

# SPECIAL EXPLOSIVE DUST ATMOSPHERES



# Explosive dust atmospheres

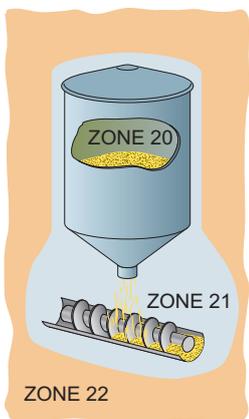
## What is an explosive atmosphere according to serie Ex standards?

It is the mixing with air, in atmospheric conditions, of flammable substances in the form of gas, vapour, mist or dust which, in the event of combustion, spreads throughout the non burning mix.

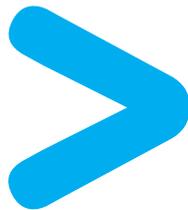
## Hazardous area classification

### > *The Dust zones (International - European - US/Canada - China)*

- Zone 20: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air, either permanently, for long periods or frequently.
- Zone 21: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air during normal operation occasionally.
- Zone 22: area where an explosive atmosphere in the form of combustible clouds of dust in the air is unlikely to occur during normal operation but, if it does occur, it is only for a short period.



The products in this catalogue are certified by a notified body



*A selection of certified products, conforming to serie Ex standards & Directive, to ensure maximum safety for your installations in a zone where the risk of explosion or fire is high.*

## The Dust Class/Divisions locations

### > *Class II, Division 1*

- An area where ignitable concentrations of combustible dust can exist all of the time or some of the time under normal operating conditions.

### > *Class II, Division 2*

- An area where ignitable concentrations of combustible dust are not likely to exist under normal operating conditions.

# Main sectors of activity subject to a higher risk of explosion or fire

Flour mills



Wood and aluminium workshops



Bagging



Grain silos



Grain drying areas



Bulk conveying



# XC Limit switches

## Miniature, fixing by the body



<b>Limit switch type</b> With head for movement	<b>XCMD metal, pre-cabled</b> Linear (plunger)			
<b>Conformity</b>	Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31			
<b>Zone D (dust)</b>	21 - 22			
<b>Marking</b>	Ex tb III C T85°C Db IP66			
<b>Type of operator</b>	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Retractable steel roller lever plunger
<b>Mechanical durability</b> (millions of operating cycles)	10			
<b>Actuation speed</b>	0,5 m/s			
<b>Switches conforming to standard IEC947-5-1 section 3</b>	☞			
<b>Temperature range</b>	- 20...+ 60°C			
<b>Degree of protection</b> (conforming to IEC 60529)	IP66 and IP67			
<b>Rated operational characteristics</b> (conforming to EN/IEC 60947-5-1)	AC15; C300 (Ue= 240 V, Ie= 0,75 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)			
<b>Short-circuit protection</b>	By 6 A cartridge fuse type gG (gl)			
<b>Cable entry</b>	Pre-cabled, adjustable direction, length = 5 m			
<b>Fixing centres</b>	20 mm			
<b>Body dimensions, W x D x H</b>	30 x 16 x 50 mm			
<b>References</b>	2NC+2NO snap action	<b>XCMD4110L5EX</b>	<b>XCMD4111L5EX</b>	<b>XCMD4102L5EX</b> <b>XCMD4124L5EX</b>

# XC Limit switches

## Compact, fixing by the body



<b>Limit switch type</b> With head for movement	<b>XCKD metal conforming to standard EN 500047</b> Linear (plunger)				
<b>Conformity</b>	Directive ATEX 2014/34/UE, EN/IEC/UL 60079-0, EN/IEC/UL 60079-31				
<b>Zone D (dust)</b>	21 - 22				
<b>Marking</b>	Ex tb III C T85°C Db IP66 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db				
<b>Type of operator</b>	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Thermoplastic roller lever plunger, horiz. actuation in 1 direct.	Thermoplastic roller lever plunger, vert. actuation in 1 direct.
<b>Mechanical durability</b> (millions of operating cycles)	15		10	15	
<b>Actuation speed</b>	0,5 m/s		1 m/s		
<b>Switches conforming to standard IEC947-5-1 section 3</b>	☞				
<b>Temperature range</b>	- 20...+ 60°C				
<b>Degree of protection</b> (conforming to IEC 60529)	IP66 and IP67				
<b>Rated operational characteristics</b> (conforming to EN/IEC 60947-5-1)	AC15; B300 (Ue= 240 V, Ie= 1,5 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)				
<b>Short-circuit protection</b>	By 6 A cartridge fuse type gG (gl)				
<b>Cable entry</b>	1 entry fitted with ISO M16 cable gland for ATEX IECEx version, with ½ NPT for IECEx/cULus version (without cable gland)				
<b>Fixing centres</b>	20 mm				
<b>Body dimensions, W x D x H</b>	31 x 30 x 65 mm				
<b>References</b>	2NC+1NO snap action	<b>XCKD3910P16EX</b>	<b>XCKD3911P16EX</b>	<b>XCKD3902P16EX</b>	<b>XCKD3921P16EX</b> <b>XCKD3927P16EX</b>
	2NC+1NO snap action	<b>XCKD3910N12EX</b>	<b>XCKD3911N12EX</b>	<b>XCKD3902N12EX</b>	<b>XCKD3921N12EX</b> <b>XCKD3927N12EX</b>

(1) with IECEx/ATEX certified cable gland

(2) if the sensor is not connected by a pipe, a certified cable gland must be added (not provided)

Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog"

### Miniature, fixing by the head



XCMD metal, pre-cabled Rotary (lever)				Linear (plunger)		
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31						
21 - 22						
Ex tb III C T85°C Db IP66						
Steel roller lever	Thermoplastic roller lever	Roller lever with ball bearing mounted roller	Variable length Thermoplastic Roller lever	M12 with Metal end plunger	M16 with Metal end plunger with elastomer boot	M12 with steel roller plunger
10						
1,5 m/s				0,5 m/s		0,1 m/s
⊙						
- 20...+ 60°C						
IP66 and IP67						
AC15; C300 (Ue= 240 V, Ie= 0,75 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)						
By 6 A cartridge fuse type gG (gl)						
Pre-cabled, adjustable direction, length = 5 m						
20 mm				M12 x 1	M16 x 1	M12 x 1
30 x 16 x 50 mm						
XCMD4116L5EX	XCMD4115L5EX	XCMD4117L5EX	XCMD4145L5EX	XCMD41F0L5EX	XCMD41G1L5EX	XCMD41F2L5EX



