

# Explosive atmospheres ATEX Dust The essential guide



# Explosive Atmospheres

## A wide range of products designed to operate in environments subject to risks!



*A reference for installations in ATEX Dust explosive atmospheres.*

### What is an explosive atmosphere according to the Directive?

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.

### Implementation of European Directives

#### ■ Directive 99/92/EC

This requires that a risk analysis be performed for all industrial processes.

If there is any risk of an explosion:

- the zones are defined and physically identified,
- the installation is classified by governing bodies.

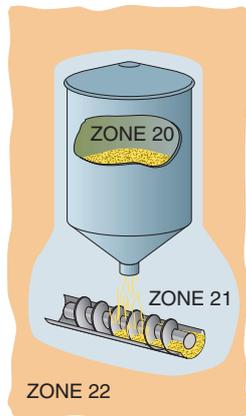
#### ■ Directive 94/9/EC

This requires certification of the products in accordance with the classification of the zones of use

#### ■ Dust zones

- 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 European Union Commission notified body.



Flour mills



Bagging



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

Grain drying areas



Grain silos



Wood and aluminium workshops



Bulk conveying



### The essential guide

A selection of certified products, conforming to the European Directive ATEX94/9/EC, to ensure maximum safety for your installations in a zone where the risk of explosion or fire is high.

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# Inductive proximity sensors

## Universal, metal case



Sensor type	3-wire DC PNP, flush mountable in metal			
Conformity	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)	21 - 22			
EC type examination certificate number / marking	INERIS 04ATEX0022X /  II 2 D-Ex tD A21 IP68 T90°C			
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)	IP68			
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 V DC			
Maximum switching capacity	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	XS618B1PAL10EX	XS630B1PAL10EX
	NC function	XS612B1PBL10EX	XS618B1PBL10EX	XS630B1PBL10EX

## Analogue, metal case



Sensor type	Analogue, 2-wire AC/DC, flush mountable in metal			
Conformity	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)	21 - 22			
EC type examination certificate number / marking	INERIS 04ATEX0022X /  II 2 D-Ex tD A21 IP67 T90°C			
Nominal sensing distance Sn	2 mm	5 mm	10 mm	
Operating zone	0.2...2 mm	0.5...5 mm	1...10 mm	
Temperature range	- 20...+ 60°C			
Degree of protection (conforming to IEC 60529)	IP67			
Connection	Pre-cabled, PvR, L = 2 m			
Dimensions	M12 x 50 mm	M18 x 60 mm	M30 x 60 mm	
Supply voltage (including ripple)	10...38 V DC			
Linearity error	10%			
Operating frequency	1500 Hz	500 Hz	300 Hz	
References	4...20 mA output	XS1M12AB120EX	XS1M18AB120EX	XS1M30AB120EX

# Proximity sensors

## Rotation monitoring, metal case



M30

<b>Sensor type</b>	<b>3-wire DC PNP, flush mountable in metal</b>	
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
<b>Zone D (dust)</b>	21 - 22	
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0022X /  II2 D-Ex tD A21 IP67 T90°C	
<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 V DC	
<b>Maximum switching capacity</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	48,000 impulses/minute
<b>Adjustable frequency range</b>	6...150 impulses/minute	120...3000 impulses/minute
<b>References</b>	NC function XSAV11373EX	XSAV12373EX

## Capacitive, metal case



M12



M18



M30

<b>Sensor type</b>	<b>3-wire DC PNP, flush mountable in metal</b>		
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
<b>Zone D (dust)</b>	21 - 22		
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0022X /  II2 D-Ex tD A21 IP67 T90°C		
<b>Nominal sensing distance Sn</b>	2 mm	5 mm	10 mm
<b>Operating zone</b>	0...1.4 mm	0...3.6 mm	0...7.2 mm
<b>Temperature range</b>	- 20...+ 60°C		
<b>Degree of protection (conforming to IEC 60529)</b>	IP67		
<b>Connection</b>	Pre-cabled, PVC, 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 V DC		
<b>Maximum switching capacity</b>	300 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>Switching frequency</b>	100 Hz		
<b>References</b>	NO function XT1M12PA372EX	XT1M18PA372EX	XT1M30PA372EX
	NC function XT1M12PB372EX	XT1M18PB372EX	XT1M30PB372EX

