



# MICROWAVE PRESENCE DETECTOR FOR ZONE 1/21

## MWS-Ex-DC



### 1 Safety information and Notes

#### 1.1 Storage of this manual

Keep this user manual safe and in the vicinity of the device. All persons who work on or with it should be advised on where the manual is stored.

#### 1.2 Special conditions of safe use

The rated temperature range is listed on the label and is more restricted than in the certificate.

#### 1.3 List of notes

<b>WARNING!</b>	Installation to be by skilled electricians and instructed personnel in accordance with national legislation, including the relevant standards and, where applicable, in accordance with IEC 79.17 on electrical apparatus for explosive atmospheres.
<b>WARNING!</b>	For the installation, maintenance and cleaning of the sensor, it is absolutely necessary to observe the latest applicable regulations and provisions concerned with explosion protection (EN60079-0, EN60079-14) as well as the Accident Prevention Regulations.
<b>WARNING!</b>	The sensor can be operated in ATEX Gas/Dust Zone 1/21 or Zone 2/22 hazardous area, or in safe area. Refer to the ATEX certificates for further information.
<b>WARNING!</b>	The sensor must not be stored or operated outside of its rated temperature range as stated on the ATEX certification label
<b>WARNING!</b>	The technical data indicated on the ATEX rating labels, this manual and the ATEX certificates must be observed at all times.

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<b>WARNING!</b>	The ATEX rating labels must be fitted at all times, if damaged they must be replaced immediately or the sensor must be removed from service and the hazardous area.
<b>WARNING!</b>	Changes to the design and modifications to the equipment are not permitted.
<b>WARNING!</b>	Never operate the sensor outside its rated voltage, current and power as indicated in the specification or the safety of the unit may be impaired.
<b>CAUTION</b>	Ensure that the sensor is mounted safely and securely using suitable fixings.

## 2 Technical Specification

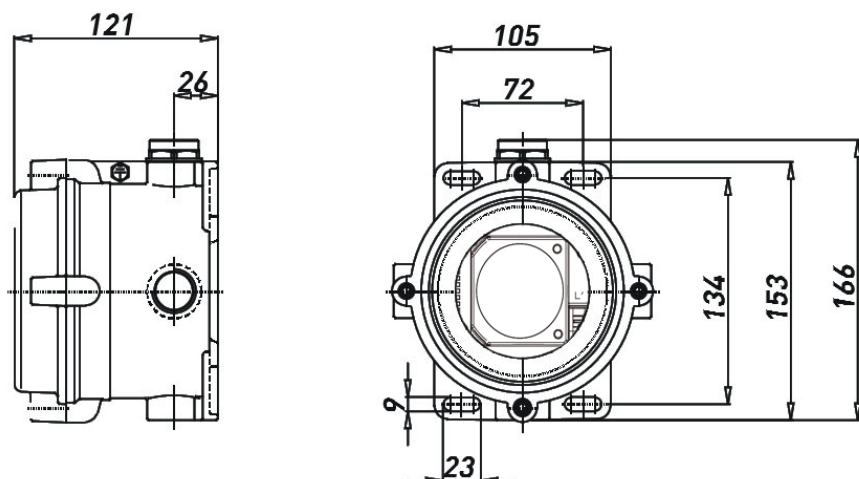
The sensor is an active motion detector which emits a high-frequency electromagnetic wave and receives its echo. The sensor detects the change in echo from movement in its detection zone. A microprocessor then triggers the ON command. Detection is possible through doors, panels of glass and thin walls.

### 2.1 Specification

<b>Type:</b>	MWS-Ex-DC (Housing CPST-26/EMH90)
<b>Ex rating:</b>	ATEX II 2GD / Ex db IIC T6 Gb / Ex tb IIC T85°C Db IP66 INERIS03ATEX0009X
<b>Voltage:</b>	12-48Vdc
<b>HF System:</b>	5.8GHz CW radar
<b>Transmission Power:</b>	<0.2mW
<b>Rated Load:</b>	12V≤10A, 24Vdc≤5A, 48Vdc≤2A
<b>Terminals:</b>	Up to 4mm <sup>2</sup> max
<b>Operating Temperature:</b>	-35°C to +55°C
<b>Detection Angle:</b>	30~150°
<b>Power Consumption:</b>	Approx. 0.5W
<b>Detection Range:</b>	Max. 8m in diameter, adjustable
<b>Time Setting:</b>	5s~30min
<b>Light Control:</b>	2~50Lux, Disable
<b>Entries:</b>	2 x M25 threaded entries (1 x M25 Exd stopping plug supplied)

<b>NOTE:</b>	The high-frequency output of this sensor is <0.2mW. This is approximately 1% of the transmission power of a mobile phone.
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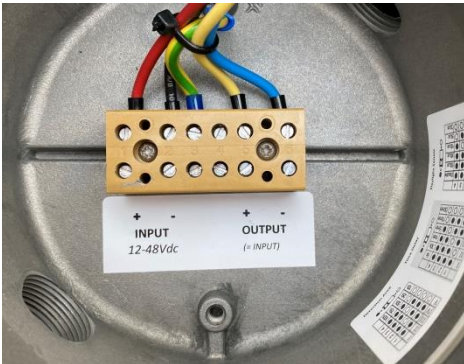
### 2.2 Dimensions



