

# ATEX / IEC Ex Non Contact Safety Switches

Types: WM1-EX WM2-EX CM1-EX CM2-EX CM3-EX LM-EX RM-EX



## Datasheet:



### APPLICATION:

Magnetic non-contact EX Safety Switches are designed to interlock hinge, sliding or removal guard doors or hatches. They are specifically advantageous when:

- poor guard alignment exists
- high hygiene requirements exist e.g. food industry hose down
- a long mechanical life is required (no moving or touching parts).

### OPERATION:

All switches are designed to conform to EN60079-0 and IEC60079-18. They have a magnetic sensing system which provides a wide sensing distance and provides a high tolerance to misalignment after sensing.

### SPECIFIC CONDITIONS OF USE:

- The supply must include a fuse capable of interrupting a 1500A short circuit current.
- When rated at 2A the switches are suitable for use in an ambient temperature range of -20°C to +60°C.
- When rated at 1A or lower the switches are suitable for use in an ambient temperature range of -20°C to +80°C.

**IMPORTANT - (CHECK INTERNAL FUSE RATING OF SWITCH MODEL).**

Installation of all non-contact EX Safety Switches must be in accordance with a risk assessment for the individual application.

For interlocking, the use of a Safety Relay or controller is recommended for monitoring the switches. These relays monitor 2 redundant circuits as per ISO 13849-1 for up to Cat4/PLe protection. The switches are designed to operate with most Dual Channel Safety Modules to satisfy EN60947-5-3. The maximum switching current and external fusing should be observed for each type of switch (see table below). Always fit in a position to avoid mechanical impacts.

Tightening torque for mounting bolts to ensure reliable fixing is 1.5 Nm. Always mount on to Non Ferrous materials. The recommended setting gap is 5mm.

The Safety switch must not be used as a mechanical stop or be adjusted by striking with a hammer. The actuator must not be allowed to strike the switch.

Do not mount adjacent switches or actuators closer than 30mm. Typical misalignment tolerance after setting is 5mm. **Always mount to non-ferrous materials.**

RM-EX types require fitting through 30.5mm clearance holes. The lock nuts supplied must be used to secure the switches.

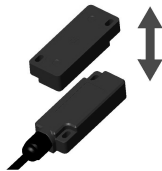
The RM-EX can be flush mounted in Stainless Steel materials.

After installation always check each switch function by opening and closing each guard individually in turn and ensuring that the machine stops and cannot be re-started when each switch is open.

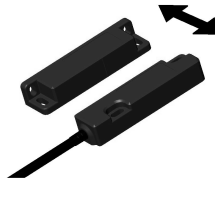
### Actuator operating directions:



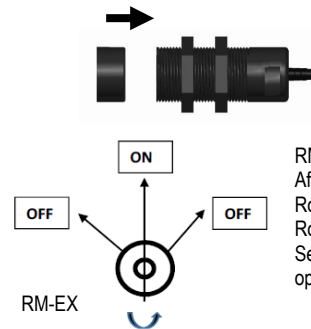
LM-EX



WM1-EX WM2-EX



CM1-EX CM2-EX CM3-EX



RM-EX

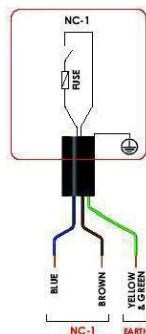
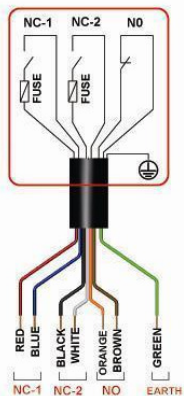
RM-EX Actuator:  
After mounting:  
Rotate Left until OFF  
Rotate Right until OFF  
Set to mid position for optimum alignment ON.

### MAINTENANCE:

Monthly: Check alignment of actuator and look for signs of mechanical damage to the switch casing. Check cables for signs of damage.

Every 6 months: Check each switch function by opening and closing each guard individually in turn and the LED's on the Safety Controller.

Never repair any switch, actuator or integral cables. Replace any switch displaying signs of mechanical damage to the casing or cables.



### Certification Standards:

IEC 60079-0 (EN60079-0)  
IEC 60079-18 (EN60079-18)

### Certificate Numbers:

EC Type Certificate Number: Baseefa11ATEX0234X  
IEC Certificate Number: IECEx BAS11.0115X

### Classification:

WM1-EX (Zones 0,20,1,21,2,22)



II 1G Ex ma IIC T6 Ga  
II 1D Ex ma IIIC T80C Da

CM1-EX CM2-EX CM3-EX LM-EX RM-EX (Zones 1,21,2,22)



II 2G Ex mb IIC T6 Gb  
II 2D Ex mb IIIC T80C Db

For all IDEM switches the NC circuits are closed when the guard is closed and the actuator present.