# Namur inductive sensors

## Metal or plastic case



<b>Sensor type</b>	<b>2-wire DC, flush mountable in metal</b>					
<b>Case type</b>	Metal			Plastic		
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, EN 50020, EN 50284, pr IEC 61241-0, pr IEC 61241-1					
<b>Zone D (dust)</b>	20 (to be used in conjunction with intrinsically safe enclosures, see page 5)					
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0016X /  II 1 D-Ex iaD 20 IP66/67 T85°C					
<b>Nominal sensing distance Sn</b>	0.8 mm	1.5 mm	2 mm	5 mm	10 mm	
<b>Operating zone</b>	0...0.6 mm	0...0.8 mm	0...1.2 mm	0...1.6 mm	0...4 mm	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>	M5 x 30 mm	M8 x 26.5 mm		M12 x 38.5 mm	M18 x 41 mm	M30 x 43.5 mm
<b>Supply voltage (including ripple)</b>	7...12 V DC					
<b>Current consumption, open state (without target)</b>	≥ 3 mA					
<b>Overload and short-circuit protection</b>	Yes					
<b>Residual current, open state (with target)</b>	≤ 1 mA					
<b>Switching frequency</b>	1500 Hz		1000 Hz	800 Hz	500 Hz	300 Hz
<b>References</b>	NC function		XSMN08122EX	XSAN01122EX	XSPN01122EX	XSPN02122EX
			XSPN05122EX	XSPN10122EX		

## Plastic case



<b>Sensor type</b>	<b>2-wire DC, non flush mountable in metal</b>				
<b>Case type</b>	Plastic				
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, EN 50020, EN 50284, pr IEC 61241-0, pr IEC 61241-1				
<b>Zone D (dust)</b>	20				
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0016X /  II 1 D-Ex iaD 20 IP66/67 T85°C				
<b>Nominal sensing distance Sn</b>	4 mm	8 mm	15 mm	15 mm	40 mm
<b>Operating zone</b>	0...3.2 mm	0...6.4 mm	0...12 mm	0...12 mm	0...32 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			Screw terminals	
<b>Dimensions</b>	M12 x 38.5 mm	M18 x 41 mm	M30 x 43.5 mm	40 x 40 x 122.5 mm	100 x 80 x 40 mm
<b>Supply voltage (including ripple)</b>	7...12 V DC				
<b>Current consumption, open state (without target)</b>	≥ 3 mA				
<b>Overload and short-circuit protection</b>	Yes				
<b>LED output state indicator</b>	Yes				
<b>Residual current, open state (with target)</b>	≤ 1 mA				
<b>Switching frequency</b>	400 Hz	300 Hz	200 Hz	100 Hz	25 Hz
<b>References</b>	NC function		XSPN04122EX	XSPN08122EX	XSPN15122EX
			XSCN151229EX (1)	XSDN401229EX	

(1) Flush mountable in metal



# Intrinsically safe enclosures

## Processing module



Module type		Discrete					
		Inputs		Relay inputs/outputs			
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50020					
<b>Zone D (dust)</b>		Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)					
<b>EC type examination certificate number / marking</b>		LCIE 00ATEX6034X /  II1 G/D-EEx ia IIC					
<b>Zone 20</b>	Number of input channels	2	4	2	2		
	Number of output channels	-		1	1		
	Type of output channel, load excitation	-		Low consumption solenoid valve, < 7 mA	High consumption solenoid valve, < 40 mA		
<b>Outside zone</b>	Number of recopying channels	2	4	2	2		
	Switching voltage	5...230 V AC; 5...24 V DC					
	Switching current	10 mA...0.5 A (AC); 10 mA...0.5 A, L/R 48 ms (DC)					
<b>Temperature range</b>		- 20...+ 60°C					
<b>Connection</b>		Removable screw terminal blocks					
<b>Mounting</b>		On 35 mm DIN rail					
<b>Dimensions, W x D x H</b>		29.5 x 120 x 90 mm					
<b>Supply voltage (including ripple)</b>		24 V DC (0.95...1.1 Un)					
<b>Consumption</b>		5 W					
<b>References</b>		NY320N2RB1	NY340N4RB1	NY321L2RB1	NY321L1RB1	NY321H2RB1	NY321H1RB1



Module type		Discrete			
		Load excitation outputs			
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50020			
<b>Zone D (dust)</b>		Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)			
<b>EC type examination certificate number / marking</b>		LCIE 00ATEX6034X /  II1 G/D-EEx ia IIC			
<b>Zone 20</b>	Number of load excitation channels	2		4	
	Maximum current	< 7 mA	< 40 mA	< 7 mA	< 40 mA
<b>Outside zone</b>	Control voltage	24 V DC ± 10%			
	Control current	State 1 = 6.5 < I < 9 mA and 21.6 < U < 26.4 V; State 0 = I ≤ 0.4 mA and U ≤ 1.2 V			
<b>Temperature range</b>		- 20...+ 60°C			
<b>Connection</b>		Removable screw terminal blocks			
<b>Mounting</b>		On 35 mm DIN rail			
<b>Dimensions, W x D x H</b>		29.5 x 120 x 90 mm			
<b>Supply voltage (including ripple)</b>		24 V DC (0.95...1.1 Un)			
<b>Consumption</b>		5 W			
<b>References</b>		NY302L0NB1	NY302H0NB1	NY304L0NB1	NY304H0NB1

