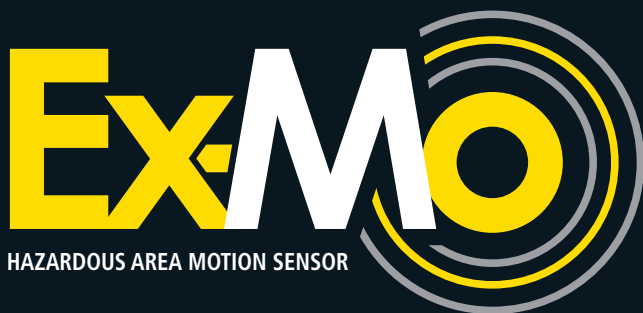


## **Ex-Mo - The NEW Hazardous Area Motion Sensor**



**Take control...**

**W [www.ex-mo.co.uk](http://www.ex-mo.co.uk)**



Welcome to the ground-breaking **Ex-Mo**. It is a microwave motion sensor that operates using the Doppler principal. It has been designed and certified to operate within Hazardous Area environments. **Ex-Mo** offers Atex and IECEx, IP66 Zone 1 and Zone 21 certification for Gas and Dust areas.

**Ex-Mo** helps save on unnecessary power consumption from lighting and other switching devices. **Ex-Mo** can be used to control site lighting so that lighting is only switched on when people are present and off when they are not, therefore saving electricity by reducing your energy bills and reducing your Carbon Footprint.

## An Ex-Mo Overview...

<p>The <b>NEW</b> Micro-Wave Sensor for Hazardous Areas - the Ex-Mo.</p> <p>Ex certified using state of the art Microwave technology.</p> 	<p>Suitable for applications in Zone 1 (Gas) and Zone 21 (Dust Areas).</p> 	<p>Save on unnecessary power consumption from security cameras, and other devices. Also has controllable remote activation of devices.</p> 	<p>Ex-Mo can be used to control complete plants, automated factory lines and unmanned installations.</p> 	<p>Reduce your company CO<sub>2</sub> footprint with reductions in energy consumption.</p> <p>Delivering a tangible benefit to both you and the environment.</p> 
---	--	--	---	--

## What can Ex-Mo do?

- Multiple Sensor/Multiple light configurations are possible
- Ambient light level sensor
- Adjustable switch on time
- Fully adjustable sensitivity and detection range
- Ex certified motion sensor that operates using the Doppler principal
- Atex/IECEx Certified remote control programmer
- Optional **Ex-Mo** adjustable Mounting Bracket to ensure safe fitting and multi directional positioning
- Both 110/230Vac or factory option 12/24Vdc operation
- Control input 12/24Vdc to override the detection sensor
- Robust design and available in two materials, painted Aluminium and 316L Stainless Steel

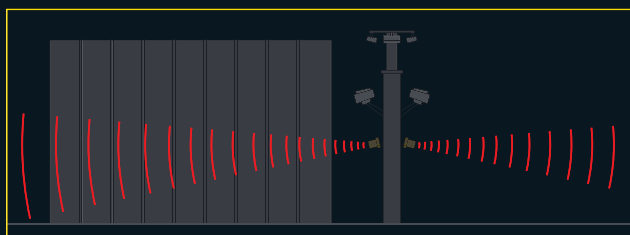
## Ex-Mo Info - Things it might be useful to know!

- **Coverage** - The **Ex-Mo** unit has a coverage pattern of approximately 72° horizontally and approximately 36° vertically. This represents the angular coverage where 70% of the unit sensitivity is maintained. In practice the **Ex-Mo** unit will detect 90° so that a single unit placed in the corner of a rectangular room will give complete coverage along the walls
- The high frequency **Doppler Radar** operates best when a target is approaching or moving away from it and can be detected from a distance of approximately 20 metres away. The "Beam" detected is focused from the front face and is reasonably directional
- **Dimensions** - 145mm x 132mm x 129mm
- **Weight** - Stainless Steel 2.5kg - Aluminium 1.5kg
- **Earth Point** on the right hand side M5 internal/external bolt provided
- **Equipment Rating** - IP66

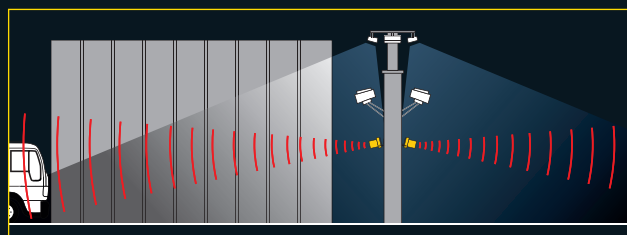
Take control...



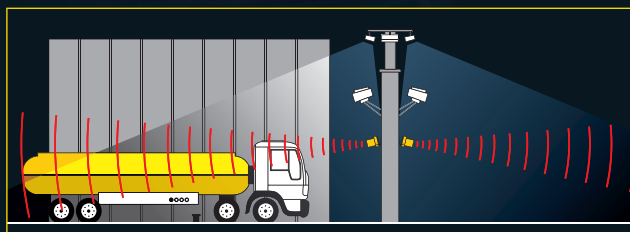
## How does Ex-Mo work?



**Ex-Mo** in operation sensing any movement at fuel loading depot.



As empty truck arrives **Ex-Mo** instantly detects movement and activates lighting and security cameras.



While the driver completes fuel transfer lights and security cameras are still in operation.