### Compact, fixing by the head

XCKD metal conforming to standard EN 500047 Linear (plunger)		Rotary (lever)			Multi-directional	Linear (plunger)	
Directive ATEX 2014/34/UE, EN/IEC/UL 60079-0, EN/IEC/UL 60079-31							
21 - 22							
Ex tb III C T85°C Db IP66 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db							
Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 dir.	Thermoplastic roller lever	Steel roller thermoplastic Ø 50 mm	Variable length thermoplastic roller lever	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker"	M18 Metal end plunger	M18 with steel roller plunger
15	10				5	10	
1 m/s	1,5 m/s				1 m/s	0,5 m/s	
⊙							
- 20...+ 60°C							
IP66 and IP67							
AC15; B300 (Ue= 240 V, Ie= 1,5 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)							
By 6 A cartridge fuse type gG (gl)							
1 entry fitted with ISO M16 cable gland for ATEX IECEx version, with ½ NPT for IECEx/cULus version (without cable gland)							
20 mm						M18 x 1	
30 x 16 x 50 mm							
XCKD3928P16EX	XCKD3918P16EX	XCKD3939P16EX	XCKD3945P16EX	XCKD3949P16EX	XCKD3906P16EX	XCKD39H0P16EX	XCKD39H2P16EX
XCKD3928N12EX	XCKD3918N12EX	XCKD3939N12EX	XCKD3945N12EX	XCKD3949N12EX	XCKD3906N12EX	XCKD39H0N12EX	XCKD39H2N12EX



# XC Limit switches

## Classic, fixing by the body



<b>Limit switch type</b>	<b>XCKM metal, 3 cable entries</b>				
With head for movement	Linear (plunger)		Rotary (lever)	Multi-directional	
<b>Conformity</b>	Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31				
<b>Zone D (dust)</b>	21 - 22				
<b>Marking</b>	Ex tb III C T85°C Db IP66				
<b>Type of operator</b>	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horiz. actuation in 1 direct.	Thermoplastic roller lever	"Cat's whisker"
<b>Mechanical durability</b> (millions of operating cycles)	20				10
<b>Actuation speed</b>	0,5 m/s		1,5 m/s		0,5 m/s
<b>Switches conforming to standard IEC947-5-1 chapitre 3</b>	☞				–
<b>Temperature range</b>	– 20...+ 60°C				
<b>Degree of protection</b> (conforming to IEC 60529)	IP66				
<b>Rated operational characteristics</b> (conforming to EN/IEC 60947-5-1)	AC15; B300 (Ue= 240 V, Ie= 1,5 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)				
<b>Short-circuit protection</b>	By 6 A cartridge fuse type gG (gl)				
<b>Cable entry</b>	3 tapped entries for ISO M20 cable gland (1)				
<b>Fixing centres</b>	41 mm				
<b>Body dimensions, W x D x H</b>	63 x 30 x 64 mm				
<b>References</b>	2NC+1NO snap action	XCKM3910H29EX	XCKM3902H29EX	XCKM3921H29EX	XCKM3915H29EX XCKM3906H29EX

(1) 2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland



# XC Limit switches

Application - hoisting, handling, conveying



<b>Limit switch type</b>	<b>XCKMR metal, 3 cable entries</b>	
With head for movement	Rotary (lever)	
<b>Conformity</b>	Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31	
<b>Zone D (dust)</b>	21 - 22	
<b>Marking</b>	Ex tb III C T85°C Db IP66	
<b>Type of operator</b>	Metal rod levers, "crossed"	Metal rod levers, "crossed" reversed head
<b>Mechanical durability</b> (millions of operating cycles)	2	
<b>Actuation speed</b>	1,5 m/s	
<b>Switches conforming to standard IEC947-5-1 section 3</b>	☞	
<b>Temperature range</b>	– 20...+ 60°C	
<b>Degree of protection</b> (conforming to IEC 60529)	IP66	
<b>Rated operational characteristics</b> (conforming to EN/IEC 60947-5-1)	AC15; A300 (Ue= 240 V, Ie= 3 A)/DC13; Q300 (Ue= 125 V, Ie= 0,55 A)	
<b>Short-circuit protection</b>	By 10 A cartridge fuse type gG (gl)	
<b>Cable entry</b>	3 tapped entries for ISO M20 cable gland (1)	
<b>Fixing centres</b>	61,5 mm	
<b>Body dimensions, W x D x H</b>	118 x 59 x 77 mm	
<b>2 (NC+NC) staggered, slow break contacts</b>	XCKMR54D1H29EX	XCKMR54D2H29EX
<b>2 (NC+NO) snap action contacts, both actuated in each direction</b>	–	
<b>2 (NC+NO) snap action contacts, 1 actuated in each direction</b>	–	
<b>2 CO staggered snap action contacts</b>	–	

(1) 2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland

Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog.



# XC Limit switches

## Industrial, fixing by the body



### XCKJ metal, fixed body, conforming to standard EN 50041

Linear (plunger) | Rotary (lever)

Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC/UL 60079-31, GB 3836.1

21 - 22

Ex tb III C T85°C Db IP66 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db

Metal end plunger	Steel roller plunger	Steel roller lever	Thermoplastic roller lever	Variable length thermoplastic roller lever	Polyamide rod lever, Ø 6 x 200 mm
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30	25	30		20	
0,5 m/s	1 m/s	1,5 m/s			

⊙				-	
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- 20...+ 60°C

IP66

AC15; B300 (Ue = 240 V, Ie = 1,5 A)/DC13; R300 (Ue = 250 V, Ie = 0,1 A)

By 6 A cartridge fuse type gG (gl)

1 entry fitted with ISO M20 cable gland certified ATEX/IECEX, with ½ NPT for IECEX/cULus version (without cable gland). No CCC Ex certified cable gland

30 x 60 mm

40 x 44 x 77 mm

	(1) XCKJ3961H29EX	XCKJ3967H29EX	XCKJ390513H29EX	XCKJ390511H29EX	XCKJ390541H29EX	XCKJ390559H29EX
	(2) XCKJ3961H7EX	XCKJ3967H7EX	XCKJ390513H7EX	XCKJ390511H7EX	XCKJ390541H7EX	XCKJ390559H7EX

(1) with IECEX/ATEX certified cable gland (2) if the sensor is not connected by a pipe, a certified cable gland must be added (not provided)



### XCR metal

Rotary (lever)

Conveyor belt shift monitoring switches

Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31

21 - 22

Ex tb III C T85°C Db IP66

Square (6 mm) rod lever, spring return to off position	Thermoplastic roller (Ø 30 mm) lever, spring return to off position	Large thermoplastic roller (Ø 50 mm) lever, spring return to off position	Metal rod levers, "crossed", stay put	Galvanised steel operating lever	Stainless steel operating lever
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10				0,3	
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1,5 m/s					
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⊙				-	
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- 20...+ 60°C

IP66

AC15; A300 (Ue= 240 V, Ie= 3 A)/DC13; Q300 (Ue= 250 V, Ie= 0,27 A)

By 10 A cartridge fuse type gG (gl)