# 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 D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
<b>Zone D (dust)</b>	21 - 22			
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0014X /  II2 D-Ex tD A21 IP66/67 T85°C			
<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 IEC 947-5-1 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>	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>	2 N/C + 2 N/O snap action	<b>XCMD4110L5EX</b>	<b>XCMD4111L5EX</b>	<b>XCMD4102L5EX</b> <b>XCMD4124L5EX</b>

## 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 D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
<b>Zone D (dust)</b>	21 - 22				
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0014X /  II2 D-Ex tD A21 IP66/67 T85°C				
<b>Type of operator</b>	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Thermoplastic roller lever plunger, horz. 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 IEC 947-5-1 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>	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				
<b>Fixing centres</b>	20 mm				
<b>Body dimensions, W x D x H</b>	31 x 30 x 65 mm				
<b>References</b>	N/C + N/C + N/O snap action	<b>XCKD3910P16EX</b>	<b>XCKD3911P16EX</b>	<b>XCKD3902P16EX</b> <b>XCKD3921P16EX</b> <b>XCKD3927P16EX</b>	

## Miniature, fixing by the head



### XCMD metal, pre-cabled

Rotary (lever)

Linear (plunger)

Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1

21 - 22

INERIS 04ATEX0014X / II 2 D-Ex tD A21 IP66/67 T85°C

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						
<b>XCMD4116L5EX</b>	<b>XCMD4115L5EX</b>	<b>XCMD4117L5EX</b>	<b>XCMD4145L5EX</b>	<b>XCMD41F0L5EX</b>	<b>XCMD41G1L5EX</b>	<b>XCMD41F2L5EX</b>

## Compact, fixing by the head



### XCKD metal conforming to standard EN 500047

Linear (plunger) | Rotary (lever)

Multi-directional

Linear (plunger)

Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1

21 - 22

INERIS 04ATEX0014X / II 2 D-Ex tD A21 IP66/67 T85°C

Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 dir.	Thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker"	M18 with 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							
20 mm						M18 x 1	
30 x 16 x 50 mm							
<b>XCKD3928P16EX</b>	<b>XCKD3918P16EX</b>	<b>XCKD3939P16EX</b>	<b>XCKD3945P16EX</b>	<b>XCKD3949P16EX</b>	<b>XCKD3906P16EX</b>	<b>XCKD39H0P16EX</b>	<b>XCKD39H2P16EX</b>

# Limit switches

## Classic, fixing by the body



<b>Limit switch type</b> With head for movement	<b>XCKM metal, 3 cable entries</b>				
	Linear (plunger)		Rotary (lever)		Multi-directional
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
<b>Zone D (dust)</b>	21 - 22				
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0014X /  II 2 D-Ex tD A21 IP66/67 T85°C				
<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 IEC 947-5-1 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>	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>	N/C + N/C + N/O snap action	XCKM3910H29EX	XCKM3902H29EX	XCKM3921H29EX	XCKM3915H29EX   XCKM3906H29EX

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

## Application - hoisting, handling, conveying



<b>Limit switch type</b> With head for movement	<b>XCKMR metal, 3 cable entries</b>	
	Rotary (lever)	
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
<b>Zone D (dust)</b>	21 - 22	
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0014X /  II 2 D-Ex tD A21 IP66/67 T85°C	
<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 IEC 947-5-1 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>	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 x N/C + N/C staggered, slow break contacts</b>	XCKMR54D1H29EX	XCKMR54D2H29EX
<b>2 x N/C + N/O snap action contacts, both actuated in each direction</b>	-	
<b>2 x N/C + N/O snap action contacts, 1 actuated in each direction</b>	-	
<b>2 x single-pole C/O 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 "Global Detection" catalogue



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

Linear (plunger) | Rotary (lever)

Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1

21 - 22

INERIS 04ATEX0014X / II 2 D-Ex tD A21 IP66/67 T85°C

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)

