

Safety Products for Explosive Environments

APPLICATION:

Interlock and Emergency Stop Safety Switches for use in hazardous areas - positively operated contacts or high life non contact dry reed switching. For use in hazardous areas IECEx and ATEX IIC T6. (Gas and Dust).

Designed for petro-chemical, pharmaceutical and food processing and packaging applications where explosive atmospheres exist.

-  Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb  Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Mechanical Interlock Switches and Emergency Stop Switches
 II 2G Ex mb IIC T6 Gb  II 2D Ex mb IIIC T80C Db Limit Switches and Belt Alignment Switches
Non Contact Magnetic Interlock Switches

IDEM's safety interlock switches for hazardous environments are engineered to fit to the leading edge of sliding, hinged, or lift-off machine guards, ensuring safe electrical switching in environments with explosion risks, such as petrochemical, pharmaceutical, food production, and packaging industries. Our ATEX rope pull switches are designed to protect conveyors in hazardous areas like beverage production and chemical handling.

In addition to providing explosion-proof switching, these devices can be integrated with dual-channel safety monitoring relays, depending on the application's risk assessment. This combination offers high functional safety, meeting standards up to Category 4 and PLe according to ISO 13849-1 or SIL3 per EN 62061.



TECHNICAL SPECIFICATION:

Includes Tongue Interlocks, Belt Alignment Switches, Limit Switches, Emergency Stops and Rope Pull Switches

Standards	IEC/EN60079-0 IEC/EN60079-1 ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061
Mechanical Reliability B10d	1.5 x 10 ⁶ operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure Protection	IP69K IP67
Operating Temperature	-20C +60C
Vibration	IEC 68-2-6 10-50Hz + 1Hz Excursion 0.35mm 1 octave/min
Internal Contact Switch	Type LS-EX
Classification	Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db
Rated Voltage	250Vac
Rated Current	2 Pole 4.0A 4 Pole 2.5A
Cable Length	3m

NON-CONTACT TECHNICAL SPECIFICATION:

Includes CM1-EX, CM2-EX, CM3-EX, RM-EX, LM-EX, WM1-EX and WM2-EX

Standards	IEC/EN60079-0 IEC/EN60079-18 ISO14119 EN60947-5-3 EN60204-1
Mechanical Reliability B10d	3.3 x 10 ⁶ operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Time)	Sar 22mm Open
Approach Speed	200mm/m to 1000mm/s
Temperature Range	-20/+80 (or +60C for 2A version)
Enclosure Protection	IP67
Body Material	Stainless Steel 316
Cable Type	6mm OD

Non-Contact Safety Switches for Explosive Environments

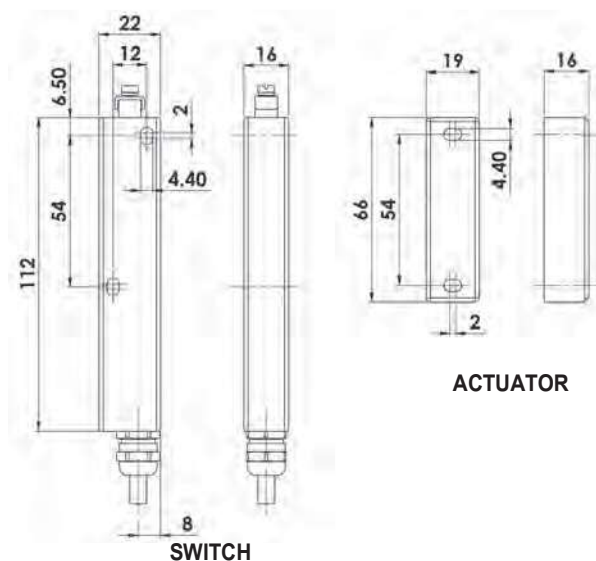
CM1-Ex STAINLESS STEEL 316



II 2G Ex mb IIC T6 Gb

II 2D Ex mb IIIC T80 Db IP67*

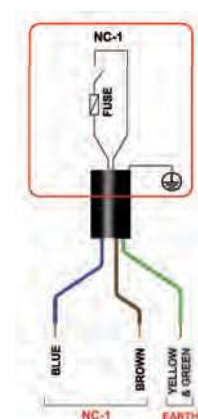
Zones 1, 21, 2, 22 Gas and Dust



ACTUATOR



SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) NC
901101	CM1-Ex	S/Steel	5M	1NC	230Vac/24Vdc 2A Max.
901102	CM1-Ex	S/Steel	10M	1NC	INTERNALLY FUSED