1 entry fitted with n° 13 cable gland

85 x 75 mm

85 x 75 x 95 mm

-

XCRA111EX	XCRA121EX	XCRA151EX	XCRC181EX (2)	-	
XCRB111EX	XCRB121EX	XCRB151EX	XCRF171EX (3)	-	
-				XCRT115EX	XCRT215EX

(2) "Crossed" rods (3) "T" rods



Type		Vacuum switches and vacu-pressure switches with setting scale		
Size		- 1 bar	- 0,2 bar	5 bar
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31		
Zone D (dust)		21 - 22		
Marking		Ex tb III C T85°C Db IP66		
Fluid connection		1/4" BSP female		
Electrical connection		Screw terminals, 1 entry fitted with ISO M20 cable gland		
Temperature range		- 20...+ 60°C		
Degree of protection		IP66		
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC15; B300 (Ue= 240 V, Ie= 1,5 A; Ue= 120 V, Ie= 3 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Setting range of upper limit (PH)		-0,14...-1 bar	-0,02...-0,2 bar	-0,5...5 bar
Body dimensions, W x D x H		55 x 77,5 x 158 mm	150 x 155,5 x 145 mm	113 x 35 x 75 mm
Fluids controlled		Oil, water, air, up to +70°C	Oil, air, up to +160°C	Oil, water, air, up to +70°C
Possible differential (subtract from PH to give PB) (1)	Min. at low setting	0,13 bar	0,018 bar	0,5 bar
	Min. at high setting	0,13 bar	0,018 bar	0,5 bar
	Max. at high setting	0,8 bar	0,18 bar	6 bar
1 CO single pole, snap action contact		XMLBM02V2S12EX	XMLBM03R2S12EX	XMLBM05A2S12EX

(1) For XMLBM02V2S12EX and XMLBM03R2S12EX vacuum switches add to PB to give PH



Type		Pressure switches with setting scale		
Size		10 bar	20 bar	35 bar
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31		
Zone D (dust)		21 - 22		
Marking		Ex tb III C T85°C Db IP66		
Fluid connection		1/4" BSP female		
Electrical connection		Screw terminal, 1 entry fitted with ISO M20 cable gland		
Temperature range		- 20...+ 60°C		
Degree of protection		IP66		
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC15; B300 (Ue= 240 V, Ie= 1,5 A; Ue= 120 V, Ie= 3 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Setting range of upper limit (PH)		0,7...10 bar	1,3...20 bar	3,5...35 bar
Body dimensions, W x D x H		35 x 75 x 113 mm		
Fluids controlled		Oil, water, air, up to +70°C		
Possible differential (subtract from PH to give PB)	Min. at low setting	0,57 bar	1 bar	1,7 bar
	Min. at high setting	0,85 bar	1,6 bar	2,55 bar
	Max. at high setting	7,5 bar	11 bar	20 bar
1 CO single pole, snap action contact		XMLB010A2S12EX	XMLB020A2S12EX	XMLB035A2S12EX

Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog.



Pressure switches with setting scale				
0,05 bar	0,35 bar	1 bar	2,5 bar	4 bar
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31				
21 - 22				
Ex tb III C T85°C Db IP66				
1/4" BSP female				
Screw terminals, 1 entry fitted with ISO M20 cable gland				
- 20... + 60°C				
IP66				
AC15; B300 (Ue= 240 V, Ie= 1,5 A; Ue= 120 V, Ie= 3 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)				
By 10 A cartridge fuse type gG (gl)				
0,026...0,05 bar	0,045...0,35 bar	0,05...1 bar	0,3...2,5 bar	0,25...4 bar
200 x 204 x 145 mm	110 x 110 x 162 mm		55 x 77,5 x 158 mm	55 x 77,5 x 158 mm
Oil, air, up to +160°C			Oil, water, air, up to +70°C	
0,0014 bar	0,042 bar	0,04 bar	0,16 bar	0,2 bar
0,004 bar	0,05 bar	0,06 bar	0,21 bar	0,25 bar
0,04 bar	0,3 bar	0,75 bar	1,75 bar	2,4 bar
<b>XMLBL05R2S12EX</b>	<b>XMLBL35R2S12EX</b>	<b>XMLB001R2S12EX</b>	<b>XMLB002A2S12EX</b>	<b>XMLB004A2S12EX</b>

(1) For **XMLBM02V2S12EX** and **XMLBM03R2S12EX** vacuum switches add to PB to give PH



Pressure switches with setting scale			
70 bar	160 bar	300 bar	500 bar
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31			
21 - 22			
Ex tb III C T85°C Db IP66			
1/4" BSP female			
Screw terminals, 1 entry fitted with ISO M20 cable gland			
- 20... + 60°C			
IP66			
AC15; B300 (Ue= 240 V, Ie= 1,5 A; Ue= 120 V, Ie= 3 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)			
By 10 A cartridge fuse type gG (gl)			
7...70 bar	10...160 bar	22...300 bar	30...500 bar
35 x 75 x 113 mm			
Oil, up to +160°C			
4,7 bar	9,3 bar	19,4 bar	23 bar
8,8 bar	20,8 bar	37 bar	52,6 bar
50 bar	100 bar	200 bar	300 bar
<b>XMLB070D2S12EX</b>	<b>XMLB160D2S12EX</b>	<b>XMLB300D2S12EX</b>	<b>XMLB500D2S12EX</b>



# XS Inductive proximity sensors

## Discrete, metal case



Sensor type	3-wires DC PNP, flush mountable in metal			
Conformity	Directive ATEX 2014/34/UE, EN/IEC/UL 60079-0, EN/IEC/UL 60079-31			
Zone D (dust)	21 - 22			
Marking	Ex tb III C T90°C Db IP67 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db			
Nominal sensing distance Sn	4 mm	8 mm	15 mm	
Operating zone	0...3,2 mm	0...6,4 mm	0...12 mm	
Temperature range	- 20...+ 60°C			
Degree of protection (conforming to IEC 60529)	IP67			
Connection	Pre-cabled PvR, L= 10 m			
Dimensions	M12 x 50 mm	M18 x 60 mm	M30 x 60 mm	
Supply voltage (including ripple)	10...58 VDC			
Switching capacity, max	200 mA			
Overload and short-circuit protection	Yes			
LED output state indicator	Yes			
Voltage drop, closed state at I nominal	≤ 2 V			
Switching frequency	2500 Hz	1000 Hz	500 Hz	
References	NO function	XS612B1PAL10EX (1)	XS618B1PAL10EX (1)	XS630B1PAL10EX (1)
	NC function	XS612B1PBL10EX	XS618B1PBL10EX	XS630B1PBL10EX

(1) for a 2 meters pre-cabled version, replace ... L10EX by ... L2EX



# XS Inductive proximity sensors

## Discrete, plastic case



Sensor type	DC 4 wire PNP			
Conformity	Directive ATEX 2014/34/UE, EN/IEC/UL 60079-0, EN/IEC/UL 60079-31			
Zone D (dust)	21 - 22			
Marking	Ex tb III C T85°C Db IP65/67 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db			
Nominal sensing distance Sn	20 mm flush mountable	40 mm No flush mountable		
Operating zone	16 mm	32 mm		
Temperature range	- 25...+ 60°C			
Degree of protection (conforming to IEC 60529)	IP65/67			
Connection	1 tapped entry for M20 x 1,5 for cable gland supplied			
Dimensions	40 x 40 x 117 mm + cable gland			
Supply voltage (including ripple)	10...58 VDC			
Switching capacity, max	200 mA			
Overload and short-circuit protection	Yes			
LED output state indicator	Yes			
Voltage drop, closed state at I nominal	≤ 2 V			
Switching frequency	300 Hz			
Niveau Safety	SIL2			
Reliability data Safety	MTTFd = 1546 years, SFF = 92%, DC = 75% with appropriate safety controller			
References	Function NC + NC	(2)	XS8C4A1PCP20EX	XS8C4A4PCP20EX
	Function NC + NC	(3)	XS8C4A1PCN12EX	XS8C4A4PCN12EX