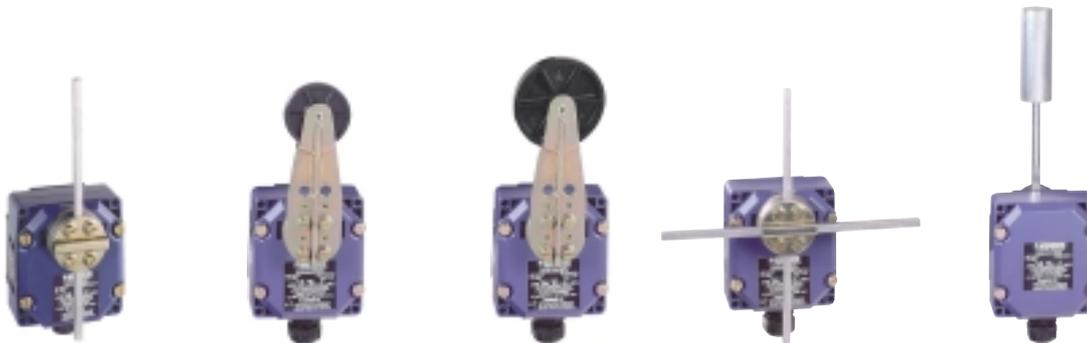
By 6 A cartridge fuse type gG (gl)

1 entry fitted with ISO M20 cable gland

30 x 60 mm

40 x 44 x 77 mm

XCKJ3961H29EX	XCKJ3967H29EX	XCKJ390513H29EX	XCKJ390511H29EX	XCKJ390541H29EX	XCKJ390559H29EX
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**XCR metal**

Rotary (lever) | Conveyor belt shift monitoring switches

Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1

21 - 22

INERIS 04ATEX0024X / II 2 D-Ex tD A21 IP65 T85°C

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

IP65

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

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XCRA111EX	XCRA121EX	XCRA151EX	XCRE181EX (2)		
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XCRB111EX	XCRB121EX	XCRB151EX	XCRF171EX (3)		
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				XCRT115EX	XCRT215EX
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(2) "Crossed" rods (3) "T" rods



Type		Vacuum switches and vacu-pressure switches with setting scale		
Size		- 1 bar	- 0.2 bar	5 bar
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
<b>Zone D (dust)</b>		21 - 22		
<b>EC type examination certificate number / marking</b>		INERIS 04ATEX0058 /  II 2 D-Ex tD A21 IP66 T85°C		
<b>Fluid connection</b>		1/4" BSP female		
<b>Electrical connection</b>		Screw terminals, 1 entry fitted with ISO M20 cable gland		
<b>Temperature range</b>		- 20...+ 60°C		
<b>Degree of protection</b>		IP66		
<b>Rated operational characteristics</b>		AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)		
<b>Short-circuit protection</b>		By 10 A cartridge fuse type gG (gl)		
<b>Setting range of upper limit (PH)</b>		-0.14...-1 bar	-0.02...-0.2 bar	-0.5...5 bar
<b>Body dimensions, W x D x H</b>		55 x 77.5 x 158 mm	150 x 155.5 x 145 mm	113 x 35 x 75 mm
<b>Fluids controlled</b>		Oil, water, air, up to +70°C	Oil, air, up to +160°C	Oil, water, air, up to +70°C
<b>Possible differential</b> (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
<b>Single-pole snap action contact</b>		<b>XMLBM02V2S12EX</b>	<b>XMLBM03R2S12EX</b>	<b>XMLBM05A2S12EX</b>

(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
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
<b>Zone D (dust)</b>		21 - 22		
<b>EC type examination certificate number / marking</b>		INERIS 04ATEX0058 /  II 2 D-Ex tD A21 IP66 T85°C		
<b>Fluid connection</b>		1/4" BSP female		
<b>Electrical connection</b>		Screw terminals, 1 entry fitted with ISO M20 cable gland		
<b>Temperature range</b>		- 20...+ 60°C		
<b>Degree of protection</b>		IP66		
<b>Rated operational characteristics</b>		AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)		
<b>Short-circuit protection</b>		By 10 A cartridge fuse type gG (gl)		
<b>Setting range of upper limit (PH)</b>		0.7...10 bar	1.3...20 bar	3.5...35 bar
<b>Body dimensions, W x D x H</b>		35 x 75 x 113 mm		
<b>Fluids controlled</b>		Oil, water, air, up to +70°C		
<b>Possible differential</b> (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
<b>Single-pole snap action contact</b>		<b>XMLB010A2S12EX</b>	<b>XMLB020A2S12EX</b>	<b>XMLB035A2S12EX</b>



Pressure switches with setting scale				
0.05 bar	0.35 bar	1 bar	2.5 bar	4 bar
Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
21 - 22				
INERIS 04ATEX0058 /  II 2 D-Ex tD A21 IP66 T85°C				
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)				
0.0026...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>