Safety Channels NC

|                       |            |                               |
|-----------------------|------------|-------------------------------|
| WM1-EX                | 250V.ac/dc | 0.6 A Max. (Internally fused) |
| WM2-EX                | 250V.ac/dc | 2.0 A Max. (Internally fused) |
| CM1-EX                | 250V.ac/dc | 2.0 A Max. (Internally fused) |
| CM2-EX (1NC versions) | 250V.ac/dc | 1.0 A Max. (Internally fused) |
| CM2-EX                | 250V.ac/dc | 0.6 A Max. (Internally fused) |
| CM3-EX                | 250V.ac/dc | 0.6 A Max. (Internally fused) |
| LM-EX                 | 250V.ac/dc | 0.6 A Max. (Internally fused) |
| RM-EX                 | 250V.ac/dc | 0.6 A Max. (Internally fused) |

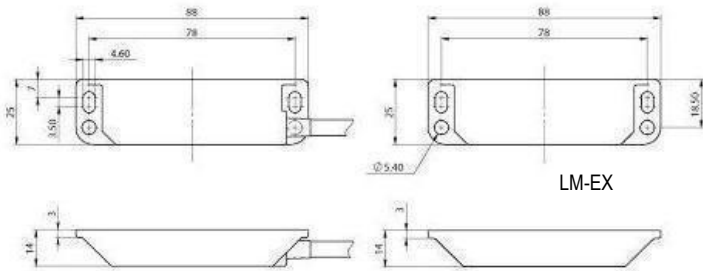
Auxiliary Channel NO

250V.ac/dc 0.2 A Max.

### Original Instructions.

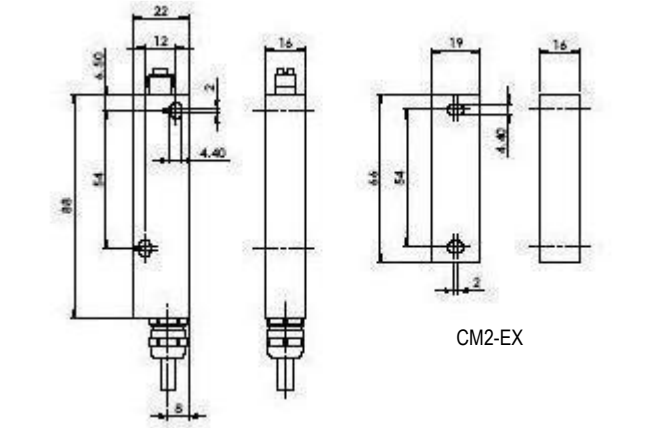
To request this data sheet in other languages please contact [info@idemsafety.com](mailto:info@idemsafety.com)  
Um dieses Datenblatt in anderer Sprache zu erhalten wenden Sie sich bitte an [info@idemsafety.com](mailto:info@idemsafety.com)  
Pour obtenir cette fiche en Français, veuillez contacter [info@idemsafety.com](mailto:info@idemsafety.com)  
Para solicitar esta hoja de datos en Español, por favor contactar con [info@idemsafety.com](mailto:info@idemsafety.com)