(2) with IECEx/ATEX certified cable gland

(3) if the sensor is not connected by a pipe, a certified cable gland must be added (not provided)



# XS Inductive proximity sensors

## Rotation monitoring, metal case



M30

<b>Sensor type</b>	<b>3-wires DC PNP, flush mountable in metal</b>	
<b>Conformity</b>	Directive ATE X 2014/34/UE, EN/IEC/UL 60079-0, EN/IEC/UL 60079-31	
<b>Zone D (dust)</b>	21 - 22	
<b>Marking</b>	Ex tb III C T90°C Db IP67 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db	
<b>Nominal sensing distance Sn</b>	10 mm	
<b>Operating zone</b>	0...8 mm	
<b>Temperature range</b>	- 20...+ 60°C	
<b>Degree of protection (conforming to IEC 60529)</b>	IP67	
<b>Connection</b>	Pre-cabled PvR, L= 2 m	
<b>Dimensions</b>	M30 x 81 mm	
<b>Supply voltage (including ripple)</b>	10...58 VDC	
<b>Switching capacity, max</b>	200 mA	
<b>Overload and short-circuit protection</b>	Yes	
<b>LED output state indicator</b>	Yes	
<b>Voltage drop, closed state at I nominal</b>	≤ 2 V	
<b>Version</b>	Slow	Fast
<b>Maximum speed of passing object</b>	6000 impulses/minute	48000 impulses/minute
<b>Adjustable frequency range</b>	6...150 impulses/minute	120...3000 impulses/minute
<b>References</b>	NC function XSAV11373EX (2)	XSAV12373EX (2)

(2) For pre-cabled version of 10 meters, replace ... 3EX by ... 3L10EX



# XS Inductive proximity sensors

## Analog, metal case



M12



M18



M30

<b>Sensor type</b>	<b>Analogue, 2-wires DC, flush mountable in metal</b>		
<b>Conformity</b>	Directive ATEX 2014/34/UE, EN/IEC/UL 60079-0, EN/IEC/UL 60079-31		
<b>Zone D (dust)</b>	21 - 22		
<b>Marking</b>	Ex tb III C T90°C Db IP67 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db		
<b>Nominal sensing distance Sn</b>	2 mm	5 mm	10 mm
<b>Operating zone</b>	0,2...2 mm	0,5...5 mm	1...10 mm
<b>Temperature range</b>	- 20...+ 60°C		
<b>Degree of protection (conforming to IEC 60529)</b>	IP67		
<b>Connection</b>	Pre-cabled PvR, L= 2 m		
<b>Dimensions</b>	M12 x 50 mm	M18 x 60 mm	M30 x 60 mm
<b>Supply voltage (including ripple)</b>	10...38 VAC/DC		
<b>Linearity error</b>	10%		
<b>Operating frequency</b>	1500 Hz	500 Hz	300 Hz
<b>References</b>	Output 4...20 mA XS1M12AB120EX	XS1M18AB120EX	XS1M30AB120EX

Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog



File E10054  
CCN NOIV

# Limit Switches

## Heavy duty industrial, 9007CR



File LR26817  
Class 3218-02

Select turret head	Rotary lever arm						Side plunger				
	Standard Pre-travel Spring Return	Low Differential Spring Return	Neutral position		Light Operating Torque Spring Return	Maintained Contact	Side Roller-Plunger Spring Return Vertical Roller Type [2]	Side Push-Rod Plunger Spring Return	Side Push-Rod Plunger Adjustable Spring Return [3]	Side Push-Rod Plunger Maintained Contact	
			Standard Pre-travel Spring Return	Low Differential Spring Return							
	CW & CCW [1]	CW & CCW [1]	CW & CCW	CW & CCW	CW & CCW [1]	CW (Trip) & CCW (Reset)					
Select basic switch	Contacts	Type (Class 9007)									
UL Listed for Hazardous Location Division I Class I Groups B, C, D Class II Groups E, F, G	1 NO / 1 NC	CR53B2	CR53A2	-	-	CR53N2	CR53C	CR53F	CR53G	CR53GD	CR53H
	2 NO / 2 NC	CR61B2	CR61A2	-	-	CR61N2	CR61C	CR61F	CR61G	CR61GD	CR61H
	2 NO / 2 NC Neutral Position	-	-	CR67T10	CR67T5	-	-	-	-	-	-
	2 NO / 2 NC Two Stage	CR65B2	CR65A2	-	-	-	-	-	-	-	-

Select turret head	Top Plunger				Wobble Stick				
	Top Roller-Plunger Spring Return	Top Push-Rod Plunger Spring Return	Top Push-Rod Plunger Adjustable Spring Return [4]	Palm Operated [5]	Wobble Stick Delrin [6]	Wobble Stick Wire Extension [7]	Wobble Stick Coil Spring Extension [7]	Cat Whisker	
									Wobble Stick Delrin [6]
Select basic switch	Contacts	Type (Class 9007)							
UL Listed for Hazardous Location Division I Class I Groups B, C, D Class II Groups E, F, G	1 NO / 1 NC	CR53D	CR53E	CR53ED	CR53R	CR53J	CR53K	CR53KC	CR53L
	2 NO / 2 NC	CR61D	CR61E	CR61ED	CR61R	CR61J	CR61K	CR61KC	CR61L
	2 NO / 2 NC Neutral Position	-	-	-	-	-	-	-	-
	2 NO / 2 NC Two Stage	CR65D	-	CR65ED	-	CR65J	CR65K	CR65KC	-

[1] Can be converted to horizontal roller type in the field. To order horizontal roller version add the letter "H" at the end of the equivalent vertical roller version type number.

[2] To lock the nut in the desired position, crimp the slot near the bottom of the nut.

[3] These devices are factory set to operate the contacts in both the CW and CCW directions. Mode of operation is field convertible to CW only or CCW only. To order factory converted devices—for CCW only operation, change the "2" at the end of the type number to "1"; for CW only operation, delete the "2" at the end of the type number.

[4] To lock the nut in the desired position, crimp the slot near the bottom of the nut.

[5] Mushroom button must be ordered separately.

[6] Delrin® is a registered trademark of DuPont. Not for use outdoors.

[7] Wobble stick extensions are available separately as replacements for complete devices.