Pressure switches with setting scale			
70 bar	160 bar	300 bar	500 bar
Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
21 - 22			
INERIS 04ATEX0058 /  II 2 D-Ex tD A21 IP66 T85°C			
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>



Type		Ø 22 pushbuttons with metal bezel					
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
<b>Zone D (dust)</b>		21 - 22					
<b>EC type examination certificate number / marking</b>		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66					
<b>Mechanical durability</b> (millions of operating cycles)		5					
<b>Temperature range</b>		- 20...+ 60°C					
<b>Degree of protection</b>		IP65 and IP66					
<b>Mounting</b>	Panel cut-out	Ø 22.5 mm (22.4 <sup>+0.4</sup> recommended)					
	Mounting centres	30 x 40 mm					
<b>Depth below head</b>		43 mm					
<b>Connection</b>		Screw clamp terminals					
<b>Rated operational characteristics</b>		AC15; A 600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
<b>Short-circuit protection</b>		By 10 A cartridge fuse type gG (gl)					
<b>Pushbutton type</b>		Flush with transparent silicone boot					
<b>Contact</b>		N/O			N/C	N/O	
<b>Colour of push</b>		● white	● black	● green	● red	● yellow	● blue
<b>References</b>	Insertion of legend not possible	–	<b>XB4BP21EX</b>	<b>XB4BP31EX</b>	<b>XB4BP42EX</b>	<b>XB4BP51EX</b>	<b>XB4BP61EX</b>
	Insertion of legend possible	<b>XB4BP181EX</b>	–	<b>XB4BP381EX</b>	<b>XB4BP482EX</b>	<b>XB4BP581EX</b>	<b>XB4BP681EX</b>
<b>Pushbutton type</b>		Flush with coloured silicone boot					
<b>Contact</b>		N/O			N/C	N/O	
<b>Colour of silicone boot</b>		● white	● black	● green	● red	● yellow	● blue
<b>References</b>		<b>XB4BPS11EX</b>	<b>XB4BPS21EX</b>	<b>XB4BPS31EX</b>	<b>XB4BPS42EX</b>	<b>XB4BPS51EX</b>	<b>XB4BS61EX</b>
<b>Ø 40 mushroom head pushbutton type</b>		Spring return					
<b>Contact</b>		N/O			N/C	N/O	
<b>Colour of push</b>		● black	● green	● red	● yellow	● blue	
<b>References</b>		<b>XB4BC21EX</b>	<b>XB4BC31EX</b>	<b>XB4BC42EX</b>	<b>XB4BC51EX</b>	<b>XB4BC61EX</b>	



Type		Ø 40 mushroom head Emergency stop pushbuttons		
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
<b>Zone D (dust)</b>		21 - 22		
<b>EC type examination certificate number / marking</b>		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66		
<b>Mechanical durability</b> (millions of operating cycles)		0.3		
<b>Temperature range</b>		- 20...+ 60°C		
<b>Degree of protection</b>		IP65		
<b>Mounting</b>	Panel cut-out	Ø 22.5 mm (22.4 <sup>+0.4</sup> recommended)		
	Mounting centres	30 x 40 mm		
<b>Depth below head</b>		43 mm		
<b>Connection</b>		Screw clamp terminals		
<b>Rated operational characteristics</b>		AC15; A 600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)		
<b>Short-circuit protection</b>		By 10 A cartridge fuse type gG (gl)		
<b>Ø 40 latching mushroom head pushbutton type</b>		Push-pull with trigger action	Key release ( n° 455)	Turn to release
<b>Contact(s)</b>		N/C + N/O	N/C	N/C
<b>Colour of push</b>		● red	● red	● red
<b>References</b>		<b>XB4BT845EX</b>	<b>XB4BS142EX</b>	<b>XB4BS542EX</b>