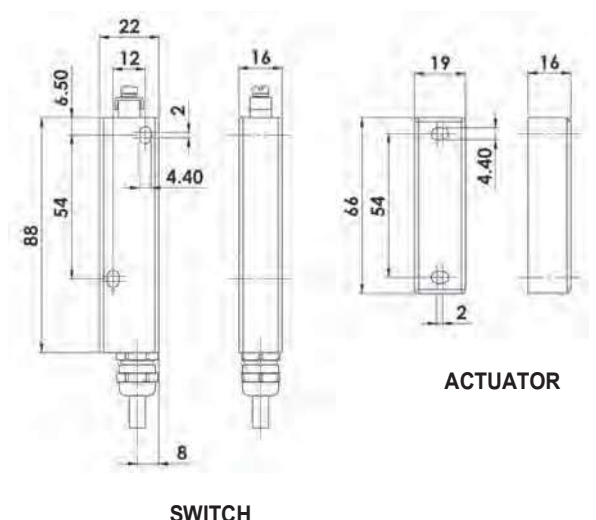
CM2-Ex STAINLESS STEEL 316



II 2G Ex mb IIC T6 Gb

II 2D Ex mb IIIC T80 Db IP67*

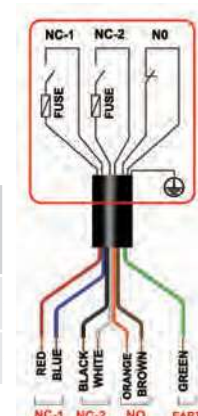
Zones 1, 21, 2, 22 Gas and Dust



ACTUATOR



SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) NC	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) NO
902103	CM2-Ex	S/Steel	5M	1NC	230Vac/24Vdc 1A Max.	
902104	CM2-Ex	S/Steel	10M	1NC	INTERNALLY FUSED	
902105	CM2-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 0.6A Max.	230Vac/24Vdc
902106	CM2-Ex	S/Steel	10M	2NC 1NO	INTERNALLY FUSED	200mA. Max.



*Product is fully encapsulated which is considered to provide ingress protection to at least IP67.

Non-Contact Safety Switches for Explosive Environments

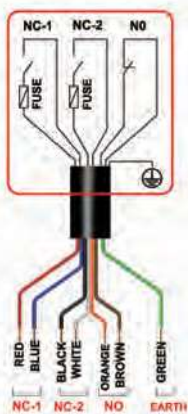
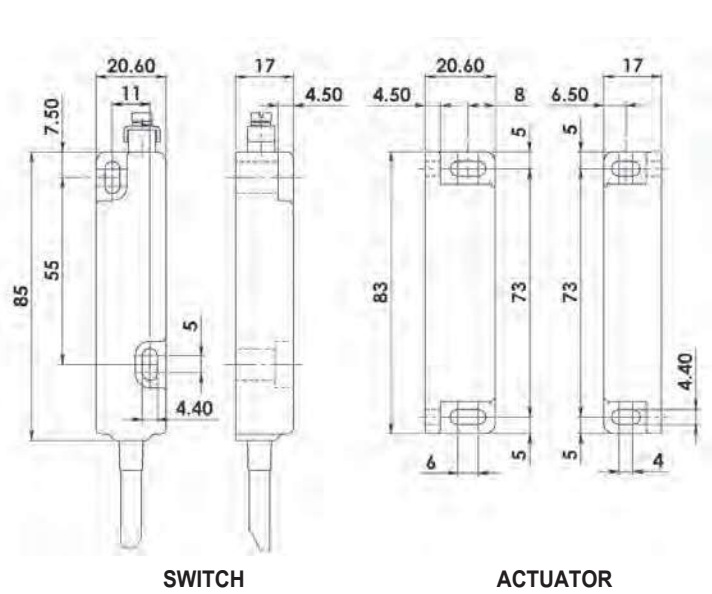
CM3-Ex STAINLESS STEEL 316