File E12443  
 Haz. Loc. \_\_\_\_\_  
 File E12158

# Pressure Switches

## 9012 or 9016



File L25490  
 File LR26817



### Fixed Differential

NEMA 7 & 9 Enclosure

Class 1 & 2, Division 1 & 2, Class C, D, E, F, G

Range on Decreasing Pressure psig	Approximate Differential at Mid-Range psig [1]	Maximum Allowable Pressure psig	Single Pole Double Throw	Double Pole Double Throw
			Part Number	Part Number
Diaphragm Actuated-Nitrile (Buna-N) Diaphragm, Zinc Plated Steel Housing				
0.2 - 10	1.0 ±0.1	100	9012GDR1	—
1 - 40	2.4 ±0.8	100	9012GDR2	9012GDR22
1.5 - 75	4.5 ±1	240	9012GDR4	9012GDR24
3 - 150	9 ±1.5	475	9012GDR5	9012GDR25
5 - 250	15 ±3	750	9012GDR6	9012GDR26
13 - 425	25 ±7	850	9012GER1	9012GER21
Piston Actuated - #440 Stainless Steel Piston. #303 Stainless Steel Housing, Viton Fluorocarbon Diaphragm and O-ring, Teflon® Retaining Ring				
20 - 1000	89 ±18	10000	9012GFR1	9012GFR21
90 - 2900	255 ±30	15000	9012GFR2	9012GFR22
170 - 5600	578 ±110	20000	9012GFR3	—

### Adjustable Differential

NEMA 7 & 9 Enclosure

Class 1 & 2, Division 1 & 2, Class C, D, E, F, G

Range on Decreasing Pressure psig	Adjustable Differential Approximate at Mid-Range [1]	Maximum Allowable Pressure psig	Single Pole Double Throw	Double Pole Double Throw
			Part Number	Part Number
Diaphragm Actuated - Nitrile (Buna-N) Diaphragm, Zinc Plated Steel Housing				
0.2 - 10	1.0 - 2	100	9012GAR1	9012GAR21
1 - 40	2.4 - 8	100	9012GAR2	9012GAR22
1.5 - 75	4.5 - 15	240	9012GAR4	9012GAR24
3 - 150	9 - 35	475	9012GAR5	9012GAR25
5 - 250	15 - 49	750	9012GAR6	9012GAR26
13 - 425	25 - 90	850	9012GBR1	9012GBR21
20 - 675	41 - 130	2000	9012GBR2	9012GBR22
Piston Actuated - #440 Stainless Steel Piston. #303 Stainless Steel Housing, Viton Fluorocarbon Diaphragm and O-ring, Teflon® Retaining Ring				
20 - 1000	89 - 200	10000	9012GCR1	9012GCR21
90 - 2900	255 - 560	15000	9012GCR2	—
170 - 5600	578 - 1260	20000	9012GCR3	9012GCR23
270 - 9000	788 - 1900	25000	9012GCR4	—

Range on Decreasing Vacuum (In. of Hg)	Adjustable Differential Adds to Range (In of Hg) [2]	Contact Arrangement	Pipe Tap (NPTF)	NEMA 7 & 9 [3]
				Part Number
0 - 28.7	At Minimum Range: 0.8 - 9 At Mid-Range: 1.3 - 7.4	1 N.O., 1 N.C.	1/4" - 18	9016GAR1
0 - 25	5 - 20	1 N.O., 1 N.C.	1/4" - 18	—
0 - 28.3	At Minimum Range: 1 - 9 At Mid-Range: 1.7 - 7.4	2 N.O., 2 N.C.	1/4" - 18	9016GAR21
0 - 25	5 - 20	2 N.O., 2 N.C.	1/4" - 18	—



# Float Switches

## 9036

### Class 9036, 2-Pole, Single Lever Operated

Contact Operation	NEMA 7, 9
	Part Number
Close on liquid rise	9036DR31
Open on liquid rise	9036DR31R
Close on liquid rise	9036GR1
Open on liquid rise	9036GR1R



[1] The differential adds to the range setting and determines the operating point on rising pressure.

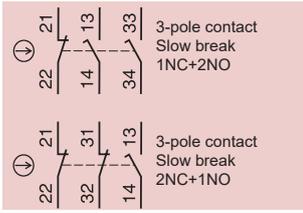
[2] Add Differential to Range to obtain the operating point on increasing vacuum (within vacuum limitations). The differential increases linearly over its range.

[3] The minimum differential doubles with NEMA 7 & 9 enclosures.





# Preventa safety switches and actuators



Position of the contact when the actuator is in the head of the switch



<b>Metal switches type</b>	<b>XCSA/B/C, 1 entry fitted with ISO M20 cable gland for ATEX/IECEx version, with ½ NPT for IECEx/cULus version (without cable gland)</b>		
With head	Without locking	Interlocking, unlocking by button	Interlocking, unlocking by key lock
<b>Conformity</b>	Directive ATEX 2014/34/UE, EN/IEC/UL 60079-0, EN/IEC/UL 60079-31		
<b>Zone D (dust)</b>	21 - 22		
<b>Marking</b>	Ex tb III C T85°C Db IP67 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db		
<b>Maximum safety level (1)</b>	PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061		
<b>Maximum safety level (mini → maxi)</b>	0,1 m/s → 0,5 m/s		
<b>Degree of protection</b>	IP67		
<b>Rated operational characteristics</b> (conforming to EN IEC 60947-5-1)	AC 15, A 300 / DC 13, Q 300		
<b>Temperature range</b>	-20...+60°C		
<b>Dimensions (body+head) W x D x H</b>	40 x 44 x 113,5 mm	52 x 44 x 113,5 mm	52 x 44 x 113,5 mm
<b>Short-circuit protection</b>	By 10 A cartridge fuse type gG (gl)		
<b>Reliability data B<sub>10d</sub></b>	5 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
<b>Complete switch</b> (3)	1NC+2NO XCSA502EX	XCSB502EX	XCSC502EX
	2NC+1NO XCSA702EX	XCSB702EX	XCSC702EX
<b>Complete switch</b> (4)	1NC+2NO XCSA503EX	XCSB503EX	XCSC503EX
	2NC+1NO XCSA703EX	XCSB703EX	XCSC703EX

(3) with IECEx/ATEX certified cable gland (4) if the sensor is not connected by a pipe, a certified cable gland must be added (not provided)

## Accessories



Straight actuator



Wide actuator



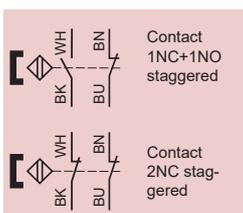
Pivoting actuator



Door lock

<b>For safety switches XCSA/B/C</b>	<b>Actuators</b>			<b>Door lock</b>
<b>References</b>	XCSZ01	XCSZ02	XCSZ03	XCSZ05

## Coded magnetic



Contact states shown are whilst the magnet is in front of the switch



certified ATEX only

<b>Plastic switches type</b>	<b>XCSDM coded magnetic, Pre-cabled, L = 2 m</b>		
	Rectangular without LED		
<b>Conformity</b>	Directive ATEX 94/9/CE, EN 60079-0, EN 60079-18, EN 60079-31, EN 1088, EN/ISO 13849-1		
<b>Zone</b>	0-1-2/20-21-22*(according to protection mode, mD or ia).		
<b>Marking</b>	II1 D-Ex ia III B Da T135°C /  II2 D-Ex tb III C T135°C Db IP67		
<b>Maximum safety level (1)</b>	PL=e, category 4 conforming to EN/ISO 13849-1 et SIL CL3 conforming to EN/IEC 62061		
<b>Switches for actuation</b>	Face to face, face to side, side to side		
<b>Degree of protection</b>	IP66 + IP67		
<b>Type of contact</b>	REED		
<b>Rated operational characteristics</b> (conforming to EN/IEC 60947-5-1)	Ue = 24 VDC, Ie = 100 mA		
<b>Temperature range</b>	-20...+60°C		
<b>Dimensions W x D x H</b>	16 x 7 x 51 mm		
<b>Operating zone</b>	Sao = 5 / Sar = 15		
<b>Short-circuit protection</b>	By 10 A cartridge fuse type gG (gl)		
<b>Reliability data B<sub>10d</sub></b>	50 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
<b>Switch with coded magnet</b>	1NC+1NO staggered	XCSDMC5902EX (2)	
	2NC staggered	XCSDMC7902EX (2)	

