1** is in position **2** (refer to table **E**), this contact is in series with the TAMPER one
AM AM	**Antimask** signalling output. Normally closed contact (refer to the **ANTIMASK** jumper in table **E**)
T T	**Tamper** signal output. Normally closed contact (refer to the **TAMPER** jumper in table **E**) **NOTE:** if jumper **S1** is in position **2** (refer to table **E**), this contact is in series with the ALARM one
B	Input that allows the sensor to obtain the status reference of the central control unit. In order to manage this information, this input must be positively closed when the central control unit is turned off. n this condition, the alarm relay is closed, the microwave is off and, in the case of an alarm, the LED and buzzer are not activated
AUX	**AUX** is an input with negative reference that activates either the **Alarm relay** or the **Tamper relay** (see **DIP 5**)

Balancing resistors (Table E)

The **ALARM, TAMPER and ANTIMASK** outputs can be configured C/NC (Jumper open) or with balancing resistors in parallel (Jumper closed on the basis of the resistance value to be set). They can also be separated or connected in series internally.
Some examples of configuration are given in Table E:
Scheme 1. The Alarm, Tamper and Antimask contacts are independent of each other
Scheme 2. The Alarm and Tamper contacts are in series with each other (one of the 4 resistors must be inserted on the Tamper circuit). The Antimask contact is independent.
Scheme 3. The Alarm and Antimask contacts are in series with each other. The Tamper contact is independent.
Scheme 4. The Alarm, Tamper and Antimask contacts are in series with each other (one of the 4 resistors must be inserted on the Tamper circuit).

LED (FIG. D)

- **BLUE LED: Off** with sensor on standby. **Blinks** for 60 seconds during initial start-up. **Steady** with the sensor in alarm mode.
- **YELLOW LED (Microwave): Off** at standby. **Blinks** for 60 seconds during initial start-up. **Steady** in alarm mode.
- **YELLOW LED (Antimask): Off** at standby. **Flashes slowly** for 40 seconds during Calibration. **Flashes quickly** for 30 seconds during detection of an obstacle. **Steady** with Antimask in alarm mode

Dip Switch (FIG. D)

DIP 1	**IR SENSITIVITY**	**ON**		In this configuration the passive infrared section shows a reduced sensitivity and the microwave section performs a more severe digital signal analysis that tends to exclude the oscillations from plants under the wind action.
		OFF	**Default**	Normal **infrared** sensitivity
DIP 2	**AUX INPUT (Enabling)**	**ON**		Management of **AUX** input enabled
		OFF	**Default**	Management of **AUX** input disabled
DIP 3	**ANTIMASK**	**ON**	**Default**	**Antimask** enabled
		OFF		**Antimask** disabled
DIP 4	**ACCELEROMETER**	**ON**	**Default**	**Accelerometer** enabled
		OFF		**Accelerometer** disabled
DIP 5	**AUX INPUT (Management)**	**ON**		The **AUX** input enables the Alarm relay
		OFF	**Default**	The **AUX** input enables the Tamper relay
DIP 6	**YELLOW LED (Gestione)**	**ON**		**Yellow LED** Microwave alarm
		OFF	**Default**	**Yellow LED** Antimask alarm
DIP 7	**YELLOW LED (Enabling)**	**ON**	**Default**	**Blue LED and Yellow LED** enabled
		OFF		**Blue LED and Yellow LED** disabled
DIP 8	**BLUE LED and BUZZER**	**ON**	**Default**	**Buzzer** enabled
		OFF		**Buzzer** disabled

Declaration of Conformity
The declaration of conformity is available for reference in the reserved area of the site **AVS Electronics.com.**

⚠

The power supply must come from a very low voltage security circuit with the features of a limited power source protected by a fuse.

INSTALLATION AND MAINTENANCE MUST BE CARRIED OUT BY QUALIFIED PERSONNEL

In case of roof installations in industrial or civil buildings in general, especially if skylights or other reflective surfaces are present, and/or asphaltic coated grounds showing strong heating by sun irradiation exist, it is recommended to set the reduced sensitivity mode of the infrared, because those factors favor the insurgence of false alarms. Anyway, always adjust correctly the microwave sensitivity to the minimum possible value for the needed coverage and not higher.

Tamper

- The anti-opening TAMPER device of the cover is installed and wired at the factory.
- The optional anti-tear TAMPER device is to be installed at the base of the sensor (Code 1135112) and it is advisable to make the connection between the AUX and - (negative) terminals