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### 3 Installation and Wiring

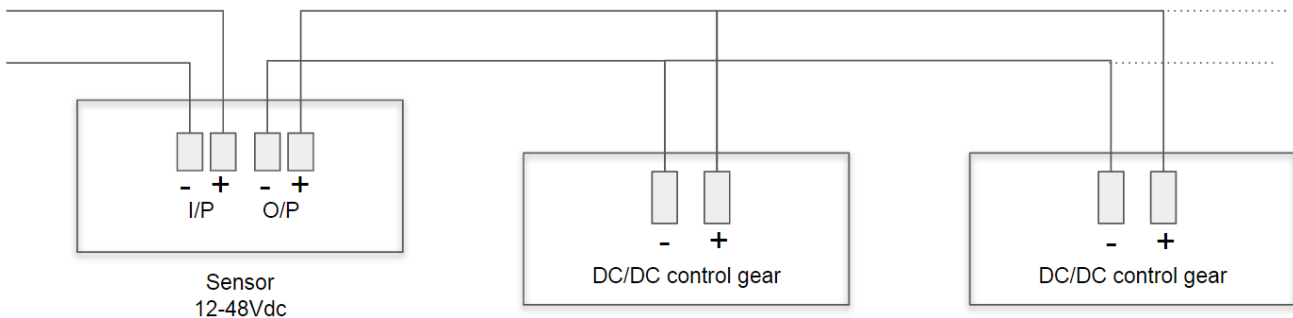
<b>WARNING:</b>	Please ensure that the electricity supply is switched OFF before installing or servicing the sensor. <b>DO NOT OPEN THE Exd ENCLOSURE WHEN ENERGISED</b>
<b>WARNING:</b>	<b>DO NOT OPEN IF AN EXPOSIVE ATMOSPHERE IS PRESENT</b>



The sensor has a 4-wire electrical interface (4mm<sup>2</sup> max):

- I/P (supply input – 12-48Vdc)
  - 1 x Positive (+)
  - 1 x Negative (-)
- O/P (Output to load – same as supply)
  - 1 x Positive (+)
  - 1 x Negative (-)

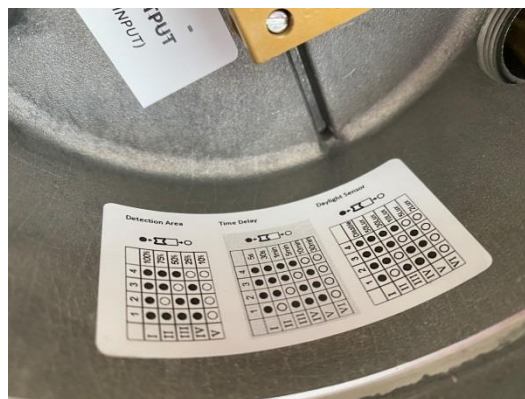
#### 3.1 Wiring



ON/OFF function:

A single sensor can trigger multiple pieces of equipment or luminaires. The output voltage is the same as the supply voltage. Connect '+' and '-' to the drivers/ballasts of the grouped fittings for simultaneous switching.

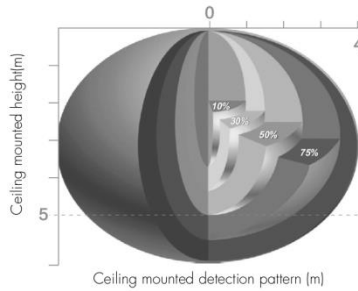
#### 3.2 Settings and Functions



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**a. Detection Range:**

The sensor sensitivity can be adjusted by selecting a combination of 4 DIP switches to suit the application. (50% is the factory default – switches 1,2 and 4 ON, switch 3 OFF)



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

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

**b. Time Delay**

The ON-time of the light, after the person/object leaves the area, can be selected with a combination of 4 DIP switches. (5 seconds 'Walk test mode' is the factory default – all switches ON)

	1	2	3	4	
I	●	●	●	●	5s
II	○	●	●	●	30s
III	●	○	●	●	1min
IV	●	●	○	●	5min
V	●	●	●	○	10min
VI	○	○	○	○	30min

- I – Walk test mode 5s
- II – 30s
- III – 1 minute
- IV – 5 minutes
- V – 10 minutes
- VI – 30 minutes

**c. Daylight Threshold**

The threshold can be selected with a combination of 4 DIP switches. The light will not switch ON if the ambient lux level exceeds the programmed daylight threshold. (Please note that the ambient lux level refers to the amount of light reaching the sensor internally).  
If the daylight sensor is disabled, the sensor will only operate when movement is detected.  
(Daylight sensor disabled is the factory default – all switches ON)

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

- I – Daylight sensor disable
- II – 50 lux
- III – 30 lux
- IV – 10 lux
- V – 5 lux
- VI – 2 lux

## 4 Contact

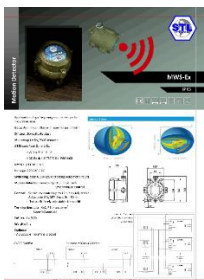
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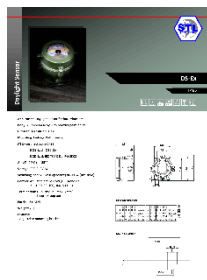


## Other Sensors:

Microwave Sensor (AC)



Daylight Sensor:



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