Ex II 2G Ex mb IIC T6 Gb

Ex II 2D Ex mb IIIC T80 Db IP67*

Zones 1, 21, 2, 22 Gas and Dust



SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) NC	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) NO
					230Vac/24Vdc 0.6A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
903101	CM3-Ex	S/Steel	5M	2NC 1NO		
903102	CM3-Ex	S/Steel	10M	2NC 1NO		

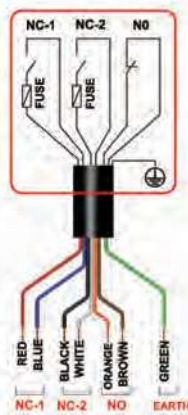
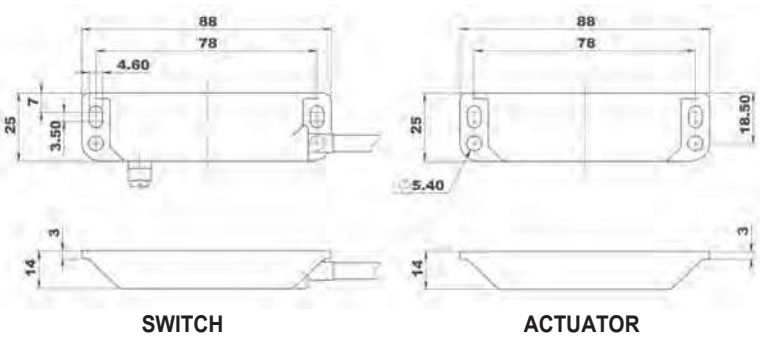
LM-Ex STAINLESS STEEL 316



Ex II 2G Ex mb IIC T6 Gb

Ex II 2D Ex mb IIIC T80 Db IP67*

Zones 1, 21, 2, 22 Gas and Dust



SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) RED/BLUE NC1 WHITE/BLACK NC2	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) ORANGE/BROWN NO
					230Vac/24Vdc 0.6A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
904101	LM-Ex	S/Steel	5M	2NC 1NO		
904102	LM-Ex	S/Steel	10M	2NC 1NO		

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Non-Contact Safety Switches for Explosive Environments

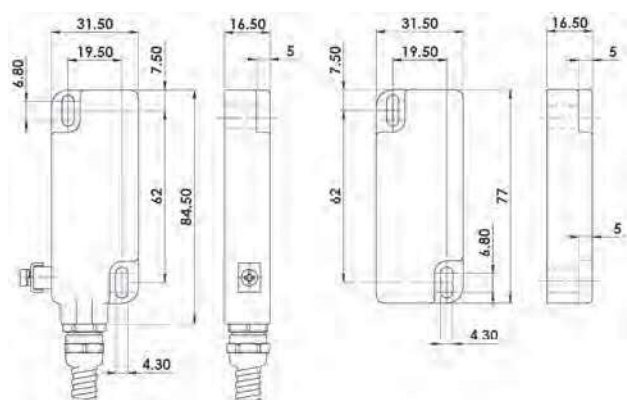
WM1-Ex STAINLESS STEEL 316



Ex II 1G Ex ma IIC T6 Ga

Ex II ID Ex ma IIIC T80 Da IP67*

Zones 0, 20, 1, 21, 2, 22 Gas and Dust



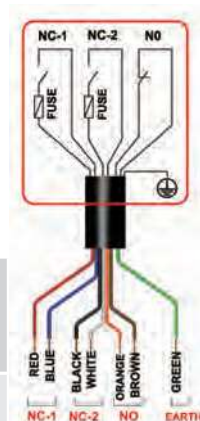
SWITCH

ACTUATOR



(Supplied fitted with Stainless Steel Flexible Conduit)

SALES NUMBER	TYPE ZONES	BODY HOUSING	CABLE/ CONDUIT LENGTH 10mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) RED/BLUE NC1 WHITE/BLACK NC2 INTERNALLY FUSED	ELECTRICAL RATING NORMALLY OPEN CIRCUIT (Actuator Present) ORANGE/BROWN NO
900101	WM1-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 0.6A Max.	230Vac/24Vdc
900102	WM1-Ex	S/Steel	10M	2NC 1NO	INTERNALLY FUSED	200mA. Max.