# Selector switches and key switches

## Contact functions



Type		Ø 22 selector switches and key switches with metal bezel	
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
<b>Zone D (dust)</b>		21 - 22	
<b>EC type examination certificate number / marking</b>		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66	
<b>Mechanical durability</b> (millions of operating cycles)		3	
<b>Temperature range</b>		- 20...+ 60°C	
<b>Degree of protection</b>		IP65	
<b>Mounting</b>	Panel cut-out	Ø 22.5 mm (22.4 <sup>+0.4</sup> recommended)	
	Mounting centres	30 x 40 mm	
<b>Depth below head</b>		43 mm	
<b>Connection</b>		Screw clamp terminals	
<b>Rated operational characteristics</b>		AC15; A 600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)	
<b>Short-circuit protection</b>		By 10 A cartridge fuse type gG (gl)	
<b>Selector switch type</b>		<b>Standard handle</b>	
<b>Contacts</b>		N/C + N/O	N/O + N/O
<b>Colour</b>		● black	● black
<b>References</b>	2 position stay put	<b>XB4BD25EX</b>	-
	3 position stay put	-	<b>XB4BD33EX</b>
	3 position spring return to centre	-	<b>XB4BD53EX</b>
<b>Selector switch type</b>		<b>Long handle</b>	
<b>Contact(s)</b>		N/O	N/O + N/O
<b>Colour</b>		● black	● black
<b>References</b>	2 position stay put	<b>XB4BJ21EX</b>	-
	3 position stay put	-	<b>XB4BJ33EX</b>
	3 position spring return to centre	-	<b>XB4BJ53EX</b>
<b>Key switch type</b>		<b>Key n° 455</b>	
<b>Contact(s)</b>		N/O	N/O + N/O
<b>Colour</b>		● black	● black
<b>References</b>	2 position stay put, key withdrawal in LH position	<b>XB4BG21EX</b>	-
	2 position stay put, key withdrawal in both positions	<b>XB4BG41EX</b>	-
	2 position spring return, key withdrawal in LH position	<b>XB4BG61EX</b>	-
	3 position stay put, key withdrawal in centre position	-	<b>XB4BG33EX</b>
	3 position stay put, key withdrawal in all 3 positions	-	<b>XB4BG03EX</b>

**Other characteristics:** please refer to the "Human-Machine Interface components" catalogue



Type		Ø 22 illuminated pushbuttons with metal bezel					
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
<b>Zone D (dust)</b>		21 - 22					
<b>EC type examination certificate number / marking</b>		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66					
<b>Mechanical durability</b> (millions of operating cycles)		5					
<b>Service life</b>		100,000 hours at ambient temperature					
<b>Temperature range</b>		- 20...+ 60°C					
<b>Degree of protection</b>		IP65					
<b>Mounting</b>	Panel cut-out	Ø 22.5 mm (22.4 $^{+0.4}_0$ recommended)					
	Mounting centres	30 x 40 mm					
<b>Depth below head</b>		43 mm					
<b>Connection</b>		Screw clamp terminals					
<b>Rated operational characteristics</b>		AC15; A 600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
<b>Short-circuit protection</b>		By 10 A cartridge fuse type gG (gl)					
<b>Light source</b>		Integral LED					
Illuminated pushbutton type, with integral LED		Flush with transparent silicone boot					
<b>Contact</b>		N/O		N/C		N/O	
<b>Colour of push</b>		● white	● green	● red	● yellow	● blue	
<b>References</b>	LED voltage	24 V AC/DC	<b>XB4BP183B5EX</b>	<b>XB4BP383B5EX</b>	<b>XB4BP483B5EX</b>	<b>XB4BP583B5EX</b>	<b>XB4BP683B5EX</b>
		120 V AC	<b>XB4BP183G5EX</b>	<b>XB4BP383G5EX</b>	<b>XB4BP483G5EX</b>	<b>XB4BP583G5EX</b>	<b>XB4BP683G5EX</b>
		240 V AC	<b>XB4BP183M5EX</b>	<b>XB4BP383M5EX</b>	<b>XB4BP483M5EX</b>	<b>XB4BP583M5EX</b>	<b>XB4BP683M5EX</b>
		24...120 V AC	<b>XB4BP183BG5EX</b>	<b>XB4BP383BG5EX</b>	<b>XB4BP483BG5EX</b>	<b>XB4BP583BG5EX</b>	<b>XB4BP683BG5EX</b>