# ATEX / IEC Ex Non Contact Safety Switches

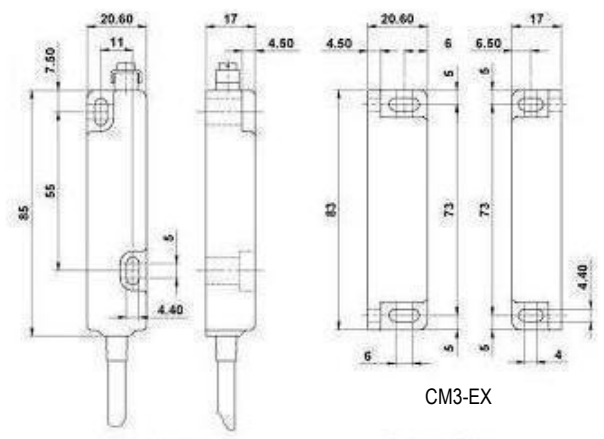


LM-EX

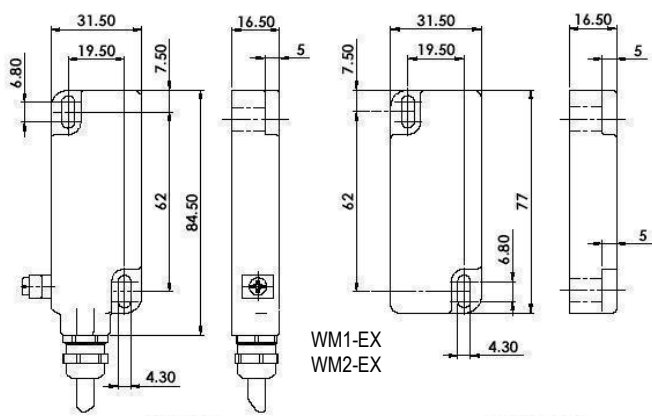
Recommended setting gap 5mm  
 Tolerance to misalignment 5mm in any direction from 5mm setting gap  
 Switching frequency 1.0 Hz maximum  
 Body Material Stainless Steel 316  
 Temperature Range See conditions of use.  
 Enclosure Protection IP67 (Fully Encapsulated)  
 Mechanical Life Expectancy 10,000,000 switchings  
 Electrical Life Expectancy Tested to 1,000,000 cycles at 24V, 0.2A  
 Cable Type PVC 7 core or 3 core 6.5mm O.D. Max.  
 Mounting Bolts M4 Tightening torque 1.5 Nm



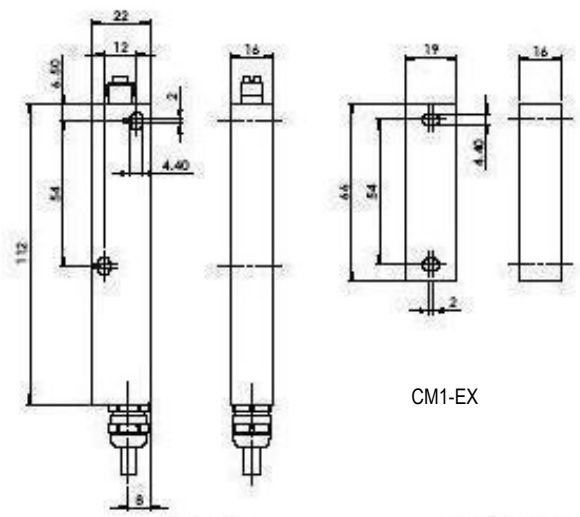
CM2-EX



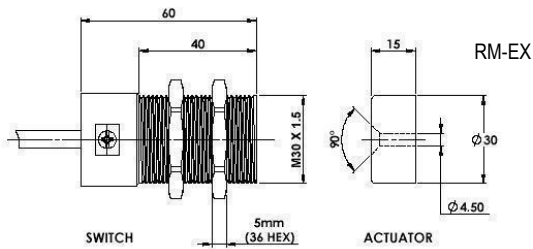
CM3-EX



WM1-EX  
WM2-EX



CM1-EX



SWITCH

ACTUATOR

## EU Declaration of Conformity

Manufacturer: IDEM SAFETY SWITCHES Ltd., 2 Ormside Close, Hindley Industrial Estate, Hindley Green, Wigan, UK.



The following products conform to the Essential Health and Safety Requirements of the following European Directives:

Directive for Equipment intended for use in potentially explosive atmospheres: 2014/34/EU

Devices: Non-contact Interlock Switches : Types

WM1-EX (Part 9001---)

II 1G Ex ma IIC T6 Ga II 1D Ex ma III T80°C Da

WM1-EX (Part 9002---) WM2-EX CM1-EX CM2-EX CM3-EX RM-EX LM-EX

II 2G Ex mb IIC T6 Gb II 2D Ex mb IIIC T80°C Db

Harmonised Standards:

EN60079-0:2009 (This standard has been compared with EN60079-0:2012/A11:2013 and there are no significant changes which affect the equipment).

EN60079-18:2009 (This standard has been compared with EN60079-18:2015 and there are no significant changes which affect the equipment).

EC Type Certificate Number: Baseefa11ATEX0234X (plus supplements) Date: 12/10/2011 Certified Body: Baseefa Ltd, Buxton, Derbyshire, UK SK17 9RZ (Notified Body Number 1180).

Materials used in the manufacture of these products are compliant in accordance with Directives:

2011/65/EU (RoHS2) until 21st July 2019 and 2015/863 (RoHS3) from 22nd July 2019.