(1) Using an appropriate and correctly connected control system. (2) For pre-cabled version of 10 meters, replaced... 2EX by ... 10EX



Emergency Stop Device for Use in Haz. Loc.  
Zn21 AEx tb IIIC T85°C  
Zn21 Ex tb IIIC T85°C Db

# Preventa emergency stops

## Emergency stop rope pull switches



For pre-cabled length to 50 m	Latching, without indicator light					
Conformity	Directive ATEX 2014/34/UE, EN/IEC/UL 60079-0, EN/IEC/UL 60079-31					
Zone D (dust)	21 - 22					
Marking	Ex tb III C T85°C Db IP65 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db					
Maximum safety level (1)	PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061					
Mechanical durability (millions of operating cycles)	60 000 cycles					
Temperature range	- 20...+ 60°C					
Degree of protection	IP65					
Connection	2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland for ATEX/IECEX version, with ½ NPT for IECEX/cULus version (without cable gland)					
Rated operational characteristics (conforming to EN/IEC 60947-5-1)	AC15; A300 (Ue= 240 V, Ie= 3 A)/DC13; Q300 (Ue= 250 V, Ie= 0,27 A)					
Short-circuit protection	By 10 A cartridge fuse type gG (gl)					
Dimensions, W x D x H	229 x 82 x 142 mm		229 x 105 x 142 mm			
Reset	By booted pushbutton		By key release pushbutton (key n° 421)			
Operating cable length	≤ 70 m		≤ 70 m			
Operating cable anchoring point	To left	To right	To left	To right		
Reliability data B <sub>10d</sub>	300 000 (value given for a service life of 20 years, limited by mechanical or contact wear)					
References	(2)	NC+NO slow break	<b>XY2CE2A250EX</b>	<b>XY2CE1A250EX</b>	<b>XY2CE2A450EX</b>	<b>XY2CE1A450EX</b>
		NC+NC slow break	<b>XY2CE2A270EX</b>	<b>XY2CE1A270EX</b>	<b>XY2CE2A470EX</b>	<b>XY2CE1A470EX</b>
References	(3)	NC+NO slow break	<b>XY2CE2A250H7EX</b>	<b>XY2CE1A250H7EX</b>	<b>XY2CE2A450H7EX</b>	<b>XY2CE1A450H7EX</b>
		NC+NC slow break	<b>XY2CE2A270H7EX</b>	<b>XY2CE1A270H7EX</b>	<b>XY2CE2A470H7EX</b>	<b>XY2CE1A470H7EX</b>

- (1) Using an appropriate and correctly connected control system.
- (2) with IECEX/ATEX certified cable gland.
- (3) if the sensor is not connected by a pipe, certified cable gland must be added (not provided)



For pre-cabled length 2x35 to 2x100 m	Latching, without indicator light				
Conformity	Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31				
Zone D (dust)	21 - 22				
Marking	Ex tb C T85°C Db IP65 / Zn21 AEx tb IIIC T85°C / Zn21 Ex tb IIIC T85°C Db				
Maximum safety level (1)	PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061				
Mechanical durability (millions of operating cycles)	10 000 cycles				
Temperature range	- 20...+ 60°C				
Degree of protection	IP65				
Connection	2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland for ATEX/IECEX version, with ½ NPT for IECEX/cULus version (without cable gland)				
Rated operational characteristics (conforming to EN/IEC 60947-5-1)	AC15; A300 (Ue= 240 V, Ie= 3 A)/DC13; Q300 (Ue= 250 V, Ie= 0,27 A)				
Short-circuit protection	By 10 A cartridge fuse type gG (gl)				
Dimensions, W x D x H	285 x 82 x 142 mm		285 x 106 x 142 mm		
Reset	By booted pushbutton		By key		
Operating cable length	2 x100 m		2 x100 m		
Operating cable anchoring point	To left and right		To left and right		
Reliability data B <sub>10d</sub>	300 000 (value given for a service life of 20 years, limited by mechanical or contact wear)				
References	(2)	NC+NO slow break	<b>XY2CEDA290EX</b>	<b>XY2CEDA490EX</b>	
		NC+NO slow break	<b>XY2CEDA290H7EX</b>	<b>XY2CEDA490H7EX</b>	

- (1) Using an appropriate and correctly connected control system.
- (2) with IECEX/ATEX certified cable gland.

# Product Index

## Limit Switches

Product	Explosive Dust, by zone						Explosive Dust by Class/Div		Page
	ATEX	IECEX	cURus	cULus	UL certified	CCC Ex	UL	CSA	
<b>Limit Switch</b>									
<b>Applicative</b>									
XCKMR54D1H29EX	X	X	-	-	-	-	-	-	6
XCKMR54D2H29EX	X	X	-	-	-	-	-	-	6
XCRA111EX	X	X	-	-	-	-	-	-	7
XCRA121EX	X	X	-	-	-	-	-	-	7
XCRA151EX	X	X	-	-	-	-	-	-	7
XCRB111EX	X	X	-	-	-	-	-	-	7
XCRB121EX	X	X	-	-	-	-	-	-	7
XCRB151EX	X	X	-	-	-	-	-	-	7
XCRE181EX	X	X	-	-	-	-	-	-	7
XCRF171EX	X	X	-	-	-	-	-	-	7
XCRT115EX	X	X	-	-	-	-	-	-	7
XCRT215EX	X	X	-	-	-	-	-	-	7
<b>Classic</b>									
XCKM3902H29EX	X	X	-	-	-	X	-	-	6
XCKM3906H29EX	X	X	-	-	-	X	-	-	6
XCKM3910H29EX	X	X	-	-	-	X	-	-	6
XCKM3915H29EX	X	X	-	-	-	X	-	-	6
XCKM3921H29EX	X	X	-	-	-	X	-	-	6
<b>Compact, fixing by the body</b>									
XCKD3902N12EX	-	X	-	X	-	-	-	-	4
XCKD3902P16EX	X	X	-	-	-	-	-	-	4
XCKD3906N12EX	-	X	-	X	-	-	-	-	5
XCKD3906P16EX	X	X	-	-	-	-	-	-	5
XCKD3910N12EX	-	X	-	X	-	-	-	-	4
XCKD3910P16EX	X	X	-	-	-	-	-	-	4
XCKD3911N12EX	-	X	-	X	-	-	-	-	4
XCKD3911P16EX	X	X	-	-	-	-	-	-	4
XCKD3918N12EX	-	X	-	X	-	-	-	-	5
XCKD3918P16EX	X	X	-	-	-	-	-	-	5
XCKD3921N12EX	-	X	-	X	-	-	-	-	4
XCKD3921P16EX	X	X	-	-	-	-	-	-	4
XCKD3927N12EX	-	X	-	X	-	-	-	-	4
XCKD3927P16EX	X	X	-	-	-	-	-	-	4
XCKD3928N12EX	-	X	-	X	-	-	-	-	5
XCKD3928P16EX	X	X	-	-	-	-	-	-	5
XCKD3939N12EX	-	X	-	X	-	-	-	-	5
XCKD3939P16EX	X	X	-	-	-	-	-	-	5
XCKD3945N12EX	-	X	-	X	-	-	-	-	5
XCKD3945P16EX	X	X	-	-	-	-	-	-	5
XCKD3949N12EX	-	X	-	X	-	-	-	-	5
XCKD3949P16EX	X	X	-	-	-	-	-	-	5
<b>Compact, fixing by the head</b>									
XCKD39H0N12EX	-	X	-	X	-	-	-	-	5
XCKD39H0P16EX	X	X	-	-	-	-	-	-	5
XCKD39H2N12EX	-	X	-	X	-	-	-	-	5
XCKD39H2P16EX	X	X	-	-	-	-	-	-	5
<b>Heavy duty industrial</b>									
9007CR53A2	-	-	-	-	-	-	X	X	12
9007CR53B2	-	-	-	-	-	-	X	X	12
9007CR53C	-	-	-	-	-	-	X	X	12
9007CR53D	-	-	-	-	-	-	X	X	12
9007CR53E	-	-	-	-	-	-	X	X	12
9007CR53ED	-	-	-	-	-	-	X	X	12
9007CR53F	-	-	-	-	-	-	X	X	12
9007CR53G	-	-	-	-	-	-	X	X	12
9007CR53GD	-	-	-	-	-	-	X	X	12
9007CR53H	-	-	-	-	-	-	X	X	12
9007CR53J	-	-	-	-	-	-	X	X	12
9007CR53K	-	-	-	-	-	-	X	X	12
9007CR53KC	-	-	-	-	-	-	X	X	12