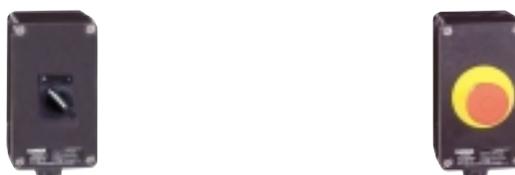
Type		Ø 22 pilot lights with metal bezel					
<b>Conformity</b>		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
<b>Zone D (dust)</b>		21 - 22					
<b>EC type examination certificate number / marking</b>		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66					
<b>Service life</b>		100,000 hours at ambient temperature					
<b>Temperature range</b>		- 20...+ 60°C					
<b>Degree of protection</b>		IP65					
<b>Mounting</b>	Panel cut-out	Ø 22.5 mm (22.4 $^{+0.4}_0$ recommended)					
	Mounting centres	30 x 40 mm					
<b>Depth below head</b>		43 mm					
<b>Connection</b>		Screw clamp terminals					
<b>Rated operational characteristics</b>		AC15; A 600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
<b>Short-circuit protection</b>		By 10 A cartridge fuse type gG (gl)					
<b>Light source</b>		Integral LED					
Pilot light type		Pilot lights with integral LED, plain lens					
<b>Colour of LED</b>		● white	● green	● red	● yellow	● blue	
<b>References</b>	LED voltage	24 V AC/DC	<b>XB4BVB1EX</b>	<b>XB4BVB3EX</b>	<b>XB4BVB4EX</b>	<b>XB4BVB5EX</b>	<b>XB4BVB6EX</b>
		24...120 V AC/DC	<b>XB4BVG1EX</b>	<b>XB4BVG3EX</b>	<b>XB4BVG4EX</b>	<b>XB4BVG5EX</b>	<b>XB4BVG6EX</b>
		240 V AC	<b>XB4BVM1EX</b>	<b>XB4BVM3EX</b>	<b>XB4BVM4EX</b>	<b>XB4BVM5EX</b>	<b>XB4BVM6EX</b>
		48...120 V AC	<b>XB4BVBG1EX</b>	<b>XB4BVBG3EX</b>	<b>XB4BVBG4EX</b>	<b>XB4BVBG5EX</b>	<b>XB4BVBG6EX</b>

# Control stations

## Complete stations, metal or plastic



Type		Complete control stations			
Type of operators		Ø 22 flush pushbuttons			
Conformity		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)		21 - 22			
EC type examination certificate number / marking		INERIS 04ATEX0023 /  II 2 D-Ex tD A21 IP65 T85°C			
Temperature range		- 20...+ 60°C			
Degree of protection		IP65			
Connection		1 entry fitted with ISO M20 cable gland			
Rated operational characteristics of contact blocks		AC15; A 600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A) DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Function		1 function, Start or Stop	2 functions, Start - Stop	3 functions	
Composition		1 spring return pushbutton	2 spring ret. pushbuttons	3 spring ret. pushbuttons	
Contact(s)		N/O	N/C	N/O + N/C	N/O + N/C + N/O
Colour of pushbutton(s)		● green	● red	● green + ● red	● green + ● red + ● black
Metal control stations	Dimensions, W x D x H	80 x 77 x 80 mm		80 x 130 x 77 mm	80 x 175 x 77 mm
	Fixings: 4 x Ø 5.6 mm, centres	50 x 65 mm		50 x 115 mm	50 x 160 mm
References		XAWF100EX	XAWF110EX	XAWF210EX	XAWF310EX
Plastic control stations	Dimensions, W x D x H	85 x 146 x 70 mm		85 x 226 x 70 mm	
	Fixings: 4 x Ø 5.6 mm, centres	70 x 105 mm		70 x 108 mm	
References		XAWG100EX	XAWG110EX	XAWG210EX	XAWG310EX



Type		Complete control stations			
Type of operator		Ø 22 selector switch or key switch with metal bezel		Ø 40 mushroom head Emergency stop	
Conformity		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)		21 - 22			
EC type examination certificate number / marking		INERIS 04ATEX0023 /  II 2 D-Ex tD A21 IP65 T85°C			
Temperature range		- 20...+ 60°C			
Degree of protection		IP65			
Connection		1 entry fitted with ISO M20 cable gland			
Rated operational characteristics of contact blocks		AC15; A 600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A) DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Function		1 function, Start/Stop		Emergency stop	
Composition		1 selector switch (1) standard black handle	1 key switch (1) key n° 455	1 Ø 40 mushroom head turn to release	1 Ø 40 mushroom head key release
Contact		N/O	N/O	N/C	N/C
Colour of operator		● black	● black	● red	● red
Metal control stations	Dimensions, W x D x H	80 x 77 x 80 mm		80 x 130 x 77 mm	80 x 175 x 77 mm
	Fixings: 4 x Ø 5.6 mm, centres	50 x 65 mm		50 x 115 mm	50 x 160 mm
References		XAWF130EX	XAWF140EX	XAWF198EX	XAWF184EX
Plastic control stations	Dimensions, W x D x H	80 x 77 x 80 mm		85 x 146 x 70 mm	
	Fixings: 4 x Ø 5.6 mm, centres	70 x 105 mm		70 x 108 mm	
References		XAWG130EX	XAWG140EX	XAWG198EX	XAWG184EX

(1) 2 position stay put

Other characteristics: please refer to the "Human-Machine Interface components" catalogue

# Emergency stops and foot switches

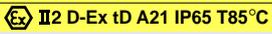
## Cable (tripwire) operated Emergency stops