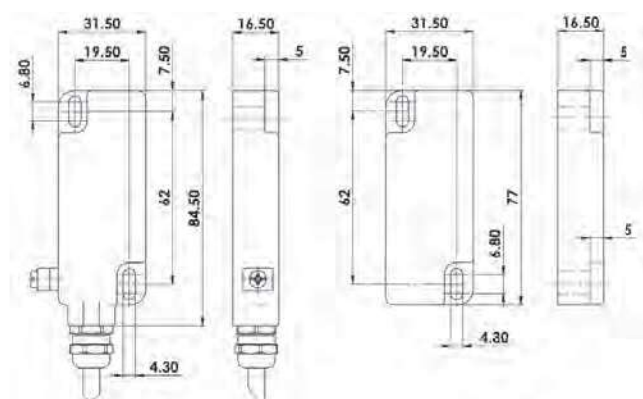
WM2-Ex STAINLESS STEEL 316



Ex II 2G Ex mb IIC T6 Gb

Ex II 2D Ex mb IIIC T80 Db IP67*

Zones 1, 21, 2, 22 Gas and Dust

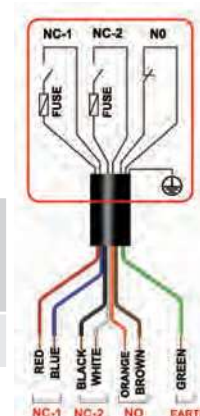


SWITCH

ACTUATOR



SALES NUMBER	TYPE ZONES	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) RED/BLUE NC1 WHITE/BLACK NC2 INTERNALLY FUSED	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) ORANGE/BROWN NO
900201	WM2-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 2A Max.	230Vac/24Vdc
900202	WM2-Ex	S/Steel	10M	2NC 1NO	INTERNALLY FUSED	200mA. Max.



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Non-Contact Safety Switches for Explosive Environments

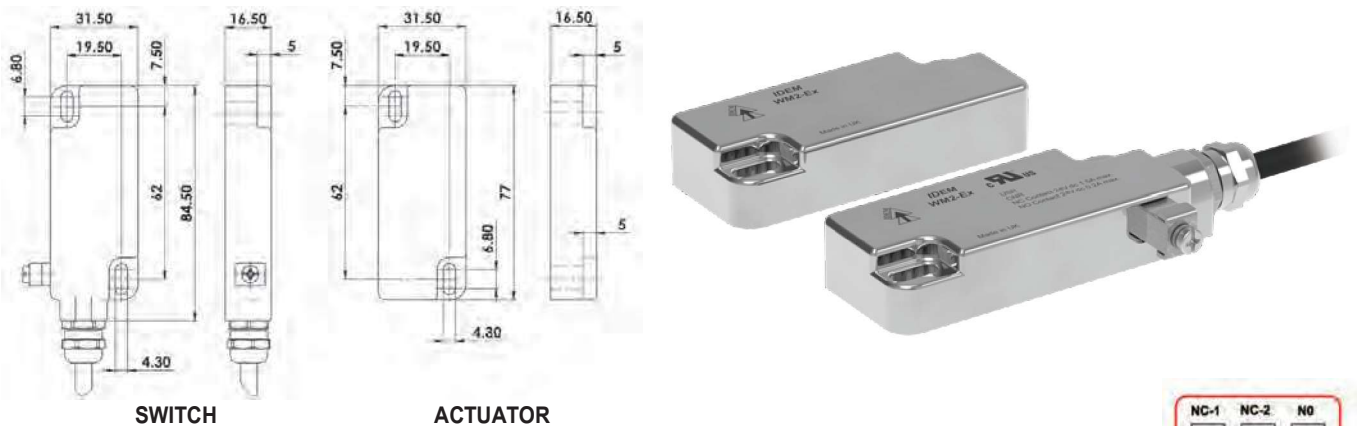
WM2-Ex (CRUS Approved)