# Product Index

## Limit Switches (continued)

Product	Explosive Dust, by zone						Explosive Dust by Class/Div		Page
	ATEX	IECEX	cURus	cULus	UL certified	CCC Ex	UL	CSA	
<b>Limit Switch</b>									
<b>Heavy duty industrial (continued)</b>									
9007CR53L	-	-	-	-	-	-	X	X	12
9007CR53N2	-	-	-	-	-	-	X	X	12
9007CR53R	-	-	-	-	-	-	X	X	12
9007CR61A2	-	-	-	-	-	-	X	X	12
9007CR61B2	-	-	-	-	-	-	X	X	12
9007CR61C	-	-	-	-	-	-	X	X	12
9007CR61D	-	-	-	-	-	-	X	X	12
9007CR61E	-	-	-	-	-	-	X	X	12
9007CR61ED	-	-	-	-	-	-	X	X	12
9007CR61F	-	-	-	-	-	-	X	X	12
9007CR61G	-	-	-	-	-	-	X	X	12
9007CR61GD	-	-	-	-	-	-	X	X	12
9007CR61H	-	-	-	-	-	-	X	X	12
9007CR61J	-	-	-	-	-	-	X	X	12
9007CR61K	-	-	-	-	-	-	X	X	12
9007CR61KC	-	-	-	-	-	-	X	X	12
9007CR61L	-	-	-	-	-	-	X	X	12
9007CR61N2	-	-	-	-	-	-	X	X	12
9007CR61R	-	-	-	-	-	-	X	X	12
9007CR65A2	-	-	-	-	-	-	X	X	12
9007CR65B2	-	-	-	-	-	-	X	X	12
9007CR65D	-	-	-	-	-	-	X	X	12
9007CR65ED	-	-	-	-	-	-	X	X	12
9007CR65J	-	-	-	-	-	-	X	X	12
9007CR65K	-	-	-	-	-	-	X	X	12
9007CR65KC	-	-	-	-	-	-	X	X	12
9007CR67T10	-	-	-	-	-	-	X	X	12
9007CR67T5	-	-	-	-	-	-	X	X	12
<b>Industrial</b>									
XCKJ390511H29EX	X	X	-	-	-	X	-	-	7
XCKJ390511H7EX	-	X	-	X	-	-	-	-	7
XCKJ390513H29EX	X	X	-	-	-	X	-	-	7
XCKJ390513H7EX	-	X	-	X	-	-	-	-	7
XCKJ390541H29EX	X	X	-	-	-	X	-	-	7
XCKJ390541H7EX	-	X	-	X	-	-	-	-	7
XCKJ390559H29EX	X	X	-	-	-	X	-	-	7
XCKJ390559H7EX	-	X	-	X	-	-	-	-	7
XCKJ3961H29EX	X	X	-	-	-	X	-	-	7
XCKJ3961H7EX	-	X	-	X	-	-	-	-	7
XCKJ3967H29EX	X	X	-	-	-	X	-	-	7
XCKJ3967H7EX	-	X	-	X	-	-	-	-	7
<b>Miniature, fixing by the body</b>									
XCMD4102L5EX	X	X	-	-	-	-	-	-	4
XCMD4110L5EX	X	X	-	-	-	-	-	-	4
XCMD4111L5EX	X	X	-	-	-	-	-	-	4
XCMD4115L5EX	X	X	-	-	-	-	-	-	5
XCMD4116L5EX	X	X	-	-	-	-	-	-	5
XCMD4117L5EX	X	X	-	-	-	-	-	-	5
XCMD4124L5EX	X	X	-	-	-	-	-	-	4
XCMD4145L5EX	X	X	-	-	-	-	-	-	5
<b>Miniature, fixing by the head</b>									
XCMD41F0L5EX	X	X	-	-	-	-	-	-	5
XCMD41F2L5EX	X	X	-	-	-	-	-	-	5
XCMD41G1L5EX	X	X	-	-	-	-	-	-	5

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## Inductive Sensors, Pressure Switches