For operating cable up to 50 m long		Latching, without indicator light			
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
<b>Zone D (dust)</b>	21 - 22				
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0015 / 				
<b>Mechanical durability</b> (millions of operating cycles)	0.01				
<b>Temperature range</b>	- 20...+ 60°C				
<b>Degree of protection</b>	IP65				
<b>Connection</b>	3 entries for ISO M20 cable gland				
<b>Rated operational characteristics</b>	AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)				
<b>Short-circuit protection</b>	By 10 A cartridge fuse type gG (gl)				
<b>Dimensions, W x D x H</b>	229 x 82 x 142 mm		229 x 105 x 142 mm		
<b>Reset</b>	By booted pushbutton		By key release pushbutton (key n° 421)		
<b>Operating cable length</b>	≤ 50 m		≤ 50 m		
<b>Operating cable anchoring point</b>	To left	To right	To left	To right	
<b>References</b>	N/C + N/O slow break	<b>XY2CE2A250EX</b>	<b>XY2CE1A250EX</b>	<b>XY2CE2A450EX</b>	<b>XY2CE1A450EX</b>
	N/C + N/C slow break	<b>XY2CE2A270EX</b>	<b>XY2CE1A270EX</b>	<b>XY2CE2A470EX</b>	<b>XY2CE1A470EX</b>

## Foot switches, metal



Type	Single pedal switches			
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
<b>Zone D (dust)</b>	21 - 22			
<b>EC type examination certificate number / marking</b>	INERIS 04ATEX0025 / 			
<b>Mechanical durability</b> (millions of operating cycles)	5			
<b>Temperature range</b>	- 20...+ 60°C			
<b>Degree of protection</b>	IP66			
<b>Connection</b>	2 entries for n° 16 (Pg 16) cable gland (1)			
<b>Rated operational characteristics</b>	AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)			
<b>Short-circuit protection</b>	By 10 A cartridge fuse type gG (gl)			
<b>Dimensions, W x D x H</b>	104 x 172 x 59 mm			
<b>Colour</b>	Blue		Orange	
<b>Contact operation</b>	1 step	2 step	1 step	2 step
<b>References</b>	1 N/C + N/O	<b>XPEM110EX</b>	–	<b>XPER110EX</b>
	2 N/C + N/O	<b>XPEM111EX</b>	<b>XPEM211EX</b>	<b>XPER111EX</b>

(1) 1 entry fitted with blanking plug, 1 entry fitted with n° 16 (Pg 16) cable gland

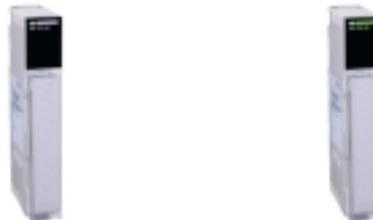


## Automation platform Weighing system for Modicon Premium



<b>Module type</b>	<b>ISP Plus</b> Supplied calibrated	
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50020, EN 50039, EN 50284, EN 50281-1-1	
<b>Zone D (dust)</b>	Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)	
<b>EC type examination certificate number / marking</b>	LCIE 03ATEX6399X /  II2 G/D-EEEx ib IIC T6 or IIB T6	
<b>Connection</b>	By connectors: Sub-D 15-way male for sensors and Sub-D 9-way male for transfer of weights	
<b>Load cell inputs</b>	50 measurements (for 1 to 8 load cells)	
<b>Outputs</b>	2 discrete and 1 RS 485 for display	
<b>References</b>	Without display	<b>TSXISPY101</b>
	With display TSXXBTH100	<b>TSXISPY111</b>

## Intrinsically safe I/O modules for Modicon Quantum



Module type	Inputs/outputs				
	Discrete		Analogue		
<b>Conformity</b>	Directive ATEX D 94/9/EC, EN 50014, EN 50020, EN 50284, EN 50281-1-1				
<b>Zone D (dust)</b>	Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)				
<b>EC type examination certificate number / marking</b>	SIRA 02ATEX2345X /  II1 G/D-EEEx ia IIC				
<b>Connection</b>	By screw terminal block 140XTS33200 (to be ordered separately)				
<b>Number of inputs</b>	8	–	8	–	–
<b>Number of outputs</b>	–	8	–	–	8
<b>Signal inputs</b>	–	–	Thermal probes	0...25/20 mA	
			Thermocouple (1)	4...25 mA	
<b>Resolution</b>			12 bits + sign	0...25,000 points	15 bits
<b>References</b>	<b>140DII33000</b>	<b>140DIO33000</b>	<b>140AII33000</b>	<b>140AII33010</b>	<b>140AIO33000</b>

(1) Type J, K, E, T, S, R, B, mV

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