STAINLESS STEEL 316



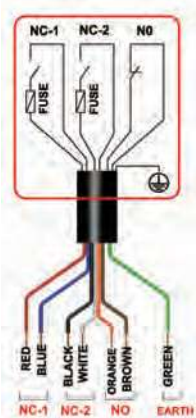


USR, Non-Contact Safety Interlock Switches for use in Class I, Zone 1, AEx mb IIC Hazardous Locations.
 CNR, Non-Contact Safety Interlock Switch for use in Ex mb IIC Hazardous Locations.



SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present)		ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present)	
					RED/BLUE	NC1	ORANGE/BROWN	NO
136402-CRUS	WM2-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc	2A Max.	230Vac/24Vdc	200mA. Max.
136403-CRUS	WM2-Ex	S/Steel	10M	2NC 1NO	INTERNALLY FUSED			
136404-CRUS	WM2-Ex	S/Steel	20M	2NC 1NO				

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RM-Ex

STAINLESS STEEL 316

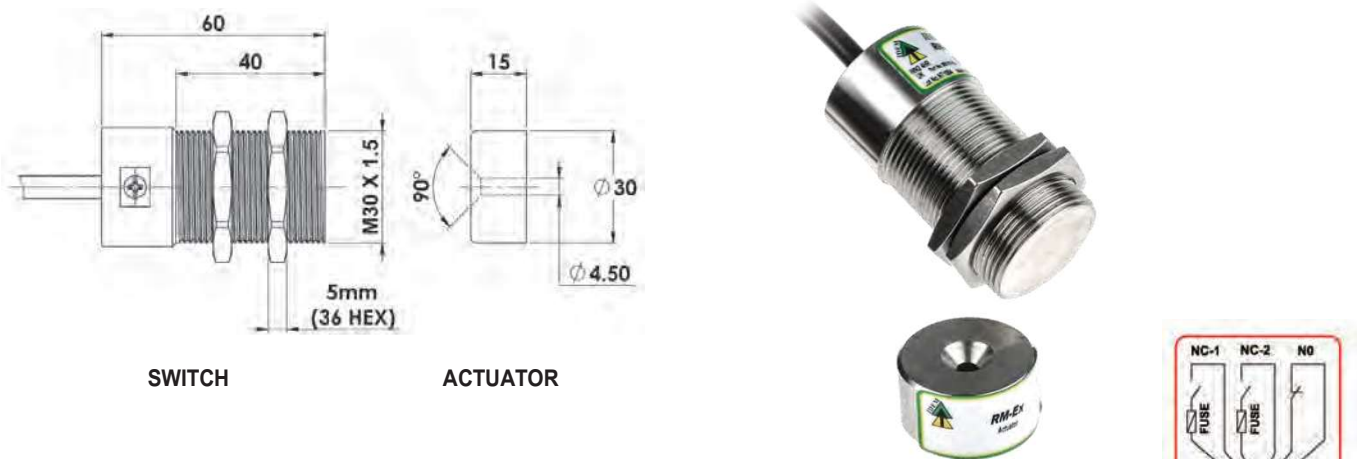
M30 x 1.5mm threaded body




 II 2G Ex mb IIC T6 Gb


 II 2D Ex mb IIIC T80 Db IP67*

Zones 1, 21, 2, 22 Gas and Dust



SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present)		ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present)	
					RED/BLUE	NC1	ORANGE/BROWN	NO
905101	RM-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc	0.6A Max.	230Vac/24Vdc	200mA. Max.
905102	RM-Ex	S/Steel	10M	2NC 1NO	INTERNALLY FUSED			

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