Product	Explosive Dust, by zone						Explosive Dust by Class/Div		Page
	ATEX	IECEX	cURus	cULus	UL certified	CCC Ex	UL	CSA	
<b>Inductive Proximity Sensors</b>									
<b>Analog</b>									
XS1M12AB120EX	X	X	X	-	-	-	-	-	11
XS1M18AB120EX	X	X	X	-	-	-	-	-	11
XS1M30AB120EX	X	X	X	-	-	-	-	-	11
<b>Discrete, NC Function</b>									
XS612B1PBL10EX	X	X	X	-	-	-	-	-	10
XS618B1PBL10EX	X	X	X	-	-	-	-	-	10
XS630B1PBL10EX	X	X	X	-	-	-	-	-	10
<b>Discrete, NO Function</b>									
XS612B1PAL10EX	X	X	X	-	-	-	-	-	10
XS612B1PAL2EX	X	X	X	-	-	-	-	-	10
XS618B1PAL10EX	X	X	X	-	-	-	-	-	10
XS618B1PAL2EX	X	X	X	-	-	-	-	-	10
XS630B1PAL10EX	X	X	X	-	-	-	-	-	10
XS630B1PAL2EX	X	X	X	-	-	-	-	-	10
<b>Discrete, NO+NC Function</b>									
XS8C4A1PCN12EX	-	X	-	X	-	-	-	-	10
XS8C4A1PCP20EX	X	X	-	-	-	-	-	-	10
XS8C4A4PCN12EX	-	X	-	X	-	-	-	-	10
XS8C4A4PCP20EX	X	X	-	-	-	-	-	-	10
<b>Rotation Monitoring</b>									
XSAV11373EX	X	X	X	-	-	-	-	-	11
XSAV11373L10EX	X	X	X	-	-	-	-	-	11
XSAV11801EX	X	X	X	-	-	-	-	-	11
XSAV12373EX	X	X	X	-	-	-	-	-	11
XSAV12373L10EX	X	X	X	-	-	-	-	-	11
<b>Pressure Switches</b>									
<b>Adjustable differential</b>									
9012GAR1	-	-	-	-	-	-	X	X	13
9012GAR2	-	-	-	-	-	-	X	X	13
9012GAR21	-	-	-	-	-	-	X	X	13
9012GAR22	-	-	-	-	-	-	X	X	13
9012GAR24	-	-	-	-	-	-	X	X	13
9012GAR25	-	-	-	-	-	-	X	X	13
9012GAR26	-	-	-	-	-	-	X	X	13
9012GAR4	-	-	-	-	-	-	X	X	13
9012GAR5	-	-	-	-	-	-	X	X	13
9012GAR6	-	-	-	-	-	-	X	X	13
9012GBR1	-	-	-	-	-	-	X	X	13
9012GBR2	-	-	-	-	-	-	X	X	13
9012GBR21	-	-	-	-	-	-	X	X	13
9012GBR22	-	-	-	-	-	-	X	X	13
XMLB001R2S12EX	X	X	-	-	-	-	-	-	9
XMLB002A2S12EX	X	X	-	-	-	-	-	-	9
XMLB004A2S12EX	X	X	-	-	-	-	-	-	9
XMLB010A2S12EX	X	X	-	-	-	-	-	-	8
XMLB020A2S12EX	X	X	-	-	-	-	-	-	8
XMLB035A2S12EX	X	X	-	-	-	-	-	-	8
XMLB070D2S12EX	X	X	-	-	-	-	-	-	9
XMLB160D2S12EX	X	X	-	-	-	-	-	-	9
XMLB300D2S12EX	X	X	-	-	-	-	-	-	9
XMLB500D2S12EX	X	X	-	-	-	-	-	-	9
XMLBL05R2S12EX	X	X	-	-	-	-	-	-	9
XMLBL35R2S12EX	X	X	-	-	-	-	-	-	9
XMLBM02V2S12EX	X	X	-	-	-	-	-	-	8
XMLBM03R2S12EX	X	X	-	-	-	-	-	-	8
XMLBM05A2S12EX	X	X	-	-	-	-	-	-	8
<b>Diaphragm actuated</b>									
9016GAR1	-	-	-	-	-	-	X	X	13
9016GAR21	-	-	-	-	-	-	X	X	13

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## Pressure & Float Switches, Safety

Product	Explosive Dust, by zone						Explosive Dust by Class/Div		Page
	ATEX	IECEX	cURus	cULus	UL certified	CCC Ex	UL	CSA	
<b>Fixed differential (pressure switches)</b>									
9012GDR1	-	-	-	-	-	-	X	X	13
9012GDR2	-	-	-	-	-	-	X	X	13
9012GDR22	-	-	-	-	-	-	X	X	13
9012GDR24	-	-	-	-	-	-	X	X	13
9012GDR25	-	-	-	-	-	-	X	X	13
9012GDR26	-	-	-	-	-	-	X	X	13
9012GDR4	-	-	-	-	-	-	X	X	13
9012GDR5	-	-	-	-	-	-	X	X	13
9012GDR6	-	-	-	-	-	-	X	X	13
9012GER1	-	-	-	-	-	-	X	X	13
9012GER21	-	-	-	-	-	-	X	X	13
<b>Float Switches</b>									
<b>Close on liquid rise</b>									
9036DR31	-	-	-	-	-	-	X	X	13
9036GR1	-	-	-	-	-	-	X	X	13
<b>Open on liquid rise</b>									
9036DR31R	-	-	-	-	-	-	X	X	13
9036GR1R	-	-	-	-	-	-	X	X	13
<b>Safety Switches</b>									
<b>Interlocking, unlocking by button</b>									
XCSB502EX	X	X	-	-	-	-	-	-	14
XCSB503EX	-	X	-	X	-	-	-	-	14
XCSB702EX	X	X	-	-	-	-	-	-	14
XCSB703EX	-	X	-	X	-	-	-	-	14
<b>Interlocking, unlocking by key</b>									
XCSC502EX	X	X	-	-	-	-	-	-	14
XCSC503EX	-	X	-	X	-	-	-	-	14
XCSC702EX	X	X	-	-	-	-	-	-	14
XCSC703EX	-	X	-	X	-	-	-	-	14
<b>without locking</b>									
XCSA502EX	X	X	-	-	-	-	-	-	14
XCSA503EX	-	X	-	X	-	-	-	-	14
XCSA702EX	X	X	-	-	-	-	-	-	14
XCSA703EX	-	X	-	X	-	-	-	-	14
<b>Coded Magnetic Switches</b>									
XCSDMC59010EX	X	-	-	-	-	-	-	-	14
XCSDMC5902EX	X	-	-	-	-	-	-	-	14
XCSDMC79010EX	X	-	-	-	-	-	-	-	14
XCSDMC7902EX	X	-	-	-	-	-	-	-	14
<b>Emergency Stop</b>									
<b>Rope pull switch</b>									
XY2CE1A250EX	X	X	-	-	-	-	-	-	15
XY2CE1A250H7EX	-	X	-	-	X	-	-	-	15
XY2CE1A270EX	X	X	-	-	-	-	-	-	15
XY2CE1A270H7EX	-	X	-	-	X	-	-	-	15
XY2CE1A450EX	X	X	-	-	-	-	-	-	15
XY2CE1A450H7EX	-	X	-	-	X	-	-	-	15
XY2CE1A470EX	X	X	-	-	-	-	-	-	15
XY2CE1A470H7EX	-	X	-	-	X	-	-	-	15
XY2CE2A250EX	X	X	-	-	-	-	-	-	15
XY2CE2A250H7EX	-	X	-	-	X	-	-	-	15
XY2CE2A270EX	X	X	-	-	-	-	-	-	15
XY2CE2A270H7EX	-	X	-	-	X	-	-	-	15
XY2CE2A450EX	X	X	-	-	-	-	-	-	15
XY2CE2A450H7EX	-	X	-	-	X	-	-	-	15
XY2CE2A470EX	X	X	-	-	-	-	-	-	15
XY2CE2A470H7EX	-	X	-	-	X	-	-	-	15
XY2CEDA290EX	X	X	-	-	-	-	-	-	15
XY2CEDA290H7EX	-	X	-	-	X	-	-	-	15
XY2CEDA490EX	X	X	-	-	-	-	-	-	15
XY2CEDA490H7EX	-	X	-	-	X	-	-	-	15

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**Schneider Electric Industries SAS**

Head office  
35, rue Joseph Monier - CS 30323  
92500 Rueil-Malmaison Cedex  
France

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