When driver exits **Ex-Mo** sensor range lights and security cameras are deactivated.

## Ex-Mo products available



**Ex-Mo  
Motion  
Sensor**

**Ex-Mo  
Infra-Red  
Controller**



**Ex-Mo  
Mounting  
Bracket**

## Ex-Mo Ordering Information

	Description	Code
Enclosure Material	Aluminium	ALU
	Stainless Steel	SS
Power in Supply	230V (Factory Standard)	230
	110V	110
	24V (ac/dc)	24
Relay 1 Light Control Output	Volt Free Conductor	VFC
	Supply Voltage	SV
Relay 2 Alarm Control Output	Volt Free Conductor	VFC
	Supply Voltage	SV
Relay 3 Override Input (Vdc)	5Vdc	5
	12Vdc (Factory Standard)	12*
	24Vdc	24**

### Ex-Mo Order Example

**ExMo - ALU - 230 - SV - VFC - 12**

Enclosure  
Material

Power in  
Supply

Volt Free  
Conductor  
or Supply  
Voltage for  
Relay 1  
Light Control  
Output

Volt Free  
Conductor  
or Supply  
Voltage for  
Relay 2  
Alarm Control  
Output

5Vdc, 12Vdc  
(Factory  
Standard) or  
24Vdc for  
Relay 3  
Override  
Input (Vdc)

### The Example above gives:

- Aluminium enclosure
- 230Vac Power
- 230Vac Output for Light Control Relay 1
- Volt Free Contacts for Alarm Relay 2
- 12Vdc for Override Input Relay 3

Please note: \*12V factory standard - \*\*ac / dc

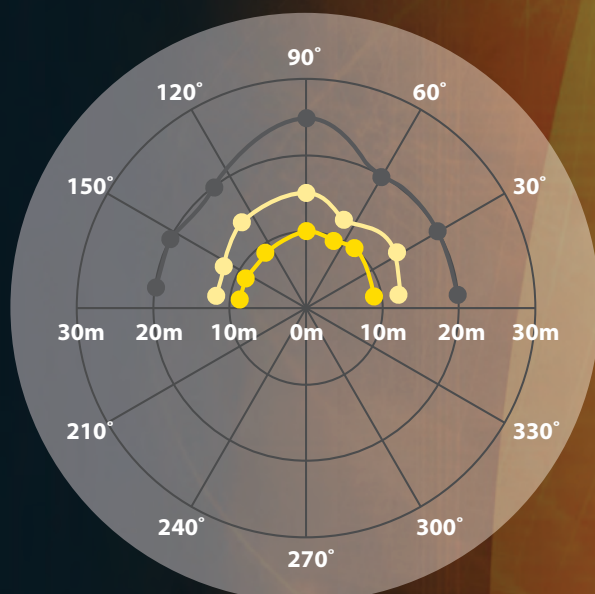
# Area Coverage of the Ex-Mo in a Field Test from a Fixed Sensor

(All lengths in Metres)

Sensor Height	2.2
Angle Relative to Floor	-20°
Angle Relative to Building Wall	2.5°
Angle of Ex-Mo to Wall	70.5°
Shape of Wall	Continuous Straight (No Corners)
Sensitivity Set	1 Step Down from Maximum Sensitivity

Angular rotation	Person		Car
	Distance 1	Distance 2*	Distance 3
15°	9m	12m	20m
35°	9.8m	14.5m	20m
50°	9.5m	12.5m	20m
73°	10m	15m	25m
110°	9m	14m	20m
135°	9m	12m	20m
137°	9m	12m	20m
155°	9m	12m	20m

\* Distance 2 less likely to activate than 1.



Ex-Mo Cable Accessories  
available via Ex-Mo distributor



## Sectors we Support - So where would you find Ex-Mo?

- Oil and Petrochemical Production and Process Plants
- Pharmaceutical Plants
- Mills and Flammable Dust Sites
- Factory and Storage Warehouses
- Tank Farms
- Sewage Plants
- Tanker Loading Bays
- Remote Sites
- Unmanned Offshore Sites
- Automated Factory Process Lines

The **Ex-Mo** also offers the benefit of Auxiliary contacts which can be used to send a signal to a central control centre advising of **Ex-Mo** activation.

## The Technology - Ex-Mo uses the Doppler principal

The Doppler effect (or Doppler shift), named after Austrian physicist Christian Doppler who proposed it in 1842 in Prague, is the change in frequency of a wave for an observer moving relative to the source of the wave. It is commonly heard when a vehicle sounding a siren or horn approaches, passes, and recedes from an observer. The received frequency is higher (compared to the emitted frequency) during the approach, it is identical at the instant of passing by, and it is lower during the recession.



## Ex-Mo Certification

- IECEx Certificate of Conformity IECExBAS11.0002
- ATEX EC Type Examination Certificate Baseefa11ATEX0005
- Baseefa03ATEX0187 Certification

**Ex-Mo** Cable Accessories  
available via **Ex-Mo** distributor





For further information contact us on  
**T +44 (0)1925 852745** or  
**E sales@ex-mo.co.uk**

**Ex-Mo JV Ltd**

2-6 Gawsworth Court, Risley Road, Birchwood, Warrington, Cheshire, WA3 6NJ **T:** +44 (0)1925 852745 **F:** +44 (0)1925 820803

**Take control...**

**W [www.ex-mo.co.uk](http://www.ex-mo.co.uk)**